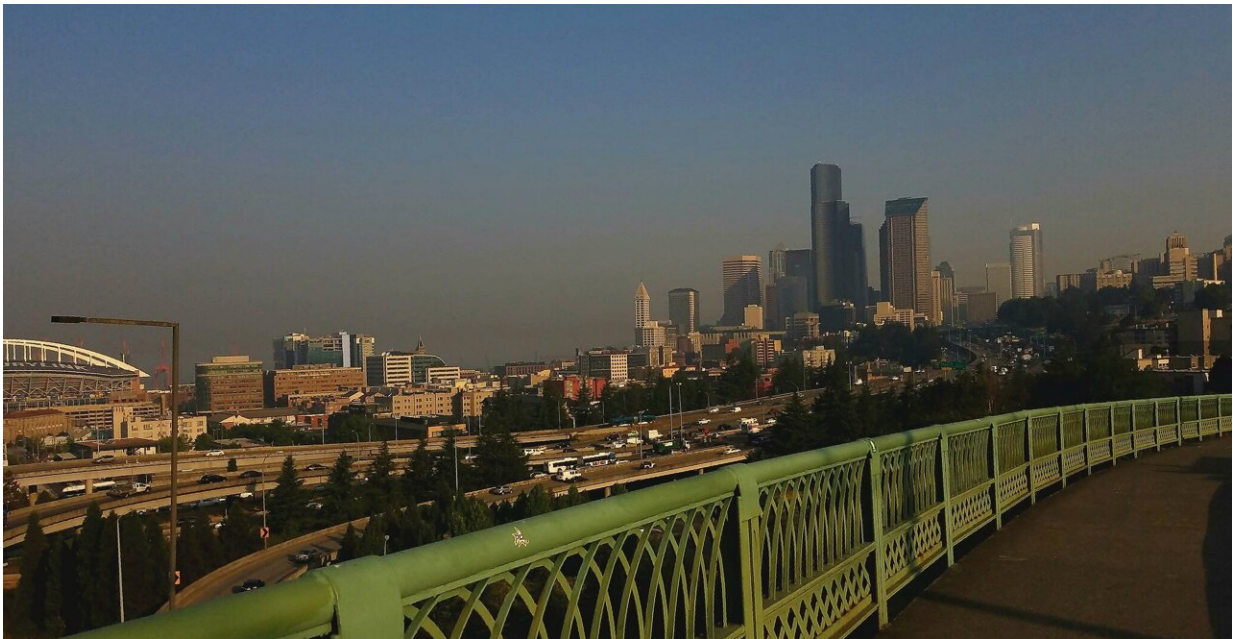


Major chronic health problems facing children today linked to air pollution

May 18 2021



A smoggy day in Seattle. Credit: joshua_putnam/Flickr

With evidence of the health hazards facing children from air pollution growing, the American Academy of Pediatrics on Monday published a policy statement meant to bring those hazards to light and to encourage and direct policy to improve children's health.

Policy co-author Dr. Catherine Karr, a professor in the University of Washington's School of Public Health and School of Medicine, said

because pediatric care providers are trusted advisers on healthy practices for prevention, they have an important role in getting the word out to families and policymakers that healthy air is part of the prescription for healthy children.

"Environmental health," Karr added, "has not been a prominent part of medical education and training, and I hope the [policy statement](#) helps the pediatric community fulfill its role in ensuring healthy air for all children."

In the policy statement, Karr and lead author Dr. Heather Brumberg, professor of pediatrics and clinical public health at New York Medical College, point out the connections between ambient [air pollution](#) and a range of associated [health problems](#) in children—asthma, preterm births, abnormal lung and neurodevelopment, pediatric cancer, obesity and risks of cardiovascular disease.

Conversely, the authors note how improvements in air quality, either nationally or regionally, have been associated with improved health outcomes for children. For example, they wrote that changes in public transportation use and reduced levels of air pollution during the "natural experiments" of the 1996 Olympics in Atlanta and 2008 Olympics in Beijing, were associated with children's asthma improving and birth weights increasing, respectively.

"Interestingly," they added, "when school buses in select Washington state communities used clear air technologies, participating elementary school students had both better lung function and less school absenteeism."

For the authors' complete discussion of the health hazards facing children due to [ambient air pollution](#) and their recommendations to pediatricians, check out the policy statement.

Below is a brief Q&A with Dr. Karr, who is also a professor in the UW Department of Environmental & Occupational Health Sciences, concerning air pollution and kids' health.

UW News: Why it is important to understand the role pollution has on children's health?

Karr: Children are more vulnerable by design. They take in more air on a per body size basis than adults, receiving higher doses of air pollution. Their organs are developing in form and functionality. We now understand there are multiple potential types of health compromises in relation to air pollution exposure in early phases of development from fetal life and early childhood. These early life insults can have life-long consequences.

The toxic properties of air pollution are linked to most of the major chronic health problems facing children today—premature birth or low birth weight, respiratory infections and asthma exacerbations, even development of asthma, poorer cognitive development and risk of autism.

As seen for COVID, structural racism and economic disadvantage drive disproportionate effects of health threats. Air pollution, while ubiquitous, has unequal distribution of higher concentrations in communities of color and communities with increased poverty. If we are serious about addressing [health](#) disparities in [children](#), we need to address air quality disparities.

UW News: Worldwide, national and even regional pollution can seem like a problem that's too big for any one person to have an impact on—how can

individuals make a difference?

Karr: Individual behaviors add up to influence community air quality. There are many everyday individual considerations that can make a difference. For example: Choose cleaner transportation and move away from gas powered motor vehicle trips. When you can, carpool or use public transportation and bike or walk whenever possible. Also, avoid gasoline powered lawn equipment and avoid burning leaves, trash or other material. Compost leaves and yard waste.

Collectively, individuals can have an impact on broader policy and community practice. Join efforts to advocate for renewable energy, improved access to public transportation and safe siting of schools and daycares. Support increased focus on areas of enhanced vulnerability, including low-income communities, and air [pollution](#) sources that have been poorly addressed, such as agricultural production.

More information: Heather L. Brumberg et al. Ambient Air Pollution: Health Hazards to Children, *Pediatrics* (2021). [DOI: 10.1542/peds.2021-051484](#)

Provided by University of Washington

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