

## 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 2011

### WHO's Guidelines for Drinking-water Quality



Access to safe drinking-water is essential to health, a basic human right and a component of effective policy for health protection.

Source: WHO

The importance of water, sanitation and hygiene for health and development has been reflected in the outcomes of a series of international policy forums. The UN General Assembly declared the period from 2005 to 2015 as the International Decade for Action, "Water for Life". Most recently, the UN General Assembly declared safe and clean drinking-water and sanitation a human right essential to the full enjoyment of life and all other human rights.

Access to safe drinking-water is important as a health and development issue at national, regional and local levels. In some regions, it has been shown that investments in water supply and sanitation

### CHILDREN'S ENVIRONMENTAL HEALTH NEWS

#### Press Releases

#### [Saving children in southern Somalia must be first priority](#)

With an estimated 1.25 million children across Southern Somalia in urgent need of life saving interventions and 640,000 acutely malnourished, UNICEF called for all actors to make saving children's lives the top priority and to urgently support all efforts to reach children in need. UNICEF (29/7/11)

#### [WHO issues new advice on heat-waves](#)

Over the last week, several countries in south-eastern Europe have experienced a severe heat-wave. Every year, heat harms the health of many people, particularly the elderly. It can trigger exhaustion, heart attacks or confusion and can worsen existing conditions such as cardiovascular and respiratory diseases. Yet these health effects are largely preventable. WHO Europe (22/7/11)

#### [Government and partners call for increased mobilization to curb child malnutrition levels in Niger](#)

The government of Niger and its partners called on the international community to intensify its mobilization efforts to curb alarming levels of child malnutrition and its

can yield a net economic benefit, as the reductions in adverse health effects and health-care costs outweigh the costs of undertaking the interventions. This is true for investments ranging from major water supply infrastructure through to water treatment in the home. Experience has also shown that interventions in improving access to safe water favour the most vulnerable ones, whether in rural or urban areas, and can be an effective part of poverty alleviation strategies.

This fourth edition of the World Health Organization's Guidelines for Drinking-water Quality builds on over 50 years of guidance by WHO on drinking-water quality, which has formed an authoritative basis for the setting of national regulations and standards for water safety in support of public health. It is the product of significant revisions to clarify and elaborate on ways of implementing its recommendations of contextual hazard identification and risk management, through the establishment of health-based targets, catchment-to-consumer water safety plans and independent surveillance.

[Link to WHO drinking water guidelines](#)

## JOURNAL ARTICLES

### Air Pollution

[Does Air Pollution Trigger Infant Mortality in Western Europe? A Case-Crossover Study](#)

Many studies have reported associations between fine particulate air pollutants [particulate matter  $\leq 10 \mu\text{m}$  in aerodynamic diameter ( $\text{PM}_{10}$ )] and mortality in adults. The authors investigated short-term effects of elevated  $\text{PM}_{10}$  levels on infant mortality in Flanders, Belgium, and studied whether the

structural and underlying causes. The prevalence of global acute malnutrition (GAM) among children under five years old in Niger is back to the same levels experienced in June 2009 that is at 12.3 percent, registering a decrease of more than three points (16.7%) from the last survey conducted in November 2010. UNICEF (20/7/11)

[Situation in Horn of Africa set to get worse for millions of children](#)

UNICEF has called for an immediate expansion of assistance across the Horn of Africa's drought affected communities, to address the dire needs of more than two million children, of whom half a million are at imminent risk of dying. UNICEF (17/7/11)

[Revised drinking-water guidelines issued](#)

The revised WHO "Guidelines for drinking-water quality", call on governments to strengthen their management of drinking-water quality by adopting water safety plans. In Europe each year, 2 million people die from waterborne diseases and billions more suffer illness; most victims are children aged under 5. Ensuring safe drinking-water can prevent much of this ill health and suffering. WHO Europe (14/7/11)

[UNEP Support for Sustainable Development Part of New Beginning for South Sudan](#)

The United Nations Environment Programme (UNEP) has reaffirmed its long-term commitment to assisting the people of Sudan to maintain peace, recovery and development on an environmentally sustainable basis. UNEP's Sudan Integrated Environment Programme, which began in 2007, will continue to support the effective management of water, forests and other

European Union limit value protects infants from the air pollution trigger. They estimated the risk of dying from nontraumatic causes before 1 year of age in relation to outdoor PM<sub>10</sub> concentrations on the day of death, and they matched control days on temperature to exclude confounding by variations in daily temperature. Even in an affluent region in Western Europe, where infant mortality is low, days with higher PM air pollution are associated with an increased risk of infant mortality. Assuming causality, the current European Union limit value for PM<sub>10</sub>, which may be exceeded on 35 days/year, does not appear to prevent PM<sub>10</sub> from triggering mortality in late neonates.

*Environmental Health Perspectives*

#### [The International Collaboration on Air Pollution and Pregnancy Outcomes: Initial Results](#)

Previous research suggests that results from studies on the relationship between air pollution and adverse birth outcomes are difficult to interpret because of differences in study design. The International Collaboration on Air Pollution and Pregnancy Outcomes was formed to understand how differences in research methods might contribute to variations in findings. The authors initiated a study to assess the ability of geographically diverse research groups to analyze data sets using a common protocol and to perform location-specific analyses of air pollution effects on birth weight using a standardized statistical approach. Fourteen research groups from nine countries participated. A protocol was developed to estimate odds ratios for the association between particulate matter  $\leq 10$   $\mu\text{m}$  in aerodynamic diameter (PM<sub>10</sub>) and low birth weight (LBW) among term births, adjusted first for socioeconomic status and then for additional location-specific

natural resources in both the Republic of Sudan and the Republic of South Sudan. UNEP (12/7/11)

#### [Sustainable Management of Water Resources Key to Peace and Security in Central Asia](#)

Hydropower projects, inefficient irrigation systems, growing populations and climate change are emerging as key challenges for environmental diplomacy. Boosting cooperation between countries sharing the waters of the Amu Darya, Central Asia's longest river, could be key to future peace and security in the region a new report launched today by the United Nations Environment Programme (UNEP) says. UNEP (11/7/11)

#### [A One Health approach addresses wildlife, ecosystem and human health issues](#)

Changing ecological, agricultural, and climatic conditions have the potential to increase health risks to wildlife, livestock and people through the infectiousness of germs, which cross into new species. The 'One Health' approach is a framework to address the wildlife/livestock/human disease interface, integrating different disciplines and involving United Nations agencies, governments, conservationists, health professionals and professional associations. UNEP (8/7/11)

#### [UN MDG Report: The most vulnerable children are left behind](#)

Significant strides towards achieving the Millennium Development Goals (MDGs) have been made, yet reaching all the goals by the 2015 deadline remains challenging because the world's poorest are being left behind, the UN MDG report says. UNICEF (7/7/11)

#### [WHO urges more countries to require](#)

variables. Despite the use of a common statistical approach, relationships between PM<sub>10</sub> and LBW among study locations remained variable. A more detailed meta-analysis and use of more complex protocols for future analysis may uncover reasons for heterogeneity across locations.

*Environmental Health Perspectives*

## **Chemicals**

### [Bioavailability of Cadmium in Inexpensive Jewelry](#)

High cadmium (Cd) concentrations have been found recently in some inexpensive jewelry. There is no formal regulatory standard for Cd in jewelry, and few data exist regarding potential exposures. The authors evaluated the bioavailability of Cd in components of 57 jewelry items found to contain high levels of Cd. Bioavailability was evaluated by placing items a) in a saline solution at 37°C for 6 hr to simulate exposures from mouthing of jewelry items; or b) into dilute hydrochloric acid (HCl) at 37°C for 6–96 hr to approximate conditions after swallowing a jewelry item. To determine the effect of breaching the outer plating on bioavailability, damaged pieces of selected samples were also extracted by both methods. The 6-hr saline extraction yielded as much as 2,200 µg Cd, and 24-hr dilute HCl extraction yielded a maximum of > 20,000 µg Cd. Leaching of Cd in dilute HCl increased linearly over 6–96 hr, indicating potential for increasing harm the longer an item remains in an acidic environment. Damage to jewelry by breaching the outer plating generally, but not always, increased Cd presence, and bioavailability did not correlate directly with Cd content. These results indicate the potential for Cd exposures to individuals who mouth or accidentally swallow high-Cd jewelry items.

*Environmental Health Perspectives*

### [Large, graphic health warnings on tobacco packaging](#)

More than one billion people in 19 countries are now covered by laws requiring large, graphic health warnings on packages of tobacco, nearly double the number of two years ago, when only about 547 million people were covered in 16 countries, WHO reports in its third periodic report on the global tobacco epidemic. WHO (7/7/11)

## **In the Media**

### [Autism Risks: Genes May Not Play Biggest Role](#)

Up to now, genetics were thought to account for 90 percent of a child's risk for autism, but a new Stanford University School of Medicine study suggests environmental factors could play a much larger role than previously thought. All Things Considered NPR (31/7/11)

### [Logistical Nightmare Hinders Aid Efforts in Somalia](#)

Millions are starving and parents are watching their children die. Meanwhile militant groups are terrorizing the region. The situation in the Horn of Africa is becoming increasingly desperate. Aid organizations are facing enormous difficulties in their attempts to help hundreds of thousands of those suffering, but it's a race against time they seem to be losing. Der Spiegel (28/7/11)

### [Lure for gold ore fuels child deaths in Zamfara](#)

The tide of deaths of infants and young children from an outbreak of lead poisoning in Northwest Nigeria did not come like a thief in the night. The stage had been set for the tragic incident several years earlier with illegal mining and improper processing of lead-contaminated gold ore within the community. Lagos

Vanguard (27/7/11)

[Urinary Biomarkers of Prenatal Atrazine Exposure and Adverse Birth Outcomes in the PELAGIE Birth Cohort](#)

The authors assessed the association between adverse birth outcomes and urinary biomarkers of prenatal atrazine (triazine and chloroacetanilide herbicides) exposure, taking into account exposure to other herbicides used on corn crops. They collected maternal urine samples (n = 3,399) using a case-cohort design nested in a prospective birth cohort to examine pesticide exposure biomarkers before the 19th week of gestation. The authors report quantifiable levels of atrazine or atrazine mercapturate in urine samples from 5.5% of pregnant women sampled, and dealkylated and hydroxylated triazine metabolites in 20% and 40% of samples, respectively. The presence of atrazine or a specific atrazine metabolite was associated with fetal growth restriction and small head circumference for sex and gestational age. Major congenital anomalies were not associated with levels of atrazine or its specific metabolites. Head circumference was inversely associated with the presence of urinary metolachlor. Evidence of associations with adverse birth outcomes raises concern about the continued use of these chemicals.

*Environmental Health Perspectives*

[Follow-up study on lead exposure in children living in a smelter community in northern Mexico](#)

This follow-up study started in 2001 and consisted of 232 children living in nine neighborhoods in Torreon. Children were tested at 0, 6, 12 and 60 months. Lead in blood concentrations, Hemoglobin, Zinc-Protoporphyrin, anthropometric measures and socioeconomic status questionnaire was supplied to the parents. The aim was to

[Mining dust and soot smother Keonihar childhood](#)

Child mortality soars in the region with the district administration and the mining companies taking little interest in looking into the health and education concerns of people in the mining belt. New Delhi Times of India (27/7/11)

[High lead levels in baked clay eaten during pregnancy](#)

High levels of lead and traces of arsenic have been found in baked clay traditionally eaten by some African and Asian women during pregnancy. Exposure to lead by pregnant women, infants or children posed a risk to the development of the brain. BBC (27/7/11)

[A Way Through the Forest Fire Haze](#)

Episodes of prolonged "haze" as a result of uncontrolled burning have produced insurmountable loss for both Indonesia and its neighbors, be it through environmental, health, social, political or economic costs. It is well documented that poor air quality is detrimental to health, causing upper respiratory tract infections, asthma and other afflictions in both young and old. Jakarta Globe (27/7/11)

[Furniture Linked To PBDE Levels In Pregnant Women](#)

A new study of pregnant immigrants living in California suggests that living with furniture containing flame retardants called PBDEs may lead to high blood levels of the chemicals. Environmental Science and Technology (26/7/11)

[Climate Change Forcing Buried Toxics Back Into Atmosphere, Scientists Say](#)

New study finds that as warming heats up oceans and melts Arctic sea ice, buried

study the changes in children's lead exposure in the city of Torreon during the last five years, after environmental and public health interventions, using the timeline of lead in blood concentration as the biomarker of exposure and its relation to lead in soil concentrations. Median and range of lead in blood concentrations obtained at 0, 6, 12, 60 months were: 10.12ug/dL (1.9 - 43.8), 8.75 ug/dL (1.85 - 41.45), 8.4 ug/dL (1.7 - 35.8) and 4.4 ug/dL (1.3 - 30.3), respectively. The decrease of lead in blood levels was significantly related to ages 0, 6, 12 and 60 months of the follow-up study. The timeline of B-Pb was associated with the timeline of lead in soil concentrations. The authors concluded that B-Pb levels have significantly decreased in the group of children studied. This could be explained by a) environmental interventions by authorities and the smelter companies, b) normal changes in hygienic habits as children age and c) lead redistribution from blood to hard tissues.

*Environmental Health*

## **Water And Sanitation**

### [Pesticide Processing Potential in Prairie Pothole Porewaters](#)

Prairie pothole lakes (PPLs) are located within the extensively farmed Great Plains region of North America, and many are negatively impacted by nonpoint source pesticide pollution. To date, the environmental fate of pesticides in these lakes remains largely unknown. In this study, two PPLs in the Cottonwood Lake area of North Dakota were sampled, and transformations of four chloroacetanilide pesticides in sediment porewaters were examined. The reduced sulfur species in the porewaters, such as bisulfide ( $\text{HS}^-$ ) and polysulfides ( $\text{S}_n^{2-}$ ), readily transformed the target pesticides into sulfur-substituted products. Although  $\text{HS}^-$  and  $\text{S}_n^{2-}$  played a

POPs are being re-released into the environment. Solve Climate News (25/7/11)

### [Teen girls face heaviest risk from climate impacts - report](#)

At the intersection of two of the world's most vulnerable groups – children and women - adolescent girls may end up bearing the biggest burden of climate change impacts, according to a new report. AlertNet (20/7/11)

### [Somali refugee death rate at 15 times above norm: UNHCR](#)

The death rate among drought-stricken Somalis arriving at refugee camps has reached several times above levels seen in emergency situations. Mortality rate in June reached 7.4 deaths per 10,000 a day, sharply above the sub-Saharan baseline rate of 0.5. Agence France-Presse (20/7/11)

### [Children less attentive, more impulsive with higher exposure to repellent chemicals.](#)

PFCs are associated with attention and behavior problems in children, suggest a pair of studies published online in June. These studies are some of the first to explore the relationship between PFC compounds and behavior problems, specifically attention-deficit/hyperactivity disorder (ADHD) and impulsive behavior. A variety of products use PFCs during manufacturing, and the compounds are present in just about everyone. Environmental Health News (20/7/11)

### [Pollutants' role in birth defects becomes clearer](#)

Babies who were exposed to certain organic pollutants in the womb are at a highly increased risk of neural tube defects leading to conditions such as

dominant role, other reactive constituents in PPL porewaters also contributed to the transformation. Results from this study revealed that abiotic reactions with reduced sulfur species could represent an important removal pathway for pesticides entering PPLs.

*Environmental Science and Technology*

## **Global Change**

[Projections of global health outcomes from 2005 to 2060 using the International Futures integrated forecasting model](#)

Long-term forecasts of mortality and disease burden are essential for setting current and future health system priorities, yet few forecasts cover a wide range of nations over a long span of time. Even fewer situate changes into an integrated framework to account for the effects of variation in mortality on population size, population age structure and drivers of mortality such as income. This paper describes an approach to address this gap by building a health model into the existing International Futures (IFs) global modelling system.

*Bulletin of the World Health Organization*

## **Reproductive Health**

[Serum Concentrations of Polychlorinated Biphenyls in Relation to in Vitro Fertilization Outcomes](#)

Exposure to polychlorinated biphenyls (PCBs) has been associated with adverse reproductive health outcomes, including reduced fecundability and increased risk of pregnancy loss. To explore the relationship between serum PCB concentrations and early pregnancy loss among a cohort of 765 women undergoing in vitro fertilization (IVF), the authors measured concentrations of PCB congeners in serum samples collected during IVF/intracytoplasmic sperm injection cycles. PCB-153 was the congener present

spina bifida, according to researchers in China. Nature News (19/7/11)

[Passive smoking linked to DNA damage and birth defects](#)

Passive smoking can cause genetic damage to sperm cells that may result in birth defects, miscarriages and other reproductive problems which make it difficult to father a healthy child, scientists have found. London Independent (19/7/11)

[Protecting our children from prophets \(and profits\) of doubt](#)

When it comes to the health of our children, listen to those who care for and about children, not to those peddling poison. The latest attempt at foisting unreality on the people of America comes from critics of the EPA's proposal to reduce mercury from power plants. Environmental Health News Opinion (19/7/11)

[Fracking can release cancer chemicals, experts warn](#)

Coal seam gas mining can cause cancer and harm unborn babies, medical experts have told a Senate inquiry. Australian Associated Press (18/7/11)

[Solar lanterns saving lives, lighting up Kenya](#)

Every evening thousands of children in Kenya sit down and do their homework by kerosene-powered light. However, the soot emitted from the burning lamps is not only an environmental hazard but the toxic fumes could be causing children serious harm and putting them at risk of respiratory illnesses. CNN (15/7/11)

[UN reports measles outbreaks, deaths among children in Ethiopia, Kenya](#)

United Nations officials say outbreaks of

in the highest concentration. Increasing quartiles of PCB-153 and the sum of all measured PCB congeners were associated with significantly elevated dose-dependent odds of failed implantation, but no statistically significant associations were observed between PCBs and chemical pregnancy or spontaneous abortion. Serum PCB concentrations at levels similar to those in the United States general population were associated with failed implantation among women undergoing IVF. These findings may help explain previous reports of reduced fecundability among women exposed to PCBs.

*Environmental Health Perspectives*

### **Additional Publications/Resources**

Environmental burden of disease associated with inadequate housing. Methods for quantifying health impacts of selected housing risks in the WHO European Region.

[Read more](#)

Evaluating Household Water Treatment Options: Health-based targets and microbiological performance specifications. Editors: World Health Organization

Publication date: July 2011

Languages: English

[Read more](#)

The Global Health Observatory (GHO) Data Repository provides access to over 50 datasets on priority health topics including mortality and burden of diseases, the Millennium Development Goals (child nutrition, child health, maternal and reproductive health, immunization, HIV/AIDS, tuberculosis, malaria, neglected diseases, water and sanitation), non

measles in Ethiopia and Kenya have killed dozens of children and sickened thousands of others. Associated Press (15/7/11)

[Babies born to smoking mothers are far more likely to suffer from deformed limbs](#)

Smoking while pregnant significantly increases the risk of serious birth defects including missing and deformed limbs, according to a new report. London Daily Mail (13/7/11)

[Metal water bottles may leach BPA](#)

Consumers who switched from polycarbonate-plastic water bottles to metal ones in hopes of avoiding the risk that bisphenol A will leach into their beverages aren't necessarily any better off, a new study finds. Science News (12/7/11)

[UN struggling to cope with East Africa drought](#)

U.N. officials sounded the alarm about a deepening humanitarian crisis in East Africa caused by a severe drought and fighting in Somalia, and warned that tens of thousands of children are at risk of dying. Associated Press (12/7/11)

[Secondhand Smoke Tied To Mental Health Problems In Kids: Study](#)

New research suggests that secondhand smoke exposure can increase the odds of developing certain mental and behavioral disorders by 50 percent. Huffington Post (11/7/11)

[Call for answers as research puts environment in the autism mix](#)

Australian experts have called for an urgent acceleration of autism research in the wake of a US study suggesting the devastating condition may be far more due to environmental factors than

communicable diseases and risk factors, epidemic-prone diseases, health systems, environmental health, violence and injuries, equity among others.

[Link to WHO to read more](#)

## UPCOMING EVENTS

[Scientific Conference to launch the Children's Health and Environment Program](#)

5 -7 August 2011. Brisbane, Queensland Australia

[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

(No URL available: Contact information - Department of Environmental Epidemiology

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[16th International Conference on AIDS & STIs in Africa \(ICASA\)](#)

4 – 8 December 2011. Addis Ababa, Ethiopia

previously thought. Sydney Australian (7/7/11)

[Climate inaction risks children's well-being](#)

Climate change, if allowed to continue, will have a dramatic and lasting impact on the lives of our children and grandchildren. Children living today will confront even greater health risks over their lifetime, with estimates showing a 30 to 100 per cent increase in their chance of suffering from illnesses such as asthma by 2050. Melbourne Age (6/7/11)

[A balanced diet plus low dose BPA exposure in womb and while nursing causes fatter, sicker rats.](#)

Prenatal exposure to low levels of BPA caused rats to become obese and unhealthy as adults, finds a new study. Pups exposed to a low dose through their mothers while in the womb and nursing – but fed a balanced diet as they grew – were fatter and had a suite of metabolic problems later in life when compared to unexposed rats. Environmental Health News (5/7/11)

[Half a million children facing liver disease timebomb](#)

Half a million children are under threat from a liver disease "timebomb" fuelled by obesity and under-age drinking. The Independent (3/7/11)

[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](mailto:heca@who.int) with the subject line "INFORMATION FOR HECANET".

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