

Children's Environmental Health International Initiatives

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

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Children's Exposure to Mercury Compounds

Human exposure to mercury and mercury compounds remains a serious concern to health professionals and public health scientists worldwide. The World Health Organization (WHO) has been specifically concerned with preventing the adverse human health effects of mercury exposures, particularly for the fetus and child. This document focuses on the sources and routes of childhood mercury exposure and methods of assessing mercury exposure.



The following is taken from the Foreward by Maria Neira, Director, Public Health and Environment, WHO.

For centuries, human exposure to mercury has resulted in severe and often tragic health consequences, particularly for the world's children. Mercury intoxication, both chronic and acute, has been recognized worldwide as a significant contributor to environmental burden of disease. All forms of mercury are

CHILDREN'S ENVIRONMENTAL HEALTH NEWS

Press Releases

[World No Tobacco Day 2011 celebrates WHO Framework Convention On Tobacco Control](#)

WHO lauds inroads against tobacco and urges full treaty compliance. This year, the tobacco epidemic will kill nearly 6 million people, including some 600 000 nonsmokers who will die from exposure to tobacco smoke. WHO (31/5/11)

[Sixty-fourth World Health Assembly closes after passing multiple resolutions](#)

Member States adopt 28 resolutions and three decisions were adopted to guide the upcoming work of the Organization and to address priority global health issues. WHO (24/5/11)

[UNICEF focuses on the rights of indigenous children](#)

Indigenous peoples, particularly children, face glaring disparities in all areas of life. They experience significantly higher mortality and school dropout rates compared to other groups of children. UNICEF reiterated its commitment to promote the rights of indigenous children during a Comprehensive Dialogue with the UN Permanent Forum on Indigenous

toxic, and children, as well as the developing fetus, are particularly sensitive to most, if not all of these forms. As a neurodevelopmental toxicant, mercury poses a specific threat to the developing fetus and to the child in early life. Fetal exposure to high levels of methylmercury has led to devastating congenital malformations, infantile cerebral palsy, and neurocognitive effects.

As an element with high atomic weight, mercury vapour settles close to the ground where young children are more likely to spend their time. At room temperature, elemental or liquid mercury forms a silvery, dense liquid that can coalesce into small, shiny droplets. This unique property increases children's attraction to the substance. Children also face disproportionate exposure to this toxicant in the occupational setting as mercury is widely used in the metal mining sector. Moreover, children can be directly exposed to methylmercury by eating contaminated fish and shellfish, and the developing fetus is exposed in utero by maternal consumption of fish with high mercury concentrations.

Regional and global actions, both immediate and long-term, are necessary to reduce the release of mercury into the environment, eliminate the use of mercury where possible, and promote the development of alternatives to the use of mercury. These three actions will be essential in order to reduce and some day eliminate childhood exposure to mercury and mercury compounds. As a bioaccumulative and persistent toxicant that pollutes across national boundaries, it remains our prerogative, as an interconnected, global society to ensure our children – our most vulnerable citizens – are protected. This document provides information about childhood exposure and documents the most recent advances in evaluating biological exposures. It is

Issues. UNICEF (23/5/11)

[New database on nutrition, obesity and physical activity](#)

WHO/Europe has mapped policies on nutrition, physical activity and obesity throughout the European Region in a new database. The purpose is to assist decision-makers and professionals who want to address the spiralling levels of noncommunicable disease WHO Europe (19/5/11)

[Many countries hit by health threats from both infectious and chronic diseases](#)

An increasing number of countries are facing a double burden of disease as the prevalence of risk factors for chronic diseases such as diabetes, heart diseases and cancers increase and many countries still struggle to reduce maternal and child deaths caused by infectious diseases, according to the World Health Statistics 2011 released by the WHO. WHO (13/5/11)

[Climate migration will not wait for scientific certainty on global warming](#)

Research says millions are displaced annually as a result of climate disasters. We must take the precautionary approach. UNEP (12/5/11)

[Youth can influence switch to sustainable lifestyles, says UNEP survey](#)

Young people want to be a force for change and create their own vision of sustainable development, according to survey of more than 8000 young adults from 20 countries conducted by the United Nations Environment Programme. UNEP (11/5/11)

[World unites to halt death and injury on roads](#)

Decade of Action for Road Safety 2011-2020 seeks to prevent road traffic deaths and injuries which experts project will take

intended to be used by public health scientists worldwide to understand the extent and complexity of childhood mercury exposures.

[Link to WHO overview](#)

[Download the document 1.29Mb](#)

JOURNAL ARTICLES

Air Pollution

[Survival Analysis of Long-Term Exposure to Different Sizes of Airborne Particulate Matter and Risk of Infant Mortality Using a Birth Cohort](#)

Although several studies have suggested that airborne particulate matter (PM) is associated with infant mortality, most research has focused on short-term exposure to larger particles. The authors evaluated associations between long-term exposure to different sizes of particles [total suspended particles (TSP), PM \leq 10 μ m in aerodynamic diameter (PM₁₀), \leq 10 to 2.5 μ m (PM_{10-2.5}), and \leq 2.5 μ m (PM_{2.5})] and infant mortality. There was a positive relationship between gestational exposures to PM and infant mortality from all causes or respiratory causes for normal-birth-weight infants. These findings support the hypothesis that long-term exposure to PM air pollution during pregnancy increases risk of infant mortality

Environmental Health Perspectives

[Ambient Air Pollution and Birth Weight in Full-Term Infants](#)

The authors examined relationships between birth weight and temporal variation in

the lives of 1.9 million people annually by 2020. Road traffic injuries have become the leading killer of young people aged 15–29 years. WHO (6/5/11)

[UNICEF says education for women and girls a lifeline to development](#)

Making sure girls and women have equal access to quality education is key to sustainable economic development. Girls with access to education not only vastly improve their own lives but also bring change to their families, economies, and societies. Providing girls and women with a quality education is a highly effective tool to address poverty and fight disease. UNICEF (4/5/11)

[UN targets widely-used pesticide endosulfan for phase out](#)

Representatives from 127 Governments meeting in Geneva agreed to add endosulfan to the United Nations' list of persistent organic pollutants to be eliminated worldwide. The action puts the widely-used pesticide on course for elimination from the global market by 2012. UNEP (3/5/11)

In the Media

[Phthalates Face Murky Future](#)

Concern about the use of phthalates as plasticizers for polyvinyl chloride has persisted for several years. The perception, right or wrong, that some phthalates could have reproductive toxicity in humans has led to reduced use in the U.S. and Europe. As Europe moves toward a ban on some phthalates, producers of the plasticizers look to diversify. Chemical and Engineering News (30/5/11)

[China Clamps Down On Lead Emissions](#)

In the wake of serious poisonings linked to pollution from a lead-acid battery plant, China is cracking down on industries that

ambient levels of carbon monoxide, nitrogen dioxide (NO₂), sulfur dioxide (SO₂), ozone, particulate matter (PM) ≤ 10 μm in aerodynamic diameter, PM ≤ 2.5 μm (PM_{2.5}), PM 2.5–10 μm, and measures of the chemical components of PM_{2.5}. Ambient levels of NO₂, SO₂, PM_{2.5} elemental carbon, and PM_{2.5} water-soluble metals during the third trimester were significantly associated with small reductions in birth weight. Third-trimester estimates were generally higher in Hispanic and non-Hispanic black infants relative to non-Hispanic white infants. The results also suggested an association between air pollutant concentrations in late pregnancy and reduced birth weight. These results provide support for an association between exposure to ambient air pollution in late pregnancy and decreased birth weight in full-term infants.

Environmental Health Perspectives

Chemicals

[Arsenic Exposure in Pregnancy Increases the Risk of Lower Respiratory Tract Infection and Diarrhea during Infancy in Bangladesh](#)

Associations between prenatal arsenic exposure and increased risk of infant mortality have been reported previously. An increase in infectious diseases has been proposed as the underlying cause of these associations, but there is no epidemiological research to support the hypothesis. The authors evaluated the association between arsenic exposure in pregnancy and causes of morbidity during infancy. They assessed arsenic exposure by measuring the concentrations of metabolites of inorganic arsenic in maternal urine samples collected at gestational weeks 8 and 30. Information on symptoms of lower respiratory tract infection and diarrhea in infants was collected during monthly home visits. The authors conclude that arsenic exposure

use or recycle heavy metals. Chemical and Engineering News (27/5/11)

[Georgia's 'secret' arsenic village](#)

Arsenic mines and factories in Georgia abandoned after the fall of the Soviet Union are leaking toxic chemicals, and scientific studies show high rates of illness in local children. BBC (25/5/11)

[Clean brick kiln projects limit deadly emissions](#)

The number of deaths caused by respiratory illnesses linked to air pollution, the leading cause of premature mortality and morbidity in Bangladesh, could be halved if existing forms of brick kiln technology are replaced by cleaner alternatives, according to the World Bank and UN Development Program (UNDP). All Headline News (25/5/11)

[IQ effects of childhood lead exposure persist with age](#)

New evidence suggests childhood lead exposure may have a persistent and irreversible effect on IQ during the adult years. A 30 year follow-up study in Boston found that even low level exposure to lead during childhood may impair adult cognitive function enough to lower IQ scores. Environmental Health News (25/5/11)

[World Health Assembly adopts resolution targeted at saving the lives of children from injury](#)

The Sixty-fourth World Health Assembly adopted a resolution on child injury prevention, the first ever on the topic. More than 830,000 children die each year from road traffic crashes, drowning, burns, falls and poisoning. WHO (24/5/11)

[136 people suffering high lead level in Guangzhou](#)

Tests have confirmed that 136 people living near a battery plant in South China's

during pregnancy was associated with increased morbidity due to infectious diseases during infancy.

Environmental Health Perspectives

Global Change

[The WHO policy package to combat antimicrobial resistance](#)

To bring international attention to a growing public health threat, the World Health Organization (WHO) selected antimicrobial resistance as the theme for World Health Day 2011. Antimicrobial resistance is a threat to all branches of medical and public health practice. It challenges the control of infectious diseases, jeopardizes progress on health outcomes by increasing morbidity and mortality and imposes huge costs on societies. The World Health Organization's policy package to combat antimicrobial resistance has six key components.

- Commit to a comprehensive, financed national plan with accountability and civil society engagement
- Strengthen surveillance and laboratory capacity
- Ensure uninterrupted access to essential medicines of assured quality
- Regulate and promote rational use of medicines, including in animal husbandry, and ensure proper patient care
- Enhance infection prevention and control
- Foster innovations and research and development for new tools

Bulletin of the World Health Organization

[Toward a Quantitative Estimate of Future Heat Wave Mortality](#)

Several studies have reported an association between heat waves and increased mortality in humans. This observation may be of concern because some climate change models predict an increase in the frequency

Guangdong province have dangerously high levels of lead in their blood. Most of the victims are children. China Daily (21/5/11)

[Toxic pesticides from GM food crops found in unborn babies](#)

Toxic pesticides which are implanted into genetically modified food crops have lodged in the blood of pregnant women and their unborn babies, research shows. London Daily Telegraph (20/5/11)

[Poisonings prompt China to crack down on battery makers, other lead, toxic metal polluters](#)

China is cracking down on emissions of lead and other heavy metals following a spate of poisoning cases and reports that much of the country's soil is contaminated with toxic materials. Associated Press (19/5/11)

[EPA Weighs Threats Posed by Mercury Used in Religious Rituals](#)

The recent case in Rhode Island provides the most direct example of the dangers of an indoor mercury spill. Greenwire (19/5/11)

[Array of flame retardants found in baby car seats, changing pads, other items](#)

Eighty percent of cushions used in car seats, portable cribs and other baby furnishings contain chemical flame retardants that can accumulate in babies' bodies, according to a new study. More than one-third of the tested products contained the same carcinogenic compound that was removed from children's pajamas in the 1970s. Environmental Health News (17/5/11)

[Asbestos still present at 85% of Seoul schools](#)

Over 85 percent of below-college-level academic facilities suspected of asbestos pollution contain the potentially dangerous mineral fiber. According to data released, of

and severity of heat waves in the future. The authors used a database consisting of daily data on mortality from all non accidental causes, ambient levels of particulate matter and ozone, temperature, and dew point temperature for the city of Chicago, Illinois, to estimate the associations between heat waves and mortality. Under several climate change scenarios for 2081–2100 and in the absence of adaptation, they estimate that the city could experience 166 – 2,217 excess deaths per year attributable to heat waves. The authors found considerable variability in the projections of annual heat wave mortality, with the largest source of variation being the climate change model selected. They concluded that the impact of future heat waves on human health will likely be profound, and significant gains can be expected by lowering future carbon dioxide emissions.

Environmental Health Perspectives

Reproductive Health

[Perinatal Exposure to Low Doses of Dioxin Can Permanently Impair Human Semen Quality](#)

Young men in some industrialized areas have reportedly experienced a decrease in semen quality in recent decades. The authors examined the effects of in utero or perinatal dioxin exposure on sperm quality and reproductive hormones in 78 men 18–26 years of age. Thirty-nine of the men were born between 1977 and 1984 to mothers exposed to dioxin after the accident in Seveso, Italy; these men were compared with men born to mothers exposed only to background dioxin. Maternal dioxin levels at conception were extrapolated from the concentrations measured in 1976 serum samples. The authors report that men exposed to dioxin throughout the perinatal period had reduced semen quality and

the 54,279 facilities inspected between 2009 and 2010, roughly 87 percent contained the fiber which can cause lung cancer. The Korea Herald (17/5/11)

[From the Fields to Inner City, Pesticides affect Children's IQ](#)

Scientists studying the effects of prenatal exposure to pesticides on the cognitive abilities of children have come to a troubling conclusion: Whether pregnant mothers are exposed to organophosphate pesticides in California fields or New York apartments, the chemicals appear to impair their children's mental abilities. Yale Environment 360 (16/5/11)

[Ban mobile phones and wi-fi from schools 'as they are potentially harmful'](#)

Mobile phones and wireless internet should be banned from schools because they pose too great a risk to children's health, a controversial study has warned. London Daily Mail (15/5/11)

[Four out of 10 children have suffered sunburn at school, warn skin cancer experts](#)

Cancer experts say children must be taught about sun safety in lessons, after a study found almost 40 per cent of pupils have suffered sunburn while at school. London Daily Mail (13/5/11)

[Reaching the autism tipping point](#)

Autism affects many, many more children than we thought, according to a study released this week that stunned experts around the world. Meanwhile, evidence keeps rolling in that exposure to pesticides and other chemicals is at least partly responsible for the epidemic. Ground Truth (12/5/11)

[Perfluorochemicals May Postpone Puberty](#)

Two perfluorinated chemicals are linked to a delayed onset of puberty, according to a

sperm counts, increased concentrations of follicle-stimulating hormone, and decreased inhibin B concentrations.

Environmental Health Perspectives

Additional Publications

World Health Statistics 2011

World Health Statistics 2011 contains WHO's annual compilation of health-related data for its 193 Member States, and includes a summary of the progress made towards achieving the health-related Millennium Development Goals (MDGs) and associated targets.

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

Health and the environment: a compilation of evidence. Australian Institute of Health and Welfare (AIHW)

There is increasing awareness that our health and the environment in which we live are closely linked. This report compiles evidence on the relationship between health and a selected list of environmental factors including 'natural' features (such as temperature and ultraviolet radiation) and aspects of our surroundings which have been created by humans (such as housing and transport). The results of this compilation highlight that: our surroundings can influence our physical health and mental wellbeing through a variety of channels; health and wellbeing may be affected in both positive and negative ways; humans, through their intervention in the environment, can play a vital role in exacerbating or reducing health risks. As the pathways involved can be indirect and complex, this report also examines some of the difficulties involved in assessing the broader

study of nearly 6,000 children living near a chemical plant. Chemical and Engineering News (10/5/11)

[Climate disasters hit poor children](#)

Climate change is increasing the number of disasters which hit children in poor countries. Low-level frequent climatic disasters, including floods and droughts, which do not cause major humanitarian emergencies still hit children hard. Press Association (9/5/11)

[Nuclear power plants cleared of leukaemia link](#)

Living close to a nuclear power station does not increase a child's risk of developing leukaemia, according to one of the most detailed studies of the issue to date. Investigation of cancer clusters should turn to non-radiation causes, say British researchers. Nature News (7/5/11)

[Low lead levels linked to higher blood pressure during labor.](#)

Even at very low levels, lead in cord blood is associated with higher blood pressure readings in pregnant women giving birth, report researchers in the journal Environmental Health Perspectives. Environmental Health News (6/4/11)

[Parents warned against herbal remedies for infants](#)

The Australian Medical Association is warning parents against giving their babies herbal remedies. The US Food and Drug Administration surveyed more than 2600 mothers and found because herbal supplements are not fully regulated, some may contain contaminants - such as heavy metals - that are potentially harmful to infants. Australia ABC News (5/4/11)

[Lead contamination found in Hanoi food](#)

Food samples recently taken from four

relationship between health and the environment.

[Link to AIHW summary](#)

[Link to AIHW to download publication](#)

UPCOMING EVENTS

[6th World Environmental Education](#)

[Congress](#)

19 – 23 July 2011. Brisbane, Queensland, Australia

[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.

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

4 – 8 December 2011. Addis Ababa, Ethiopia

major markets in Ha Noi revealed that they were contaminated with lead. Vietnam News (3/5/11)

[Prenatal exposure to BPA may cause wheezing in infants](#)

Research presented at the Pediatric Academic Societies annual meeting finds the higher the amount of BPA an expecting mother is exposed to early in her pregnancy, the more likely her newborn will experience wheezing during the first 3 years of life. CNN (2/5/11)

[How good is the air that you breathe?](#)

Thousands of people in the UAE suffer from chronic respiratory problems, now being linked to the poor quality of indoor air in a country where the heat keeps people indoors 90 per cent of the day. Khaleei Times United Arab Emirates (2/5/11)

[Endosulfan poisoning](#)

Thousands of victims of endosulfan, a pesticide used by the Plantation Corp. of Kerala since 1978, are suffering from various illnesses, including cancer, asthma, mental retardation, allergy, early onset of menstruation or delayed sexual maturity and impotency. Deccan Herald India (1/5/11)

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