Welcome to our collection of articles from leaders in the field of children's environmental health. From the latest science on chemicals and autism risk to policy recommendations for protecting children from harmful toxicants, this compilation captures the urgency of the task before us.

As these pieces show, practical solutions are within reach if we choose to pursue them.

We can provide pediatric oncologists with information on environmental drivers of childhood cancer. We can train health care providers about the dangers of hormone disrupting ingredients in personal care products — especially during pregnancy and early childhood. And we can adopt "unflashy but high-return" population-wide strategies like enforcing clean air rules, banning pesticides that harm children's developing brains, and incorporating environmental health training into medical school programs.

We can also celebrate progress as we go. This October marks the 10th anniversary of Children's Environmental Day, a national day of action organized by the Children's Environmental Health Network (CEHN) to lift up success stories and call for continued action to protect future generations. As CEHN's director Nsedu Obot Witherspoon notes:

"Now more than ever, we need child health champions to stand up, have courage, and raise their voice. If not us, then who?"

Kristin Schafer, Director
Collaborative for Health & Environment

Kristin Schafer, MA has been working in the environmental health field for over three decades, including at US EPA, World Resources Institute, and Pesticide Action Network. She holds a Masters in Social Change and Development from Johns Hopkins University School of Advanced International Studies. In 2021 she received the national Child Health Policy Award.

RETHINKING AUTISM'S ORIGINS: BEYOND THE GENOME

Bruce Lanphear, MD, MPH

We've been searching for triggers of autism with a microscope; we need a wider lens.

The rise of autism has sent scientists deep into the genome, searching for answers in DNA sequence. Yet the harder they look, the clearer it becomes that the answer isn't hidden in the genome. Rare mutations account for only a fraction of cases, and the common variants we keep cataloging are—by definition—common. If they alone dictated destiny, nearly everyone would meet the diagnostic checklist. Something outside the genome is nudging children's brains off course.

That "something" is not a single villain but a web of factors. Prenatal air pollution impairs the fetal brain; organophosphate pesticides sabotage synapse formation; and phthalates disrupt hormones just when they should choreograph growth. Combine pesticide exposure with inadequate folate, Bisphenol A with the aromatase gene, or air pollution and the MET gene, and risk increases substantially. These findings don't cancel genetics; they reveal its contingency.

We have been slow to accept this because toxic chemicals and pollutants are messy and political. Genes are tidy: you can sequence them in a lab and implicate no one. Pollution points to factories, zoning laws, and weak regulation. That invites accountability. Yet evidence is evidence: children downwind of highways or born near pesticide-treated fields reveal dose-related increases in autistic traits. By contrast, folic-acid supplementation—cheap, safe, and proven—cuts risk for some children.

The pattern echoes an older story. Lead once lurked in paint and gasoline. Industry insisted low doses were harmless until researchers widened the frame—tracking IQ, attention, and crime. We phased lead out, and children's blood levels plummeted. Autism research stands at a similar crossroads: cling to genetic determinism or chart the exposome—the sum of lifetime environmental exposures—and act on what we learn.

Action doesn't demand certainty. We already know how to reduce exposures: enforce clean-air rules, ban neurotoxic pesticides, replace hormone-disrupting plastics, and fortify diets with folate. These are population strategies—unflashy but high-return—like the sanitation and vaccination drives that once tamed infectious killers.

Across autism, ADHD, and learning disorders, studies converge on a core insight: brain development lies on a spectrum shaped by many influences—genetic coding, nutrient supply, and an ever-changing mix of environmental chemicals. Some exposures adjust the melody; others throw the orchestra out of tune. When the discord grows, a child's developmental path can shift in ways we are only beginning to map. What we do know is that toxic chemicals and synthetic chemicals exert a powerful pull on that trajectory. Understanding this interplay is no longer optional; it is central to preventing disability and promoting lifelong health.

Contact the author for references at blanphear@sfu.ca

Bruce Lanphear, MD, MPH, is a preventive medicine physician and professor at Simon Fraser University in Vancouver. For over 30 years, he's studied how toxic chemicals—like lead, fluoride, and pesticides—impact human health, especially children. To reach a wider audience, Bruce launched Little Things Matter, *and shares the stories behind the science on his Substack platform.*