LEAD STORIES FOR 2013 – What we covered

January: Mercury and Health
Mercury and its compounds comprise one of the top ten groups of chemicals of major public health concern according to the World Health Organization (WHO). Further information from WHO

February: State of the Science of Endocrine Disrupting Chemicals
Authors: WHO/UNEP
Link to WHO to download the full document or a summary for decision makers

March: Public Health Publications make a difference: Endocrine disrupting chemicals and Health risk assessment.
Authors: WHO
Link to the Health Risk Assessment Publication

April: Lead Poisoning is entirely preventable.
Link to the Global Alliance to Eliminate Lead Paint

CHILDREN’S ENVIRONMENTAL HEALTH NEWS

Press Releases
India’s Urban Mobility Plans Pathway to Sustainability
Improved urban transport strategies can bring a myriad of benefits to India, from reductions in CO2 emissions to a more mobile and inclusive society, according to a new report. UNEP (18/12/13)

Decline in education for Syrian children “worst and fastest in region’s history”
The decline in education for Syrian children has been the sharpest and most rapid in the history of the region. “Education Interrupted” highlights that since 2011 nearly 3 million children from Syria have been forced to quit their education as fighting has destroyed classrooms, left children too terrified to go to school, or seen families flee the country. Progress achieved over decades has been reversed in under three years. UNICEF (13/12/13)

One in three children under-five do not officially exist
On UNICEF’s 67th birthday, the organization released a new report showing that the births of nearly 230 million children under-five have never been registered; approximately one in three of all children under-five around the world. UNICEF (11/12/13)
**May:** Progress on Sanitation and Drinking-Water - 2013 Update
Authors: WHO, UNICEF

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

**June:** Environmental Contributions to Non-Communicable Diseases in Children - Journal of Environmental Immunology and Toxicology (JEIT) Focus Issue.
[Link to JEIT May/June 2013 Table of Contents](#)

**July:** Health and E-Waste
[Link to more information and the Declaration](#)
[Link to Health effects of exposure to e-waste in The LANCET Global Health](#)

**August:** WHO E-Waste Project to be launched in September.
[Electronic Waste: WHO](#)
[View e Waste articles in The Environmental Factor produced by NIEHS](#)

**September:** Inaugural PBC Chairman’s Award - Dr William Suk.
[Link to The Pacific Basin Consortium (PBC) for Environment and Health](#)

**October:** Mercury and Health
The Minamata Convention on Mercury has been formally adopted as international law. [Link to UNEP for full News release](#)

Author: UNEP
[Link to UNEP to download the report](#)

**Atlas Shows Environmental Change in Vulnerable Arab Region**
The Atlas examines the environmental change that has taken place at more than 80 locations across the Arab region, using a combination of on-the-ground photographs, current and historical satellite images, with a narrative based on extensive scientific evidence. UNEP (10/12/13)

**Mental health information at your fingertips – WHO launches the MiNDbank**
MiNDbank, a new WHO database goes online, presenting a wealth of information about mental health, substance abuse, disability, human rights and the different policies, strategies, laws and service standards being implemented in different countries. It also contains key international documents and information. WHO (10/12/13)

**Rebuilding shattered health system an urgent priority in next phase of Typhoon Haiyan response**
One month after Typhoon Haiyan hit the Philippines, WHO identifies as top priorities expanding essential health services, reviving clinics and hospitals, preventing disease and scaling up mental health services as the relief effort shifts from emergency to early recovery programmes. WHO (6/12/13)

**Nelson Mandela, Champion of Sustainable Development, Dies at 95**
On his 89th birthday, Mandela brought together a group of renowned statesmen, human rights advocates and others to form an organization known as “The Elders”, which have since tackled, among other issues, environmental degradation and climate change. UNEP (6/12/13)
November: Health Consequences of Exposure to E-Waste: a systematic review. 
Link to The Lancet Global Health to read the article

JOURNAL ARTICLES

Air Pollution

Childhood Cancer and Traffic-Related Air Pollution Exposure in Pregnancy and Early Life
As the literature on traffic-related air pollution and childhood cancers is inconclusive the authors sought to examine associations between childhood cancers and traffic-related pollution exposure. With unconditional logistic regression, a per interquartile range increase in exposure to traffic-related pollution during the first trimester was associated with acute lymphoblastic leukemia (ALL); germ cell tumors, particularly teratomas; and retinoblastoma, particularly bilateral retinoblastoma. Retinoblastoma was also associated with average PM$_{2.5}$ concentrations during pregnancy, and ALL and teratomas were associated with traffic density near the child’s residence at birth. The authors estimated weak associations between early exposure to traffic pollution and several childhood cancers. They concluded that because this is the first study to report on traffic pollution in relation to retinoblastoma or germ cell tumors, and both cancers are rare, the findings require replication in other studies. Environmental Health Perspectives

Chemicals

Insulin Resistance and Environmental Pollutants: Experimental Evidence and Future Perspectives
The metabolic disruptor hypothesis postulates that environmental pollutants may be risk factors for metabolic diseases. Because insulin resistance is involved in most metabolic diseases and current health care prevention

In the Media

We need regulation to remove chemicals from the supply chain
Evidence suggests some everyday household chemicals are toxic, but without new regulations, manufacturers won’t care. And we have learned too late that many of these chemicals are in our bodies and may be making people sick. The Guardian Opinion (21/12/13)

Smokers' homes 'like traffic smog'
Very young children of smokers are being exposed to high levels of nicotine intake and air pollution comparable with major industrial smog in cities like Beijing, a study by an anti-smoking charity has found. Press Association (19/12/13)

Bee pesticides may 'harm developing brains of unborn babies'
Controversial pesticides linked to declines in bee populations may harm the developing brains of unborn babies, experts at the European Food Safety Authority ruled. They want maximum exposure limits to the chemicals cut while more research is carried out. The Guardian (18/12/13)

Antibacterial soaps aren't more effective and may be dangerous, says US FDA
Antibacterial soaps and washes are no more effective than regular soap and water and may even pose a threat to human health, the US drug regulator has warned. The Age (17/12/13)

California to Add Diisononyl Phthalate To Proposition 65 List of Carcinogens
A California scientific advisory panel has cleared the way for the state's Office of Environmental Health Hazard Assessment to add a common plasticizer, diisononyl phthalate, to the list of carcinogens the agency maintains under Proposition 65, the
programs predominantly target insulin resistance or risk factors thereof, a critical analysis of the role of pollutants in insulin resistance might be important for future management of metabolic diseases. The authors aimed to critically review the available information linking pollutant exposure to insulin resistance and to open the discussion on future perspectives for metabolic disruptor identification and prioritization strategies. Environmental Health Perspectives

Health consequences of exposure to e-waste: a systematic review
The population exposed to potentially hazardous substances through inappropriate and unsafe management practices related to disposal and recycling of end-of-life electrical and electronic equipment, collectively known as e-waste, is increasing. The authors aimed to summarise the evidence for the association between such exposures and adverse health outcomes. They recorded plausible outcomes associated with exposure to e-waste including change in thyroid function, changes in cellular expression and function, adverse neonatal outcomes, changes in temperament and behaviour, and decreased lung function. Findings from most studies showed increases in spontaneous abortions, stillbirths, and premature births, and reduced birthweights and birth lengths associated with exposure to e-waste. The Lancet Global Health

Water and Sanitation
Evaluation of exposure to contaminated drinking water and specific birth defects and childhood cancers at Marine Corps Base Camp Lejeune, North Carolina: a case–control study
Drinking water supplies at Marine Corps Base Camp Lejeune were contaminated with trichloroethylene, tetrachloroethylene, benzene, vinyl chloride and trans-1,2-dichloroethylene during 1968 through 1985. The authors conducted a case control study to determine if Safe Drinking Water and Toxic Enforcement Act of 1986. Bloomberg BNA (16/12/13)

Assessing Alternatives To Toxic Chemicals
Eliminating a toxic substance from a product’s ingredients seems like a straightforward way to improve product safety. But when a toxic chemical gets removed from a product, some other substance—or substances—goes in as a replacement. Chemical and Engineering News (16/12/13)

Grim forecast for e-waste as technology trash to top 65m tons by 2017
The soaring international demand for electric and electronic products is fuelling a global rise in e-waste, which is set to reach 65.4 million tons annually by 2017. The grim forecast is from a new study, which has mapped more than 180 countries. The Independent (15/12/13)

China’s coal emissions responsible for ‘quarter of a million premature deaths’
Emissions from coal plants in China were responsible for a quarter of a million premature deaths in 2011 and are damaging the health of hundreds of thousands of Chinese children, according to a new study. The Guardian (12/12/13)

Early life exposure to diesel exhaust linked to heart failure in mice
Exposure to diesel exhaust in the womb or as a newborn may raise the risk of heart failure in adulthood, according to a new study of mice. Environmental Health News (11/12/13)

BPA is still everywhere, and mounting evidence suggests harmful effects
These days the baby aisle shelves are lined with products proudly announcing: “BPA-free.” But the chemical is found in many other
children born during 1968 and 1985 to mothers with residential exposure to contaminated drinking water at Camp Lejeune during pregnancy were more likely to have childhood hematopoietic cancers, neural tube defects (NTDs), or oral clefts. For cancers, exposures during the first year of life were also evaluated. They concluded that although confidence intervals were wide, odds ratios (ORs) suggested associations between drinking water contaminants and NTDs. ORs suggested weaker associations with childhood hematopoietic cancers.

*Environmental Health*

**Returning knowledge to the community: an innovative approach to sharing knowledge about drinking water practices in a peri-urban community**

During previous research into drinking water quality in Peru, it was found that water was becoming contaminated in households, and there was a lack of understanding surrounding this contamination. It was felt that returning these findings to the community could build capacity, enabling people to make more informed choices about drinking water practices. Several participatory methods were explored. Thirty-five participants explored their understanding of drinking water and factors that caused contamination. In the process the researcher also gained a better understanding of local knowledge and perceptions. They concluded that this type of knowledge exchange has important implications for future implementation of new water technologies and engineering projects.

*Journal of Water, Sanitation and Hygiene for Development*

**Reproductive Health**

**Disruption of Aryl Hydrocarbon Receptor Homeostatic Levels during Embryonic Stem Cell Differentiation Alters Expression of Homeobox common items: medical devices, dental sealants and compact discs, and even paper receipts. In short, it's pretty hard to avoid the chemical. The Washington Post (10/12/13)**

**Perfluorinated chemicals studied in breast milk, menopausal women.**

Two new studies of perfluorinated compounds in women raise concerns. In the first, the longer the women nursed their babies, the higher the levels of certain compounds in their babies’ blood. In the second, higher levels in women were associated with early menopause.

*Environmental Health News (10/12/13)*

**Bolstering a Link Between Alzheimer's Disease and Lead Exposure**

Researchers striving to understand the origins of dementia are building the case against a possible culprit: lead exposure early in life. Science News (9/12/13)

**Shanghai Tells Children to Stay Inside for 7th Smoggy Day**

Shanghai warned children and the elderly to stay indoors for at least a seventh day this month, intensifying pressure on local authorities to control the worst smog since government monitoring began last year.

*Bloomberg News (9/12/13)*

**Equivalent of 20 classrooms-full of children take up smoking every day in UK, according to research**

207,000 children start smoking in the UK every year – or nearly 600 per day, according to a paper, published in the British Medical Journal. The Independent (6/12/13)

**Unregulated contaminants common in drinking water**

Traces of 18 unregulated chemicals were found in drinking water from more than one-third of U.S. water utilities in a nationwide sampling, according to new, unpublished
Transcription Factors that Control Cardiomyogenesis

The aryl hydrocarbon receptor (AHR) is a ligand-activated transcription factor that regulates the expression of xenobiotic detoxification genes and is a critical mediator of gene–environment interactions. Many AHR target genes identified by genome-wide gene expression profiling have morphogenetic functions, suggesting that AHR may play a role in embryonic development. The objective of this study was to characterize the developmental functions of the AHR. The authors studied the consequences of AHR activation by the agonist 2,3,7,8-tetrachlorodibenzo-p-dioxin, and the result of its repression by the antagonists 6,2,4-trimethoxyflavone and CH 223191 or by short-hairpin RNA-mediated Ahr knockdown during spontaneous differentiation of embryonic stem cells into cardiomyocytes. Disruption of AHR expression levels resulted in gene expression changes that perturbed cardiomyocyte differentiation. The authors concluded that the main function of the AHR during development appeared to be the coordination of a complex regulatory network responsible for attainment and maintenance of cardiovascular homeostasis.

Environmental Health Perspectives

UPCOMING EVENTS

31 March – 4 April 2014. El Salvador

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