

Building environmental health literacy: What should people know about endocrine disrupting compounds?

Lead Presenter: Julia Brody

Co presenter: Katie Boronow

Help us build a mental model of what people need to know about endocrine disrupting chemicals (EDCs). EDCs are chemicals that affect the body's natural hormones and are present in a wide range of commonly used consumer products, including food packaging, personal care products, cleaners, and furnishings. By mimicking or disrupting endogenous hormones, such as estrogens, androgens, and thyroid hormones, these chemicals may harm fertility and development, influence obesity, and increase the incidence of some cancers. Medical societies, scientific consensus statements, and federal reports have called for educating the public about EDCs and reducing exposures. Individual action (such as avoiding products with EDCs) can be effective at reducing some exposures, and consumer choices and civic engagement can influence product formulations and policies for community-wide exposure reduction. To make informed decisions, however, people need sufficient knowledge about how EDCs can influence health. We refer to this as EDC environmental health literacy (EDC-EHL). The extent to which the public already knows about EDCs is largely unknown, but our previous interviews show that participants in biomonitoring studies are often surprised to learn about EDCs in their bodies and daily lives. Thus, information about EDCs may represent a significant gap in most people's environmental health literacy. In this workshop, we invite researchers and community partners who conduct community-based participatory research (CBPR) studies of EDCs to a focus group discussion about the core concepts that comprise EDC-EHL. We will discuss what people need to know about sources of EDC exposure, the biology and health effects of exposure (including uncertainty), and reducing personal and community-wide exposure. Participants in this workshop will be contributing to a research study with the goal of defining an action-oriented framework for EDC-EHL. This framework is critical groundwork for developing effective communications about EDC exposures, so that people can make informed choices about their own health and participate in community and public policy debates.

Using Policy Briefs to Present Scientific Results of CBPR

Lead Presenter: Thomas Arcury

Co presenter: Sara Quandt

The scientific results of community-based participatory research (CBPR) should be used to inform policy that improves health and well-being of vulnerable community. Policy briefs are one mechanism we have developed to apply CPBR results to policy changes. Our policy briefs are two-page summaries of published research that address a single policy issue using appropriate language and graphics to make the science accessible to diverse audiences. Policy brief topics are selected by community advocates, based on collaborative research, and address a specific policy or regulation. Development of a policy brief is an iterative process of discussion and revision with community representatives. We have used policy briefs to provide research results to advocates, state and national policy makers, and the public. At the end of this workshop, participants will understand the purpose of policy briefs, will be able to list the steps for developing policy briefs, and will have produced the basic components of a draft policy brief relevant to their environmental health work. This workshop will use a combination of lecture, small group activity, and discussion to introduce participants to policy briefs. The short lecture will define policy briefs, give examples of completed policy briefs, and present seven steps in developing policy briefs. The small group activity will entail workshop participants initiating the seven steps to develop their own policy briefs, individually or in small groups. Workshop participants should bring a scientific paper or program report from one of their projects (or a scientific paper that is of particular interest for the work of their organization). This paper or report will be the basis from which they develop a policy brief. After developing the key elements of a policy brief based on this paper, participants will share their policy briefs and obtain feedback from the larger group. In advance of the workshop, participants are asked to read, Arcury TA, Wiggins MF, Brooke C, Jensen A, Summers P, Mora DC, Quandt SA. Using "policy briefs" to present scientific results of CBPR: Farmworkers in North Carolina. *Prog Community Health Partnersh.* 2017;11(2):137-147

Advancing Environmental Health Literacy through Interactive, Hands-on Science Kits for Use with Community Audiences

Lead Presenter: John Prochaska

Co presenter: Chantelle Singleton

During the past year, four University-based Community Engagement Cores were funded by the National Institute of Environmental Health Sciences (NIEHS) to develop eight interactive environmental health science kits for use with community audiences. The purpose of these kits is to provide a resource for diverse community audiences to build environmental health literacy, with the goal being to create an easy to use kit that would quickly enable community groups to better understand foundational environmental health principles. For example, the kits could help build community members' ability to understand, provide context for, and act on report-back of research results. These kits cover a range of topics, including lead poisoning prevention, drinking water quality from private well and municipal sources, healthy homes, skin cancer and UV radiation exposure, and pesticide use in the home. The development of these kits included integrating input from community engagement experts and community-based stakeholders. These kits are essentially 'labs in bags' that require no special preparation by a facilitator. No additional special equipment is needed beyond a table or other flat surface to work on. The goal for these kits is to make them as accessible and easy to use as possible. They are graphically rich, story-based, involve limited reading, and integrate hands-on activities in a setting that would take approximately 20 minutes. During this workshop, we will discuss the process of developing these kits, including gaining and integrating stakeholder feedback. Possible applications of these kits will be presented, including how they potentially can be utilized to enhance interpretation of research results. The bulk of the workshop will be dedicated to allowing participants the opportunity to experience and evaluate example kits across multiple environmental health topics. We will also present challenges to developing these kits, as well as best practices that were identified during this process for utilizing these kits in various community-based environmental health education and research efforts.

Return of Research Results to Individual Participants in Dine and Hopi Communities

Lead Presenter: Mary Kay O'Rourke

Co presenter: Adam Carl, Steve Hadeed, Nathan Lothrop, Yoshira Ornelas Van Horne

The Center for Indigenous Environmental Health Research (CIEHR) returns study results to individual participants holds multiple public events to provide communities with research results and provides written documents to Tribal leaders for policy consideration. This workshop will address the short- and long-term return of specific environmental and health measurements to individual study participants. Return of these results builds trust within the community, provides actionable information to individuals and enhances environmental health dialogue among study participants. The workshop will open by surveying what attendees want to learn or discuss. Speakers will attempt to integrate these points in presentations and discussion. Ornelas Van Horne will introduce the workshop with a summary of the existing literature, the applicability of the methods, general principles, and the importance of consulting with the community about the type and amount of information returned. She will lead a group discussion to identify gaps in existing approaches. Lothrop will describe field activities using Dine Community Health Representatives to overcome cultural sensitivities, implementation of real-time methods and delayed results reports following the Gold King Mine Spill. O'Rourke will describe use of real-time monitors in homes to determine indoor air conditions in the Hopi Environmental Health Project. She will discuss providing immediate measurement results, and uncertainties associated with them. Real-time measures will be compared with delayed integrated reports and errors will be discussed. The group will discuss whether providing interim results with potential error is appropriate. Hadeed will report on the development of a standardized template for returning results, selection of comparative values and development of remediation recommendations for the residents of Hopi. The workshop attendees will be asked to consider their project and draft a template for use. Attendee questions will be addressed. Carl will present the evaluation of results returned from the perspective of the project technician, and the participant. He will describe what he learned by returning results in the Hopi community. The workshop panel will entertain questions from attendees.

Tools for Measuring Environmental Health Literacy: Understanding Toxic Metals Contamination of Groundwater

Lead Presenter: Kathleen Gray

Co presenter: Marti Lindsey

This workshop will focus on tools for measuring environmental health literacy (EHL), using report-back templates to consider the complexity of information that communities may deal with in learning about results of environmental health studies. EHL has been defined as a combination of: (a) knowledge of the health effects of a specific environmental exposure underpinned by broader understanding of environmental health science concepts, (b) the ability to seek out and use environmental health information, and (c) positive perceptions of self-efficacy related to health-promoting behaviors (Gray & Lindsey, 2018). Literacy measurements from other fields offer models for assessing the combination of knowledge and skills associated with EHL and understanding where people fall on a literacy spectrum. With health literacy, several screening tools have been developed and validated (Snow & Dibner, 2016). Among these, at least one applies a process-focused approach, combining reading comprehension and numeracy skills in analysis of a nutrition label (Weiss et al., 2005). This tool has been shown to be effective with varied populations, particularly younger adults and older English- and Spanish-speaking patients (Ramirez-Zohfeld et al., 2015; Rowlands et al., 2013). The session will start with a brief introduction to several validated health literacy tools, including a demonstration of the process-focused tool mentioned above. Next participants will try out and evaluate a prototype of a process-focused environmental health literacy tool. Finally, they will compare three report-back templates and discuss the environmental health literacy levels required to understand study results using these templates. If you are interested in understanding and measuring EHL levels in communities you work in or developing report-back templates that work for varied literacy levels, we welcome your participation in this workshop! The workshop will be led by staff of the Community Outreach and Engagement Cores (COECs) at the UNC-Chapel Hill Center for Environmental Health and Susceptibility and the University of Arizona Southwest Environmental Health Sciences Center, who are collaborating to develop tools that can be used to assess EHL in the context of toxic metals contamination of private wells and small community well systems.

Planning Effective Engagement: An introduction to tools, resources, and best practices

Lead Presenter: Lisa Hayward

Effectively engaging appropriate communities in a research process can greatly increase its ultimate impacts, enhancing benefits for society while promoting the professional advancement of the researchers involved. Many tools and resources are available to help scientists engage with a range of audiences from policymakers to affected citizens, but appropriate timing is often critical to effective engagement. Therefore, engagement planning should be an important early step of project development. This workshop will help walk participants through the process of effective engagement planning and introduce a range of available tools, resources, and best practices to assist with effective engagement. Topics to be covered will include 1. Identifying key communities to engage, 2. An introduction to select engagement tools and resources, 3. Appropriate messaging, 4. Considerations related to equity and 5. Tools for evaluation. Tools, resources, and best practices will be curated from a range of sources including federal agencies, non-governmental scientific groups, and universities. Participants who join the workshop with a specific engagement goal will leave with a customized implementation plan and an increased familiarity with resources to employ during distinct phases of their project.

Group Concept Mapping: Transforming individual experiences into community knowledge for action.

Lead Presenter: Erin Lebow-Skelley

Co presenter: Melanie Pearson

Experience and learn the basics of Group Concept Mapping. Workshop participants will generate and organize their ideas regarding data report-back while learning about the real-world application of the methodology in a community setting. We will provide tips and lessons learned from our experience using Group Concept Mapping with low-resource Atlanta communities to identify priorities and guide community action. Concept Mapping is a methodology used to systematically collect and organize individual ideas into visual maps using multivariate statistical techniques. The maps can be used to guide planning and action. In Group Concept Mapping, each participant contributes their own knowledge or experience about a particular topic (focus prompt), individually organizes (sorts) all of the group's ideas into piles that makes sense to them, and then attaches value to (rates) each idea based on their own experience. The statistically combined sorting and rating of all participants is shared with (reported-back to) the community for interpretation, and can be used to clarify perspectives, set priorities, and plan for action. Workshop participants will learn how to use the CS Global MAX Concept Mapping software by participating in a live Group Concept Mapping session addressing report-back. By the end of the workshop, participants will 1) understand how to use Group Concept Mapping in a community setting and 2) create their own maps to guide discussion and planning on report-back in the PEPH community.

Environmental Health Literacy Study and Practice to Engage Communities:

Lead Presenter: Sabrina Kurtz-Rossi

Co presenter: Doug Brugge

As an emerging field of study and practice, environmental health literacy holds promise to effectively communicate complex concepts related to health and the environment across language, literacy, and culture. Racial and ethnic minorities are disproportionately represented among those with below basic English literacy skills. Communities of color and linguistic minorities are also more likely to live near major roadways and to be exposed to traffic-related air pollution. Environmental health literacy offers a framework for promoting community engagement and facilitating the exchange of information and ideas between researchers, advocates, and community members. Communicating environmental health information while retaining scientific accuracy is not a simple task. We found limiting the amount of information and using everyday language particularly difficult when trying to communicate about ultrafine (UFP) particles in air pollution. Partnering with adult literacy programs holds promise for engaging communities and promoting communication about environmental health. The English language learners we worked with read low literacy materials about UFPs in English, Portuguese, Haitian-Creole, and Spanish. They then discussed the content and provided feedback to improve accuracy and quality of communication. English language learners were eager to apply their knowledge and experience to solve pollution problems in their community. The session we propose draws on the experience of the Community Assessment of Freeway Exposure and Health Study (CAFEH) with health literacy and community engagement processes, including developing easy to read, culturally relevant materials on traffic-related ultrafine particles (UFP). While UFPs are the example we start from, the session will encourage participants to share their own environmental health communication topics, materials, and challenges. The session will integrate best practices from the fields of health literacy, cultural competency, and environmental health to aid participants with engaging communities and communicating complex environment health information in ways people can understand and act on.