
Children's Environmental Health International Initiatives

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

October 2011

Children's Health and the Environment - Training package for health care providers

A growing body of evidence shows that environmental risk factors have an impact on the health and development of fetus, infants, children and adolescents and on their future. It is estimated that more than one fourth of the global disease burden is due to modifiable environmental factors, and that in children, this proportion rises to one third of the global pediatrics disease burden (WHO, Preventing disease through healthy environments, 2006). In response to the training and information needs expressed by countries and NGOs, WHO has developed materials to be used by the health and environmental sectors in order to build their capacities in the area of children's health and the environment.

What is the WHO Training Package for Health Care Providers?

A collection of modules with internationally harmonized information and peer-reviewed materials to enable health care workers to be trained, and also to become trainers of their peers and colleagues. The modules include extensive notes and references, case studies and self-evaluation tools, backed up by manuals and guidelines. A

CHILDREN'S ENVIRONMENTAL HEALTH NEWS

Press Releases

[UN experts target toxic flame retardant HBCD for control under global chemicals treaty](#)

The Persistent Organic Pollutants Review Committee took action this week to help eliminate Persistent Organic Pollutants (POPs) from the global marketplace and protect human health and the environment. The Committee adopted more than a dozen decisions, including one recommending that the chemical hexabromocyclododecane (HBCD) be listed under the Convention. UNEP (19/10/11)

[Making the Economic Case for Greening Cities](#)

Improved planning and more intelligent management of cities across the developed and developing world could play a key role in growing economies, boosting social improvements and reducing humanity's environmental footprint. Findings from the Green Economy report of the UN Environment Programme (UNEP) indicate that current patterns of urban development could be costing countries over three per cent of GDP as a result of congestion to welfare costs. UNEP (13/10/11)

selected team of experienced professionals from over 15 countries, the International Paediatric Association (IPA) and selected NGOs are participating in its preparation.

This initiative was made possible thanks to the financial support provided by the US EPA Office of Children's Health Protection, that also made available useful data, graphics and text for the modules. The UK Department of Health also supported this initiative.

New Modules published this month include:

- Biomarkers and human biomonitoring
- Children and neurodevelopmental behavioral intellectual disorders
- Children and chemicals
- Developmental environmental origins of disease
- Endocrine disorders and environment
- Immune systems and environment
- Mycotoxins
- Heavy metals and children
- Second hand tobacco smoke and children

[Link to WHO website for more overview information](#)

[Link to the training Modules](#)

[WHO highlights global underinvestment in mental health care](#)

One in four people will require mental health care at some point in their lives but in many countries only two per cent of all health sector resources are invested in mental health services. Average global spending on mental health is still less than US\$ 3 per capita per year. In low income countries, expenditure can be as little as US\$0.25 per person per year, according to the WHO's Mental Health Atlas 2011, released on World Mental Health Day. WHO (7/10/11)

[Royal Launch in Bhutan for New Ozone and Climate Plan](#)

The Royal Government of Bhutan has unveiled a new commitment to phase out ozone-depleting substances. HCFCs in Bhutan are primarily used in air-conditioning and refrigeration units in its large industrial establishments, hotels and resorts, corporate offices, governmental sectors, as well as domestic servicing sector. UNEP (7/10/11)

[UNEP Joins 7 Billion Actions Campaign to Show Opportunities and Challenges at Population Milestone](#)

The world population is set to hit 7 billion on 31 October 2011, bringing into sharp focus the challenges of ensuring sustainable development and a fair share of the planet's resources for a growing global population. The United Nations Environment Programme (UNEP) has joined the 7 Billion Actions campaign to encourage individuals, governments, businesses and organisations to take positive actions towards creating a more sustainable world for 7 billion inhabitants. UNEP (6/10/11)

JOURNAL ARTICLES

Air Pollution

[Traffic-related air toxics and preterm birth: a population-based case-control study in Los Angeles County, California](#)

Numerous studies have associated air pollutant exposures with adverse birth outcomes, but there is still relatively little information to attribute effects to specific emission sources or air toxics. The authors used three exposure data sources to examine risks of preterm birth in Los Angeles women when exposed to high levels of traffic-related air pollutants - including specific toxics - during pregnancy. Odds of preterm birth increased 6-21% per inter-quartile range increase in entire pregnancy exposures to organic carbon (OC), elemental carbon (EC), benzene, and diesel, biomass burning and ammonium nitrate PM2.5, and 50% per inter-quartile increase in polycyclic aromatic hydrocarbons (PAHs); these pollutants were positively correlated and clustered together in a factor analysis. Associations with land use regression (LUR) exposure metrics were weaker (3-4% per inter-quartile range increase). These analyses provide additional evidence of traffic-related air pollution's impact on preterm birth for women living in Southern California and indicate PAHs as a pollutant of concern that should be a focus of future studies.

Environmental Health

In the Media

[Lead poisoning in 2,000 Nigerian children](#)

Illegal gold mining has left at least 2,000 children with lead poisoning in several northern Nigerian villages, where 400 children have already died from contamination. Agence France-Presse (29/10/11)

[Lack of outdoor play linked to short-sighted children](#)

The time children spend outdoors could be linked to a reduced risk of being short-sighted, research suggests. BBC (26/10/11)

[BPA in pregnant women may cause behavior problems in girls](#)

When pregnant women eat foods that are stored in cans or packing containing BPA, their unborn child's exposure to the chemical could lead to behavioral problems by age 3, according to a study published in the journal Pediatrics. CNN (24/10/11)

[Autism diagnoses growing by 10 to 17 percent annually](#)

One in 110 American children are living with an autism spectrum disorder (ASD), based on the most recently published estimates from the Centers for Disease Control and Prevention (CDC). Boys are four to five times more likely than girls to be diagnosed with an ASD. Countless studies are investigating a number of potential environmental contributors. Scranton Times-Tribune (23/10/11)

[UN close to ban on West's toxic waste exports](#)

One of the most persistent and insidious pollution problems visited by the West on the developing world has taken a huge

Chemicals

[Thyroid Dysfunction as a Mediator of Organochlorine Neurotoxicity in Preschool Children](#)

Exposure to organochlorine (OC) compounds can alter thyroid function in humans, and hypothyroidism during early life can adversely affect neurodevelopment in children. The authors studied the relationship between developmental OC exposures and thyroid function and the relationship between thyroid function and subsequent neurodevelopment. They followed a population-based birth cohort of 182 children up to 5.5 years of age. The assessments included measuring concentrations of OC compounds in maternal pregnancy serum and milk, clinical thyroid parameters in maternal and cord serum, and subsequent neuropsychological outcomes of the children. Resin triiodothyronine uptake ratio (T3RU) was also assessed as an estimate of the amount of thyroxine (T4)-binding globulin sites unsaturated by T4: The T3RU is high in hyperthyroidism and low in hypothyroidism. The authors report finding inverse monotonic associations between OC exposure and T3RU, and positive associations between T3RU and better performance on most of the neuropsychological tests. The authors conclude that OC exposures may decrease the T3RU during early life and that minor decreases in thyroid function may be inversely associated with a child's neurodevelopment.

Environmental Health Perspectives

[Associations between Polybrominated Diphenyl Ether \(PBDE\) Flame Retardants,](#)

step towards a permanent solution with a UN agreement to accelerate a global ban on dumping electronic and other hazardous waste in poor countries. London Independent (23/10/11)

[Sanford company brings pure water to India](#)

Out of the 1.2 billion people in India, about 750 million reside in rural villages. More than 900,000 people die every year from the harmful effects of air pollution and unhealthy drinking water, and many of the country's 400 million children younger than 15 are malnourished and impoverished. Stanford Herald (23/10/11)

[Early childhood conditions help shape DNA](#)

Early childhood living conditions provoke biological changes in genes leading to DNA "memory" that can last a lifetime, an international study has found. Postmedia News (22/10/11)

[How a healthy diet could see your great-grandchildren benefit](#)

Scientists have discovered that a good diet and lifestyle could help a person's children, grandchildren and even great-grandchildren live longer. A team at Stanford University in California found that altering three types of proteins can affect longevity. London Daily Mail (20/10/11)

[Autumn harvest watched warily in food-poor N Korea](#)

Primitive farming techniques, a lack of arable land in a rugged, mountainous country and the suspected diversion of food to military and ruling party elites have all contributed to widespread hunger in the country's poorest areas, aid groups say. This year, summer floods, soaring global food prices and the continued reluctance

[Phenolic Metabolites, and Thyroid Hormones during Pregnancy](#)

Polybrominated diphenyl ethers (PBDEs), chemical additives used as flame retardants in commercial products, are bioaccumulative, persistent, and associated with several adverse health outcomes. The authors measured PBDEs and PBDE metabolites in serum collected from 140 pregnant women late in their third trimester. The authors sought to determine whether the PBDEs or their metabolites were associated with maternal thyroid hormones. Blood samples were collected from pregnant women during a routine prenatal clinic visit, and serum was analyzed for a suite of PBDEs, three phenolic metabolites, and five thyroid hormones. PBDEs were detected in all samples; two hydroxylated BDE congeners were detected in > 67% of the samples. BDEs 47, 99, and 100 were significantly and positively associated with free and total thyroxine levels, and with total triiodothyronine levels above the normal range. PBDEs and OH-BDEs are prevalent in this cohort, with levels similar to those in the general population. The authors conclude that PBDEs may be able to affect thyroid regulation throughout pregnancy; thus further research is needed to determine mechanisms through which PBDEs affect thyroid hormone levels in developing fetuses and newborn babies.

Environmental Health Perspectives

[Prenatal Exposure to Phthalates and Infant Development at 6 Months: Prospective Mothers and Children's Environmental Health \(MOCEH\) Study](#)

There are increasing concerns about the possible adverse effects of prenatal phthalate exposure on neurodevelopment of infants. As part of the Mothers and Children's Environmental Health Study (MOCEH), the authors studied the

of the U.S. and its allies to provide aid to a hostile and nuclear-armed country means millions of children and pregnant women are slowly starving, aid groups say. Associated Press (20/10/11)

[Beware: 'Toxic' Halloween](#)

Tests done by an environmental health group in collaboration with a testing lab found that 70 percent of Halloween products - from masks and face paints to vampire teeth and pumpkin buckets - contained at least one toxic metal above levels of concern. Makati Journal (19/10/11)

[Study finds new asthma cases on the decline](#)

Asthma cases in children and young people are on the way down but the poor are still more likely to suffer, according to new figures. Australia ABC News (18/10/11)

[Report Claims FCC Underestimates Cellphone Radiation Dose](#)

A report published Monday in the journal Electromagnetic Biology and Medicine contends that the FCC's test to determine radiation exposure from cellphones is flawed and dramatically understates the emissions that many people absorb, particularly children. Fair Warning (18/10/11)

[2 Million Deaths a Year Attributed to Pollution from Indoor Cookstove Fires](#)

Nearly two million deaths could be prevented each year by replacing cooking fires and inefficient, smoky stoves, reports a policy analysis by leaders from the National Institutes of Health published in Science. PBS NewsHour (14/10/11)

[Smoking moms' offspring more likely to be](#)

association between prenatal di(2-ethylhexyl) phthalate and dibutyl phthalate exposure and the Mental (MDI) and Psychomotor (PDI) Developmental indices of the Bayley Scales of Infant Development at 6 months of age. Prenatal mono(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP), mono(2-ethyl-5-oxohexyl) phthalate (MEOHP), and mono-n-butyl phthalate (MBP) were measured in mothers during the third trimester of pregnancy. The MDI was inversely associated with concentrations of MEHHP and MEOHP, and the PDI was inversely associated with MEHHP. In males, the MDI was inversely associated with MEHHP, MEOHP, and MBP; and the PDI was inversely associated with MEHHP, MEOHP, and MBP. No significant associations were observed for females. The authors conclude that prenatal exposure to phthalates may be inversely associated with the MDI and PDI of infants, particularly in males, at 6 months of age.

Environmental Health Perspectives

Water And Sanitation

[Manganese Exposure from Drinking Water and Children's Classroom Behavior in Bangladesh](#)

Evidence of neurological, cognitive, and neuropsychological effects of manganese (Mn) exposure from drinking water (WMn) in children has generated public health concern. At elevated exposures, Mn has been associated with increased levels of externalizing behaviors, including irritability, aggression, and impulsivity, but little is known about potential effects at lower exposures, especially in children. Moreover, little is known about potential interactions between exposure to Mn and other metals, especially arsenic (As). Study children were rated by their schoolteachers on

[treated for mental problems.](#)

Children born to mothers who smoked during pregnancy were more likely than those born to nonsmoking moms to take medications that treat mental disorders, suggests a study published in the Journal of Epidemiology. The most common prescriptions were for antidepressant and anti-anxiety drugs. Environmental Health News (14/10/11)

[Flame retardant added to state's list of cancer-causing chemicals](#)

In a victory for environmentalists, a flame retardant common in furniture and baby products was officially listed yesterday by the state as a cancer-causing chemical. California Watch (13/10/11)

[India encephalitis outbreak kills 400, mainly children](#)

More than 400 people, mainly children, have died in an outbreak of viral encephalitis in northern India, health officials say. BBC (13/10/11)

[Moms and POPs: birth defects linked to banned, current pollutants.](#)

A variety of long-banned and currently-released chemicals found in pregnant women are associated with an increased risk of neural tube defects in their babies, reports a study of Chinese women. The chemicals known as persistent organic pollutants (POPs) include a variety of pesticides, industrial-use chemicals and compounds released from the burning of fossil fuels. Environmental Health News (13/10/11)

[Cholera epidemic spreads in west, central Africa: U.N.](#)

A cholera epidemic sweeping through west and Central Africa, one of the biggest in the vast region's history, has infected

externalizing and internalizing items of classroom behavior using the standardized Child Behavior Checklist-Teacher's Report Form (TRF). The authors report that WMn was positively and significantly associated with TRF internalizing, TRF externalizing, and TRF total scores. They also observed a positive monotonic dose-response relationship between WMn and TRF externalizing and TRF total scores among the study participants. These observations reinforce the growing concern about the possible neurodevelopmental effects of WMn in children.

Environmental Health Perspectives

Global Change

[Action on social determinants of health is essential to tackle noncommunicable diseases](#)

Noncommunicable diseases cannot be effectively addressed without action on social determinants of health. Without addressing social inequalities and the conditions in which people are born, grow, live, work and age, along with the reasons that health systems work better for some population groups than for others – that is, adopting a social determinants approach – prospects for reversing the noncommunicable diseases epidemics are poor. In this context, the authors explain why a social determinants approach is essential for combating noncommunicable diseases, discuss what such an approach entails, and identify priority actions for the global community.

Bulletin of the World Health Organization

more than 85,000 people, killing at least 2,466 so far this year, United Nations aid agencies said. Reuters (12/10/11)

[High level of nicotine found in Capital's air](#)

A recent study conducted by the Union ministry of health and family welfare has revealed the presence of high levels of airborne nicotine not only at public places and entertainment joints in New Delhi but also in government schools and hospitals. India Today (12/10/11)

[Two New Reasons to Worry about Air Pollution: Obesity and Diabetes](#)

Research is continuing to pile up suggesting that air pollution is very much a public health issue, contributing to some of this country's most pressing and expensive health epidemics. Forbes (11/10/11)

[Obese mothers put children at higher risk of asthma](#)

Pregnant women who are obese put their children at higher risk of developing asthma compared to mothers of normal weight, a large study in Sweden has found. Reuters (10/10/11)

[A toxic tour: Neighborhoods struggle with health threats from traffic pollution.](#)

The nation's top environmental health official visited the Los Angeles/Long Beach harbor area to witness first-hand how communities are struggling with health issues related to pollution. "Los Angeles has its share of health problems and we suspect many of them are environmentally related," said Linda Birnbaum, director of the National Institute of Environmental Health Sciences. Environmental Health News (8/10/11)

Reproductive Health

[Maternal and Gestational Factors and Micronucleus Frequencies in Umbilical Blood: The NewGeneris Rhea Cohort in Crete](#)

The use of cancer-related biomarkers in newborns has been very limited. The authors investigated the formation of micronuclei (MN) in full-term and preterm newborns and their mothers from the Rhea cohort (Crete), applying for the first time in cord blood a validated semiautomated analysis system, in both mono- and binucleated T lymphocytes. Although confirmation is needed by a larger study population, the results indicate the importance of taking into account both mono- and binucleated T lymphocytes for biomonitoring of newborns, because the first reflects damage expressed during in vivo cell division and accumulated in utero, and the latter includes additional damage expressed as MN during the in vitro culture step.

Environmental Health Perspectives

Additional Publications

[Healthy Environments for Healthy Children](#)

The new web versions are now available. These are web-based "searchable versions", not just PDFs.

The work is a result of an on-going partnership between WHO, UNEP and UNICEF in the area of children's environmental health. It summarizes key messages for action on different environmental health issues, including global environmental change; water pollution; sanitation and hygiene; nutrition, growth and development; vectors of

[Sanitation: time to tackle an MDG laggard](#)

Sanitation and hygiene are sensitive and unpopular subjects, but funding them is essential to fighting disease, ensuring basic rights and meeting millennium development goals. The Guardian (7/10/11)

[Premature births are 30% higher in cities because of pollution](#)

Expectant mothers living in large towns or cities are a third more likely to give birth prematurely because of pollution, research suggests. Traffic fumes are the biggest culprit, with chemicals called polycyclic aromatic hydrocarbons (PAH), a by-product of petrol, producing a 30 per cent increase in risk. London Daily Mail (7/10/11)

[Birth Defects in China Jump 70 Percent in 15 Years](#)

In China the birth defect rate has jumped from 8.77 per 1,000 in 1996, to 15 per 1,000 in 2010, according to Report on Women and Children's Health Development published on Sept. 21. Experts attributed the 70.9 percent surge to environmental pollution. Epoch Times (5/10/11)

[Parents should 'encourage' kids to limit cellphone use: Health Canada](#)

Parents should encourage kids under 18 to limit the time they spend talking on cellphones, Health Canada said in new advice on mobile phone usage. Canadian Press (5/10/11)

[Genes change message after newborn rats given BPA](#)

Bisphenol A (BPA) can alter the way genes are read in male rats exposed to the chemical as newborns. The so-called

disease; air pollution; chemicals; injuries; environmental emergencies, noise and healthy housing. It also includes the 2009 Busan Pledge for Action on Children's Health and the Environment, drafted by participants at the 3rd WHO International Conference on Children's Health and the Environment.

UPCOMING EVENTS

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

14-16 November 2011. Lodz, Poland

[Pacific Basin Consortium and Environmental Geochemistry and Health](#)

10-13 April 2012. Gwangju, South Korea

[PPTOXIII - Prenatal Programming and Toxicity. Environmental Stressors in the Developmental Origins of Disease: Evidence and Mechanisms](#)

14-16 May 2012. Paris, France

[The Contribution of Epigenetics in Pediatric Environmental Health](#)

May 30th - June 1st, 2012. San Francisco, California. United States

epigenetic changes had lasting effects on reproductive hormone signals into adulthood that may partially explain reported effects of the chemical on male fertility. Environmental Health News (5/10/11)

[Could BPA predispose girls to breast cancer?](#)

A new study suggests that early exposure to a chemical found in hard, clear plastics and the linings of cans may cause changes in breast tissue, predisposing laboratory animals to breast cancer. California Watch (4/10/11)

[Carbon monoxide study delivers a surprise](#)

Mothers in areas moderately polluted by carbon monoxide gave birth to children who were an average 58g lighter, a West Australian study suggests. The author said 58g was about half the effect of smoking during pregnancy. Melbourne Herald Sun (4/10/11)

[Stress-Pollution Interactions: An Emerging Issue in Children's Health Research](#)

A small but growing number of scientists are pushing the envelope by investigating whether chronic psychological stress might enhance a child's vulnerability to certain chemical exposures and contributing to effects that later show up as diseases such as asthma, cardiovascular disease and cancer. Environmental Health Perspectives (2/10/11)

[Links to past issues and how to subscribe](#)

Have news for us?

If you would like to submit information to future HECANET issues, email us at heca@who.int with the subject line "INFORMATION FOR HECANET".

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