

# Invited Perspective: Making the Implicit Explicit—Connecting Environmental Health Literacy and Exposure Report-Back

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<https://doi.org/10.1289/EHP13493>

Refers to <https://doi.org/10.1289/EHP12565>

The last dozen years have seen a surge in research pertaining to environmental health literacy (EHL), or people’s knowledge and understanding of health threats around them, as well as relevant prevention and risk-reduction strategies.<sup>1,2</sup> Concomitantly, research productivity has increased related to the design and evaluation of report-back strategies that inform study participants of exposure-related biological and/or environmental findings at both the individual and community levels.<sup>3</sup> A simple PubMed search underscores substantial growth in peer-reviewed publications for both EHL and exposure report-back research in recent years.

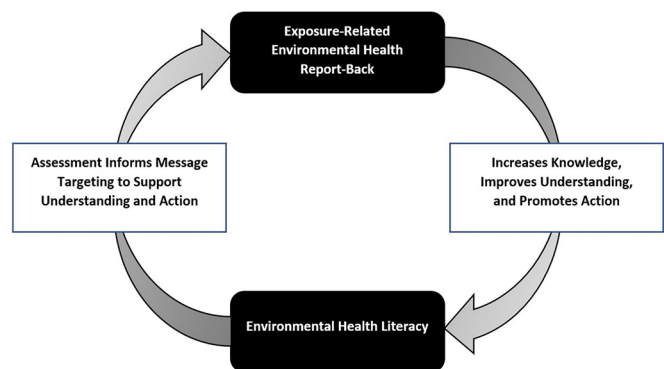
The study of EHL has emerged and evolved in large part through translational and community engagement efforts advanced by university-based, federally funded environmental health research centers, as well as through individual grants focused on environmental exposure assessment.<sup>4,5</sup> Although centers and grants also have contributed to recent growth in research about exposure report-back, the act of reporting study findings back to participants has been a central tenet of community-based and community-engaged research for decades,<sup>6,7</sup> with academic institutional review boards sometimes creating structural barriers to the process.<sup>8</sup> Both EHL and report-back share common goals: understanding and reducing human exposures to harmful contaminants and improving health outcomes for people who already have experienced environmental exposures.<sup>9–11</sup> Given this shared foundation, it is unsurprising that a number of scholars—including Boronow et al., reporting in this issue of *Environmental Health Perspectives*<sup>12</sup>—conduct research that spans both EHL and report-back.<sup>13–15</sup> Importantly, such intersections of content and expertise exist not just within academic institutions and communities but also across them.<sup>16–19</sup>

From my perspective, such collaborations indicate recognition of an ethical imperative to share data and learn with people potentially affected by environmental exposures, thereby helping reduce risk and better manage these exposures and related health outcomes. In addition, I believe these research partnerships also indicate a desire to build evidence for how best to accomplish these goals. It is no accident that some research teams, including Boronow et al., use EHL metrics to evaluate the impact of report-back materials<sup>20–22</sup> or that other research teams deploy assessments of EHL to inform targeted messaging

that supports the accessibility, understandability, and actionability of report-back materials.<sup>23–25</sup> Together, these different types of studies strongly imply a bidirectional relationship between the goals and outcomes of EHL and exposure-related report-back.

With the growth of and linkages between these two critically important environmental health research areas, perhaps the time has come to articulate a formal conceptual model of the relationship that can help inform future research, practice, and evaluation. An initial attempt at producing such a model illustrates the iterative processes and goals that connect EHL and exposure-related report-back (Figure 1). In short, by knowing current EHL levels, researchers can reach target populations with improved exposure report-back to ensure that research participants understand the informational materials, which themselves then become tools for building the additional knowledge and understanding that comprise EHL.

The work described by Boronow et al. implicitly reflects such a change model, connecting information-sharing and knowledge-building through distinct communication and educational processes, respectively. Their article acknowledges the importance of including participants and community partners at each stage of study design and implementation to optimize impact, finding both promising levels of foundational EHL among research participants and the ability of exposure-related report-back to correct misconceptions. When we explicitly articulate these connections within a shared conceptual model, we can better delineate and promote the complementary roles of environmental and health scientists, communication and STEM researchers, study participants, community leaders, and others in developing effective report-back strategies that can help build EHL, prompt action, and protect environmental public health. By increasing levels of knowledge, concern, and action, Boronow et al. add to the evidence for building a conceptual model that explicitly connects evolving research on EHL and report-back, thereby pointing the way for future work at the convergence of these exciting research areas.



**Figure 1.** Conceptual model illustrating communication and educational connections between environmental health literacy and exposure-related environmental health report-back.

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The author declares that she has no conflicts of interest to disclose.

Received 14 June 2023; Revised 25 July 2023; Accepted 10 August 2023; Published 8 September 2023.

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## Acknowledgments

The author thanks E. Hahn, E. Haynes, B. May, L. Ormsbee, K. Pennell, and S. Stanifer at the University of Kentucky for their timely feedback on this manuscript. She also expresses gratitude to the numerous scientific collaborators from Kentucky's communities and universities, as well as the NIEHS Partnerships for Environmental Public Health network, who have informed her understanding of and approaches to these topics over nearly two decades.

The author has conducted relevant research through several funding mechanisms. Support for these studies has been provided by the National Institute of Environmental Health Sciences (NIEHS)/National Institutes of Health (NIH) (5P42ES007380; 5P30ES026529; 1R01ES030380; 1R01 ES032396; 2P42ES007380), the National Library of Medicine/NIH (G08LM013185-01), and the National Institute on Drug Abuse/NIH (1U01DA053903).

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