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## **CHILDREN'S HEALTH AND THE ENVIRONMENT**

Cover illustration by Ksenja Draškovič, 7 years old, Primary School Mladika, Ptuj, Slovenia.  
This school participates in the European Network of Health Promoting Schools, a joint project of the European Commission,  
the Council of Europe and the WHO Regional Office for Europe.

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## **Executive summary**

Children are more susceptible than adults to the effects of environmental health threats and therefore require special protection.

This document proposes specific actions to address the public health problems of injuries, environmental tobacco smoke, asthma and emerging threats. These actions would be implemented both individually and in partnership by Member States. These proposals are set out in the form of highlighted recommendations. It also recommends that international organizations, nongovernmental organizations and interested countries should set up an international platform to promote and monitor the implementation of decisions. An international mechanism is proposed to develop public health policies in areas of emerging concern, coordinate and promote the actions proposed, facilitate the sharing and exchange of information between Member States, and provide a forum for the advocacy of children's rights.



## **Background**

1. Children today live in an environment that is vastly different from that of a few generations ago. Economic development, increasing urbanization and industrialization, as well as the consequences of war in many European countries, have added to “traditional” environmental hazards, i.e. the problems associated with environmental pollution. In addition to the persistence of some traditional diseases of childhood, such as diarrhoea, malnutrition and infectious diseases, health effects associated with environmental causes such as asthma and lead poisoning, as well as mortality and morbidity due to injuries, are becoming increasingly prevalent.
2. Children require special protection because they are more vulnerable to the effects of environmental hazards. For example, they receive greater exposures per unit of body weight than adults, and they are more susceptible to their effects because of their immature and developing systems. The fetus has been found to be particularly vulnerable to the effects of chemical exposures. Children are also more likely to have accidents and be injured. In addition, because children have more years to live than most adults, they have more time to develop diseases with long latency periods such as cancer, more years of life to be lost and more suffering to be endured as a result of disability, impaired health or the loss of human functions such as the ability to procreate.
3. Many of these health threats to children arising from environmental exposures are to a large extent preventable, although there remain unanswered questions on the roles of the different exposures involved. In view of the very serious and long-term possible health consequences of these exposures, the lack of full scientific certainty should not serve to justify inaction. On the contrary, public policy should be based on the precautionary principle and seek to prevent childhood diseases by reducing exposures to environmental agents and by considering children’s characteristics and susceptibilities in legislation covering health and the environment.
4. This document presents a strategic plan to address environmental threats to the health of children in Europe. First, it discusses the international agreements that form the political basis for protecting children’s health. It then recommends that the European Environment and Health Committee (EEHC) should identify a mechanism to support, promote and coordinate implementation of the specific recommendations made in this document and encourage public health policies in areas of emerging concern, on the basis of the precautionary principle. Finally, it highlights three priority areas and recommends specific actions within them.

## **International action**

5. The protection of children from environmental health threats is based on international agreements designed to ensure that children grow up and live in an environment that is conducive to the highest attainable level of health.
6. In 1989, the United Nations Convention on the Rights of the Child laid down basic standards for the protection of children and proclaimed that they are entitled to special care and assistance. A year later, the World Summit for Children (WSC) adopted a Declaration on the Survival, Protection and Development of Children, in which the signatories agreed to work together on taking common measures to protect the environment, so that all children can enjoy a safer and healthier future.

7. In 1992, the United Nations Conference on Environment and Development (“the Earth Summit”) built on the achievements by adopting the latter’s health goals as the health goals for Agenda 21. The protection of children from the effects of a deteriorating environment was given prominence in several chapters of Agenda 21. Chapter 6, “Protecting and promoting human health”, emphasizes the need to pay special attention to protecting and educating vulnerable groups, particularly infants, young people, women, indigenous people and the poor. Agenda 21 urges governments to develop programmes to protect children from the effects of environmental and occupational toxic compounds.

8. The 1997 Declaration of the Environmental Leaders of the Eight on Children’s Environmental Health intensified their commitment to protecting children’s health from environmental hazards. The environment ministers of the G8 countries acknowledged the special vulnerabilities of children and committed their countries to taking action on several specific environmental health issues such as lead, microbiologically safe drinking-water, endocrine-disrupting chemicals, environmental tobacco smoke (ETS), and air quality. They called on financial institutions, WHO, the United Nations Environment Programme (UNEP) and other international bodies to continue ongoing activities and to pay further attention to children’s environmental health, in particular the economic and social dimensions of children’s health. In addition, they committed their countries to fulfilling and to promoting the Organisation for Economic Co-operation and Development (OECD) Declaration on Risk Reduction for Lead.

9. The Pan-European strategy to phase out leaded petrol (endorsed by the United Nations Economic Commission for Europe (UN/ECE) Fourth Ministerial Conference “Environment for Europe” in 1998) and the Declaration on the phase-out of added lead in petrol (signed by representatives of 32 Member States of UN/ECE at that conference) committed countries to phasing out the use of added lead in petrol for general use by road vehicles by 1 January 2005.

10. The policy for health for all in Europe in the twenty-first century (HEALTH21), adopted by European Member States of WHO in September 1998, emphasizes the importance of considering the environmental determinants of human health and recommends strategic activities to ensure a healthy start in life. Specific recommendations are made in areas such as air quality, drinking-water and wastewater, solid waste and radiation. Target 10 in that policy states that, by the year 2015, people in the European Region should live in a safer physical environment, with exposure to contaminants hazardous to health at levels not exceeding internationally agreed standards.

11. The Third European Ministerial Conference on Environment and Health, to be held in London in June 1999, offers a unique opportunity to make children’s protection from undesirable environmental exposures a priority for European countries. Countries can now take effective action to honour the international commitments made in previous conventions to ensuring that people enjoy the human right of growing up and living in a clean and safe environment.

12. The Declaration of the Environmental Leaders of the Eight on Children’s Environmental Health should serve as the framework for all European countries to follow, particularly the policy approaches that it lays down, which are described below.

- Preventing exposure is the most effective way of protecting children’s health from environmental threats. Governments should therefore develop policies that seek to prevent childhood diseases by preventing exposures to environmental agents, on the basis of the precautionary principle.

- National policies should take into account the specific exposure pathways and dose–response characteristics of children when conducting environmental risk assessment and setting protective standards.
- Research should be promoted in order to gain a better understanding of the particular exposure and sensitivities of infants and children to environmental hazards. Exchange of information on research results and the development of regulatory systems should also be promoted.
- Awareness of the environment and health should be promoted, so as to enable families to better protect their children’s health.

13. In addition, the 1998 UN/ECE Convention on access to information, public participation in decision-making and access to justice in environmental matters (the “Århus Convention”), recognizes the important role of nongovernmental organizations (NGOs) and the value of public awareness for environmental policy-making. This topic is also addressed by the document *Access to information, public participation and access to justice in environment and health matters*. In this context, it is important to acknowledge that children are not only consumers with rights, but also citizens who can play an active role in society for their own protection. In 1996, children were declared full citizens of the European Union.

14. To strengthen the role of the public in environmental health decision-making it will be necessary to ensure the availability of information on health and the environment, and access to it by citizens and citizens’ groups. The establishment or expansion of information networks or centres could achieve this, by facilitating access to scientific findings and information about preventive measures and public health initiatives, and improving the basis for citizen participation in the development of policies to protect children’s health from environmental threats. For instance, initiatives such as the International Network on Children’s Health Environment and Safety (INCHES)<sup>1</sup> could play an important role.

## **Environmental concerns for children’s health**

15. To address the environment and health concerns of children it is important to acknowledge the social and economic factors that act as major driving forces. Poverty is one of the main driving forces for unhealthy environmental conditions and a major determinant of health. The most severe environmental health problems affect countries and people who lack access to economic and other resources, and people who are affected by warfare or disasters. Those living in absolute poverty include a high proportion of children, women, refugees and other displaced persons. The environmental conditions of countries or regions where poverty is high, or which are suffering from the aftermath of war or civil unrest, require special attention. As long as poverty and economic inequity persist, the living conditions and environment and health status of millions of people will not improve.

16. There are a number of specific public health concerns that are highly relevant to European children. Some of these concerns, such as the increase in asthma and allergy rates and the continued decrease in the age at which people start to smoke, have been scientifically documented.

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<sup>1</sup> INCHES is an international network created with the goal of promoting the understanding of how environmental factors influence child health, promote and strengthen the interdisciplinary nature of children’s environmental health research, serve as a clearing house for exchange of research information, and facilitate information exchange on the best practices and policies in children’s environmental health.

In addition, there are a number of emerging health threats that have been the subject of attention in recent times by both policy-makers and the scientific community. These include the apparent increase in childhood cancers in some European countries, the association between birth defects and hazardous waste contamination of landfill sites, and the potential risks of endocrine-disrupting chemicals and genetically modified organisms.

#### **RECOMMENDATION A**

In order to maintain a strategic vision and address the environmental health threats to European children, the European Environment and Health Committee (EEHC) is recommended to identify a mechanism, such as an international platform, to support, promote and coordinate relevant international activities in the area of children's health. Such a mechanism should be developed in partnership with the WHO European Centre for Environment and Health, Member States of WHO's European Region, and international and nongovernmental organizations (NGOs). It should take the form of a network of partnerships among international organizations such as UNEP, the United Nations Children's Fund (UNICEF), the European Environment Agency (EEA), WHO and NGOs, in order to take into account the work already carried out by other international and regional bodies.

This platform should serve the double function of, on the one hand, maintaining a strategic approach by promoting and encouraging public health measures in areas of emerging concern, and, on the other, advocating measures to protect children's health in a variety of situations, including promoting and coordinating the recommendations and decisions summarized in this document.

17. Within this framework, the priority areas identified in this document and described below should constitute the initial focus of a Europe-wide initiative to protect children. EEHC should promote and monitor the implementation of decisions taken, coordinate activities proposed in the priority areas, and facilitate the exchange of information. In addition, EEHC should ensure coordination and collaboration between initiatives developed as a result of this document's recommendations and existing programmes such as WHO's Tobacco Free Initiative, Healthy Cities and Health Promoting Schools projects, and other relevant international initiatives.

18. To identify priority areas of concern for children in Europe and to develop an action plan to address them, EEA and WHO convened a workshop for a group of public health officials, children's advocates and public health scientists from 11 European countries, Canada and the United States. Participants examined the most important children's health concerns such as injuries, lead intoxication, childhood cancer, birth defects and childhood asthma, as well as the risks from ETS, water contamination and endocrine-disrupting chemicals. After a careful examination of the scientific evidence and the need for action in each of these areas, it was agreed to propose injuries, ETS and asthma as priority issues. In addition, it was recognized that emerging environmental threats to children's health deserve particular attention.

19. The need for action to prevent lead poisoning was carefully considered. Many national and international initiatives have addressed the need to reduce human exposure to lead. In this context, countries and international organizations should continue to keep the issue of lead poisoning high on the public health agenda. National and international efforts should be strengthened to address this major health threat and meet the goals of the G8 Declaration and the



Declaration on the phase-out of added lead in petrol. Because action is already being taken through existing programmes and agreements, however, no additional specific initiatives are proposed in this document.

20. The risks of water-related diseases to children were also assessed. Waterborne infectious diseases are the second largest category of communicable diseases contributing to infant mortality worldwide. WHO has estimated that in 1996, some 2.5 million people died of diarrhoea, most of whom were children under the age of five years. In addition, there are other water-related risks that are of special relevance to children, such as the risk of methaemoglobinaemia from nitrate contamination. It was recognized that waterborne diseases are being addressed by the development of a protocol on water and health, which will be signed at the Third Ministerial Conference on Environment and Health and which aims to prevent, control and reduce waterborne diseases in the whole population. To avoid overlapping and duplication, therefore, water-related risks to children's health have not been included in this document.

21. Other issues of high relevance to children, such as road traffic accidents and the potential health threats arising from climate change, are similarly addressed in other sections of the Conference.

## **Injuries**

22. Injuries, poisonings and violence (known collectively as external causes) are the leading cause of death in the European Region among children under 15 years, accounting for one third of deaths in this age group. The incidence of serious injuries is increasing in many European countries, especially those undergoing major political and social transitions.

23. The large variation in the burden of deaths from injuries across the European Region and the success of injury prevention in many European countries serve to underline the potential for prevention and the need for action. In 1996, average mortality from external causes among children aged 1–14 years was 4.5 times greater in the newly independent states than in the European Union, while in central and eastern Europe it was 2.4 times higher. If mortality rates were reduced to the average of the European Union, nearly 32 000 deaths (31% of all deaths at this age) in the age group 1–19 years would be prevented each year.

24. Considerable progress in reducing injuries has been made in western European countries by promoting political commitment, raising public awareness and involving civil society. To achieve the desired reduction in those European countries where injury rates are unacceptably high, a similar effort will be needed. Although injury prevention strategies have been developed, it is necessary to adapt them to specific risk situations and to evaluate their effectiveness in the context of each European country.

### **RECOMMENDATION B**

European Member States are recommended to:

- (a) conduct an assessment of the public health burden and circumstances associated with mortality and morbidity as a result of injuries;
- (b) take steps to raise public awareness of the magnitude of the problem of injuries and develop policy interventions to reduce the incidence of injuries in children;
- (c) collaborate with and support the international mechanism identified by EEHC to share information and experience in implementing policy interventions and public awareness campaigns, in order to assist one another in preventing this major cause of death and injury in European children.

### **Smoking and environmental tobacco smoke**

25. Tobacco use is a major source of indoor air pollution and a cause of ill health and premature death. Smoking tobacco is highly addictive and is the most important cause of premature death in developed countries. Ninety per cent of smokers begin smoking before 18 years of age. Smoking is on the increase among teenagers and young people in many European countries.

26. Exposure to ETS increases the risk of respiratory symptoms and lower respiratory tract illness in children, and it also increases the frequency and severity of asthma symptoms. There is evidence that parental smoking causes acute and chronic middle ear disease. Sudden infant death syndrome (SIDS) is associated with exposure to ETS. The majority of children's exposure to ETS takes place in the home.

27. Children are likely to start smoking if they grow up in an environment where tobacco advertising is widespread, where smoking rates among adults are high, where tobacco products are cheap and easily accessible, and where smoking is unrestricted in public places. Educational programmes serve a useful role in tobacco control. However, unless they are backed up by strong public policies which help young people refrain from using tobacco, such programmes have only modest results. Education programmes must therefore be placed in the overall context of strong and coherent tobacco control policies. The actions proposed here should be linked with the overall WHO programme on tobacco control, in order to ensure maximum effectiveness in the use of resources.

### **RECOMMENDATION C**

European Member States are recommended to:

- (a) take steps to ensure public awareness of the extremely addictive qualities of nicotine in tobacco, the severe public health impacts of tobacco use and the health consequences to children's health of smoking in the home; this should include promoting the education of parents, teachers, health professionals and all people who take care of children about the dangers of smoking and ETS for fetal development, and postnatally for the development of respiratory diseases and SIDS;
- (b) restrict smoking in public places and develop appropriate policies for the enforcement of such restrictions;
- (c) ban all forms of tobacco advertising to which children might be exposed;
- (d) evaluate the frequency of occurrence of children's exposure to ETS and to assess the efficacy of preventive measures.

28. These recommendations are linked to actions directed towards reducing tobacco use, particularly in young adults. European countries should therefore pursue the strategies set out below.

### **RECOMMENDATION D**

European Member States are recommended to:

- (a) develop and implement actions and enforcement measures to deter young people from starting to smoke, such as setting and enforcing age limits for purchasing tobacco products;
- (b) increase the price of tobacco (through taxation) and use the profits from tobacco sales for smoking prevention and cessation programmes;
- (c) promote education in schools about tobacco addiction and its effect on health, by making education on tobacco a required part of the school curriculum.

## **Asthma and other related respiratory diseases**

29. Asthma is a serious respiratory disease with increasing incidence and prevalence throughout the world, and particularly in developed and industrialized countries. The reasons for these trends are not known, but it has been suggested that environmental factors are contributors to these increases. Indoor air quality also plays an important role, and the roles of house dust mite allergy, humidity or moulds, and cockroaches have been well established. Outdoor air pollutants (such as particulates, ozone and sulfur dioxide) may exacerbate asthma, and children living along busy roads have increased rates of respiratory symptoms and declined lung function.

30. There are wide variations between countries in the prevalence of asthma-related symptoms. The differences in Europe are striking, with higher rates in the United Kingdom and Ireland and lower rates in southern and eastern Europe. However, comparisons between countries require

more information on incidence and prevalence trends in Europe. Such comparisons would serve to generate hypotheses regarding the main risk factors involved and would guide public health policy to respond to this major threat. More surveillance of asthma incidence and prevalence is therefore needed. In addition, public health interventions are needed to prevent the onset and exacerbation of asthma in children, and environmental policies, such as the determination of air quality standards, should take account of the impact of air pollutants on children's health.

#### **RECOMMENDATION E**

European Member States should take the following action:

- participate in global efforts on asthma by collaborating in international research to identify the reasons for the increased prevalence of asthma, by promoting awareness of asthma and its public health consequences, and by developing and promoting good practices in asthma management;
- participate in the exchange of information and experience of asthma management and prevention strategies;
- assess air quality standards, taking into consideration the impact of air pollutants on children's health;
- establish pollution-free school areas, by limiting the access of vehicles, especially diesel-powered vehicles, and by restricting the siting of pollution-emitting sources around schools;
- promote awareness of the dangers of ETS, as well as of the risks of smoking during pregnancy;
- strictly enforce the prohibition of smoking in areas frequented by children;
- promote interventions to improve housing conditions, especially such aspects as humidity and ventilation;
- develop guidelines related to the quality of the home environment, in order to minimize risk factors such as house dust, humidity and moulds, cockroaches, pets and gas stoves;
- create allergen-free schools by banning wall-to-wall carpets, the use of irritant chemicals as cleaning products, and construction activities when children are present.

## **Implementation**

31. The actions set out above should be taken independently within countries and as part of international collaborative efforts. There is, therefore, a need for coordination and exchange of information among countries. EEHC, in partnership with WHO and other international and regional bodies, should coordinate, promote and ensure the implementation of actions recommended in this document. In doing this, EEHC should take fully into account the work already carried out by bodies such as UNEP, UNICEF, EEA, WHO and other international organizations and NGOs.

32. It is proposed that a platform or network of partnerships among the above-mentioned international bodies be established, under the aegis of EEHC, by the WHO European Centre for

Environment and Health. Leadership in its different action areas should be given to individual interested parties. The terms of reference of this coordinating body would be to:

- (a) conduct and coordinate research, surveillance and monitoring activities in the priority areas identified in this document, as well as conduct research to assess the effectiveness of public health interventions;
- (b) serve as a channel for countries to exchange information on effective public health interventions, public education measures and research activities;
- (c) provide Member States with technical assistance in developing and implementing public health policies and intervention programmes and educational measures;
- (d) provide medical and health professionals and teachers' and parents' associations with education and training in environmental health issues affecting children;
- (e) serve as a channel for countries to exchange information on children's environmental health legislation, policies and regulation;
- (f) coordinate regional meetings and workshops on children's environmental health issues (including research, policy and education aspects);
- (g) coordinate its work with that of other organizations and sectors involved in disseminating information on the issue, including the use of electronic communication (i.e. web sites, list servers, etc.).

The need for this document was identified by the European Environment and Health Committee (EEHC) in 1998. A working group was established by WHO with assistance from the European Environment Agency (EEA), with members drawn from government agencies, international organizations, nongovernmental organizations, and environment and health professionals. The working group met once and reviewed draft texts. Comments on draft texts were also made by the EEHC.

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