Preventing disease and injury and promoting children’s well-being through healthier environments is fundamental to efforts undertaken by the World Health Organization Collaborating Centre Network for Children’s Environmental Health.

Children have a special vulnerability to physical, chemical, and biological environmental threats. According to the World Health Organization (WHO), environmental factors account for one-third of the global disease burden in children. Furthermore, in low- and middle-income countries, children disproportionately have the highest environment-related death rates. In fact, the infant death rate from environmental causes is 12 times higher in low-income countries than in high-income countries. These statistics highlight the need to strengthen global capacity for children’s environmental health research and training to protect children's health around the world. (Taken directly from the website)

Press Releases

World Malaria Day: call to close gaps in prevention and treatment to defeat malaria
WHO is calling on the global health community to urgently address significant gaps in the prevention, diagnosis and treatment of malaria. WHO (23/4/15)

Malaria kills 1,200 children a day
Ahead of World Malaria Day, UNICEF’s ‘Facts about Malaria and Children’ shows the extensive impact of the disease on children and on pregnant women around the world. UNICEF (23/4/15)

Better Resource and Energy Efficiency ‘begins at home’
A new programme aims at improving the social, environmental and economic performance of buildings by promoting resource and energy efficiency, and a shift towards more sustainable consumption and production patterns in the building and construction sector. UNEP (21/4/15)

New fund aims to unlock $1 billion for children’s nutrition
The Power of Nutrition, a new independent fund, will save lives and help millions of children escape from the effects of malnutrition. It will help countries build healthy and prosperous communities. UNICEF (16/4/15)
Air Pollution

**Autism Spectrum Disorder and Particulate Matter**

**Air Pollution before, during, and after Pregnancy: A Nested Case-Control Analysis within the Nurses' Health Study II Cohort.**

Particulate matter, or PM, is a common, worldwide air pollutant, defined by the U.S. Environmental Protection Agency (EPA) as a mixture of very small particles or liquid droplets, including acids, organic chemicals, metals, soil, or dust. This study aimed to more closely examine the relationship between PM$_{2.5}$ and PM$_{2.5-10}$ air pollution and the odds of having a child with autism spectrum disorder (ASD). The authors specifically explored the association during defined time periods before, during, and after pregnancy. They concluded that there is a significant association of maternal exposure to PM$_{2.5}$ during pregnancy (especially during the third trimester) and having a child with ASD. This suggests that air pollution is a modifiable risk factor for autism, and reduced exposure during pregnancy could lead to lower incidence of ASD.

**Children's Environmental Health Network (CEHN) - Article of the Month, April 2015 Issue. What is CEHN?**

**Prenatal Air Pollution Exposure and Newborn Blood Pressure**

Air pollution exposure has been associated with increased blood pressure in adults. The authors examined associations of antenatal exposure to ambient air pollution with newborn systolic blood pressure (SBP). They concluded that exposures to PM$_{2.5}$ and black carbon in late pregnancy were positively associated with newborn SBP, whereas O$_3$ was negatively associated with SBP.

**Environmental Health Perspectives**

**A Longitudinal Cohort Study of Body Mass Index and Childhood Exposure to Secondhand Tobacco Smoke and Air Pollution: The Southern California Children's Health Study**

Childhood body mass index (BMI) and obesity

School enrolment rates up but 21 million children in the Middle East & North Africa risk missing out on an education

Despite impressive progress in raising school enrolment over the past decade, one in every four children and young adolescents (more than 21 million) in the Middle East and North Africa (MENA) are either out of school or at risk of dropping out. UNICEF (15/4/15)

**WHO calls for increased transparency in medical research**

WHO issued a public statement calling for the disclosure of results from clinical trials for medical products, whatever the result. The move aims to ensure that decisions related to the safety and efficacy of vaccines, drugs and medical devices for use by populations are supported by the best available evidence. WHO (14/4/15)

**Survey shows sharp drop in childhood stunting in Tanzania**

The results of a National Nutrition Survey released in Tanzania show that between 2010 and 2014, chronic malnutrition – stunting, or low height for age – among children under five in the country fell from 42 per cent to 35 per cent. UNICEF (10/4/15)

**Biodiversity Damage Mapped by Global Land-Use Study**

The study concluded that, if human impacts continue to grow as they have been, future losses in biodiversity will be concentrated in biodiverse but economically poor countries. UNEP (2/4/15)

**World Health Day 2015: From farm to plate, make food safe**

New data on the harm caused by foodborne illnesses underscore the global threats posed by unsafe foods, and the need for coordinated, cross-border action across the entire food supply chain. World Health Day was celebrated on 7 April, with WHO highlighting the challenges and opportunities associated with food safety under
prevalence have been associated with exposure to secondhand smoke (SHS), maternal smoking during pregnancy, and vehicular air pollution. There has been little previous study of joint BMI effects of air pollution and tobacco smoke exposure. The authors collected information on exposure to SHS and maternal smoking during pregnancy. Residential near-roadway pollution exposure (NRP) was estimated based on a line source dispersion model accounting for traffic volume, proximity, and meteorology. The findings strengthen emerging evidence that exposure to tobacco smoke and NRP contribute to development of childhood obesity and suggest that combined exposures may have synergistic effects.

*Environmental Health Perspectives*

### Chemicals

**Preliminary analysis of in Utero low-level arsenic exposure and fetal growth using biometric measurements extracted from fetal ultrasound reports**

Early life exposure to arsenic is associated with decreased birth weight in highly exposed populations but little is known about effects of low-level arsenic exposure on growth in utero. This study demonstrates that useful data can be extracted directly from electronic medical records for epidemiologic research. The authors also found evidence that exposure to low-level arsenic may be associated with reduced head circumference in a sex dependent manner that warrants further investigation.

*Environmental Health*

### Reproductive Health

**Environmental, Dietary, Maternal, and Fetal Predictors of Bulky DNA Adducts in Cord Blood: A European Mother–Child Study (NewGeneris)**

Bulky DNA adducts reflect genotoxic exposures, have been associated with lower birth weight, and may predict cancer risk. The authors

the slogan “From farm to plate, make food safe.”

WHO (2/4/15)

### In the Media

**Pope Francis forces the issue on climate change**

High-profile climate researchers, U.N. Secretary-General Ban Ki-moon, and church officials will gather at the Vatican for a conference on climate change. It’s Pope Francis’s latest effort to raise the profile of the issue among churchgoers, and it’s sure to make some Catholics hot under the collar. Grist (24/4/15)

**What Do We Really Know About Roundup Weed Killer?**

An international agency declared glyphosate, the primary ingredient in the popular product Roundup, a “probable human carcinogen.” The weed killer also has made recent headlines for its widespread use on genetically modified seeds and research that links it to antibiotics resistance and hormone disruption. National Geographic News (23/4/15)

**Water authority concedes north-east Tasmania’s water supply may have been contaminated for years**

Tasmania’s water authority has conceded that communities across the north-east could have unknowingly been exposed to unsafe levels of lead in drinking water for years before they were warned. Australia ABC News (23/4/15)

**E-cigarettes are smoke of choice for US schoolchildren**

In US schools, vaping rules. In 2014, for the first time, electronic cigarettes roared past conventional cigarettes as the smoke of choice for US teenagers. New Scientist (22/4/15)

**Amazonian tribe study shows how human bodily bacteria is changing**

Everyone’s body is brimming with bacteria, and these microbes do plenty of good things like building the immune system and helping
selected factors known or hypothesized to affect in utero adduct formation and repair and examined their associations with adduct levels in neonates. Their findings suggest that a combination of factors, including unknown country-specific factors, influence the bulky DNA adduct levels in neonates.

*Environmental Health Perspectives*

**Inequities in postnatal care in low- and middle-income countries: a systematic review and meta-analysis**

The objective of this research was to assess the socioeconomic, geographical and demographic inequities in the use of postnatal health-care services in low- and middle-income countries. After summarizing the relevant studies qualitatively and performing meta-analyses of the use of postnatal care services the authors concluded that In low- and middle-income countries, use of postnatal care services remains highly inequitable and varies markedly with socioeconomic status and between urban and rural residents.

*Bulletin of the World Health Organization*

**Association between breastfeeding and intelligence, educational attainment, and income at 30 years of age: a prospective birth cohort study from Brazil**

Breastfeeding has clear short-term benefits, but its long-term consequences on human capital are yet to be established. We aimed to assess whether breastfeeding duration was associated with intelligence quotient (IQ), years of schooling, and income at the age of 30 years, in a setting where no strong social patterning of breastfeeding exists. The authors commented that breastfeeding is associated with improved performance in intelligence tests 30 years later, and might have an important effect in real life, by increasing educational attainment and income in adulthood.

*The Lancet Global Heath*

digestion. But modern diets, antibiotics and hygiene seem to be reducing the range of microbes occupying our anatomy. Reuters (17/4/15)

**From Santiago to Bangkok, cleaner air brings healthier cities**

Often, environmental challenges seem too intractable and too big to even approach, but when it comes to pollution, there is good reason to stay positive. Santiago, Chile and Bangkok, Thailand serve as proof that action to curb pollution returns health and economic benefits directly to the local population. Global Citizen (16/4/15)

**Toilets: A Simple and Surprising Way to Advance Equality for Girls and Women**

Getting a toilet into every home could be one of the best ways to promote equality for girls and women. Huffington Post (14/4/15)

**Clearing the Air in Paris**

Recent air pollution spikes have turned Paris, the City of Light, into a city of smog, shrouding the Eiffel Tower in a dark haze. New York Times (13/4/15)

**Is climate change really killing us? A doctor’s diagnosis**

We can argue till we’re blue in the face over whether it’s due to the excesses of human behavior or just a normal tick in the natural planetary cycle, but we can’t deny the evidence that the earth is getting warmer. Fox News (9/4/15)

**Our Chemical Lives**

Thousands of chemicals are used in everyday products – in our water, our food and in the air we breathe. It’s the chemical soup of modern life and it’s virtually impossible to escape them. Catalyst, Australia ABC News (9/4/15)
Global Change

Health in the sustainable development goals: ready for a paradigm shift?
The international community is presently developing a set of Sustainable Development Goals as the successor framework to the Millennium Development Goals (MDGs). This review examines the evidence base for the current health-related proposals in relation to disease burden and the technical and political feasibility of interventions to achieve the targets.

In contrast to the MDGs, the proposed health agenda aspires to be universally applicable to all countries and is appropriately broad in encompassing both communicable and non-communicable diseases as well as emerging burdens from, among other things, road traffic accidents and pollution. The authors argue that success in realizing the agenda requires a paradigm shift in the way global health is addressed.

Globalization and Health

E Waste

With the usage of electrical and electronic equipment on the rise, the amount of electrical and electronic waste (e-waste) produced each day is equally growing enormously around the globe.

Link to WHO for information and additional links

Global e-waste mountain costing economy $52bn a year
Research by the UN University revealed 41.8 million tonnes of “e-waste” was jettisoned last year, with around 60 per cent made up of fridges, washing machines, and other domestic appliances. Business Green UK, (20/4/15) – (try free trail or subscribe to read this article)

Smokeless Tobacco Leaves Traces Of Carcinogens In Household Dust
Secondhand exposure to tobacco may be possible even when no cigarette smoke is involved, according to a new study. Chemical & Engineering News (3/4/15)

Measures against pollution
The new heavy air pollution emergency response program introduced by the Beijing authorities will more effectively help curb the smog that plagues the capital. China Daily (2/4/15)

Air pollution may cause more UK deaths than previously thought, say scientists
Current figures of almost 30,000 UK deaths a year from air pollution do not factor in lethal nitrogen dioxide from diesel engines and wood, oil and coal burning, say experts. The Guardian (2/4/15)

Air pollution may be damaging children’s brains – before they are even born
Exposure to air pollutants during pregnancy may contribute to childhood abnormalities in the brain, a new study suggests. The Conversation UK (2/4/15)

The Most Deadly Environmental Problem in the World Today (Is Not Climate Change)
According to the World Health Organization’s latest report air pollution is now the world’s largest single environmental health risk, and the main cause is entirely preventable. Epoch Times (1/4/15)

New Tool for EDC Research: In Vivo Assay Screens for Estrogenic Effects
With more than 84,000 chemicals currently listed in the Toxic Substances Control Act inventory and many of them lacking significant toxicologic data, it’s no easy task to pick out potential endocrine-disrupting compounds. Environmental Health Perspectives (1/4/15)
New Publications

**Toxins on the Developing Brain**

This was the lead story in the December 2014 newsletter. The YouTube video is now also available in Spanish.

[Link to the Spanish version on YouTube](#)

[Link to WHO to download the December 2014 newsletter](#)

**Toolkit to develop a National Strategic Plan for TB prevention, care and control**

This toolkit provides a clear methodology to translate the End TB strategy into sound, and visionary National Strategic Plans. The NSP is the most important strategic document guiding national health authorities in managing and implementing appropriate TB control activities.

[Link to WHO for more information and to download the publication](#)

**Investing to overcome the global impact of neglected tropical diseases - Third WHO report on neglected tropical diseases**

The presence, or absence, of neglected tropical diseases (NTDs) can be seen as a proxy for poverty and for the success of interventions aimed at reducing poverty.

[Link to WHO for more information and to download the publication](#)

Mom, please don’t smoke before I’m born

A new study shows ultrasound pictures of nonsmokers’ fetuses looking peaceful, while the smokers’ fetuses look much more distraught, clawing at their faces and grimacing. [Washington Post](#) (1/4/15)

**UPCOMING EVENTS**

**Health Effects Institute 2015 Annual Conference**

3-5 May 2015. Philadelphia, PA

**International Conference on Public Health**


Online training course [Impact of Environmental Pollutants on Reproductive Health](#), from 1 June 2015 to 27 August 2015. The deadline for applications is 31 March 2015

**2015 Conference: Improving Health and Health Services Through Research**

25-27 June 2015. St Hugh's College, Oxford,

**16th International Conference of the Pacific Basin Consortium for Environment and Health.**

10-13 August 2015. City of Depok, West Java.

**Environmental Impact 2016**

8-10 June 2016. Valencia, Spain.

Links to past issues and how to subscribe

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

Collated and distributed with the cooperation of the [Children's Health and the Environment Program, QCMRI, Brisbane, Australia](#)