

## 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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### HEALTH BENEFITS FAR OUTWEIGH THE COSTS OF MEETING CLIMATE CHANGE GOALS

Meeting the goals of the Paris Agreement could save about a million lives a year worldwide by 2050 through reductions in air pollution alone. The latest estimates from leading experts also indicate that the value of health gains from climate action would be approximately double the cost of mitigation policies at global level, and the benefit-to-cost ratio is even higher in countries such as China and India.

A WHO report launched at the United Nations Climate Change Conference (COP24) in Katowice, Poland highlights why health considerations are critical to the advancement of climate action and outlines key recommendations for policy makers.

Exposure to air pollution causes 7 million deaths worldwide every year and costs an estimated US\$ 5.11 trillion in welfare losses globally. In the 15 countries that emit the most greenhouse gas emissions, the health impacts of air pollution are estimated to cost more than 4% of their GDP. Actions to meet the Paris goals would cost around 1% of global GDP.

“The Paris Agreement is potentially the strongest health agreement of this century,” said Dr Tedros Adhanom Ghebreyesus, Director-General of WHO. “The evidence is clear that climate change is already having a serious impact on human lives and health. It threatens the basic elements we all need for good health - clean air, safe drinking water, nutritious food supply and safe shelter - and will undermine decades of progress in global health. We can't afford to delay action any further.”

[Press release](#)

### CHILDREN'S ENVIRONMENTAL HEALTH NEWS

#### Press Releases

[As talks get underway at COP24, MERCOSUR Ministers of Health commit to prioritize health in climate change adaptation plans](#)

Ministers of Health from MERCOSUR and Associated States have signed a declaration to place health at the front and center of national climate change adaptation plans. This aims to ensure that health systems become climate resilient, and that health prevention and promotion are fully integrated with climate services, as per recommendations from the Pan American Health Organization (PAHO). The declaration was signed at the XLIII Meeting of Health Ministers of MERCOSUR and Associated States, which took place on 23 November in Montevideo, Oriental Republic of Uruguay. It comes at a time when leaders from all over the world are gathering at the 24th Conference of Parties to the United Nations Framework Convention on Climate Change (COP24) in Katowice, Poland. PAHO (10/12/2018)

[New WHO report highlights insufficient progress to tackle lack of safety on the world's roads](#)

A new report by the World Health Organization (WHO) indicates road traffic deaths continue to rise, with an annual 1.35 million fatalities. The WHO Global status report on road safety 2018 highlights that road traffic injuries are now the leading killer of children and young people aged 5-29 years. These deaths are an unacceptable price to pay for mobility,” said WHO Director-General, Dr Tedros Adhanom Ghebreyesus. “There is no excuse for inaction. This is a problem with proven solutions. This report is a call for governments and partners to take much greater action to implement these measures.” The WHO Global status report on road safety 2018

## [Full report](#)

### **CLEAN AIR FOR HEALTH: GENEVA ACTION AGENDA**

The First WHO Global Conference on Air Pollution and Health took place at WHO headquarters in Geneva, Switzerland from 30 October to 1 November 2018. The conference was organized in collaboration with UN Environment, the World Meteorological Organization (WMO), the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC), the UN Economic Commission for Europe (UNECE), the World Bank and the Secretariat of the UN Framework Convention on Climate Change (UNFCCC). There was participation from and collaboration with national and city governments, intergovernmental organizations, civil society, philanthropy, research and academia.

WHO has developed this document to highlight a range of issues presented during the conference. This document does not reflect intergovernmental agreement or consensus, nor decisions reached by the attendees. The conference outcomes indicate a need for enhanced action on the points highlighted below.

## [Summary report](#)

### [Director-General closing address 1 November 2018](#)

### **WHO HOUSING AND HEALTH GUIDELINES**

Improved housing conditions can save lives, prevent disease, increase quality of life, reduce poverty, and help mitigate climate change. Housing is becoming increasingly important to health in light of urban growth, ageing populations and climate change.

The WHO Housing and health guidelines bring together the most recent evidence to provide practical recommendations to reduce the health burden due to unsafe and substandard housing. Based on newly commissioned systematic reviews, the guidelines provide recommendations relevant to inadequate living space (crowding), low and high indoor temperatures, injury hazards in the home, and accessibility of housing for

documents that despite an increase in the overall number of deaths, the rates of death relative to the size of the world population have stabilized in recent years. This suggests that existing road safety efforts in some middle- and high-income countries have mitigated the situation. WHO (7/12/2018)

### [Growing gap between ambition and action as the world prepares for a future with increasing climate risks](#)

While climate consciousness across the globe is on the rise, the fourth UN Environment Adaptation Gap Report released today has revealed a considerable gap between countries' preparedness for climate change and the actual measures that should be put in place to prepare communities for a future of increasing climate risks. The research particularly underscores a growing divide between the estimated annual costs of adaptation and the actual global investments in resilience measures, drawing a distinct connection between our adaptation to climate change and sustainable development that results in healthy communities and thriving economies. Climate change will have a significant impact on human health over the next few decades, and while progress has been made in reducing climate-change related diseases and injuries, current adaptation efforts are by no means sufficient to minimize future health impact of a changing climate. UNEP (6/12/2018)

### [Health benefits far outweigh the costs of meeting climate change goals](#)

Meeting the goals of the Paris Agreement could save about a million lives a year worldwide by 2050 through reductions in air pollution alone. The latest estimates from leading experts also indicate that the value of health gains from climate action would be approximately double the cost of mitigation policies at global level, and the benefit-to-cost ratio is even higher in countries such as China and India. A WHO report launched today at the United Nations Climate Change Conference (COP24) in Katowice, Poland highlights why health considerations are critical to the advancement of climate action and outlines key recommendations for policy makers. Exposure to air pollution causes 7 million deaths worldwide every year and costs an estimated US\$ 5.11 trillion in welfare losses globally. WHO (5/12/2018)

### [2018 Global Nutrition Report reveals malnutrition](#)

people with functional impairments. In addition, the guidelines identify and summarize existing WHO guidelines and recommendations related to housing, with respect to water quality, air quality, neighbourhood noise, asbestos, lead, tobacco smoke and radon. The guidelines take a comprehensive, intersectoral perspective on the issue of housing and health and highlight co-benefits of interventions addressing several risk factors at the same time.

[WHO housing and health guidelines](#)

## JOURNAL ARTICLES

### Air Pollution

[Longitudinal associations of in utero and early life near-roadway air pollution with trajectories of childhood body mass index](#)

Evidence suggests that childhood near-roadway air pollution (NRAP) exposures contribute to increased body mass index (BMI); however, effects of NRAP exposure during the vulnerable periods including in utero and first year of life have yet to be established. In this study, authors examined whether exposure to elevated concentrations of NRAP during in utero and/or first year of life increase childhood BMI growth. A two-standard deviation difference in first year of life near-road freeway NO<sub>x</sub> exposure was associated with a 0.1 kg/m<sup>2</sup> (95% confidence interval (CI): 0.03, 0.2) faster increase in BMI growth per year and a 0.5 kg/m<sup>2</sup> (95% CI: 0.02, 0.9) higher attained BMI at age 10 years. Higher exposure to early life NRAP increased the rate of change of childhood BMI and resulted in a higher attained BMI at age 10 years that were independent of later childhood exposures.

*Environmental Health*

[Does residential mobility during pregnancy induce exposure misclassification for air pollution?](#)

Prenatal exposure to outdoor air pollution has been shown to have health effects in many studies; low birth weight, preterm delivery, small for gestational age, and stillbirth are the most often cited. However, exposure of pregnant women is difficult to quantify, especially with regard to their mobility, which is rarely taken into account in epidemiological studies. This study aimed to assess the impact of mobility of pregnant women living in Paris, France, on their exposure estimates to nitrogen dioxide (NO<sub>2</sub>).

[is unacceptably high and affects every country in the world, but there is also an unprecedented opportunity to end it](#)

The world's most comprehensive report on nutrition highlights the worrying prevalence and universality of malnutrition in all its forms. In its fifth edition, the Global Nutrition Report provides a concrete overview of progress made and highlights solutions from around the globe calling on all stakeholders to act now to address malnutrition. The burden of malnutrition is unacceptably high. Malnutrition is a universal issue that no country in the world can afford to overlook. A third of reproductive-age women are anaemic, while 39% of the world's adults are overweight or obese and each year around 20 million babies are born underweight. Beyond health, slow progress on malnutrition is also impacting the social and economic development of countries. It is estimated that malnutrition in all its forms could cost society up to US\$3.5 trillion per year, with overweight and obesity alone costing US\$500 billion per year. UNICEF (28/11/2018)

[WHO felicitates Nepal for trachoma elimination, rubella control](#)

The World Health Organization on 22 November 2018, felicitated Nepal for eliminating trachoma, a neglected tropical disease that leads to blindness, as a public health problem, and for controlling rubella that causes serious and irreversible birth defects. "Nepal's remarkable achievements will positively impact the lives of hundreds of thousands of people country-wide and provide an inspiring example to countries striving to eliminate trachoma and other neglected tropical diseases", said Dr Poonam Khetrpal Singh, Regional Director World Health Organization South-East Asia, at the event. WHO SEARO (23/11/2018)

[WHO and partners launch new country-led response to put stalled malaria control efforts back on track](#)

Reductions in malaria cases have stalled after several years of decline globally, according to the new World Malaria Report 2018. To get the reduction in malaria deaths and disease back on track, WHO and partners are joining a new country-led response, launched today, to scale up prevention and treatment, and increase investment, to protect vulnerable people from the deadly disease. For the second consecutive year, the annual report produced by WHO reveals a plateauing in numbers of people affected by

During the first trimester of pregnancy, women living in the least deprived census blocks were exposed to higher concentrations of NO<sub>2</sub> than those living in the most deprived ones. Occupational mobility had a small impact on exposure levels (average increase after taking account of mobility: + 0.52 µg/m<sup>3</sup>), which was not related to the socioeconomic profile of the women. The commuting mode made a greater difference (+1.46 µg/m<sup>3</sup> on average), in particular among women living in the most deprived census blocks.

#### *Environmental Health Perspectives*

#### [Associations between ambient air temperature, low birth weight and small for gestational age in term neonates in southern Israel](#)

The increase in ambient temperatures (Ta) and emissions of greenhouse gases over the last century has focused attention on the effects of ambient temperatures on health outcomes. This study aimed to investigate the association between Ta and the clinical measures of term low birth weight (tLBW) and small for gestational age (SGA) in singleton term infants using a decade of regional hospital data in southern Israel. The lowest Ta quartile (Ta = < 18.5) was associated with higher risk of tLBW (odds ratio = 1.33, 95%CI 1.11–1.58) while the highest Ta quartile (Ta > =21.3) was not significantly associated with tLBW (odds ratio = 1.17, 95%CI 0.99–1.38), in comparison to the two intermediate quartiles. When analyzing SGA as the dependent variable, the lowest Ta quartile was associated with significantly higher risk of SGA (odds ratio = 1.18, 95%CI 1.09–1.29) while the highest quartile was associated with significantly lower risk of SGA (odds ratio = 0.91, 95%CI 0.84–0.99) in comparison to the two intermediate quartiles. These findings suggest that lower pregnancy Ta may increase the risk of tLBW and SGA, and higher pregnancy Ta may decrease the risk of SGA in singleton term infants in southern Israel.

#### *Environmental Health*

### **Chemicals**

#### [Modeled exposure to tetrachloroethylene-contaminated drinking water and the occurrence of birth defects: a case-control study from Massachusetts and Rhode Island](#)

Residents of Massachusetts and Rhode Island were exposed to tetrachloroethylene-contaminated drinking water from 1968 through the early 1990s when it leached from the vinyl

malaria: in 2017, there were an estimated 219 million cases of malaria, compared to 217 million the year before. But in the years prior, the number of people contracting malaria globally had been steadily falling, from 239 million in 2010 to 214 million in 2015. WHO (19/11/2018)

#### [Fast-tracking action on health and the environment](#)

African ministers of health and environment agreed today on a 10-year strategic plan to increase investment and accelerate joint health and environment priorities. The Strategic Action Plan to Scale Up Health and Environment Interventions in Africa 2019 – 2029 to the African Union was adopted at the closing of the Third Interministerial Conference on Health and Environment held in the Gabonese capital from 6 to 9 November. The Prime Minister of Gabon, Franck Emmanuel Issoze-Ngondet, said “We must go further, particularly in terms of mobilizing material and financial resources for the implementation of national plans, but also in terms of clarifying and sharing responsibilities.” WHO AFRO (9/11/2018)

#### [Invisible air polluting gases revealed by satellite imagery](#)

The Copernicus Sentinel-5P satellite, operational since early 2018, is starting to return high-resolution maps of air polluting gases that are invisible to the human eye. Amongst the first images released by mission scientists were plumes of nitrogen dioxide flowing from power plants as well as traffic-choked cities in Europe. Sentinel-5P, the first Copernicus satellite dedicated to monitoring atmospheric chemistry, carries a single instrument called Tropomi. The Tropomi is a spectrometer that observes the reflected sunlight coming up off the Earth and analyzes its many different colours. UNEP (7/11/2018)

#### [WHO: Urgent action needed to combat poisoning from artisanal gold mining in Africa](#)

Ministers, officials and health experts from across Africa, the World Health Organization (WHO) and the United Nations met to push forward action to halt the damaging effects of artisanal and small scale gold mining on human health and the environment today (6 November). Virtually every country in Africa has some form of artisanal and small-scale mining with more than 54 million Africans estimated to be dependent on the activity for their livelihoods. “Small scale gold mining is a

lining of asbestos cement water distribution pipes. The present case-control study was undertaken to examine further the association between prenatal exposure to tetrachloroethylene-contaminated drinking water and the risk of central nervous system defects, oral clefts and hypospadias. Mothers with “high” levels of exposure to PCE-contaminated drinking water during the first trimester ( $>40 \mu\text{g/L}$ ) had increased odds of having a child with spina bifida (OR: 2.0, 95% CI: 0.8–5.4), cleft lip with or without cleft palate (OR: 3.8, 95% CI: 1.2–12.3) and hypospadias (OR: 2.1, 95% CI: 0.5–8.3). No increases in the odds of other defects were observed in relation to “high” exposure levels. The results of the present study suggest that mothers with “high” PCE exposure levels during the first trimester have increased odds of having a child with spina bifida, cleft lip with or without cleft palate, and hypospadias.

*Environmental Health Perspectives*

#### [Organophosphate exposures during pregnancy and child neurodevelopment: Recommendations for essential policy reforms](#)

Widespread use of organophosphate (OP) pesticides to control insects has resulted in ubiquitous human exposures. High exposures to OP pesticides are responsible for poisonings and deaths, particularly in developing countries. Compelling evidence indicates that prenatal exposure at low levels is putting children at risk for cognitive and behavioral deficits and for neurodevelopmental disorders. To protect children worldwide, authors recommend the following:

- Governments phase out chlorpyrifos and other OP pesticides, monitor watersheds and other sources of human exposures, promote use of integrated pest management (IPM) through incentives and training in agroecology, and implement mandatory surveillance of pesticide-related illness.
- Health professions implement curricula on the hazards from OP pesticides in nursing and medical schools and in continuing medical education courses and educate their patients and the public about these hazards.
- Agricultural entities accelerate the development of nontoxic approaches to pest control through IPM and ensure the safety of workers through training and

crucial source of income for millions of Africans, but it is often dangerous, damaging, and in the worst cases, deadly, for artisanal miners,” said Dr Magaran Bagayoko, Director (a.i), Communicable Diseases Cluster, WHO’s Regional Office for Africa. WHO AFRO (6/11/2018)

#### [Montreal Protocol assessment reveals healing ozone, untapped potential for climate action](#)

The latest Scientific Assessment of Ozone Depletion reveals a healing ozone layer, global warming reduction potential, and options for more ambitious climate action. The quadrennial review from the Scientific Assessment Panel of the Montreal Protocol will be presented here at the 30th Meeting of the Parties to this historic accord. Its findings confirm first and foremost that actions taken under the Montreal Protocol have led to long-term decreases in the atmospheric abundance of controlled ozone-depleting substances (ODSs) and the ongoing recovery of stratospheric ozone. UNEP (5/11/2018)

#### [Cleaning up Africa’s air would pay for itself in economic gains: Pollution is dragging down the continent’s GDP and harming its children](#)

The beginning of November in Dakar, Senegal, marks the end of the rainy season and the start of the peak in air pollution levels that the dry season brings. While August and September are the best months for breathing in the city, the pollution levels from December to March are, on average, above recommended safety levels. We know this because Dakar is one of only 41 cities across 10 countries in sub-Saharan Africa that tracks air quality, which is the first step in defining the daily health risks that city residents face. While the data can be startling, knowing the scope of the problem is the first step in addressing it — and is far better than simply holding one’s breath. WHO AFRO (02/11/2018)

#### ["No such thing as an unimportant child"- Bachelet on harm to children by air pollution](#)

Around the world, 93 percent of children live in environments where air pollution exceeds WHO guidelines. This exposure threatens them at every stage of their development, from the womb onwards. Because of their metabolism, physiology and immune systems, pollution is likely to have severe and long-term impact on children’s growing bodies than on adults. Air pollution makes it more likely that children will die young, or experience inhibited neural development, impaired lung function, asthma, respiratory

provision of protective equipment when toxic chemicals are to be used.

*PLOS Medicine*

### [Prenatal exposure to phthalates and autism spectrum disorder in the MARBLES study](#)

Evidence from experimental and observational studies suggests that prenatal phthalate exposures may be associated with autism spectrum disorder (ASD). This study examined whether prenatal phthalate exposures were associated with an increased risk of ASD. Most associations of phthalate biomarkers with both ASD and Non-TD were null, with the exception that monoethyl phthalate (MEP) was significantly associated with an increased risk of Non-TD (per 2.72-fold relative increase in concentration: Relative risk ratio (RRR) = 1.38; 95% confidence interval (CI): 1.01, 1.90). This study showed that phthalate exposures in mid- to late pregnancy were not associated with ASD in children from this high-risk ASD cohort. Further studies should be conducted in the general population without high-risk genes to confirm these findings.

*Environmental Health*

## **E-waste**

### [Electronic Waste Governance under “One Country, Two Systems”: Hong Kong and Mainland China](#)

China is one of the largest e-waste dumping sites in the world, and Hong Kong, a semi-autonomous territory in China, is also affected by illegal e-waste disposal and transfer. While the Chinese government implemented a waste import ban in January 2018, Hong Kong has not enforced Chinese policies under the “One Country, Two Systems” framework. Drawing on a policy network approach, this paper provides an explanatory framework for e-waste governance in Hong Kong and China, and identifies the major obstacles to shaping effective transboundary e-waste control and prevention. The paper argues that institutional arrangements play a dominant role in governing e-waste policy networks at the local level of governance in Hong Kong and China; however, a lack of accountability and capacity at the transboundary level can explain the different waste electrical and electronic equipment (WEEE) management strategies in these two places.

*Int. J. Environ. Res. Public Health*

infection, cardiovascular disease, and cancer. OHCHR (1/11/2018)

### [New report outlines air pollution measures that can save millions of lives](#)

Millions of lives could be saved and one billion people living in Asia could be breathing clean air by 2030 if 25 simple and cost-effective measures are implemented, according to a new UN report. Currently, about 4 billion people – 92 per cent of Asia and the Pacific’s population – are exposed to levels of air pollution that pose a significant risk to their health. The report, *Air Pollution in Asia and the Pacific: Science-based Solutions*, is the first comprehensive scientific assessment of the air pollution outlook in Asia and the Pacific. It details 25 policy and technological measures that will deliver benefits across sectors. UNEP (30/10/2018)

### [Kenya leads Africa's efforts in phasing out lead in paint](#)

Lead paint has been banned in high-income countries for several decades, however, it is still available in many African countries. WHO and the UN Environment are jointly leading the Global Alliance to Eliminate Lead Paint, which aims to have all countries implement legally binding controls on the manufacture, import, sale and use of lead paint by 2020. As of 31 August 2018, only six countries in the region reported having laws already in place, or about to be enacted, that restrict the use of lead in paint. Since early this year Kenya has implemented legally binding controls on lead in paint. Paints may include natural clays and other raw materials that contain residual lead content, therefore it is not technically feasible to set a “zero” limit for lead content in paint. Kenya is one of a handful of countries in the world which has enacted the most restrictive legal limit for lead in paint. WHO AFRO (11/2018)

## **In the Media**

### [Luxembourg to become first country to make all public transport free](#)

Luxembourg is set to become the first country in the world to make all its public transport free. Fares on trains, trams and buses will be lifted next summer under the plans of the re-elected coalition government led by Xavier Bettel, who was sworn in for a second term as prime minister on Wednesday. The Guardian (6/12/2018)

### [Harmful Pesticide Phaseout Calls Come as Some](#)

## New Publications

### [Associations of greenness, greyness and air pollution exposure with children's health: a cross-sectional study in Southern Italy](#)

Due to the complex interplay among different urban-related exposures, a comprehensive approach is advisable to estimate the health effects. We simultaneously assessed the effect of "green", "grey" and air pollution exposure on respiratory/allergic conditions and general symptoms in schoolchildren. This study involved 219 schoolchildren (8–10 years) of the Municipality of Palermo, Italy. Data were collected through questionnaires self-administered by parents and children. Exposures to greenness and greyness at the home addresses were measured using the normalized difference vegetation index (NDVI), residential surrounding greyness (RSG) and the CORINE land-cover classes (CLC). Multiple exposures related to greenness, greyness (measured by CORINE) and air pollution within the urban environment are associated with respiratory/allergic and general symptoms in schoolchildren. No associations were found when considering the individual exposure to greyness measured using the RSG indicator.

*Environmental Health*

### [Statistical software for analyzing the health effects of multiple concurrent exposures via Bayesian kernel machine regression](#)

Estimating the health effects of multi-pollutant mixtures is of increasing interest in environmental epidemiology. Recently, a new approach for estimating the health effects of mixtures, Bayesian kernel machine regression (BKMR), has been developed. However, the application of this novel method has been limited by a lack of available software, the need to derive interpretable output in a computationally efficient manner, and the inability to apply the method to non-continuous outcome variables. This paper addresses these limitations by (i) introducing an open-source software package in the R programming language, the `bkmr` R package, (ii) demonstrating methods for visualizing high-dimensional exposure-response functions, and for estimating scientifically relevant summaries, (iii) illustrating a probit regression implementation of BKMR for binary outcomes, and (iv) describing a fast version of BKMR that utilizes a Gaussian predictive process approach. All of the methods are illustrated using fully reproducible examples

### [Countries' Use Rises](#)

Pressure is mounting to phase out a decades-old class of insecticides linked to developmental delays and behavior problems in children, but rising use in the developing world could complicate activists' efforts to ban them. Use of organophosphates has dropped in the U.S. and select countries in Europe and East Asia during the past decade, according to figures from the U.N. Food and Agriculture Organization and the U.S. Geological Survey. Use remains steady—even rising—in the developing world. Overall imports of pesticides in the 50 least-developed countries jumped by 65 percent between 2006 and 2016, according to FAO data. As many older pesticides come off-patent, local production of organophosphates—such as the neurotoxin chlorpyrifos—becomes cheaper and more accessible. Bloomberg News (21/11/2018)

### [Air Quality in California: Devastating Fire Leads to a New Danger](#)

The wildfires that have laid waste to vast parts of California are presenting residents with a new danger: air so thick with smoke it ranks among the dirtiest in the world. On Friday, residents of smog-choked Northern California woke to learn that their pollution levels now exceed those in cities in China and India that regularly rank among the worst. In the communities closest to the Paradise fire, an apocalyptic fog cloaked the roads, evacuees wandered in white masks and officials said respiratory hospitalizations had surged. Nearly 200 miles to the south, in San Francisco, the smoke was so thick that health warnings prompted widespread school closings. Even the city's cable cars were yanked from the streets. New York Times (16/11/2018)

### [Rapid Cure Approved for Sleeping Sickness, a Horrific Illness](#)

The first treatment for sleeping sickness that relies on pills alone was approved on Friday by Europe's drug regulatory agency, paving the way for use in Africa, the last bastion of the horrific disease. With treatment radically simplified, sleeping sickness could become a candidate for elimination, experts said, because there are usually fewer than 2,000 cases in the world each year. The disease, also called human African trypanosomiasis, is transmitted by tsetse flies. The protozoan parasites, injected as the flies suck blood, burrow into the brain. Before they kill, drive their victims mad in ways that resemble the last stages of rabies. New York Times (16/11/2018)

with the provided R code.

*Environmental Health*

### [Environmental pollution and social factors as contributors to preterm birth in Fresno County](#)

Environmental pollution exposure during pregnancy has been identified as a risk factor for preterm birth. Most studies have evaluated exposures individually and in limited study populations. In this study of 53,843 births, risk of preterm birth was associated with higher exposure to cumulative pollution scores and drinking water contaminants. Risk of preterm birth was twice as likely for those exposed to high versus low levels of pollution. An exposure-response relationship was observed across the quintiles of the pollution burden score. The associations were stronger among early preterm births in areas of low SES. In Fresno County, we found multiple pollution exposures associated with increased risk for preterm birth, with higher associations among the most disadvantaged. This supports other evidence finding environmental exposures are important risk factors for preterm birth, and furthermore the burden is higher in areas of low SES. This data supports efforts to reduce the environmental burden on pregnant women.

*Environmental Health Perspectives*

### [Advancements in Life Cycle Human Exposure and Toxicity Characterization](#)

The Life Cycle Initiative, hosted at the United Nations Environment Programme, selected human toxicity impacts from exposure to chemical substances as an impact category that requires global guidance to overcome current assessment challenges. The initiative leadership established the Human Toxicity Task Force to develop guidance on assessing human exposure and toxicity impacts. Based on input gathered at three workshops addressing the main current scientific challenges and questions, the task force built a roadmap for advancing human toxicity characterization, primarily for use in life cycle impact assessment (LCIA). The present paper aims at reporting on the outcomes of the task force workshops along with interpretation of how these outcomes will impact the practice and reliability of toxicity characterization. The task force thereby focuses on two major issues that emerged from the workshops, namely considering near-field exposures and improving dose-response modelling.

*Environmental Health Perspective*

### [London air pollution is restricting children's lung development – new research](#)

Air pollution is known to contribute to early deaths from respiratory and cardiovascular disease. There is also mounting evidence to show that breathing polluted air increases the risk of dementia. Children are vulnerable, too: exposure to air pollution has been associated with babies being born underweight, as well as poorer cognitive development and lung function during childhood. Cities including London are looking to tackle the social, economic and environmental costs of air pollution by improving urban air quality using low emission zones. In these zones, the most polluting vehicles are restricted from entering, or drivers are penalised to encourage them to take up lower emission technologies. The Conversation (15/11/2018)

### [Toxic smog returns to Delhi after Diwali](#)

Air pollution in the Indian capital has risen to hazardous levels after firecrackers were set off to celebrate Diwali despite a court ban. Residents awoke on Thursday to find the city blanketed in a toxic fog. The Supreme Court had restricted the timeframe for setting off firecrackers to only two hours in the night, but the order was openly flouted. Diwali, the most important Hindu festival in north India, celebrates the victory of good over evil. The levels of tiny particulate matter (known as PM 2.5) that enter deep into the lungs reached as high as 999 micrograms per cubic metre in some areas of the capital on Thursday morning, according to reports. BBC News (8/11/2018)

### [Prenatal exposure to phthalates linked to language delays in children, study says](#)

Phthalates, chemicals commonly found in personal care products, food processing and packaging, and household items, could be linked to delayed language development in children, according to a study published Monday in JAMA Pediatrics. The research, conducted in both the United States and Sweden, looked at the levels of phthalates in pregnant women in relation to language development in their children. CNN (29/10/2018)

### [Air pollution is the 'new tobacco', warns WHO head](#)

Air pollution is the "new tobacco", the head of the World Health Organization has warned, saying the simple act of breathing is killing 7 million people a year and harming billions more. Over 90% of the world's population suffers toxic air and



## EDUCATION AND TRAINING

### [WHO Children's environmental Health training modules translated into Japanese](#)

Three modules from the WHO Training Package for Health Care Providers “Why children?”, “Children are not little adults” and “unsound management of chemicals” are now available in Japanese.

research is increasingly revealing the profound impacts on the health of people, especially children. “The world has turned the corner on tobacco. Now it must do the same for the ‘new tobacco’ – the toxic air that billions breathe every day,” said Dr Tedros Adhanom Ghebreyesus, the WHO’s director general. “No one, rich or poor, can escape air pollution. It is a silent public health emergency.” The Guardian (27/10/2018)

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