# ECHO Celebrates Children's Environmental Health Day

October 8, 2026






The NIH Environmental influences on Child Health Outcomes (ECHO) Program is joining the **Children's Environmental Health Network** in celebrating **Children's Environmental Health Day**. Since ECHO was established in 2016, its investigators have published more than 2,200 **journal articles** investigating how a broad range of early environmental influences—from society to biology—affects child health outcomes.

**Learn more about this research on ECHO's chemical exposures and air quality topic pages.**

## Publications Highlights:

**Air Pollution Exposure During Pregnancy Associated with Slightly More Behavior Problems in Young Children, ECHO Study Suggests:**
Exposure to air pollutants like fine particulate matter ($PM_{2.5}$) and nitrogen dioxide ($NO_2$) during pregnancy was associated with slightly higher behavior problem scores in preschool-aged children.

**Exposure to $PM_{2.5}$ Air Pollution During Pregnancy Associated with Lower Birthweight, ECHO Study Finds:**
Exposure to higher levels of $PM_{2.5}$ air pollution during the first weeks of pregnancy is associated with lower birth weight and an increased risk of infants being born small for gestational age.

**Higher Early-Life $PM_{2.5}$ Linked to Higher Childhood Blood Pressure, While Prenatal NO2 Exposure Associated with Lower Blood Pressure, ECHO Study Finds:**
Children exposed to higher levels of certain air pollutants around birth had small differences in blood pressure later in childhood, with early pregnancy emerging as a particularly sensitive period.

**Wildfire Smoke Exposure Associated with Higher Risk of Preterm Birth, ECHO Study Finds:**
Exposure to wildfire smoke during pregnancy was associated with a higher risk of preterm birth, especially in the Western United States and during periods of intense or prolonged smoke.

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## Publications Highlights:

**Exposure to Common Type of Pesticide During Pregnancy Was Not Linked to Autism-Related Traits in Children:**
Higher prenatal exposure to common organophosphate pesticides was not associated with an increase in autism-related social and

**Exposure to Metals During Pregnancy Associated with Autism-Related Traits in Children**
Higher levels of certain metals in mothers' blood during pregnancy—including lead, mercury, and cadmium—were associated with autism-related traits in children, and higher levels of cadmium were associated with higher odds of autism spectrum disorder (ASD) diagnosis.

**Exposure to Multiple Chemicals During Pregnancy Associated with Adverse Birth Outcomes**
Exposure to certain chemicals during pregnancy was linked to differences in gestational age and birthweight.

**Exposure to Flame-Retardant Chemicals During Pregnancy Associated with Differences in Child Growth Patterns**
Prenatal exposure to organophosphate esters (OPEs) was associated with altered child growth trajectories, with some chemicals linked to faster increases in BMI and weight while others were associated with slower growth.

ECHO
Environmental influences on Child Health Outcomes
A program supported by the NIH

*The ECHO Program includes both observational and intervention research, and investigators study the effects of a broad range of early environmental influences on child health and development. Research conducted through ECHO focuses on five key pediatric outcomes that have a high public health impact: pre-, peri- and postnatal outcomes; upper and lower airway health; obesity; neurodevelopment; and positive health.*

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