

# THE STATE OF CHILDREN'S ENVIRONMENTAL HEALTH

## MINNESOTA

All children deserve and need a safe and healthy environment to grow and develop. They need clean air to breathe and safe water to drink, nutritious food to eat, and healthy places in which to live, learn, and play. Early exposure to harmful agents can lead to acute and chronic adverse outcomes. Infants and children are especially vulnerable to environmental exposures because they breathe, eat and drink more, in proportion to their body size, than do adults, and because their bodies and brains are still developing.

There are 1.3 million children in Minnesota and nearly 12% live in poverty.

Poverty is an important social determinant of health; poverty hurts children and their families.

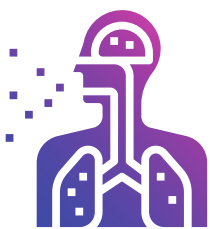
Children of color and young children are disproportionately poor and experience a host of issues that lead to adverse health outcomes.

Children's environmental health indicators (CEHIs) are measures that can be used to assess environmental hazards, environmental exposures, and their resulting health outcomes in children. Below are some key CEHIs for Minnesota:



### Safe drinking water

3% of public water utilities had drinking water violations (2019)  
National Average: 31%



### Air quality

630,878 children under age 18 live in the 72 (out of 87 total) counties that do not monitor ozone pollution<sup>1</sup> (2020)



### Warming temperatures

2.7 degrees F warmer<sup>2</sup> in 2018 than in 1970  
National Average: 2.5 degrees F warmer



### Toxic chemical releases

23.4 million pounds of toxic chemicals were disposed of or released<sup>3</sup> (2018)  
United States: 3.8 billion pounds



### Neuro-developmental disorders

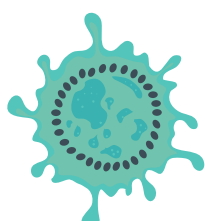
8.5% of children age 3-17 have ADHD or ADD<sup>4</sup> (2017)  
Nationwide: 8.8%

3.5% of children age 3-17 have Autism Spectrum Disorder<sup>4</sup> (2017)  
Nationwide: 2.8%



### Asthma

6.8% of children under age 18 have asthma<sup>5</sup> (2017)  
Nationwide: 7.5%



### Pediatric cancer

185.7 cases of pediatric cancer<sup>6</sup> per 1 million population (2005-2015)  
Nationwide: 181.0 cases per 1 million



### Blood lead levels

0.6% of tested children under age 6 have elevated blood lead levels<sup>7</sup> (2017)  
Nationwide: 3.0%

1. In this fact sheet, counties with "unhealthy" ozone pollution are those receiving a grade of D or F for ozone pollution in the American Lung Association's 2020 State of the Air report. Out of Minnesota's 87 counties, 72 did not monitor for ozone. None of the 15 counties that monitored had unhealthy ozone pollution.
2. Warming matters -- it drives most of the hazards associated with climate change such as extreme weather, heat days, droughts and heavy downpours. Children are more vulnerable to harm from extreme heat and to the other cascading effects of warming temperatures.
3. EPA's Toxics Release Inventory (TRI) tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. Certain industrial facilities in the U.S. must report annually how much of each chemical is disposed of or released on- and off-site. Many of these chemicals are known carcinogens, developmental toxicants, and neurotoxicants, such as arsenic, lead, and mercury, that adversely impact children's health.
4. Mounting scientific research links environmental exposures with risk of Attention-Deficit Hyperactivity Disorder (ADHD), Attention-Deficit Disorder (ADD), and Autism Spectrum Disorder (ASD). Neither genetics nor changing diagnoses or other artifacts fully account for the increased incidences of these conditions. ADHD, ADD and ASD data are for Minnesota children aged 3-17 years.
5. A wealth of research links exposure to poor outdoor air quality, including high concentrations of ground-level ozone, with the exacerbation of children's respiratory illnesses, including asthma. Several studies link it with the onset of childhood asthma.
6. Although cancer in children is rare, the rate of pediatric cancer has been increasing since the 1970s. It is the leading disease-related cause of death past infancy in U.S. children. Neither genetics nor improved diagnostic techniques can explain the increased rate. According to the President's Cancer Panel's 2008-2009 Annual Report, "the true burden of environmentally induced cancer has been grossly underestimated."
7. In 2017, 21.9% of Minnesota children under age 6 were tested for blood lead levels (BLLs). Of those tested, 0.6% had a BLL  $\geq$  5  $\mu\text{g}/\text{dL}$ . Often the most vulnerable children are not tested, and not all who are tested get reported, so 0.6% is likely an underestimate of the true scope of children's elevated blood lead in Minnesota. There is no safe level of lead exposure for children. A potent neurotoxicant, lead reduces IQ and impairs other cognitive, behavioral, and developmental functions.

## FEDERAL SUPPORT within past 5 years



**CDC-funded Lead Poisoning Prevention Program**



**ATSDR State Cooperative Agreement Program**



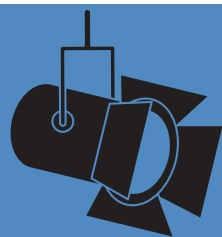
**CDC National Asthma Control Program**



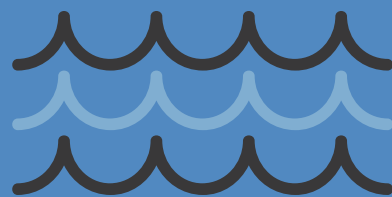
**CDC-funded Environmental Public Health Tracking Program**



**CDC State Biomonitoring Cooperative Agreement Program**



## MINNESOTA SPOTLIGHT



**Current federal actions threaten drinking water across the country, including: rollbacks on pollution-reduction regulations; efforts to reduce which waterways can be protected from pollution; weakening of lead service line replacement timeline requirements; failure to lower the lead in drinking water standard; and the lack of drinking water standards for toxic per- and polyfluoroalkyl substances (PFAS). Thankfully, some states are taking decisive action to protect the health of their residents.**

**Minnesota is one of only a few states that develops its own drinking water guidance. State law specifies that the guidance must adequately protect the health of infants and children. To this end, the Minnesota Department of Health (MDH) develops guidance that considers “windows of sensitivity” to toxicants as well as periods of high exposures. Other ways MDH is unique in how it creates water standards to protect infants and children include using placental transfer and transfer through formula-feeding and breastmilk as a factor in their PFAS health-based guidance.**



**Children are our future—society has a moral obligation to protect them. Exposure to environmental hazards can and must be prevented. Prevention requires strong environmental regulations and fully funded and supportive public and environmental health programs and a robust workforce.**

*A Blueprint for Protecting Children's Environmental Health: An Urgent Call to Action*  
[www.cehn.org/blueprint](http://www.cehn.org/blueprint)

**The Children's Environmental Health Network set out to identify a set of CEHIs that can be used to provide an understanding of children's environmental health at the state level. Through this process, CEHN found that robust, valid, and regularly updated state level data--that are comparable across most states--were not readily accessible. States need adequate funding and capacity to collect and make accessible reliable CEHI data in order to set goals and track progress towards improving children's health.**

*For references and for more information, visit [www.cehn.org/states/minnesota](http://www.cehn.org/states/minnesota)*



**CHILDREN'S  
ENVIRONMENTAL  
HEALTH  
NETWORK**

[www.cehn.org/states](http://www.cehn.org/states)

**#ChildrenAtTheCenter**