
Children's Environmental Health International Initiatives

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

August 2011

New Children's Environmental Health Unit (CEHU) in Mexico

A new CEHU has been formed in the Lake Chapala communities, Mexico. The main priorities of this new children's environmental health unit are to build the necessary capacities to identify sources of water pollution, enhance early detection of environmental hazardous exposures, and deliver feasible health protection measures targeting children and pregnant women. The projects focus on translation of knowledge, building capacity, advocacy and accountability. Communication will be enhanced among women's advocacy coalitions and the Ministries of Environment and Health. This initiative is an important pilot program with potential to be strengthened and replicated regionally and internationally.

The Children's Environmental Health Units (CEHU) form a respected network of experts in children's environmental health. The CEHUs, located throughout the USA, Canada and Mexico, were created to ensure that children and communities have access to, usually at no cost, special medical knowledge and resources for children faced with a health risk due to a natural or human-made environmental hazard. Health care providers are well placed to detect, treat, and prevent environmentally-related diseases and health

CHILDREN'S ENVIRONMENTAL HEALTH NEWS

Press Releases

[Newborn deaths decrease but account for higher share of global child deaths](#)

WHO and Save the Children release most comprehensive newborn death estimates to date and call for more action to reduce newborn mortality. Fewer newborns are dying worldwide, but progress is too slow and Africa particularly is being left further behind. WHO (30/8/11)

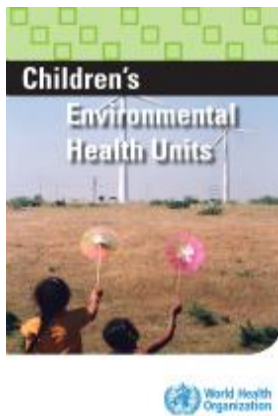
[Investments in Water Sector Could Pay Huge Dividends for Human Health and Food Security](#)

Investing 0.16 per cent of global GDP in the water sector could reduce water scarcity and halve the number of people without sustainable access to safe drinking water and basic sanitation in less than four years, according to United Nations research. UNEP (25/8/11)

[Investing in Ecosystem Services Vital to Improving Food Security, says UN](#)

Recognising healthy ecosystems as the basis for sustainable water resources and stable food security can help produce more food from each unit of agricultural land, improve resilience to climate change and provide economic benefits for poor communities, according to a new report

conditions. There are some mechanisms and structures in place to enhance the recognition of environmental influences on human health, serve as repositories and sources of information for those concerned about children's health and the environment, and promote action towards healthier and safer environments for children of today and adults of the future. However, formal education in these areas is generally lacking.



In an attempt to build capacity in the environmental health care workforce, WHO has produced guidelines on how to develop children's environmental health units.

[Link to WHO to download this document](#)

A Children's Environmental Health Unit (CEHU) is a centre that advances the ongoing training of health care providers, the ongoing education of the public and other sectors concerned about CEH on the protection of children from environmental threats, the management of children with known or suspected exposure to environmental stressors, and the diagnosis, management, and treatment of children with illnesses that are derived from environmental stressors

Journal Articles

Air Pollution

[Diesel Exhaust Activates and Primes Microglia: Air Pollution, Neuroinflammation, and Regulation of Dopaminergic Neurotoxicity](#)

Exposure to air pollution has been linked to

from the United Nations Environment Programme (UNEP) and the International Water Management Institute (IWMI), in partnership with 19 other organizations. UNEP (22/8/11)

[Water-borne diseases are lethal threat to children in southern Somalia](#)

An urgent multi-sectoral response is being mounted to contain the spread of cholera with an increasing number of confirmed cases in Mogadishu and reports of growing numbers of acute watery diarrhoea in the port city of Kismayo. UNICEF (18/8/11)

[New psychological first aid guide to strengthen humanitarian relief](#)

Humanitarian emergencies - such as earthquakes, extreme drought, or war - not only affect people's physical health but also their psychological and social health and well-being. WHO (16/8/11)

[New online nutrition initiative can help protect lives and health of millions of children](#)

A new e-library for nutrition provides guidance on life-saving nutrition interventions, and assists governments and health-care providers to scale up action against malnutrition. WHO (10/8/11)

[WHO raises the alarm over nutrition threat](#)

Alarmed by millions of children dying or falling prey to diseases due to malnutrition in Asia and the Pacific, the World Health Organization has warned that failure to address the issue is having an impact beyond health and is causing dire social and economic consequences. WHO emphasized that malnutrition undermines economic growth and perpetuates poverty—affecting productivity by reducing capacity to perform physical work and

alterations in the central nervous system, but the mechanism for these effects is poorly understood. The authors examined the association between exposure to diesel exhaust (DE) and brain region-specific changes in microglia activation, neuroinflammation, and dopaminergic (DA) systems in vivo and in vitro. They report that DE caused oxidative stress, activated microglia in vivo, and up-regulated pattern recognition receptors, neurotoxic cytokines, and chemokines in the rat brain, particularly in the midbrain. Intratracheal administration of DE resulted in elevated serum and brain tumor necrosis factor- α , suggesting a key role for systemic inflammation. Mechanistic studies suggested that DE interacts with ongoing inflammation to amplify the proinflammatory response, which may be neurotoxic. No significant loss of DA neurons was detected in vivo, but results suggest that fractalkine, which was elevated after DE exposure in vivo, may be responsible for adaptation by inhibiting DE-induced DA neurotoxicity, at least temporarily. Together, these findings reveal complex, interacting mechanisms that may be responsible for the association of air pollution with neuroinflammation and toxicity to DA systems.

Environmental Health Perspectives

Chemicals

[Case Report: High Prenatal Bisphenol A Exposure and Infant Neonatal Neurobehavior](#)

Animal studies and one human study suggest that bisphenol A (BPA) may be neurotoxic. The authors report that a mother in the Health Outcomes and Measures of the Environment (HOME) Study had a urinary BPA concentration at 27 weeks of pregnancy, which was the highest concentration observed in the cohort. The authors used prenatal questionnaire data and a follow-up interview to identify potential

lessening earning ability. WHO Western Pacific Region (9/8/11)

[Horn of Africa Drought Needs Long Term Solutions](#)

As the humanitarian community works to save lives in the areas affected, the need for sustainable solutions to prevent a reoccurrence of this situation in the medium and long-term is becoming increasingly apparent. UNEP (8/8/11)

In the Media

[Disasters take toll on mental health](#)

When the climate throws up extreme events like cyclones, floods and droughts, the most visible impacts tend to be twisted metal, splintered timber and cracked earth. But a new report argues some of the most enduring and least considered effects of severe weather are the lingering psychological traumas. "For children, the message should be that we are taking steps to reduce the severity of disasters with climate management and we are making steps to make our homes and communities safer." The Age (31/8/11)

[Greenpeace: Fukushima Schools Unsafe After Clean-Up](#)

Greenpeace has said that schools and surrounding areas located 60 km from Japan's tsunami-hit nuclear power plant were unsafe for children, showing radiation readings as much as 70 times internationally accepted levels. Reuters (30/8/11)

[Parents urged to protect children against diarrhoea](#)

Paediatricians have urged parents and healthcare personnel to particularly protect kids against dehydration caused due to diarrhoea. Associated Press of Pakistan (30/8/11)

sources of exposure including daily use of plastic and consumption of canned beverages and foods. The woman's male infant had a normal newborn neurobehavioral assessment but at the 1-month exam presented with abnormalities that prompted physician referral. The child had normal results on neurobehavioral tests at annual evaluations at 1–5 years of age. This case highlights a potential link between gestational BPA exposure and transient neurobehavioral changes. The authors conclude that health care practitioners should be educated regarding potential sources of BPA exposure and guidance to minimize exposures to endocrine-disrupting chemicals during vulnerable periods of development.

Environmental Health Perspectives

[Polycyclic Aromatic Hydrocarbons—Aromatic DNA Adducts in Cord Blood and Behavior Scores in New York City Children](#)

Airborne polycyclic aromatic hydrocarbons (PAHs) are widespread urban pollutants that can bind to DNA to form PAH–DNA adducts. Prenatal PAH exposure measured by personal monitoring has been linked to cognitive deficits in childhood in a prospective study conducted by the Columbia Center for Children's Environmental Health. Following 215 children born to nonsmoking African-American and Dominican women residing in New York City, the authors measured PAH–DNA adducts and other bulky aromatic adducts in umbilical cord white blood cells to determine the association between this molecular dosimeter and behavioral/attention problems in childhood, with child behavior assessed using the Child Behavior Checklist. Higher cord adducts were associated with higher symptom scores for anxious/depressed at 4.8 years of age, attention problems at 4.8 and 7 years, and anxiety problems at 4.8 years.

[Father Time: Children with Older Dads at Greater Risk for Mental Illness](#)

Large parental age differences increase the risk for psychiatric disorders, whereas other environmental factors decrease risk. Is this a function of biology, environment-- or both? *Scientific American* (29/8/11)

[Climate change linked to mental health problems](#)

The study by the Climate Institute, titled *A Climate Of Suffering: The Real Cost Of Living With Inaction On Climate Change*, points to increased depression, anxiety, substance abuse, suicide and self-harm in the wake of recent natural disasters in Australia. The report draws a direct link between inaction on climate change and long-term social and mental health problems. It also warns continuing catastrophic weather events are creating anxiety and insecurity for children at levels not seen since the Cold War. *ABC News* (29/8/11)

[Global Warming Behind Somali Drought](#)

The severe drought in the Horn of Africa, which has caused the death of at least 30,000 children and is affecting some 12 million people, especially in Somalia, is a direct consequence of weather phenomena associated with climate change and global warming, environmental scientists say. *Inter Press Service* (27/8/11)

[Vitamin A pills 'could save thousands of children'](#)

Giving vitamin A supplements to children under the age of five in developing countries could save 600,000 lives a year, researchers claim. Writing in the *British Medical Journal*, UK and Pakistani experts assessed 43 studies involving 200,000 children, and found deaths were cut by

These results suggest that PAH exposure, as reflected by the presence of DNA adducts, may be associated with alterations in child behavior, potentially affecting school performance.

Environmental Health Perspectives

[Prenatal Exposure to Organophosphates, Paraoxonase 1, and Cognitive Development in Childhood](#)

Prenatal exposure to organophosphate pesticides has been associated with alterations in children's neurobehavioral development. The authors evaluated 404 mother–infant pairs in the Mount Sinai Children's Environmental Health Cohort (multiethnic prenatal population in New York City enrolled between 1998 and 2002) to examine the relationship between biomarkers of organophosphate exposure; paraoxonase 1 (PON1), a key enzyme in the metabolism of organophosphates; and cognitive development in children. Third-trimester maternal urine samples were collected and analyzed for organophosphate metabolites, and prenatal maternal blood was analyzed for PON1 activity and genotype. Children returned for neurodevelopmental assessment at ages 12 months, 24 months, and 6–9 years. Prenatal total maternal dialkylphosphate metabolite level was associated with altered neurodevelopment at 12 months of age among black and Hispanic children; these associations appeared to be enhanced among children of mothers who carried the PON1 Q192R QR/RR genotype. In later childhood, increasing prenatal total dialkyl- and dimethylphosphate metabolites were associated with decrements in perceptual reasoning in those with the maternal PON1 Q192R QQ genotype. These findings suggest that prenatal exposure to organophosphates is negatively associated with cognitive development and that PON1 may be an important susceptibility factor for

24% if children were given the vitamin. BBC (27/8/11)

[Better child and maternal health in Kazakhstan](#)

Every year, thousands of newborn babies and children younger than five years die in Kazakhstan. Many of these deaths could be avoided by using simple tools and techniques. WHO Europe has successfully piloted a maternal and child health project in three regions. WHO Europe (24/8/11)

[Small-scale mines expose Nigerian children to lead poisoning](#)

The village miners of north western Nigeria probably thought the road to happiness was paved with gold - until their children started dying. An estimated 500 children in the region have died over the last year or so in what some call the world's worst lead poisoning epidemic. Vancouver Province (22/8/11)

[Aviation gas poses lead risk to thousands in Brevard](#)

Nearly 1,600 children age 5 and younger live close enough to an airport in Brevard County to be at risk from leaded gasoline used by small piston planes and helicopters. Melbourne Florida Today (21/8/11)

[Nearly half of children near Fukushima plant absorbed radiation](#)

A survey of more than 1,000 children and babies living near the quake-stricken Fukushima No. 1 nuclear power plant has produced an alarming finding: 45 percent of them suffered internal exposure to radiation following the accident there. Asahi Shimbun Japan (19/8/11)

these effects.

Environmental Health Perspectives

[Prenatal Exposure to Organophosphate Pesticides and IQ in 7-Year-Old Children](#)

Organophosphate (OP) pesticides are neurotoxic at high doses, but few studies have examined whether chronic exposure at lower levels could adversely affect cognitive development in children. The authors examined associations between prenatal and postnatal exposure to OP pesticides and cognitive abilities in school-age children participating in the Center for the Health Assessment of Mothers and Children of Salinas (CHAMACOS) birth cohort study, which investigates pesticide and other environmental exposures and the health of pregnant women and their children living in an agricultural community. Exposure to OP pesticides was assessed by measuring dialkyl phosphate (DAP) metabolites in urine collected during pregnancy and from children at 6 months and 1, 2, 3.5, and 5 years of age. The Wechsler Intelligence Scale for Children was administered to children at 7 years of age. Mean maternal DAP concentrations were associated with poorer scores for Working Memory, Processing Speed, Verbal Comprehension, Perceptual Reasoning, and Full-Scale IQ. Children in the highest quintile of maternal DAP concentrations had an average deficit of 7.0 IQ points compared with those in the lowest quintile. However, children's urinary DAP concentrations were not consistently associated with changes in cognitive scores. The researchers conclude that prenatal, but not postnatal, urinary DAP concentrations were associated with poorer intellectual development in 7-year-old children. Maternal urinary DAP concentrations were high, but they were within the range of levels measured in the general U.S. population.

Environmental Health Perspectives

[South Ethiopia sees rising hunger despite fields of green; farmers struggling on small plots](#)

Southern Ethiopia is teetering on the brink of a food crisis. Malnourished children are flocking into feeding centers after a drought in East Africa extended into this normally fertile region. Associated Press (17/8/11)

[Myriad chemicals measured in urban children may further health risks.](#)

Compared to other U.S. children, those living in poverty-stricken neighborhoods are exposed to higher levels of a diverse mix of environmental chemicals that may add to their already greater risk for adverse, chronic health problems. Environmental Health News (17/8/11)

[For Siblings of Autistic Kids, Risk Is Far Higher Than Thought](#)

Autism runs in families to a much greater degree than previously thought, according to new research that has tracked the younger siblings of children with the developmental disorder. Time Magazine (16/8/11)

[Milwaukee-based researchers study prenatal exposure to toxins](#)

Scientists are learning that health is the function of genes and environment. The work of Milwaukee-based researchers suggests that this principle also applies to the health of a growing fetus and a premature infant. Milwaukee Journal Sentinel (16/8/11)

[Toxins troubling in fish caught in local waters](#)

The largest-ever study of toxins in California sport fish shows concerning levels of PCBs and methylmercury at several spots along the San Diego County coastline and elsewhere, the legacy of

[Seven-Year Neurodevelopmental Scores and Prenatal Exposure to Chlorpyrifos, a Common Agricultural Pesticide](#)

Prenatal exposure to chlorpyrifos (CPF) has been reported to be associated with neurodevelopmental problems in children at 3 years of age. To estimate the relationship between prenatal CPF exposure and neurodevelopment among children at 7 years of age, the authors measured CPF exposure in umbilical cord blood plasma from 265 children who were participants in the Columbia Center for Children's Environmental Health cohort. Neurodevelopment was assessed using the Wechsler Intelligence Scale for Children. On average, for each standard deviation increase in CPF exposure, Full-Scale IQ declined by 1.4% and Working Memory declined by 2.8%. The researchers found no significant interactions between CPF and any covariates (i.e., maternal educational level, maternal IQ, quality of the home environment), including other chemical exposures measured during the prenatal period (environmental tobacco smoke and polycyclic aromatic hydrocarbons). These findings are important in light of continued widespread use of CPF in agricultural settings and possible long-term effects of these exposures.

Environmental Health Perspectives

Water And Sanitation

[The sanitation ladder – a need for a revamp?](#)

The sanitation ladder is a useful tool for, among other things, monitoring progress towards the MDGs. This tool can be even more useful if it can be refined to use a function approach rather than a technology approach for each rung. This paper has presented a seven-step sanitation ladder where the seven steps can be divided into

industrial activity that continues to haunt state waters. Contaminants in fish are particularly troublesome for children, people with compromised immune systems and those who eat large quantities of fish. San Diego Union-Tribune (15/8/11)

[Somali refugees fight cholera and measles as hunger spreads](#)

Outbreaks of measles and cholera are striking down Somali children already weakened by hunger, resulting in dozens of new fatalities. News of the fast-spreading diseases has caused alarm among aid workers, who are struggling to deal with the humanitarian crisis brought on by the severe drought and conflict in Somalia. London Guardian (15/8/11)

[Disease, disorder and chemicals](#)

The University of Queensland and the Queensland Children's Medical Research Institute have teamed up to embark on an Australia-first study into the possible link between household chemicals and common childhood diseases including ADHD, asthma and obesity. Australia ABC News (15/8/11)

[Air cleaners help protect kids from smoke](#)

Air cleaners can significantly reduce household air pollution and lower rates of asthma symptoms among children living in homes with smokers, researchers say. Perth West Australian (12/8/11)

[Editorial: EPA has a vital job to do -- so let it work](#)

The EPA estimates the reduction of toxic pollution required by the pending "Mercury and Air Toxics" standard would save as many as 17,000 lives every year by 2015 and prevent up to 120,000 cases of childhood asthma symptoms. Delaware County Daily Times (8/8/11)

health functions and environmental functions. The authors note that a functional approach to monitoring of e.g. the sanitation target of the MDGs would require some major shifts in the monitoring methods used but it is argued that such an approach would: (i) actually monitor the public good, which is desired from a sanitation system; (ii) stimulate donors, governments and municipalities to think beyond the provision of certain sanitation technologies; (iii) allow for local solutions to the sanitation problem to be developed; and (iv) spur innovation within the sector.

Journal of Water, Sanitation and Hygiene for Development

Reproductive Health

[Utilisation of malaria preventive measures during pregnancy and birth outcomes in Ibadan, Nigeria](#)

Malaria remains a major public health problem in sub Saharan Africa and the extent of utilisation of malaria preventive measures may impact on the burden of malaria in pregnancy. This study sought to determine the association between malaria preventive measures utilized during pregnancy and the birth outcomes of birth weight and preterm delivery. This cross sectional survey involved 800 mothers who delivered at the University College Hospital, and Adeoyo Maternity Hospital, Ibadan. Data obtained included obstetric information, gestational age, birth weight and self reported use of malaria prevention strategies in index pregnancy. The authors concluded there is a need for improved utilisation of Intermittent Preventive Treatments with Sulphadoxine-Pyrimethamine (IPTsp) as well as discouraging the use of herbal medications in pregnancy in order to reduce pregnancy outcome measures of low birth weight and preterm deliveries in this environment.

[Study examines household chemical link to disease](#)

A landmark health study will examine the link between household chemicals and burgeoning childhood diseases such as ADHD and asthma. The World Health Organisation estimates up to a quarter of global disease is due to preventable environmental factors, of which 40 per cent falls on children under the age of five. The Children's Health and Environment Program (CHEP) will explore just how those environmental factors - like household chemicals and pesticides - contribute to childhood diseases like ADHD, asthma and obesity. Australia ABC News (5/8/11)

[New sensor seen as tool to detect manganese](#)

An ongoing study examining the health effects of manganese on children in the Marietta area could soon have a new tool, with University of Cincinnati researchers developing a sensor that could provide faster, more comprehensive results. Marietta Times (4/8/11)

[Indoor mold poses key asthma risk for babies](#)

When infants are exposed to mold in the home, their risk for developing asthma more than doubles, according to a study published in the Annals of Allergy, Asthma & Immunology. CNN (3/8/11)

[Dangers of household chemicals probed](#)

Research into possible links between household chemicals and diseases such as ADHD, asthma and obesity in children is set to begin in Brisbane. Australian Associated Press (3/8/11)

UPCOMING EVENTS

[Coordination of the next generation of birth cohort studies](#)

17 September 2011. Barcelona, Spain.

[World Conference on Social Determinants of Health](#)

19-21 October 2011. Rio de Janeiro, Brazil.

[6th International Conference on children's health and the environment](#)

14-16 November 2011. Lodz, Poland

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and

[Children's Health and the Environment Program, QCMRI, Brisbane, Australia](#)

[Experts criticise study linking magnetic field exposure to asthma risk](#)

Experts in epidemiology have described as weak a study that found high levels of exposure to magnetic fields during pregnancy may triple the risk the child will develop asthma. Australia ABC News (2/8/11)

[Campaigning for clean air: Pollution places a heavy burden on our health](#)

A new report from the Centers for Disease Control and Prevention found a dramatic increase in asthma rates nationwide. But there is little attention given to the pollution that is causing those increases. Portland Oregonian (2/8/11)