



Submission to the House of Commons Standing Committee on Health (HESA)

Study on Children's Health

October 2022

Prevention of early-life exposures to toxic chemicals, pollution, and the effects of climate change for children's lifelong health

The **Canadian Partnership for Children's Health and Environment** (CPCHE) and additional signatories welcome HESA's work to explore key factors affecting children's health in Canada. We strongly encourage the Committee to include in this scope the quality of the indoor and outdoor environments in which children live, learn, and play.

We outline the important and often indelible impacts that toxic chemicals, pollution, and climate change have on child health, and offer a strategic framework and recommendations for action.

All children deserve to grow up in environments that support, rather than impede, their health and well-being. Children's environmental health protection must be a cornerstone of Canada's national child health strategy.

Who we are

[CPCHE](#) is a national collaboration of organizations working together since 2001 to advance children's environmental health in Canada. CPCHE's 19 partner and affiliate organizations have expertise in clinical and public health, environmental protection, law and policy, child care, education, disability advocacy, and health equity. CPCHE organizations work across disciplines to synthesize scientific evidence, mobilize knowledge, foster intersectoral solutions, and support informed decision-making.

Environmental exposures are a key driver of child health outcomes

Expanding scientific knowledge underscores the contribution of early-life environmental exposures to multiple chronic diseases, including asthma, neurodevelopmental disorders, and cancer. Environmental exposures of concern include: air pollution, climate change (heat stress, wildfire smoke, vector-borne diseases, flooding), contaminants in food and water, and hazardous chemicals in products.

Children are more vulnerable to environmental toxicants

Compared to adults, children are more vulnerable to the health effects of environmental exposures because of differences in size, intake, development, and behaviour. Per kilogram of body weight, children eat more, drink more, and breathe more than adults, leading to greater exposures to contaminants. Their behaviours, such as hand-to-mouth activity, also lead to greater exposures. Babies and children are more susceptible to harm because their immune and metabolic systems are immature, and their brains and organ systems are undergoing dynamic development that opens up 'windows of vulnerability'. Environmental exposures and vulnerability are inequitably distributed: children experiencing poverty, racism, and the effects of colonialism are at greater risk.^{1,2}

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Canada lags behind in protecting children’s environmental health

According to UNICEF, Canada ranks 28th among 39 rich countries for overall environmental well-being of children and youth. Children in Canada have relatively high exposures to environmental risks such as pesticide pollution, unsafe water, and air pollution.²

Early-life exposures to environmental toxicants linked to chronic diseases and brain effects

The long-term health implications of pre-conception, *in utero*, and childhood exposure to toxic substances include asthma and other respiratory disease,³ metabolic dysfunction and Type 2 diabetes,⁴ impaired cognitive development,⁵ cardiovascular disease, Alzheimer’s disease, and cancer.^{6,7}

Asthma and respiratory disease: Asthma affects approximately 15% of children and youth in Canada, and is a leading cause of child hospitalization.⁸ Indoor and outdoor air pollution contributes to childhood asthma and other respiratory effects.³ Canada ranks 29th in child morbidity attributed to air pollution among wealthy nations.² Health Canada has identified a causal relationship between Traffic-Related Air Pollution (TRAP) exposure and asthma in children.⁹ Early-life exposure to TRAP is also associated with reduced lung function and susceptibility to respiratory infection.¹⁰ The health effects of air pollution is a social justice issue: urban neighbourhoods with the highest social disadvantage tend to experience the greatest exposure to TRAP.¹¹

Effects on the developing brain: Even low-level exposures to ubiquitous toxic chemicals contribute to adverse outcomes in children,¹² including disruption of children’s cognitive and behavioural development.^{13,14} Nearly 8 % of children in Canada have a learning or behavioural disorder.¹² Early-life exposures to toxic chemicals contribute to neurodevelopmental disabilities including autism, attention-deficit hyperactivity disorder (ADHD), dyslexia, and other cognitive impairments such as reduced IQ, inattentiveness, memory challenges, and anxiety.¹⁴ In addition to impacts on children and families, the cumulative toll of neurodevelopmental toxicants has significant societal implications, as illustrated in [Little Things Matter: Impact of Toxic Chemicals on the Developing Brain](#).

Disruption of endocrine and immune systems: A landmark WHO/UNEP report concludes that exposure to endocrine disrupting chemicals during fetal development and puberty is likely contributing to increased incidence of ADHD and other behavioural and learning problems, asthma, endocrine-related cancers, reproductive disorders, and may also be linked to obesity and diabetes in humans.¹⁵ Despite evidence that certain environmental chemicals adversely affect immune function, the immunotoxicity of industrial chemicals is not routinely assessed.¹⁶

Environmental injustice results in disproportionate adverse health outcomes among racialized and Indigenous children, and children living in poverty

Some populations face inequitable environmental exposures,¹⁷ including people living in poverty, members of Indigenous communities, people living in unhealthy housing conditions, (prospective) parents facing occupational exposures, and those whose diets and cultural practices may increase their exposures to toxicants (e.g., in country foods). Children in Indigenous communities continue to face water insecurity, including drinking water contamination,^{2,18,19} disproportionate impacts of climate change,²⁰ and environmental injustice.²¹ Environmental health inequities are compounded by the ‘threat multiplier’ effects of COVID-19.²²

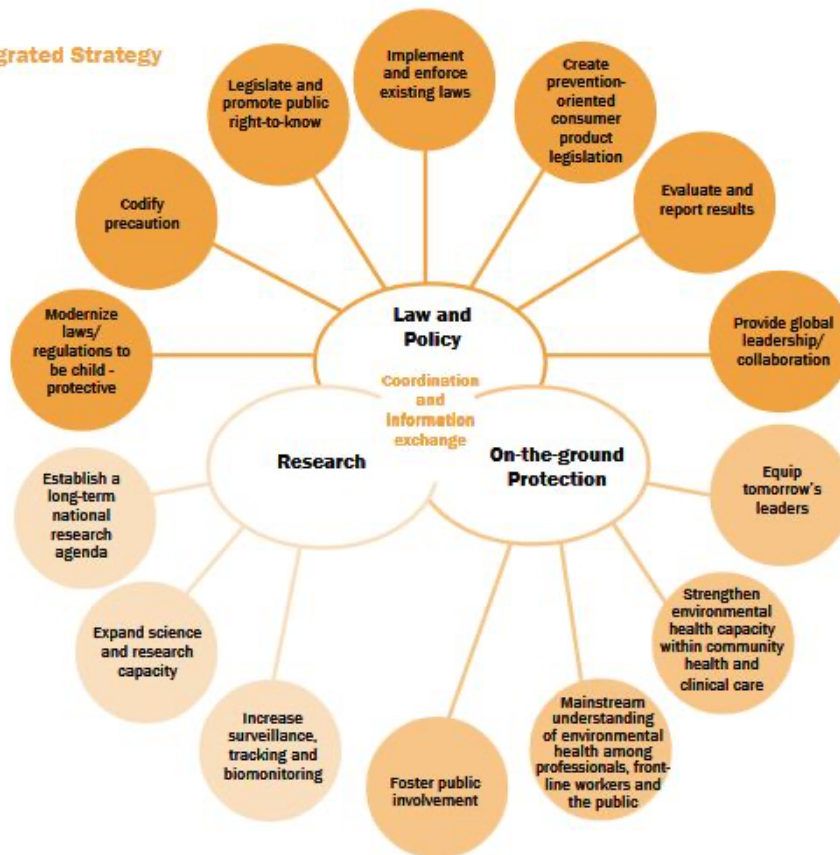
Recommendations

Protecting children’s environmental health must be a foundational element of Canada’s national strategy to promote child well-being and lifelong health.

As outlined in [CPCHE’s Vision & Strategy](#) and summarized in [Figure 1](#), protection of children’s environmental health requires action in three intersecting spheres:

1. **Research:** Canada needs sustained investment in research on the health effects of environmental exposures across all life stages, supported by expansions in surveillance, biomonitoring, and research capacity.
2. **Law and policy:** Canada must achieve an integrated legislative framework to address toxic chemicals, pesticides, consumer products, pollution, and climate change – with codified commitments to the right to a healthy environment and public right-to-know, precaution in the face of scientific uncertainty, modernized assessments, prioritization of vulnerable life stages, and enforceable means to ensure environmental justice for disproportionately affected communities.
3. **On-the-ground protection:** All levels of government must prioritize public involvement, grounded expertise (lived experts), youth voices, and Indigenous leadership in policy processes; fulfill Truth and Reconciliation calls to action; and build the capacity of frontline professionals to incorporate environmental health knowledge and protective practices into their interactions with prospective parents, families, and communities.

Figure 1: An Integrated Strategy



Within this framework, we recommend the following:

1. Modernize the Canadian Environmental Protection Act (CEPA)

CEPA reform is needed to better address the multiple and ubiquitous toxicant exposures that all Canadians – including pregnant persons and children – experience ([CPCHE letter](#)). Chemical testing must address multiple health endpoints, including neurodevelopmental, endocrine, and immune system effects, and potential differential effects during early life stages. Assessments must consider aggregate, cumulative, synergistic, and low-level effects; potential sub-clinical, latent and intergenerational effects; and disproportionate exposures and vulnerability affecting marginalized groups. Schedule 1 toxics should have mandatory preventative measures with a goal of elimination. Fulsome labeling of chemicals in products must be required to enable families to make informed decisions.

2. Rapidly and decisively increase action on climate change

CPCHE's [Position Statement on Climate Change](#) summarizes urgent actions needed to protect children, now and into the future, from the unprecedented risks of global climate change, and underscores the important health and social justice co-benefits of decisive climate action.

3. Increase longitudinal biomonitoring research

Building on successful initiatives such as Maternal-Infant Research on Environmental Chemicals (MIREC), sustained investment is needed in longitudinal biomonitoring research to elucidate the complex associations between environmental exposures and health effects over the life course. Such research should prioritize the disproportionate exposures and health risks affecting marginalized communities.

4. Invest in early learning environments

Many young children spend six or more hours per day in child care.²³ Our recent [CPCHE/CCCF national survey](#) found that among some 2,000 child care professionals who responded, nearly half (49%) believe there are unhealthy conditions in their child care program. More than two-thirds expressed concern about child health risks posed by air pollution (indoor 64%; outdoor 69%), toxic chemicals in products (69%), and climate change (68%). With federal-provincial/territorial child care agreements now in place, **Canada has an unprecedented opportunity to invest in making child care healthy and sustainable.** We urge the Committee to adopt the 10-point [CPCHE/CCCF Vision for Healthy and Sustainable Child Care in Canada](#), supported by 40+ co-signatory organizations, so that all children have the opportunity to learn, play, and grow in child care settings that optimize their health.

Now is the time to act

The child health risks posed by environmental exposures, including climate threats, toxic substances, and pollution, demand decisive action. We urge you to exercise your leadership to ensure children's environmental health protection is a cornerstone of a national child health strategy, for the benefit of all of Canada's peoples and our shared environments, now and into the future.

Signatories



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