

## Children's Environmental Health International Initiatives

This is an international mailing list provided by [WHO](#) and [UNEP](#) dedicated to promoting healthy environments for children

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### PREVENTING NONCOMMUNICABLE DISEASES (NCDs) BY REDUCING ENVIRONMENTAL RISK FACTORS



This newly released publication highlights the special relevance of environmental risks for NCDs. It presents the burden of NCDs caused by environmental risks, as well as the many areas where action on environmental determinants is needed to reduce the burden. It provides the evidence on

why environmental risk reduction is essential in NCD prevention and control strategies.

Following the release of “Don’t pollute my future” and “The public health impacts of chemicals”, this is the third in the series, based on data from the publication “Preventing disease through healthy environments”.

[Full publication](#)

### JOURNAL ARTICLES

#### Air Pollution

[Individual and Joint Effects of Early-Life Ambient PM2.5 Exposure and Maternal Prepregnancy Obesity on Childhood Overweight or Obesity](#)

Although previous studies suggest that exposure to traffic-related pollution during childhood increases the risk of childhood overweight or obesity (COWO), the role of early life exposure to fine particulate matter (aerodynamic diameter <2.5 µm; PM2.5) and its joint effect with the mother’s

### CHILDREN'S ENVIRONMENTAL HEALTH NEWS

#### Press Releases

[World hunger again on the rise, driven by conflict and climate change, new UN report says](#)

After steadily declining for over a decade, global hunger is on the rise again, affecting 815 million people in 2016, or 11 per cent of the global population, says a new edition of the annual United Nations report on world food security and nutrition. The increase – 38 million more people than the previous year – is largely due to the proliferation of violent conflicts and climate-related shocks, according to The State of Food Security and Nutrition in the World 2017. Some 155 million children aged under five are stunted (too short for their age), the report says, while 52 million suffer from wasting, meaning their weight is too low for their height. An estimated 41 million children are now overweight. WHO (15/9/2017)

[Mongolia joins UN Environment in the fight against air pollution](#)

In a national effort to combat air pollution, Mongolia is joining forces with UN Environment by joining the BreatheLife campaign. It is the first country that in its entirety joins the campaign, taking a bold stand against the harmful health effects that air pollution has for its citizens. Air pollution is high on the policy agenda in the Asian nation, with the average air quality in the capital Ulaanbaatar frequently measured as being 7.5 times higher than the World Health Organization’s safe limit. The nation’s challenge with air quality includes persistent indoor sources of air pollution, such as the use of coal and wood-based cooking and heating methods, as well as outdoor sources like coal-fuelled power plants and polluting sources of transportation, the burning of garbage, unpaved roads, and dust coming in from the desert. UNEP (14/9/2017)

prepregnancy body mass index (MPBMI) on COWO remain unclear. Comparing the highest and lowest quartiles of PM<sub>2.5</sub>, the adjusted relative risks (RRs) [95% confidence intervals (CIs)] of COWO were 1.3 (95% CI: 1.1, 1.5), 1.2 (95% CI: 1.0, 1.4), 1.2 (95% CI: 1.0, 1.4), 1.3 (95% CI: 1.1, 1.6), 1.3 (95% CI: 1.1, 1.5) and 1.3 (1.1, 1.5) during preconception; the first, second, and third trimesters; the entire period of pregnancy; and F2YL, respectively. Spline regression showed a dose–response relationship between PM<sub>2.5</sub> levels and COWO after a threshold near the median exposure (10.46 µg/m<sup>3</sup>–10.89 µg/m<sup>3</sup>). Compared with their counterparts, children of obese mothers exposed to high levels of PM<sub>2.5</sub> had the highest risk of COWO [RR≥2.0, relative excess risk due to interaction (RERI) not significant].

*Environmental Health Perspectives*

## Chemicals

### [Prenatal Fluoride Exposure and Cognitive Outcomes in Children at 4 and 6–12 Years of Age in Mexico](#)

Some evidence suggests that fluoride may be neurotoxic to children. Few of the epidemiologic studies have been longitudinal, had individual measures of fluoride exposure, addressed the impact of prenatal exposures or involved more than 100 participants. Mean (SD) values for urinary fluoride in all of the mothers (n=299) and children with available urine samples (n=211) were 0.90 (0.35) mg/L and 0.82 (0.38) mg/L, respectively. In multivariate models authors found that an increase in maternal urine fluoride of 0.5mg/L (approximately the IQR) predicted 3.15 (95% CI: –5.42, –0.87) and 2.50 (95% CI –4.12, –0.59) lower offspring GCI and IQ scores, respectively. In this study, higher prenatal fluoride exposure, in the general range of exposures reported for other general population samples of pregnant women and nonpregnant adults, was associated with lower scores on tests of cognitive function in the offspring at age 4 and 6–12 y.

*Environmental Health Perspectives*

### [The Joint Effect of Prenatal Exposure to Metal Mixtures on Neurodevelopmental Outcomes at 20–40 Months of Age: Evidence from Rural Bangladesh](#)

Exposure to chemical mixtures is recognized as the real-life scenario in all populations, needing new statistical methods that can assess their complex effects. Authors aimed to assess the joint effect of in utero exposure to arsenic, manganese,

### [Hard to Breathe: Afghanistan Air Pollution - Part 1](#) [Hard to Breathe: Afghanistan Air Pollution - Part 2](#)

In these short videos, Professor Dr. Guizad from the Kabul Polytechnic University in Afghanistan talks about the challenges of outdoor air pollution in the city Air Pollution kills twice as many people in Kabul every year as war and Fatima from Afghanistan talks about the challenges of air pollution from cooking on a fire indoors. Air Pollution is one of the six dimensions of pollution brought forth at the upcoming UN Environment Assembly in Nairobi, Kenya this December. UNEP (12/9/2017)

### [Governments commit to promote a more resource efficient and pollution free Asia-Pacific](#)

Environment ministers and high-level officials from over 30 countries in Asia-Pacific have committed to move towards a clean and green Asia-Pacific, one that is more resource efficient and pollution free at the first Asia-Pacific Ministerial Summit on the Environment that concluded on the 8<sup>th</sup> of September in Bangkok. This will advance global agendas like the 2030 Agenda on Sustainable Development, the UN Environment Assembly resolutions and other global commitments. UNEP (8/9/2017)

### [UN environment summit opens with focus on sustainable use of natural resources and a pollution free planet](#)

The first Asia-Pacific Ministerial Summit on the Environment opened in Bangkok this week with a call for governments in the region to forge a transformative alliance that will drive forward an innovative, productive, resource efficient low carbon and pollution free economy as a means to deliver the 2030 Agenda for Sustainable Development. Erik Solheim, Head of UN Environment highlighted that Asia-Pacific has undergone enormous positive change in recent decades, something that has lifted countless people out of poverty but that this growth has come at a cost, namely increased pollution and the depletion of natural resources. UNEP (7/9/2017)

### [Pacific health ministers gather to address islands' key health challenges, solutions](#)

Health ministers from 20 Pacific island countries and areas convened yesterday in the Cook Islands for the 12th Pacific Health Ministers Meeting. The biennial gathering seeks to reaffirm the importance of the Healthy Islands vision in promoting and protecting the health of the Pacific islands people.

and lead on children's neurodevelopment. Employing a novel statistical method for the study of the health effects of chemical mixtures, authors found evidence of neurotoxicity of the mixture, as well as potential synergism between arsenic and manganese.

*Environmental Health Perspectives*

### [Associations of Prenatal Urinary Bisphenol A Concentrations with Child Behaviors and Cognitive Abilities](#)

Prenatal bisphenol A (BPA) exposure has been associated with adverse neurodevelopment in epidemiological studies. However, prior studies had limited statistical power to examine sex-specific effects, and few examined child cognition. Authors estimated the association between prenatal BPA exposure and child neurobehavior at 3 y of age in a prospective cohort of 812 mothers and their children. BPA was not associated with WPPSI-III scores; child sex did not modify these associations. The association between BPA and BRIEF-P scores was modified by child sex (BPA $\times$ sex p-values $\leq$ 0.03). For example, a doubling of BPA concentration was associated with 1-point (95% CI: 0.3, 1.7) poorer working memory in boys and 0.5-point (95% CI: -1.1, 0.1) better scores in girls. BPA was not associated with most BASC-2 scales; however, it was associated with more internalizing and somatizing behaviors in boys, but not in girls (BPA $\times$ sex p-values $\leq$ 0.08). A doubling of BPA concentration was associated with poorer SRS-2 scores [ $\beta$ =0.3 (95% CI: 0, 0.7)]; this association was not modified by sex.

*Environmental Health Perspectives*

### [Maternal and Cord Blood Manganese Concentrations and Early Childhood Neurodevelopment among Residents near a Mining-Impacted Superfund Site](#)

Environmental manganese exposure has been associated with adverse neurodevelopmental outcomes among school-aged children; yet, few studies have evaluated prenatal exposure. This study examines associations between prenatal manganese concentrations and placental transfer of manganese with neurodevelopment in 224 2-y-old children residing near the Tar Creek Superfund Site. Adjusting for lead, arsenic, and other potential confounders, an IQR increase in maternal manganese was associated with -3.0 (95% CI: -5.3, -0.7) points on MDI and -2.3 (95% CI: -4.1, -0.4) points on PDI. Cord manganese concentrations were not associated with neurodevelopment scores. Maternal blood

The Healthy Islands vision is to strengthen leadership, governance and accountability; nurture children in body and mind; reduce avoidable disease and premature death; and promote ecological balance. WHO WPRO (29/8/2017)

## WHO Fact Sheets

[Onchocerciasis](#) Updated September 2017

[Soil-transmitted helminth infections](#) Updated September 2017

## In the Media

### [Flint's lead-poisoned water had a 'horrifyingly large' effect on fetal deaths, study finds](#)

The fertility rate in Flint, Mich., dropped precipitously after the city decided to switch to lead-poisoned Flint River water in 2014, according to a new working paper. That decline was primarily driven by what the authors call a "culling of the least healthy fetuses" resulting in a "horrifyingly large" increase in fetal deaths and miscarriages. The paper estimates that among the babies conceived from November 2013 through March 2015, "between 198 and 276 more children would have been born had Flint not enacted the switch in water," write health economists Daniel Grossman of West Virginia University and David Slusky of Kansas University. Washington Post (21/9/2017)

### [Will federal safety panel ban toxic flame retardants in household products?](#)

Manufacturers long ago stopped adding a cancer-causing flame retardant to children's pajamas, but federal officials failed to ban the chemical during the late 1970s and as recently as five years ago it was the most widely used fire-resistant compound in household furniture. On Wednesday, the Consumer Product Safety Commission plans to vote on a petition that would ban tris and chemically related flame retardants from children's products, furniture, mattresses and household electronics. Many of the compounds have been linked to cancer, neurological deficits, developmental problems and impaired fertility. A growing body of research suggests they can irreparably harm fetuses and young children by mimicking hormones during early stages of life. Chicago Tribune (20/9/2017)

### [Tobacco-smoke residue that lingers in furniture, curtains and house dust can still be harmful](#)

manganese concentrations were negatively associated with early childhood neurodevelopment scores in this study.

*Environmental Health Perspectives*

### [Humoral Immunity in Arsenic-Exposed Children in Rural Bangladesh: Total Immunoglobulins and Vaccine-Specific Antibodies](#)

Authors evaluated whether prenatal and childhood arsenic exposure was associated with humoral immune function in school-aged children. Arsenic exposure was positively associated with child tIgG and tIgE, but not tIgA. The association with tIgG was mainly apparent in boys ( $p$  for interaction=0.055), in whom each doubling of maternal U-As was related to an increase in tIgG by 28 mg/dL. The associations of U-As at 9 years with tIgG and tIgE were evident in underweight children ( $p$  for interaction <0.032). Childhood arsenic exposure tended to impair mumps-specific vaccine response, although the evaluation was complicated by high preimmunization titers.

*Environmental Health Perspectives*

## **Reproductive Health**

### [First-Trimester Urinary Bisphenol A Concentration in Relation to Anogenital Distance, an Androgen-Sensitive Measure of Reproductive Development, in Infant Girls](#)

Evidence from animal models suggests that prenatal exposure to bisphenol A (BPA), a ubiquitous endocrine-disrupting chemical, is associated with adverse reproductive outcomes in females. Exposure during early gestation, a critical period for reproductive development, is of particular concern. Anogenital distance (AGD) is a sensitive biomarker of the fetal hormonal milieu and a measure of reproductive toxicity in animal models. In some studies, the daughters of BPA-exposed dams have shorter AGD than controls. BPA was detectable in 94% of women. In covariate-adjusted models fit on 381 eligible subjects, the natural logarithm of SpG-adj maternal BPA concentration was inversely associated with infant AGD-AC [ $\beta$ =-0.56, 95% confidence interval (CI): -0.97, -0.15]. Authors observed no association between maternal BPA and infant AGD-AF. BPA may have toxic effects on the female reproductive system in humans, as it does in animal models. Higher first-trimester BPA exposure was associated with significantly shorter AGD in daughters, suggesting that BPA may alter the hormonal environment of the female fetus.

*Environmental Health Perspectives*

Mice exposed to household fabrics contaminated with third-hand tobacco smoke showed changes in biological markers of health after only one month, a recent study found. After six months, the mice showed evidence of liver damage and insulin resistance, symptoms which usually precede the development of type 2 diabetes. There is growing evidence that third-hand smoke contamination is extensive and can linger for extended periods. Non-smokers can be exposed to third-hand smoke from breathing residual gases, touching surfaces and swallowing dust. Chemical reactions of nicotine stuck to surfaces can lead to an increase in the amount of carcinogenic chemicals over time. The Conversation (18/9/2017)

### [Women of childbearing age around world suffering toxic levels of mercury](#)

Women of childbearing age from around the world have been found to have high levels of mercury, a potent neurotoxin which can seriously harm unborn children. The new study, the largest to date, covered 25 of the countries with the highest risk and found excessive levels of the toxic metal in women from Alaska to Chile and Indonesia to Kenya. Women in the Pacific islands were the most pervasively contaminated. This results from their reliance on eating fish, which concentrate the mercury pollution found across the world's oceans and much of which originates from coal burning. The Guardian (18/9/2017)

### [London's most polluted schools to be given air-quality audits](#)

The most polluted schools in London are to be audited as part of the mayor's drive to clean up toxic air across the capital. Sadiq Khan said on Wednesday that air pollution was "the biggest public health emergency of a generation". He announced the first 50 schools to undergo a pollution audit, and said the results would be followed by "hard-hitting measures" to minimise the damage being done to children. The Guardian (13/9/2017)

### [Moms most exposed to pesticides more likely to have preterm babies](#)

Women exposed to the highest quantities of agricultural pesticides in California's San Joaquin Valley while pregnant were at heightened risk of giving birth prematurely and delivering low-weight infants, a new study found. Offspring of expectant mothers who lived near farms that applied the heaviest concentrations of pesticides were most at risk, the research showed. Mothers who lived in

## E-waste

### [Assessment of PCBs and exposure risk to infants in breast milk of primiparae and multiparae mothers in an electronic waste hot spot and non-hot spot areas in Ghana](#)

The aim of the study was to assess the levels of PCBs in the breast milk of some Ghanaian women at suspected hotspot and relatively non-hotspot areas and to find out if the levels of these PCBs pose any risk to the breastfed infants. Samples were analyzed using GC-MS/MS. The total mean levels and range of  $\Sigma$ PCBs were 3.64ng/glipidwt and <LOD-29.20ng/glipidwt, respectively. Mean concentrations from Agbogbloshie (hot-spot area) and Kwabenya (non-hotspot areas) were 4.43ng/glipidwt and 0.03ng/glipidwt, respectively. PCB-28 contributed the highest of 29.5% of the total PCBs in the milk samples, and PCB-101 contributed the lowest of 1.74%. The estimated daily intake of PCBs and total PCBs concentrations in this work were found to be lower as compared to similar studies across the world. The estimated hazard quotient using Health Canada's guidelines threshold limit of 1 $\mu$ g/kgbw/day showed no potential health risk to babies. However, considering minimum tolerable value of 0.03 $\mu$ g/kgbw/day defined by the Agency for Toxic Substances and Disease Registry (ATSDR), the values of some mothers were found to be at the threshold limit. This may indicate a potential health risk to their babies. Mothers with values at the threshold levels of the minimum tolerable limits are those who work or reside in and around the Agbogbloshie e-waste site.

*Science of The Total Environment*

## New Publications

### [Health Impact assessment \(HIA\) in Brazil and Latin America: an essential tool for projects, plans and policies Available in Portuguese](#)

The paper presents a literature review of the application of the Health Impact Assessment (HIA) methodology, disseminated by the World Health Organization in Brazil and Latin America. This study showed that the practice and application of the HIA is not common in Brazil or Latin America, as well as the analysis of health impacts is carried out in a superficial way regarding environmental licensing and public policies, indicating the need of the use of specific health impact assessment methodologies, professional training and government initiative. The adoption of HIA in Brazil could serve to avoid adverse health effects and

close proximity to agricultural operations using the highest percentage of pesticides - the top 1 percent - had an 11 percent increased probability of preterm delivery and a 20 percent increased probability of having a low birth-weight baby. Reuters (13/9/2017)

### [Northern China smog cuts life expectancy by 3 years versus south: study](#)

Air pollution caused by coal-fired winter heating has slashed life expectancy in northern China by more than three years compared with the south, according to a new study, underlining the urgency of Beijing's efforts to tackle smog. Researchers with the Energy Policy Institute at the University of Chicago (EPIC) said average lifespans north of the Huai river, where China supplies mostly coal-fired winter heat, were 3.1 years lower than in the south, which is not covered by the state heating policy. EPIC's study cites long-term smog exposure as a primary cause of the difference. Reuters (12/9/2017)

### [Britain flouting duty to protect citizens from toxic air pollution – UN](#)

The UK government is "flouting" its duty to protect the lives and health of its citizens from illegal and dangerous levels of air pollution, according to the UN's special rapporteur on human rights related to toxic waste. Baskut Tuncak issued his warning after a fact-finding mission to the UK in January at the invitation of the government in a report that has been shared exclusively with the Guardian before it is presented to the UN human rights council this week "Air pollution continues to plague the UK," he said. "I am alarmed that despite repeated judicial instruction, the UK government continues to flout its duty to ensure adequate air quality and protect the rights to life and health of its citizens. It has violated its obligations." The Guardian (11/9/2017)

### [China to ban production of petrol and diesel cars 'in the near future'](#)

China, the world's biggest vehicle market, is considering a ban on the production and sale of fossil fuel cars in a major boost to the production of electric vehicles as Beijing seeks to ease pollution. The move would follow similar plans announced by France and Britain to outlaw the sale of petrol and diesel cars and vans from 2040 in order to clamp down on harmful emissions. The Guardian (11/9/2017)

### [Thousands hit by malaria, dengue as South Asia's worst floods in a decade recede](#)

could enhance the positive aspects, as well as to mitigate the negative aspects of projects and public policies, ensuring that people's health is not neglected.

*Interface (Botucatu)*

## UPCOMING EVENTS

### [European Academy of Pediatrics 2017 Congress](#)

12–15 October 2017, Ljubljana, Slovenia

### [International Conference of the Public Health Foundation of India and the Pacific Basin Consortium](#)

14–16 November 2017, New Delhi, India

### [Twenty-third session of the UNECE Committee on Environmental Policy](#)

14–17 November 2017, Geneva, Switzerland

### [9th Excellence in Pediatrics Conference](#)

7-9 December, Vienna, Austria

## EDUCATION AND TRAINING

### [Pediatric Environmental Health Toolkit Training Module](#)

This online training was developed for pediatric health-care providers, health educators, and other health professionals interested in environmental health anticipatory guidance for pediatric patients and their parents or guardians. It is offered for free continuing education credits through the Agency for Toxic Substances and Disease Registry (ATSDR).

Thousands of people are suffering from an outbreak of diarrhea, malaria and dengue in Bangladesh and Nepal as the waters from the worst floods in a decade recede, officials and aid agencies said on Wednesday. About 13,000 people are ill with diarrhea and respiratory infections in densely populated Bangladesh after floods in its north, where the Brahmaputra and Jamuna rivers broke their banks. Reuters (6/9/2017)

### [Merkel under pressure to tackle toxic smog as German election nears](#)

With less than three weeks until the German elections, pressure is mounting on Angela Merkel to tackle the deadly smog in a large number of cities or face a court-enforced diesel ban and backlash from millions of motorists faced with plummeting resale values. More than 90 cities with excessive levels of nitrogen dioxide pollution could potentially outlaw diesel cars from their centres when the country's federal administrative court rules early next year. The Guardian (6/9/2017)

### [Guwahati in dire need of e-waste hazard awareness](#)

Experts have cautioned awareness among people against the increasing health hazards associated with the disposal of e-waste, primarily computers. Recycling e-waste has become a major concern for the city civic body. Guwahati is among the 10 cities selected by the ministry of electronics and information technology which is in dire need to create e-waste awareness. Times of India (6/9/2017)

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#### **Have news for us?**

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