

How can toxicology inform environmental epidemiology? A new approach to Environmental Health.

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The disciplines of environmental epidemiology and toxicology must work closely together on the challenges of addressing human relevance to existing experimental models by sharing techniques and approaches to fill relevant data gaps to improve public health.

Research from toxicology has (1) provided solid mechanistic evidence to strengthen epidemiologic conclusions, (2) helped inform design of epidemiological studies by identifying windows of susceptibility (3) has led to new methods to identify interim phenotypes related to biological response to environmental exposures, and (4) has provided evidence for more complex dose response relationships that explain why various exposures have differing health effects.

Challenges in environmental health sciences can be met by supporting collaborations among scientists across disciplines, by developing strategies to integrate new methods and technologies, and sharing results with broader audiences. At NIEHS, we have developed several programs and models to foster collaborative efforts between disciplines within extramural, intramural and the National Toxicology Programs.