

Overview of US EPA Research Activities Aimed at Characterizing Children's Exposures  
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Given the vulnerability of children to effects resulting from environmental exposures, and the array of exposures that have not yet been studied, understanding the relationship between children's health outcomes and environmental exposures is an important research need for the risk assessment and public health communities. Over the past eight years, significant research activities have been initiated by US EPA to increase understanding of children's vulnerabilities and to better characterize children's exposures to chemical stressors.

For example, research efforts at the US EPA's National Exposure Research Laboratory (NERL) include the development of models, methods, and data to quantitatively describe ways that children are exposed to environmental stressors. The focus of NERL's research is on exposures to pesticides, EDCs, metals, and PBTs. Current and recently completed studies by NERL include large field studies to measure children's exposures to chemicals in their homes and daycare centers as well as targeted studies to better understand the determinants of exposure. As a result of these and other Agency research initiatives, important data are being collected and assessment approaches are being developed to better characterize children's risk to environmental chemicals. However, a more focused effort on developing efficient tools to facilitate collection and interpretation of key exposure data is needed to complement health data. Additional needs include the development of better tools for classifying children's behaviors and approaches for collecting and interpreting biomarkers. In this presentation, ongoing and recent US EPA approaches and initiatives aimed at evaluating children's exposures and health risks will be discussed, including issues associated with characterizing cumulative risks associated with multiple environmental stressors to children. The information and data obtained from these efforts will help identify the most important exposures for children and enable decision makers (at both the national and local levels) to prioritize environmental health related activities.

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