Recent Global Environmental Change and Children’s Health

International Symposium of JECS
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Function: act as the UN directing and coordinating authority on international health work

Objective: "the attainment by all peoples of the highest possible level of health"

Definition: "HEALTH is a state of COMPLETE physical, mental and social well-being and not merely the ABSENCE of disease or infirmity" (Constitution, 1948)
**1948**

WHO took over the responsibility for the International Classification of Diseases, a system that dates back to the 18th century and was first known as the International List of Causes of Death. This list was used to classify diseases and other health problems and then became the foundation and standard used for clinical and epidemiological purposes.

**1952**

African Regional Office in Nairobi, Kenya.

**1952**–1964

Global polio eradication program.

**1952–1954**

The World Health Assembly adopts a resolution to create the Expanded Programme on Immunization to bring basic vaccines to all the world’s children.

**1974**

The Expanded Programme on Immunization (EPI) is launched.

**1977**

The first International Conference on Primary Health Care in Alma-Ata, Kazakhstan.

**1978**

International Jurisdiction on Primary Health Care, known as the Alma-Ata Declaration.

**1979**

Evaluated the use of vaccines for the control of communicable diseases.

**1983**

Malaria and other parasitic diseases.

**1988**

Global Polio Eradication Initiative established.

**1990**

Malaria and other parasitic diseases.

**2003**

WHO Framework Convention on Tobacco Control comes into force.

**2005**

World Health Assembly raises the International Health Regulations.

**2008**

Adoption of the Global Strategy on AIDS, Malaria and Other Related Diseases.

**2008**

Tuberculosis and other related diseases.

**2009**

World Health Assembly 62nd session.

**2010**

World Health Assembly 63rd session.

**2014**

World Health Assembly 67th session.

**2016**

World Health Assembly 69th session.

**2018**

World Health Assembly 71st session.

**2020**


**2021**

COVID-19 vaccine distribution.

**2022**

COVID-19 vaccination campaign.

**2023**

COVID-19 vaccine distribution and vaccination campaigns.

**2024**

COVID-19 vaccination campaigns and global health security.

**2025**

COVID-19 vaccine distribution and vaccination campaigns.

**2026**

COVID-19 vaccination campaigns and global health security.

**2027**

COVID-19 vaccine distribution and vaccination campaigns.

**2028**

COVID-19 vaccine distribution and vaccination campaigns.

**2029**

COVID-19 vaccine distribution and vaccination campaigns.

**2030**

COVID-19 vaccine distribution and vaccination campaigns.

**2031**

COVID-19 vaccine distribution and vaccination campaigns.

**2032**

COVID-19 vaccine distribution and vaccination campaigns.

**2033**

COVID-19 vaccine distribution and vaccination campaigns.

**2034**

COVID-19 vaccine distribution and vaccination campaigns.

**2035**

COVID-19 vaccine distribution and vaccination campaigns.

**2036**

COVID-19 vaccine distribution and vaccination campaigns.

**2037**

COVID-19 vaccine distribution and vaccination campaigns.

**2038**

COVID-19 vaccine distribution and vaccination campaigns.

**2039**

COVID-19 vaccine distribution and vaccination campaigns.

**2040**

COVID-19 vaccine distribution and vaccination campaigns.
Environmental impacts on health
Environmental burden of diseases

- Environmental factors cause more than 25% of the global burden of disease and significantly contribute to the burden of communicable and non-communicable diseases and injuries.

- Every year about 3.000.000 children under 5 die due to diseases linked to the environment.
The environmental burden of disease: highest in the poorest countries
Main Global Environmental Health Risks

- Poor hygiene and sanitation
- Household water insecurity
- Disease vectors
- Chemical hazards
- Injuries and accidents
- Air pollution – indoor and outdoor
  - Estimated in 2012 that 7 million people died (1 in 8 global deaths) as a result of air pollution exposure
New, "re-emerging" or rapidly increasing potential threats to children's health

- Global climate change
- Ozone depletion
- Persistent organic pollutants
- Obesity
- Electrical and electronic waste
- Endocrine disruption
Air pollution and health
Health impacts of the air pollution

- **Outdoor air pollution** → 3.7 million deaths/yr – mostly from urban exposures
- **Indoor air pollution** → 4.3 million deaths/yr – mostly from inefficient biomass and coal cook stoves
- **Polluted air, unsustainable transport systems, poor diet** are major contributors to non-communicable disease.

*(Lim S et al, Lancet, 2012)*
Chemicals and health
The Tip of the Iceberg

“In the 35 years since [the US Toxic Substances Control Act] was passed, we have only been able to require testing on approximately 200 of the 84,000 chemicals listed on the TSCA Inventory. The EPA has also relied on voluntary programs to collect data, including through the High Production Volume (HPV) Challenge Program, which resulted in the submittal of screening level data for 1,366 HPV chemicals.”

Testimony of James J. Jones, Acting Assistant Administrator, Office of Chemical Safety and Pollution Prevention, U.S. EPA before the United States Senate, July 24, 2012
When prevention fails, one of our key roles is providing assistance and guidance in responding to environmental emergencies around the world, drawing upon all our headquarters and regional resources.

- Hungary - toxic sludge & mud, 2010
- Nigeria - mass lead poisoning, 2010
- Haiti earthquake - sanitation & water, 2010
- Angola - mass bromide poisoning, 2007
- Japan - Fukushima nuclear accident, 2011
- Russia wildfires - toxic air, 2010
Children’s Environmental Health
What is different from adults?

1. Different and unique exposures
2. Dynamic developmental physiology
3. Longer life expectancy
4. Politically powerless

WHO
Critical role of health and environment professionals

- Diagnose and treat
- Publish, research
  - Sentinel cases
  - Community-based interventions
- Educate
  - Patients and families
  - Colleagues and students
- Advocate
- Provide good role model

WHO
Children’s cohort studies

- Practical way to know the actual environmental exposure
- Might answer the questions of the “cause-effect relationships” between environmental chemicals and children’s diseases
- Collected bio samples are treasures of the world
But there are challenges ... 

- Time consuming
- Costs very high
- Parents might get tired and bored
- Staffs might get tired and bored
However,

1. The data of JECS is from 100,000 children and their parents. The data will be very powerful.
2. The results will help global health communities to understand more precisely the impacts on children of their surrounding environment.
3. The outcomes will help administrators to develop countermeasures to protect children.

4. To be able to prevent possible adverse health effects if we learn what the causes are.
Hopefully,...

- All the participated children and their parents will complete their missions.
- The children will be followed after 13 years old, until they become adult to see the effects at later years.
Your efforts will save the future children of the world

- The results of JECS will help WHO to take actions to protect future children
- Your efforts will save not only Japanese future children, but also the children worldwide