Children’s Environmental Health International Initiatives

This is an international mailing list provided by WHO and UNEP dedicated to promoting healthy environments for children

July/August 2022

Thousands of children endure ‘horrific conditions’ in conflict zones: UN report

The annual UN report on Children and Armed Conflict (CAAC), released July 2022, details the devastating impact that various forms of conflict had on children around the world in 2021. The report highlights almost 24,000 verified grave violations against children, an average of some 65 violations every day. The killing and maiming of children was the most verified grave violation. In 2021, children were most affected in Afghanistan, the Democratic Republic of the Congo (DRC), Israel and the Occupied Palestinian Territory, Somalia, Syria, and Yemen. Ethiopia, Mozambique, and Ukraine, have been added as situations of concern. “There is no word strong enough to describe the horrific conditions that children in armed conflict have endured”, said the Special Representative of the Secretary-General for Children and Armed Conflict, Virginia Gamba. “Those who survived will be affected for life with deep physical and emotional scars”. This report is a call to action to intensify our work to better protect children in armed conflict and ensure that they are given a real chance to recover and thrive”. UN News (11/07/2022)

Child Health

Identifying exposure pathways mediating adverse birth outcomes near active surface mines in Central Appalachia

Previous work has determined an association between proximity to active surface mining within Central Appalachia and an increased risk of preterm birth (PTB) and low birthweight (LBW). Multiple potential exposure pathways may exist; however, including inhalation of particulate matter

CHILDREN’S ENVIRONMENTAL HEALTH NEWS

UN General Assembly declares access to clean and healthy environment a universal human right

With 161 votes in favour, and eight abstentions, the UN General Assembly adopted a historic resolution on July 28, declaring access to a clean, healthy and sustainable environment, a universal human right. The resolution calls upon States, international organisations, and business enterprises to scale up efforts to ensure a healthy environment for all. The UN Secretary-General, António Guterres, welcomed the 'historic' decision. “The resolution will help reduce environmental injustices, close protection gaps and empower people, especially those that are in vulnerable situations, including environmental human rights defenders, children, youth, women and indigenous peoples”, he said in a statement released by his Spokesperson's Office.

UN News (28/07/2022)

News Release

WHO report shows poorer health outcomes for many vulnerable refugees and migrants

WHO report shows poorer health outcomes for many vulnerable refugees and migrants. Refugees and migrants are at higher risk of poor health outcomes compared to residents of their host communities, according to the first WHO report on refugee and migrant health. This unique vulnerability puts the possibility of achieving sustainable goals for these groups globally at risk. According to the Director of the WHO, the report “... calls for urgent and collective action to ensure [refugees and migrants] can access health care
(airshed exposure), or exposure to impacted surface waters (watershed exposure). The authors hypothesize that this relationship is mediated by exposure to contaminants along one or both of these pathways. They geolocated 194,084 birth records through health departments in WV, KY, VA, and TN between 1990 and 2015. The results indicate that surface mining airsheds at least partially explained the association between active mining and adverse birth outcomes, while mediation via the watershed pathway was less evident.

*Environmental Epidemiology*

**The associations between residential greenness and allergic diseases in Chinese toddlers: A birth cohort study**

The authors aimed to investigate associations between residential greenness with allergic diseases in early life. This prospective birth cohort study included 522 mother-child pairs in Guangzhou, China. The authors quantified prenatal, postnatal, and early-life (i.e., the first 1000 days of life) residential greenness. Results indicate that residential greenness was adversely associated with allergic diseases especially eczema among 2-year-old toddlers, and pregnancy appears to be the critical exposure window.

*Environmental Research*

**Air Pollution**

**Associations of Pre- and Postnatal Air Pollution Exposures with Child Behavioral Problems and Cognitive Performance: A U.S. Multi-Cohort Study**

The authors investigated these associations using more refined spatiotemporally resolved pollutant assessments in 1,967 mother–child dyads from three U.S. pregnancy cohorts in six cities in the ECHO-PATHWAYS Consortium. They found that children with higher prenatal NO₂ exposures were likely to have more behavioral problems particularly high NO₂ exposure in the first and second trimester. An adverse association between PM$_{2.5}$ was also identified.

*Environmental Health Perspectives*

**Association of ambient fine particulate matter exposure with gestational diabetes mellitus and blood glucose levels during pregnancy**

services that are sensitive to their needs.” Experiencing migration and displacement is a specific risk factor for poor health and wellbeing. Systemic gaps in data and health information systems increase the difficulty in tracking refugee and migrant progress toward targeted health-related Sustainable Development Goals. The WHO has issued a call for implementing inclusive health systems to improve societal welfare.

WHO (20/07/2022)

**In the Media**

**Nature Impacts Children’s Lung Function, Study Suggests**

According to a recent study, the outdoors can improve children’s health, specifically lung function. The study suggests that surrounding children between birth and their 10th birthday with a home life that has green spaces can lead to better lung function. And because urban areas tend to have limited access to green space, the study also emphasizes the need for nature in urban settings, according to a press release.

Discover (26/07/22)

**Common approach to keeping wildfire smoke out of U.S. homes doesn’t work, Stanford study finds. Better policies can help**

Pollutants produced by wildfires include fine particulate matter (PM$_{2.5}$) and gases, which can infiltrate indoors, increasing the risk of developing cardiorespiratory diseases or causing exacerbations such as heart attacks, strokes, and asthma attacks. This article addresses two important points. The first is that while air filtration units improve air quality, in order to protect against wildfire smoke, the size of the space and ability of the device to filter air are important considerations. The second is that for many families, access to air filtration is limited. By developing community clean air shelters, including using and adapting public buildings that already have or can be adapted to provide high quality air filtration is a quick and easy way to support communities during wildfire events.

Stanford News (07/07/2022)

**Heat waves affect children more severely**

After more than a week of record-breaking temperatures across much of the country, public health experts are cautioning that children are more susceptible to heat illness than adults.
The authors examined the associations of prenatal ambient PM$_{2.5}$ exposure with GDM and blood glucose levels, and to identify the sensitive exposure windows in a highly air-polluted area. A birth cohort study was conducted in Beijing, China. Results show that ambient PM$_{2.5}$ exposure during the second trimester was associated with higher odds of GDM and higher blood glucose levels.

*Environmental Research*

**Chemicals**

*Associations Between Prenatal Urinary Biomarkers of Phthalate Exposure and Preterm Birth*

Phthalate exposure is widespread among pregnant women and may be a risk factor for preterm birth. The authors investigated the prospective association between urinary biomarkers of phthalates in pregnancy and preterm birth among individuals in the US. They found that higher urinary metabolite concentrations for several prevalent phthalates were associated with greater odds of delivering preterm, and this is may be a preventable risk factor.

*JAMA Pediatrics*

**Exposure to perfluoroalkyl substances and neurodevelopment in 2-year-old children: A prospective cohort study**

The authors investigated the relationship between PFAS exposure during early pregnancy and the neurodevelopmental status at 2 years of age in a prospective cohort study. They measured 10 PFAS in maternal plasma samples in the Shanghai Birth Cohort Study and assessed childhood neurodevelopment at 2 years of age. PFAS exposure during early pregnancy was significantly associated with the adverse neurodevelopmental status at 2 years of age, which raises a serious public health concern.

*Environment International*

**Heavy Metals**

*Human placental microRNAs dysregulated by cadmium exposure predict neurobehavioral outcomes at birth*

Prenatal cadmium (Cd) exposure has been implicated in both placental toxicity and adverse neurobehavioral outcomes. In a subset of the Rhode Island Child Health Study and the New are — even more so when they’re on the athletic field, living without air conditioning, or waiting in a parked car. Cases of heat-related illness are rising with average air temperatures, and experts say almost half of those getting sick are children. The reason is twofold: Children’s bodies have more trouble regulating temperature than those of adults, and they rely on adults to help protect them from overheating.

*Scientific American (5/08/2022)*

**Kids especially vulnerable to air pollution and effects of climate change, says influential medical journal**

An influential medical journal has joined the fight against global warming. The New England Journal of Medicine (NEJM), one of the world’s oldest medical journals, recently committed itself to increasing the public’s knowledge of climate change because of its devastating effects on public health. “We clearly recognize that climate change has become a health emergency,” said Caren Solomon, deputy editor at NEJM.

*CBC News (15/07/2022)*

**Children's headaches and mental health worsened during pandemic**

Recent findings, published in the Journal of Child Neurology, showed that elevated stress associated with disruptions to daily life, social distancing practices and anxiety about the threat of illness to oneself and others brought on by the pandemic impacted the quality of life for kids with headache disorders. Lead author Marc DiSabella, D.O., director of the Headache Program at Children’s National Hospital. “Things like moving to a virtual environment may have resulted in feelings of isolation and anxiety for kids, and increased screen time may have played a role in more frequent headaches.”

*EurekAlert (5/08/2025)*

**Europe's drought the worst in 500 years - report**

Many European regions have been facing a severe drought since the beginning of 2022. In August, the severity and scope of the drought increased significantly. The European Commission speculates that this is the worst drought in at least 500 years. The forecast for grain harvests is down 10-15% from previous years and hydroelectric power has dropped by 20%. Research Commissioner Mariya Gabriel reported that the strain on water levels across the European Union is unprecedented. As the drought continues to worsen across Europe and with
Management of Economics Environmental study period. made on stunting 7.4 the percentage by points, temperature prevalence will increase a that rise We find the of and prevalence both they exposure extreme heat effects extreme heat of early poor shocks Heat Evidence Climate Change metabolites early and mid increased Five PAH metabolites phthalate pesticides. of geometric existing metabolite (NYU Urinary University Environment Children's and New York women had NYU in pregnancy. Compared late and concentrations 671 women in Study metabolite (NYU) urinary University Environment Children's and New York pesticides among women and organophosphate to phthalates, bisphenols, polycyclic synthetic Reproductive Health Variability and correlations of synthetic chemicals in urine from a New York City-based cohort of pregnant women The authors characterized exposure to phthalates, bisphenols, polycyclic aromatic hydrocarbons, and organophosphate pesticides among pregnant women residing in New York City who enrolled in the New York University Children's Health and Environment Study (NYU CHES). Urinary chemical metabolite concentrations were measured in 671 women at early, mid, and late pregnancy. Compared with existing cohorts, women in NYU CHES had higher geometric means of organophosphate pesticides. Five PAH metabolites and two phthalate metabolites increased between early to mid and early to late pregnancy at the population level. Environmental Pollution Climate Change Heat exposure and child nutrition: Evidence from West Africa Extreme heat shocks are increasingly linked to poor economic and health outcomes. The authors evaluated effects of extreme heat on early child nutrition, a health outcome correlated with educational attainment and income in adulthood. Evaluating data in five West African countries, they found that extreme heat exposure increases the prevalence of both chronic and acute malnutrition. We find that a 2 °C rise in temperature will increase the prevalence of stunting by 7.4 percentage points, reversing the progress made on improving nutrition during our study period. Journal of Environmental Economics and Management conditions expected to last until at least November for areas like the Mediterranean, the harsh effects of the drought will likely have an impact for years. BBC News (23/08/2022) China drought creates hydropower shortage amid record heat wave In the past few weeks, many regions of China have consistently recorded the hottest temperatures seen in the past 70 years. Well into its third month, this is the longest-lasting heatwave the nation has ever observed, with temperature records being set only to be replaced by new highs days later. This has caused crops to fail, sparked forest fires, and dried up rivers and lakes, resulting in the grounding of ships and shortages in hydropower. Typically very wet, Southwest China has been hit the hardest by the drought as up to 80% of the region's electricity is drawn from hydropower. This has caused the government to question hydropower as a long-term source of renewable energy. Taken in combination with the hit the global energy market received following Russia's invasion of Ukraine, the Chinese government has been forced to step back towards temporarily using coal for energy. The world needs long-lasting solutions for energy to avoid this type of consequence and help areas like Southwest China maintain their advances away from high-pollution power sources. The Washington Post (24/08/2022) Seoul floods: 'Parasite-style' flats to be banned after deaths People from various SES, religious, and cultural backgrounds can be significantly impacted by natural disasters like floods. This article discusses two important points. The first is that income inequality, as seen with Seoul residents living in semi-underground flats, can put people at a great disadvantage when it comes to natural disasters. The second is the action taken by the Korean government to prevent further harm to people with low income by banning the construction of these basement or semi-basement space flats and providing safer alternatives. BBC News (11/08/2022) China's Drought-hit Areas Get Rain, Bringing Flood Risks As of Monday, August 29, 119000 people in Sichuan Province, China have been evacuated due to a nationwide severe flash flood warning caused by heavy rains. China was hit with a record-breaking heatwave for most of the
Social Justice/Equality

Environmental inequality: Air pollution and asthma in children

Whether you benefit from high-quality urban environments, such as those rich in green and blue spaces, that may offer benefits to allergic and respiratory health depends on where you live and work. Environmental inequality, therefore, results from the unequal distribution of the risks and benefits that stem from interactions with our environment. Environmental air pollution is a major determinant of childhood asthma, but the magnitude of effect is not shared equally across the population, regions, and settings where people live, work, and spend their time. Actions to avoid exposure to indoor and outdoor air pollutants should be complementary at different levels—individual, local, and national levels—to take effective measures to protect children who have little or no control over the air they breathe.

Pediatric Allergy and Immunology

EVENTS

UN Climate Change Conference 2022 (UNFCCC COP 27)
November 7-18, 2022, Sharm el-Sheikh, South Sinai, Egypt

summer, with temperatures rising above 40 Celsius, leading soil to bake and harden which significantly increases the risk of flash flooding after rainfall. Guanyuan city, one of two Sichuan cities most harshly affected by the drought, reported 18.8cm (7.4 inches) of rain in one day. However, in spite of the dangers of heavy rainfall after a heatwave, rain also provided relief. The rain allowed Sichuan factories to restart activity after several weeks of drought-induced reduction in hydropower resulted in slowdowns or closures. Recent rainfall could also help farmers to salvage some crops damaged by the extended heatwave. Bloomberg (29/08/2022)

Newsletters
CEHN “The Patron” Newsletter
This newsletter highlights policy updates in the USA, including the “Inflation Reduction Act”, which will invest $369 billion in climate solutions and environmental justice. In July, the House passed the Wildfire Response and Drought Resiliency Act. This bill contains provisions boosting the nation’s ability to fight wildfires, conserve and improve access to water, preserve Indigenous rights to water, address environmental justice issues in low-income communities among others,

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