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## Children's Environmental Health International Initiatives

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dedicated to promoting healthy environments for children

**March/April 2025**

### [World Health Day 2025: Healthy Beginnings, Hopeful Futures](#)

World Health Day, celebrated on 7 April 2025, will kick off a year-long campaign on maternal and newborn health. The campaign, titled *Healthy beginnings, hopeful futures*, will urge governments and the health community to ramp up efforts to end preventable maternal and newborn deaths, and to prioritize women's longer-term health and well-being. This task is critical. Tragically, based on currently published estimates, 260 000 women lose their life due to pregnancy or childbirth each year, while over 2 million babies die in their first month of life and around 2 million more are stillborn. There are numerous ways to get involved to help the campaign. You can: Spread Awareness, Participate, Donate, or Share Personal Experiences.

WHO (07/04/2025)

### **Journal Articles**

#### [Association between outdoor light at night exposure and preterm birth and effect modification by pre-pregnancy stress: A national population-based retrospective cohort study](#)

This study aimed to explore the association between outdoor artificial light at night (ALAN) exposure and the risk of PB, as well as the effect modification by pre-pregnancy stress. This national population-based retrospective cohort study included women of reproductive age (21–49 years) from the National Free Preconception Health Examination Project (NPHCP) across 220 counties in China, from 2010 to 2012. ALAN exposure was quantified, and pre-pregnancy stress was assessed via a structured questionnaire. A total of 549,654

### [Nearly 50 million people sign up call for clean air action for better health](#)

In an unprecedented show of unity, more than 47 million health professionals, patients, advocates, representatives from civil society organizations, and individuals worldwide have signed a resounding call for urgent action to reduce air pollution and to protect people's health from its devastating impacts. Air pollution is one of the biggest environmental threats to human health and a major contributor to climate change. Around 7 million people die from air pollution each year, mainly from respiratory and cardiovascular diseases. This global call to action, spearheaded by the World Health Organization (WHO) and international health organizations was presented at the Second Global Conference on Air Pollution and Health, set to take place in Cartagena, Colombia, on 25–27 March 2025.

WHO (17/03/2025)

### [Earth Day 2025: What's it all about?](#)

Earth Day is a global movement which happens every year on 22 April. The first-ever Earth Day was held in 1970 in the United States, when 20 million people took to the streets to protest against big environmental issues, including oil spills, polluted rivers and air pollution. By the end of 1970, the first Earth Day had led to the US Environmental Protection Agency being set up, and several environmental laws were brought in or strengthened. In 1990 it became a global event. Organisers say over a billion people take part in events to mark the day in hundreds of countries all over the world. Every year there is a different theme for Earth Day. The theme for Earth Day 2025 is 'Our power, Our planet', which focuses on renewable energy. The organisers are calling for renewable energy generation to be tripled by 2030

pregnant women participated in this study. Higher pre-pregnancy life stress levels were associated with a stronger association between outdoor ALAN exposure and extremely preterm birth (PB). Higher total, life, economic, and friend pre-pregnancy stress may amplify the effect of ALAN on PB risk. Stratified analyses indicated more apparent effect modifications by pre-pregnancy stress in participants with lower educational levels, with non-farmer occupation, living in rural areas, and living in south regions.

*Ecotoxicology and Environmental Safety*

#### [Fractional exhaled nitric oxide \(FeNO\) among elementary school children in Stockholm: Associations with asthma, allergies, and home and school environment](#)

Fractional exhaled nitric oxide (FeNO) is a marker of type 2 airway inflammation, often linked to asthma and allergies. This study examined how home and school environments affect FeNO levels in elementary-aged children in Stockholm. Children diagnosed with asthma or allergies exhibited elevated FeNO. The children's home environment played a role—those living in single-family homes with basements had higher FeNO compared to children in apartments, potentially due to older building age, dampness, poor ventilation, or mold. The school environment also influenced airway inflammation; higher classroom humidity and indoor PM10 levels were associated with higher levels of FeNO and increased asthma and allergies. Additionally, the presence of DNA from gram-negative bacteria in school dust was associated with elevated FeNO. FeNO levels can also be influenced by demographic factors with higher levels seen in taller males.

*Science of the Total Environment*

#### **Air Pollution**

##### [Impacts of night market on indoor air quality and lung function of children in nearby households](#)

Night markets—a unique element of Asian culture—involve various cooking methods and combustion, generating air pollutants with adverse health effects. The authors evaluated the impacts of night market, specifically market opening days and household distance from the market, on indoor air quality and the lung function of children in nearby households. They measured concentrations of particulate matter (PM)<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), nitrogen dioxide, sulfur dioxide (SO<sub>2</sub>), ozone, total volatile organic compound (TVOC) in

around the world. They are also encouraging people to take part in environmental actions by signing petitions and organising protests. BBC (22/04/2025)

#### **Press Releases**

##### ['Left Unchecked, Climate Crisis Will Escalate,' Warns Secretary-General in Message to Central Asia Conference](#)

UN Secretary General António Guterres' shared a message with the International Conference on Central Asia in the Face of Global Challenges; Consolidation for Common Prosperity. He emphasized "The climate crisis is taking hold around the world. The evidence is all around us — with the hottest days, the hottest months, the hottest years and the hottest decade on record.

We see it clearly in Central Asia with soaring temperatures, glacier retreat, droughts and worsening dust storms. Left unchecked, this crisis will only escalate — pummeling economies, taking lives, devastating livelihoods and imperilling food and water supplies. This is an opportunity to bring together energy transition strategies and sustainable development priorities with climate action — to attract investment and build prosperity and security."

UN (04/04/2025)

##### [Eastern and Southern Africa records over 178,000 cholera cases over 15 months, amid water, sanitation and hygiene challenges – UNICEF](#)

Over 178,000 cases of cholera have been confirmed in 16 countries in Eastern and Southern Africa from January 2024 until March 2025, UNICEF reported today. Worsened by limited access to water, sanitation, hygiene and health services, the alarming number has resulted in close to 2,900 deaths, many of which are children. The latest data from 2022 indicated that almost 120 million people including 60 million children are drinking unsafe water in Eastern and Southern Africa, with up to 22 percent of the population in the region having no access at all. Across the region, UNICEF works with partners, including governments, civil society organizations and communities, to support access to clean water, reliable sanitation, and to promote basic hygiene practices that keep children safe from infectious disease.

UNICEF (24/03/2025)

##### [Climate change impacts leading to increased exposure to harmful toxins](#)

58 households located near a night market. They also assessed lung function values of children living in these households. The lung function values for children were significantly lower in households located  $\leq 595$  m from the market (near group) than in those located  $> 595$  m from the market (far group).

*Journal of Exposure Science & Environmental Epidemiology*

#### [Association of Ambient Air Pollution and Temperature Exposure with Placental Abruption: A Nested Case-Control Study Based on Live Birth Registrations](#)

The authors investigated the association between exposure to ambient pollutants and temperatures and placental abruption, to identify susceptible time windows and subpopulations. A nested case-control study was based on a live birth registration database in Chongqing, from 2018 to 2022. The placental abruption cases were each matched with four controls by maternal age at delivery, gestational week, gravidity, parity, and delivery date. Six ambient pollutants ( $PM_{2.5}$ ,  $PM_{10}$ ,  $NO_2$ ,  $CO$ ,  $O_3$ , and  $SO_2$ ) and temperature were estimated using machine learning algorithms. An exposure relationship was identified between  $NO_2$  during the pregnancy period and placental abruption. The association for  $NO_2$  exposure existed in the three trimesters but not pre-pregnancy. Exposure to locally extreme low temperatures in the third trimester was associated with increased risks of abruption.

*Environmental Health Perspectives*

#### **Chemicals/Pesticides**

##### [Paternal and Maternal Exposures to Per- and Polyfluoroalkyl Substances and Child Behavioral Difficulties: A Parental Comparison Study](#)

Per- and polyfluoroalkyl substances (PFAS) are widespread environmental pollutants with documented developmental toxicity. Using the INUENDO cohort, the authors studied 334 father–mother–singleton triads enrolled from antenatal clinics in Greenland, Poland, and Ukraine. They measured five PFAS in parental serum samples collected around 31 weeks of gestation. They assessed child behavioral difficulties at ages 5–9 years. We performed analyses stratified by child's sex, coadjusting for maternal or paternal PFAS. In male children, multiple maternal PFAS were associated with externalizing difficulties. Maternal perfluorononanoic acid (PFNA) was associated with internalizing difficulties in female children. In

A warmer and more humid climate across European regions is promoting an increased prevalence of mycotoxins coming from fungi, according to the EEA briefing 'Mycotoxin exposure in a changing European climate'. It explores the associated health concerns around mycotoxins, particularly in relation to their impact on food crops and how a more coordinated European approach can help tackle the spread and prevent contamination. Mycotoxins, harmful naturally-formed compounds produced by fungi, pose significant health risks. The fungi toxins can disrupt hormones, weaken the immune system, damage the liver and kidneys, increase the risk of miscarriage, harm unborn children, and act as carcinogens. Evidence suggests that certain groups may be at higher risk from exposure to mycotoxins. Young children (1-3 years old) and infants (under 12 months old) are especially vulnerable due to their higher food intake relative to body weight as are pregnant women and workers in the agricultural, food and feed sector.

European Environment Agency (10/03/2025)

#### **In the Media**

##### [‘Toxic cocktail’: study finds almost 200 pesticides in European homes](#)

In preliminary findings from the largest study of its kind, scientists examining household dust from homes in 10 European countries in 2021 detected 197 pesticides in total. More than 40% of the pesticides found in the dust have been linked to highly toxic effects, including cancer and disruption of the hormonal system in humans. Pesticides often find their way into the home on our shoes and through pets. Scientists say their research supports the idea that regulators should assess the risks posed by pesticides when they react with other chemicals, as well as individually. They say this should apply to substances already in use, as well as those yet to be approved.

The Guardian (11/04/2025)

##### [Zero Waste Day shines a light on fashion and textiles](#)

Hundreds of thousands of people worldwide marked the International Day of Zero Waste, which spotlighted solutions to the mounting environmental and social problems caused by the fashion and textile sector. At the core of Zero Waste Day, which falls on March 30 each year, was the idea that the rapidly expanding fashion industry is having an outsized impact on the

contrast, paternal exposure to PFAS was not associated with behavioral difficulties in children of either sex.

*Environmental Science & Technology*

### **Heavy Metals/Trace Elements**

#### [Trace Element Exposure during Pregnancy Has a Persistent Influence on Perinatal Gut Microbiota in Mother–Infant Dyads](#)

Trace elements have been recognized as the modifiers of the gut microbiota. However, population-based evidence about their effects on maternal gut microbiota dynamics, as well as the intergenerational impacts on neonatal gut microbiota, has been lacking. We examined the longitudinal microbiota data from mother–infant dyads and demonstrated that maternal trace element exposure played a pivotal role in shaping the composition and similarity of the mother–infant gut microbiota. Specifically, serum levels of cobalt (Co), molybdenum (Mo), and rubidium (Rb) were identified to cause further fluctuation in the shift of the maternal gut microbiota. Antibiotic usage shortly before or on the delivery day, as well as maternal zinc (Zn) exposure, affected the gut microbiota similarity within mother–infant dyads. Rb demonstrated an intergenerational effect on meconium *Bifidobacterium* abundance by altering its abundance in the maternal gut. Notably, this effect was strengthened in the vaginal delivery group without antibiotic usage, while it was attenuated in the c-section delivery group. Our results suggest that maternal trace element exposure has a persistent influence on perinatal gut microbiota, which offers novel insights into promoting mother and infant health.

*Environmental Science & Technology*

### **Microplastics**

#### [Runoff and accumulation of microplastics derived from polymer-coated fertilizer in Japanese paddy fields](#)

Polymer-coated fertilizers, widely used in rice cultivation in Japan, are a source of microplastics in the environment. The authors investigated microplastics derived from polymer-coated fertilizer (microcapsule) runoff in Japanese paddy fields at 38 sites to quantitatively assess the behavior of microcapsules in paddy fields and to estimate the total amount of runoff and accumulation in Japan. Between 61% and 100% of microcapsule runoff during the irrigation period

planet. “Unsustainable fashion is aggravating the triple planetary crisis of climate change, nature, land and biodiversity loss, and pollution and waste,” said Inger Andersen, Executive Director of the United Nations Environment Programme (UNEP). “We need to focus on a circular economy approach that values sustainable production, reuse and repair. By working together, consumers, industry and governments can support genuinely durable fashion and help reduce our fashion footprint.”

UNEP (04/04/2025)

#### [A tale of two cities: Delhi's air more toxic than LA's wildfire-hit skies](#)

Los Angeles County in the United States is grappling with devastating wildfires in parts of the region. The smoke from these infernos has pushed the city's Air Quality Index (AQI) into the "unhealthy" category, with a recorded AQI of 158. LA's air remains significantly cleaner than that of Delhi which recorded severe AQI values of 373 on January 9th, and 410 on January 10th. This contrast highlights a troubling reality for Delhi, where poor air quality has become a daily struggle. Delhi's air quality crisis did not rise from merely weather conditions. It stems from chronic contributors, including vehicular emissions, stubble burning, construction dust, and industrial pollutants. While pollution from LA's wildfires have triggered immediate public health warnings, and widespread concern, Delhi's residents endure severe air pollution with little comparable response. Despite 'severe' AQIs, air quality levels plunge to hazardous depths in Delhi as, such measures are seldom implemented in India's capital.

Business Standard (10/01/2025)

#### [Exposure to combination of pesticides increases childhood cancer risk – study](#)

Exposure to multiple pesticides significantly increases the risk of childhood cancers compared with exposures to just one pesticide, raising new fears that children are more at risk to the substances' harmful effects than previously thought. The study investigates the link between exposures to multiple widely used pesticides and the most common childhood cancers. Importantly, they studied mixtures, not just individual chemicals. Of the 32 pesticides researchers examined, the most potent mixes included herbicides such as dicamba, glyphosate, and paraquat – controversial products that are



occurred between puddling and rice transplanting, with concentrations ranging from 2–482 mg/m<sup>2</sup> in paddy fields. Water management practices and wind direction and speed explained the difference in runoff between plots. According to fertilizer statistics and the results, total microcapsule accumulation on agricultural land in Japan was estimated to be 75,623 t. These results suggest that paddy fields in Japan will remain a long-term source of marine microplastics.

*Environmental Toxicology and Chemistry*

### **Water, Sanitation & Hygiene**

#### [Development in Latin America and the Caribbean: Water, Sanitation, and Garbage Collection](#)

Access to essential infrastructure services such as water, sanitation, and garbage collection can considerably affect children's environment and may play a significant role in shaping early childhood developmental and health outcomes. Having access to clean water, sanitation, and improved garbage collection services is linked to better early childhood development and fewer cases of stunting. The findings are significant even when individual, maternal, and household factors, as well as household wealth, caregiving behaviors, and community influences were controlled. The economic relevance is shown by the large gap in vulnerable groups, which remains even after considering other factors. Results also suggest that households can reduce the impact of pollutants by treating water, using handwashing cleansers, and storing trash in lidded containers. The findings underscore the importance of investing in quality basic infrastructure services to enhance early childhood development and health in low- and middle-income countries.

*World Development*

### **War/Displaced Populations**

#### [Community Health Worker Impact on Maternal and Child Health in Displaced Populations: A Prospective Cohort Study](#)

Internally displaced populations (IDPs) face disproportionate maternal and child health challenges. This study aimed to evaluate the impact of a Community Health Worker (CHW) intervention on maternal and neonatal health outcomes in humanitarian settings across Chad, Sudan, and Somalia. A prospective cohort study was conducted among 1,200 pregnant women in six IDP camps from January 2022 to December

each sprayed on tens of millions of acres of cropland nationally. The pesticides have drawn intense scrutiny for their toxicity, and are prohibited in many other countries, but US regulators have resisted calls for bans  
The Guardian (05/03/2025)

#### [Delhi at 41C, Rajasthan at 46C: Record heatwave engulfs northern India as scorching summer arrives early](#)

Dozens of cities across India have recorded scorching temperatures above 40 degrees Celsius in recent days, ahead of the peak summer season and prompting unusually early heatwave alerts in several states. In early April, 27 weather stations across western parts of the country recorded temperatures above 43C, with at least 19 locations recording severe heat waves. Delhi recorded a temperature of 41C, while Rajasthan hit 46.4C, the highest temperature in the country. India's heatwave season begins from April, but temperatures this time of year are typically several degrees lower. In recent years, though, heatwaves have started as early as February. Nearly 150 people died due to the heatwave in 2024, according to government data, but independent researchers said the toll was much higher.

The Independent (09/04/2025)

#### [Deadly floods and storms affected more than 400,000 people in Europe in 2024](#)

The home-wrecking storms and floods that swept Europe last year affected 413,000 people, a report has found, as fossil fuel pollution forced the continent to suffer through its hottest year on record. The two most destructive examples were the deluges that tore through central Europe in September and eastern Spain in October. Previous studies have found the disasters were made stronger and more likely because of global heating, which increases rain. Celeste Saulo, director general of the World Meteorological Organisation (WMO), said "every additional fraction of a degree" of temperature rise mattered, but that societies must also adapt to a hotter world. "We are making progress but need to go further and need to go faster," she said. "And we need to go together."

The Guardian (15/04/2025)

### **Webinars and Events**

*Prenatal Lead and Mercury Monitoring Program in NJ*

2023. Baseline data were compared with post-intervention outcomes over 12 months. CHWs were deployed with a coverage ratio of 1:50 households, delivering antenatal education, referral services, immunization support, and home-based care. Antenatal care (ANC) attendance improved significantly from 41.2% at baseline to 96.4% post-intervention. Full immunization coverage among infants under 12 months rose from 52.7% to 98.9%. Neonatal mortality declined from 32.1 per 1,000 live births to 18.0 per 1,000, reflecting a 43.9% reduction. The study underscores the urgency of CHW interventions into national emergency response frameworks to improve health outcomes in displaced populations.

**May 13 at 11 am ET | Philadelphia Regional Center for Children's Environmental Health**

Eric Bind, MPP, of the NJ Department of Health will discuss prenatal lead and mercury monitoring program in NJ. Eric is a research scientist with the State of New Jersey Biomonitoring Program, Metals Laboratory. His work includes the Prenatal Screening Adaptability Project and blood biomonitoring for lead and mercury. This is a hybrid event on both Zoom and in-person on the Penn Medicine campus in Philadelphia, PA. Registration is required. [Click here to learn more.](#)

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