

Final Report of Workshop on Children's Health and the Environment

International Pediatric Association (IPA) /
United Nations Environment Programme (UNEP) / World Health Organization (WHO)

Workshop on Children's Health and the Environment

Nairobi, Kenya

October 12-14, 2005

The International Pediatric Association (IPA), the United Nations Environment Programme (UNEP) and the World Health Organization (WHO) organized a Workshop on Children's Health and the Environment in Nairobi, Kenya on October 12-14, 2005 with support from a grant from the U.S. Environmental Protection Agency (EPA). The workshop was held at UNEP headquarters in Gigiri, on the outskirts of Nairobi, and simultaneous French-English translation was provided throughout the three days. This workshop provided an opportunity to test the WHO training materials for Health Care Providers (HCP) with a group of African participants. The workshop focused on pediatric diseases linked to environmental contaminants, using actual pediatric cases to illustrate the problems and solutions. The main challenges and controversies in the field of environmental pediatrics were presented, including time to discuss prevention strategies.

This workshop builds upon the recommendations of the Bangkok Statement (March 2002) that urged WHO to promote the recognition, assessment and study of environmental factors that have an impact on the health and development of children. More specifically, to incorporate children's environmental health into the training of health care providers and to promote the use of the pediatric environmental history. The agenda of the workshop is under Appendix I.

The workshop was designed to enable participants to achieve the following learning objectives:

Identify risks to children from environmental tobacco smoke, chemicals (e.g. lead, mercury, pesticides, persistent organic pollutants), air, water and food contaminants, emerging issues (e.g. endocrine disruptors, climate change), household and industrial products, and other environmental hazards.

Describe how to recognize, diagnose, prevent and manage adverse effects linked to these environmental risk factors.

Describe why children may be at increased risk of adverse health outcomes and developmental consequence from environmental exposures to chemical, physical and biological agents.

Describe when and how the fetus, the child and the adolescent may be exposed to environmental hazards in different rural and urban settings.

Discuss a wide spectrum of exposures including exposures to men and women prior to conception and exposures because of particular cultural practices and diets, poverty, malnutrition, conflict or child labor.

Practice becoming leaders in environmental health education and prevention in the community.

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At the beginning of the workshop, Drs. Fred Were and Ruth Etzel welcomed participants on behalf of the Kenya Pediatric Association and the IPA Committee on Environmental Health, respectively. Dr. Cherif Rahimy, President of the Union of National African Pediatric Societies and Associations (UNAPSA), explained the background of the IPA activities on children's health and the environment and gave an overview of other ongoing IPA initiatives. Dr. Klaus Töpfer, Executive Director of UNEP, welcomed the participants on behalf of UNEP, and described the importance of having health care providers work together with environmental program staff. Dr. Töpfer expressed the strong support of UNEP for the topic of the workshop, children's health and the environment, and offered UNEP's support and collaboration in the upcoming initiatives in this field. Mr. Wilfred Ndegwa, WHO Representative in Kenya, welcomed the participants on behalf of WHO, and Mr. Alfred K. Lang'at graciously welcomed them on behalf of the Kenya Ministry of Health.

An introduction of all participants followed. Participants were a group of 67 medical professionals, nurses, and environmental and public health officials from 21 African countries. Some of the participants represented national or international pediatric organizations or governmental or intergovernmental bodies (such as WHO, UNEP, CARE, CDC and others). The list of participants is attached.

The presentations were based upon the use of slides prepared by the WHO Working Group on the "Training Package for Health Care Providers". These PowerPoint presentations were prepared by an international expert group and went through an intensive peer review led by Dr. Kathy Shea (USA) and Dr. Jenny Pronczuk, with the assistance of Marie-Noël Bruné-Drisse (WHO Geneva).

The first presentation was given by Mr. Pierre Quiblier (UNEP) on the UNEP-WHO joint approach on health and environment linkages. Dr. Jenny Pronczuk (WHO) followed with a presentation describing why children are uniquely vulnerable to environmental contaminants and explaining that children are not little adults. Next, Dr. Rosina Kyeremateng (WHO) presented a talk on the critical role of sanitation and hygiene. Using the WHO materials, Dr. Kyeremateng stressed the enormous importance of sanitation for children and their health. The excellent presentations were followed by a very intensive discussion with the participants.

The next two presentations were case studies. Dr. Fred Were (Kenya) presented a case study of aflatoxin poisoning in Kenya. In April 2004, an aflatoxin poisoning outbreak occurred in Kenya's Eastern and Central Provinces, resulting in 125 deaths. Dr. Were described steps that had been taken by the Kenya Ministry of Health to prevent future occurrences. Dr. Cherif Rahimy (Benin) gave a case presentation on aflatoxin poisoning in Benin, and raised some provocative questions that could be approached by pediatricians and others with research studies. Dr. Steve Nesbit (Kenya) used his own slides and gave an excellent overview on prevention of injuries.

During the next hour, participants broke into three small groups in separate rooms to present case studies from their home countries. Each participant was provided an opportunity to give a 5-10 minute talk concerning a case or a problem that he/she had encountered, and describing how it was handled and how it might have been prevented.

A panel of four pediatricians (Dr. Amha Mekasha, Dr. David Githanga, Dr. Raphael Oruamabo, and Dr. Yveline Houenou) presented a discussion of the effects of extreme social / conflict situations such as famines and wars on the health and well being of children. This was followed by a lively discussion.

On the second day, Dr. Irma Makalinao gave a very engaging talk on "Food Safety" using a variety of interesting examples from the Philippines. A long and intensive discussion followed her

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presentation, enriched with African examples of food safety problems.

Mr. James Mwitari presented his own material on "Indoor Air Pollution". He showed an enormous amount of epidemiologic data about the tremendous impact of indoor air pollution from biomass fuel on children's health in Africa. He stressed that this problem contributes to up to 2,000,000 deaths in the age 0-4 years due to acute respiratory illnesses worldwide.

Dr. Kimani and Rob de Jong gave a presentation on lead poisoning describing the successful work being done to remove lead from fuel in Africa and the outcome of a study of blood lead levels in Kenya, which compared rural and urban settings. Dr. Irma Makalinao followed with a discussion of pesticide poisoning, enriched with examples from her own experience in the Philippines. Dr. Yveline Houenou (Ivory Coast) spoke in French to the participants describing a case study of an ecosystem approach to human health. Following her presentation, Dr. David Githanga (Kenya) showed the WHO Training Module on water, and his talk was followed by a presentation from Mr. Sam Ombeki, Mr. John Migele, and Dr. Rob Quick (CDC) about their work on clean water in Kenya.

At the close of the day, participants again formed breakout groups to continue presentations of the case studies from their home countries.

On the third day, Ms. Maaïke Jansen (UNEP) gave a presentation on global climate change focusing on the particular vulnerability of Africa and the direct and indirect effects on child health and Ms. Fiona Gore (WHO) presented a talk about environmental health indicators and described their use by pilot programs in Africa. Mr. Franklin Okonji gave an African perspective on use of indicators. Dr. Jenny Pronczuk spoke briefly about persistent organic pollutants and emerging issues in environmental health and Dr. Takehiro Nakamura provided a perspective from UNEP. Dr. Pronczuk showed a video accompanied by rap music that prompted all the participants to start dancing to the rhythm.

A panel discussion followed about leadership. The panellists included Dr. Nanthalie Mugala, Dr. Irma Makalinao, Mr. James Mwitari, and Dr. Ruth Etzel. The panellists spoke about the fact that taking a stand on environmental health issues often takes courage and character, attributes of many strong leaders.

Mr. Paul Soake (Kenya) and Dr. Irma Makalinao spoke about the Strategic Approach to International Chemicals Management, using their own slides, and a good discussion ensued. Dr. Jenny Pronczuk briefly described the environmental health history and the use of the "green sheet" and encouraged the clinicians to begin using it in their daily practices. Dr. Ruth Etzel (IPA) encouraged the participants to begin working towards certification in environmental health. To be eligible for sit for the credentialing examination, the candidate pediatricians will be required to fulfill the following criteria:

1. Attend a training workshop in its totality and take the pre- and post-workshop individual evaluation.
2. Present a seminar about children's environmental health at their home hospital or university.
3. Record, file and analyze the pediatric environmental history forms from children with illnesses from environmental contaminants and record and report environmentally-related cases from their practices.

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4. Propose and discuss a community project on an environmental health problem. Both the seminar and the community project proposal will be initiated by the candidate in his/her country within the first 6 months after the workshop in order to share with others in the home institution the knowledge acquired and to begin community-oriented actions.
5. Present a second seminar after the community-oriented project has been implemented, in order to present and discuss the results with the community.

The first Pediatric Environmental Health credentialing examination will be on August 24, 2007 in Athens, Greece, immediately before the 25th International Congress of Pediatrics. It will consist of a 1-day oral and written examination. It was agreed that the IPA would consider offering the examination in Africa, which would enable more African pediatricians to become credentialed. The possibility of a follow-up meeting in Nairobi in late 2007 was proposed. Several of the nurses suggested that they be offered an opportunity for certification. This possibility will be investigated with the appropriate nursing societies.

The participants had a lively discussion of a draft Nairobi Statement (see Appendix II) and made many substantial suggestions that were incorporated. The final draft will be circulated by e-mail for ratification by the participants.

At the close of the workshop, all participants received a CD with the training modules for HCP. They were encouraged to promote the topic within their own organization and country, as well as to use the WHO training material and organize training sessions in their own countries. It was emphasized that each module contained far too many slides to be included in a single presentation. Speakers were encouraged to select only those slides most relevant to the audience and the purpose. Zambia is having a workshop in November 2005 and will use the HCP training modules. Other possible opportunities were mentioned, such as the 19th congress of UNAPSA (Union of National African Pediatric Societies and Associations) in December 2005.

All participants completed a post-workshop evaluation and received the American Academy of Pediatrics book *Pediatric Environmental Health* (2nd Edition), and the WHO Resource Manual on *Children's Health and the Environment: A Global Perspective. A Resource Manual for the Health Sector* (to be published in 2005). Each participant also received a certificate of attendance. A list containing contact details such as electronic mail addresses will be sent to all participants.

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Appendix I

International Pediatric Association / United Nations Environment Programme World Health Organization

Workshop on Children's Health and the Environment

Wednesday, October 12, 2005

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| 9:00 – 10:00 | Registration |
| 10:00 – 10:15 | Introductions (Dr. Fred Were / Dr. Ruth Etzel) |
| 10:15 – 10:30 | Welcome from President UNAPSA (Dr. Cherif Rahimy) |
| 10:30 – 10:40 | Welcome from UNEP Executive Director (Dr. Klaus Töpfer) |
| 10:40 – 10:50 | Welcome from WHO Kenya Country Office (Mr. Wilfred Ndegwa) |
| 10:50 – 11:00 | Welcome from Mr. Alfred K. Lang'at (Ministry of Health Kenya) |
| 11:00 – 11:15 | UNEP-WHO joint approach on health and environment linkages
(Mr. Pierre Quiblier) |
| 11:15 – 11:35 | Why are children uniquely vulnerable to environmental contaminants?
and Children are not little adults (Dr. Jenny Pronczuk) |
| 11:35 – 11:55 | Sanitation and Hygiene (Dr. Rosina Kyeremateng) |
| 11:55 – 12:00 | Break |
| 12:00 – 12:30 | Case study from Kenya: Aflatoxin poisoning (Dr. Fred Were) |
| 12:30 – 1:00 | Case study from Benin – Aflatoxin poisoning (Dr. Cherif Rahimy) |
| 1:00 – 3:00 | Lunch Break |

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- 3:00 – 3:30 Prevention of Injuries (Dr. S. Nesbit)
- 3:30 – 4:30 Break out: Participant Case Studies
- 4:30 – 5:30 Extreme social / conflict situations (panel discussion – Dr. Amha Mekasha, Dr. David Githanga, Dr. Raphael Oruamabo, Dr. Yveline Houenou)
- 5:30 – 5:45 Break
- 5:45 –6:00 Discussion

Thursday, October 13, 2005

- 10:00 – 10:45 Food safety (Dr. Irma Makalinao)
- 10:45 – 11:15 Indoor air pollution (Mr. James Mwitari)
- 11:10 – 11:45 Lead poisoning (Dr. Kimani & Rob de Jong)
- 11:45 – 12:00 Break
- 12:00 – 1:00 Pesticides (Dr. Irma Makalinao)
- 1:00 – 2:30 Lunch Break
- 2:30 – 3:00 Ecosystem Approach to Human Health (Dr. Yveline Houenou)
- 3:00 – 4:30 Water and Children (Dr. David Githanga, Mr. Sam Ombeki, Mr. John Migele, Dr. Rob Quick)
- 4:30 –4:45 Break
- 4:45 – 6:00 Breakout : Participant Case Studies

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Friday, October 14, 2005

- 10:00 – 10:45 Global Climate Change (Maaïke Jansen and Alex Alusa)
- 10:45 – 11:15 Children's Environmental Health Indicators (Fiona Gore and Franklin Okonji)
- 11:15 – 12:00 Persistent Organic Pollutants and Emerging Issues in Environmental Health (Dr. Jenny Pronczuk and Takehiro Nakamura)
- 11:45 – 12:00 Break
- 12:30 – 1:00 Leadership: What is it, how to develop it (Dr. Nanthalie Mugala, Dr. Irma Makalinao, Mr. James Mwitari, Dr. Ruth Etzel)
- 1:00 – 2:30 Lunch Break
- 2:30 – 3:00 Strategic Approach to International Chemicals Management (Paul Saoke and Dr. Irma Makalinao)
- 3:00 – 3:15 Environmental health history (Dr. Jenny Pronczuk)
- 3:15 – 3:45 Discussion of Draft Nairobi Statement
- 3:45 – 4:00 Certification in Environmental Health (Dr. Ruth Etzel)
- 4:00 Post-workshop evaluation

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Appendix II

Commitment to Protect Children's Health from Environmental Hazards

We, pediatricians of the Union of National African Pediatric Societies and Associations and other health care providers and environment and public health officials, have come together in Nairobi on 12-14 October, 2005 to commit ourselves to work jointly towards the protection of children's health from environmental threats.

WE RECOGNIZE

That most diseases in children are linked to environmental exposures. These include waterborne, foodborne and vector-borne diseases, respiratory diseases, infections, injuries, arsenicosis, and fluorosis and other diseases linked to chemical and physical threats;

That environmental hazards arise from both man-made and natural sources (e.g. natural toxins, fluoride, lead, mercury and arsenic), which can also cause serious harm to children;

That environmental exposure is increasing in many African countries. Unique adverse health effects can occur when the embryo and fetus, newborn, child and adolescent (collectively referred to as "children" in our context) are exposed to environmental hazards during early periods of special vulnerability;

That in African countries the environmental health problems affecting children are further worsened by poverty, illiteracy, HIV/AIDS and malnutrition. These environmental problems include: indoor air pollution, lack of access to safe water and sanitation, exposure to hazardous chemicals, accidents and injuries. As these countries industrialize, children are becoming exposed to toxicants commonly associated with the richer countries. The lack of regulations in the African countries adds to the problem;

That some toxicants are being dumped in the environment near the African continent, including plastics and outdated nuclear equipment;

That protecting the integrity of the life-sustaining systems of the earth is important to ensure children's health. Therefore, addressing global climate change must be included in efforts to promote children's health and environment;

That the health, environment, housing, water, energy and education sectors must take concerted action at all levels (local, national, global), together with other sectors, in serious efforts to enable African countries to assess the magnitude of the problem and establish culturally appropriate prevention strategies.

WE AFFIRM

That the pediatric societies at the country level should be empowered to work with the other stakeholders and the international agencies;

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That children are uniquely vulnerable to the effects of many chemical, biological and physical agents. Children should be protected from injury, poisoning and hazards in the environments where they are born, live, learn, play, and grow;

That all children should have the right to safe, clean and supportive environments that ensure their survival, growth, development, healthy life and well-being. The recognition of this right is especially important as the world moves towards the adoption of sustainable development practices;

That it is the responsibility of communities, assisted by local and national authorities and policymakers, national and international organizations, and professionals dealing with health, environment, water, energy and education issues to ensure that actions are initiated, developed and sustained in all countries to promote the recognition, assessment and mitigation of physical, chemical and biological hazards, and also of social hazards that threaten children's health and quality of life.

WE COMMIT OURSELVES

To use our knowledge and network to protect the children from all environmental hazards and reemphasize the need to provide children with knowledge about and access to safe water and air, adequate sanitation, safe food and appropriate shelter;

To advocate and take action in promotion of children's health and environment at all levels, including political, administrative and community levels;

To incorporate the pediatric environmental history taking into our practice;

To set an example by being more concerned about what we generate from our clinics;

To strengthen research in identifying problem areas in order to set priorities and allocate resources;

To disseminate more knowledge about the special vulnerability of children to our peers, colleagues, the community and policymakers;

To encourage industry, small scale manufacturers and agriculturists to ensure safe production, use and disposal of chemicals and other hazardous or potentially hazardous products;

To develop and/or strengthen partnerships among pediatric, nursing, environmental and education associations and urge the International Pediatric Association, the United Nations Environment Programme, the World Health Organization and other governmental, nongovernmental and other international organizations for the protection of children's environmental health;

To identify actions that need to happen immediately and to work together to make an action plan to bring those actions about;

And to be role models as practitioners in child health towards ensuring adequate disposal of hazardous products and act as advisors to our communities.

Nairobi, October 14, 2005