

CHILDHOOD CANCER AND THE ENVIRONMENT: OPPORTUNITIES FOR PREVENTION

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When children are diagnosed with cancer, parents often ask their doctors, “Did the environment have something to do with it?”

The Childhood Cancer & the Environment Project (CCEP) of the Pediatric Environmental Health Specialty Units (PEHSU) Network, led by the Western States PEHSU, has been helping pediatric health care providers and caregivers answer this and similar questions for three years.

Research in the last 25 years has greatly expanded our understanding of environmental risk factors for childhood cancer. Exposures before and during pregnancy and in early childhood to pesticides, tobacco, air pollution, and solvents have been found to increase the risk of childhood cancers. In Shakeel et al., the authors determine that environmental exposures to air pollutants and tobacco smoke can also negatively affect the survival of childhood cancer patients.¹

We also know more about protective factors. Evidence shows that both attending a large daycare and early exposure to animals help protect children from developing childhood cancers. Why? Researchers believe the answer is in the modulation and calming of the immune system as it reacts to early, common infections in childhood.

Surveyed clinicians report that although they regularly get questions about environmental exposures, they have little or no training about this (only 6% said that they had been trained to take an environmental history). They are uncomfortable answering questions, want to know more, and want clear action items that they can implement. For example, learning how to provide guidance on the use of the air quality index and home air filtration helps clinicians translate research on air pollution and respiratory illnesses in childhood cancer survivors into daily practice.

The CCEP is working with pediatric oncologists at two major childhood cancer centers to develop environmental health consulting services within their programs. Surveys at these institutions indicate broad support for these programs.

We have developed a suite of innovative educational materials and conducted a range of in-person and virtual events for many audiences, from health care professionals to *promotores de salud*. Three months after in-person workshops were held for pediatric oncology providers, 86% said their perceptions regarding environmental risks and childhood cancer changed due to the workshop, and 80% said they had made changes to their clinical practice.

One attendee said, “For newly diagnosed patients, I do a more thorough history to look for environmental exposures and possible correlations between patients in similar areas.”

Community workers are a vital audience. New materials for them include a “flip book” to use with families. We also partnered with others to organize *Childhood Cancer Prevention Symposia* in 2024 and 2025 to bring together scientists, families, media, and the public.

For More Information: The *Childhood Cancer & the Environment* web page has a wealth of free materials, including a free Continuing Education course for health professionals offered by the CDC (*A Story of Health*). You can also sign up there for our free bimonthly newsletter.



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Reference

1. Shakeel O, Wood NM, Thompson HM, Scheurer ME, Miller MD. Environmental Exposures Increase Health Risks in Childhood Cancer Survivors. *Cancers*. 2025; 17(13):2223. <https://www.mdpi.com/2072-6694/17/13/2223>