

# Environmental Epidemiology for Risk Assessment



## Our Mission

The committee's mission is to engage the epidemiology, exposure, and regulatory communities in discussing what risk assessors need from epidemiology studies to make informed decisions; discuss incentives and barriers to making epidemiology studies better adapted to risk assessment; and develop areas of consensus between risk assessors and epidemiologists, as well as identify a path forward to realize the full potential of epidemiology data in risk assessment.

## Chairs

### Public Chairs

Dr. David Miller (US Environmental Protection Agency)  
Dr. Igor Burstyn (Drexel University)

### Private Chair

Dr. Heidi Erickson (Chevron)

## HESI Staff

Dr. Sandrine E. Deglin ([sdeglin@hesiglobal.org](mailto:sdeglin@hesiglobal.org))  
Dr. Connie Chen ([cchen@hesiglobal.org](mailto:cchen@hesiglobal.org))

## Webpage

<https://hesiglobal.org/environmental-epidemiology-for-risk-assessment/>

## 2021 Committee Highlights



### Participating Organizations

**3** government/regulatory agencies, **2** academic/research institutes, **5** industry, and **1** consulting



### Publications

**1** published



### Scientific Meetings and Trainings

**1** focus group meeting

- The last focus group meeting (in a series of five) was hosted by the committee to explore funding mechanisms and better understand funders' priorities when funding research and obtain insight from funding agencies on what might be needed to increase the impact of epidemiological research on human health risk assessment



### Outreach

**5** webinars and web platform

- This year, the committee initiated a webinar series to present ongoing efforts to increase the impact of epidemiology in the field of risk assessment
  - March 2021: The Contributions of Environmental Epidemiologic Research to Causal Attribution and Risk Assessment (Prof. Harvey Checkoway, University of California, San Diego)
  - April 2021: Current Efforts to Increase the Impact of Epidemiology in Risk Assessment (Dr. Omobola Mudasiru, American Petroleum Institute; Dr. Dana Sargent, Bayer CropScience; Dr. Sandrine Deglin, HESI)
  - September 2021: A Case for Good Epidemiology Practice Guidelines for Regulatory Risk Assessment (Dr. Julie Goodman, Gradient)
  - October 2021: Understanding the Replication Crisis and Its Implications in Epidemiology (Dr. Scott Bartell, University of California, Irvine)
  - November 2021: Causal Reasoning in Epidemiology: Philosophy and Logic (Dr. George Maldonado, University of Minnesota School of Public Health)
- The committee also created a web platform (Epifora) to connect all stakeholders interested in realizing the full potential of environmental epidemiology in human health risk assessment. The site will link users to material and information relevant to this issue, and provide access to a database of experts in the field, curated by the committee. This database will help create a community of practice and foster collaboration among scientists of diverse sectors and expertise. The website is expected to go live in the 1Q 2022.

## Working Groups

- **Funding Agency Focus Groups.** This group aimed to (1) explore funding mechanisms to better understand funders' priorities when funding research and (2) obtain insight from funding agencies on what might be needed to increase the impact of epidemiological research on human health risk assessment.
- **Focus Groups Summary.** A publication summarizing the outcome of the the five focus group meetings held over the past two years is in development.



**Webinar Series.** The committee initiated a webinar series to illustrate the critical role epidemiology can play in the field of quantitative risk assessment. Speakers provided insight on how to best realize the full potential of human studies in risk assessment and regulatory decision-making and feature ongoing efforts in this space.



**Web Platform.** The committee is developing a web platform to create a community of practice and foster collaboration among epidemiologists, risk assessors, exposure scientists, toxicologists, and other experts as well as students. The web platform will provide access to a searchable database of members of this community of practice and facilitate interactions and potential collaborations.

## Areas of Focus for 2022

- Publish the outcome of all of the focus groups in a peer-reviewed journal.
- Pursue the newly initiated webinar series to raise awareness on the value of the committee's goals.
- Populate and advertise the web platform to encourage experts to join the community by sharing their information in the database.
- Increase outreach at conferences.
- Explore a cost-benefit approach of the problem at hand.

## Strategic Impact Areas

### Enhanced Efficiency and Accuracy in Safety Assessment Practice

The inclusion of human data in quantitative risk assessment will result in more relevant public health policies.



## Publications

### Published

Deglin et al. (2021) Environmental epidemiology and risk assessment: exploring a path to increased confidence in public health decision-making. *Global Epidemiology*, 3: 100048. doi: [10.1016/j.gloepi.2021.100048](https://doi.org/10.1016/j.gloepi.2021.100048).

## Participating Organizations

### Government/Regulatory Agencies

Oregon State Health Authority  
US Centers for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry  
US Environmental Protection Agency

### Academic/Research Institutes

Drexel University  
Emory University

### Industry

Bayer  
Chevron  
Corteva Agriscience  
Shell Chemicals, Ltd.  
Syngenta

### Consulting

Exponent, Inc.