



*Status Report on Implementation of the  
1997 Declaration of the Environment Leaders of the Eight on*

# **Children's Environmental Health**

Artist : Nina Pope, Grade 5 Banff Elementary School.

The Government of Canada held a G8 Environment Ministers' Meeting poster contest for elementary school children in the Bow Valley region of Alberta. Over 150 entries were received. Nina's poster was selected for this report cover out of nine finalists.

April 2002

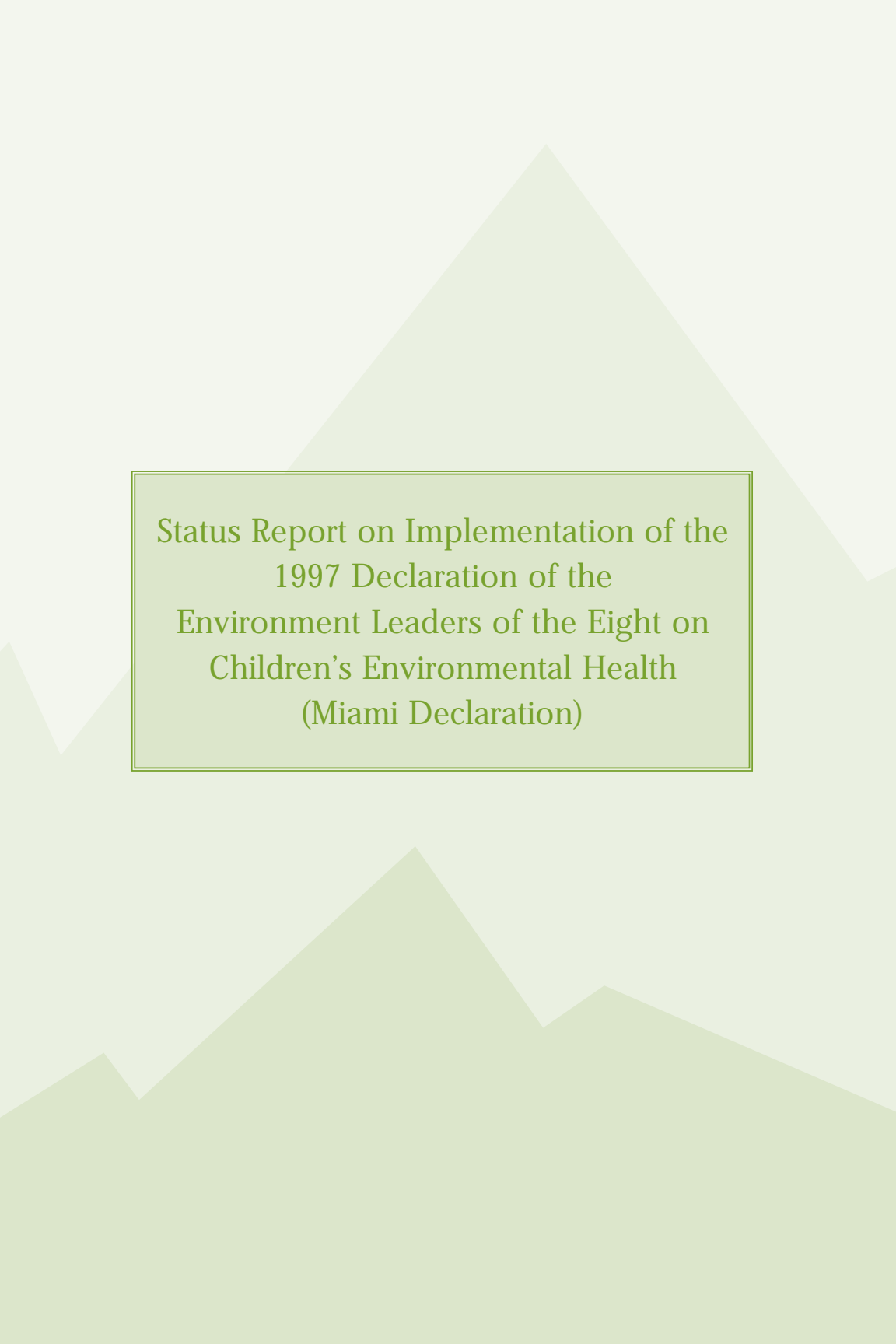
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Status Report on Implementation of the  
1997 Declaration of the  
Environment Leaders of the Eight on  
Children's Environmental Health  
(Miami Declaration)

## Table of Contents

Executive Summary	4
1. Introduction	6
2. Risk Assessment and Standard Setting	7
2.1 Key Commitments	7
2.2 Implementation Status by Country	7
3. Children's Exposure to Lead	11
3.1 Key Commitments	11
3.2 Implementation Status by Country	11
4. Microbiologically Safe Drinking Water	14
4.1 Key Commitments	14
4.2 Implementation Status by Country	14
5. Air Quality	17
5.1 Key Commitments	17
5.2 Implementation Status by Country	17
6. Environmental Tobacco Smoke	20
6.1 Key Commitments	20
6.2 Implementation Status by Country	20
7. Emerging Threats to Children's Health from Endocrine Disrupting Chemicals	23
7.1 Key Commitments	23
7.2 Implementation Status by Country	23
8. Impacts of Global Climate Change to Children's Health	27
8.1 Key Commitments	27
8.2 Status by Country	27
9. Other Programs and Initiatives on Children's Environmental Health	29
9.1 International Collaboration by Country	29

9.2 Other Government Initiatives by Country	32
9.3 Additional Initiatives by Country	35
9.4 Scientific Research by Country	38
10. Future Plans by Country	40
11. Key Findings and Conclusions	41
11.1 Key Findings	41
11.2 Issue-by-Issue Conclusions	43
Appendix A: Summary of Implementation	47
Appendix B: The 1997 Declaration of the Environment Leaders of the Eight on Children's Environmental Health	49
Appendix C: Major Reports and Publications by Country	55
Appendix D: List of Acronyms	61

## Executive Summary

This report summarises the status of implementation of the 1997 Declaration of the Environment Leaders of the Eight on Children's Environmental Health (Miami Declaration), based on information provided by the G8 countries and the European Commission. It reviews each of the major issues addressed in the Declaration including risk assessment and standard setting, children's exposure to lead, microbiologically safe drinking water, air quality, environmental tobacco smoke (ETS), emerging threats to children's health from endocrine disrupting chemicals (EDCs), and the impacts of global climate change on children's health. This report also reviews other programs and initiatives, including international collaboration, other government initiatives, additional initiatives and scientific research, and each country's future plans for work on children's environmental health.

The findings suggest that risk assessment and standard setting processes in many G8 countries have recently been revised, or are being revised, to take account of the need to protect children's environmental health. This includes considering children's unique exposures, physiology, and the potential for effects at different stages of development. Where reliable data are not available, some countries are incorporating extra uncertainty factors to protect children's health.

Substantial progress has been made on the commitments relating to lead in the 1997 Declaration: blood lead levels in children have been significantly reduced; the 1998 Organization for Economic Cooperation and Development (OECD) Declaration on Lead Risk Reduction is being imple-

mented; measures have been taken to reduce children's exposure to lead, such as phasing out leaded gasoline; public awareness campaigns have been conducted; and surveillance programs have been designed and implemented.

Most, if not all, G8 countries have regulations, standards or guidelines for microbiological hazards in drinking water, although in most cases children's environmental health was not explicitly considered in the risk assessment processes that gave rise to the regulations, standards or guidelines. Several G8 countries, have programs to assist developing countries with respect to microbiologically safe drinking water.

Several G8 countries reported improvements in air quality since 1997 for some pollutants. Others described the measures they have put in place to control emissions from various industrial sectors, and the transportation sector. A few mentioned initiatives on indoor air quality relevant to children's environmental health.

Many G8 countries are now implementing measures to reduce children's exposures to ETS at home and in public places. These measures include encouraging smoking cessation among adults and young people who already smoke, working to prevent young people from starting to smoke, and voluntary and regulatory means of reducing non-smokers' exposure to ETS.

The international inventory of research on EDCs has been completed and an international science assessment is underway involving scientists from several G8 countries. Many G8 countries have extensive research programs on EDCs.

Several G8 countries have taken action to address the impacts of global climate change on children's health.

The G8 countries have also put in place other policies, plans and programs, and scientific research and monitoring and surveillance on children's environmental health. The summaries provided suggest that individual countries are responding to their own unique needs and circumstances, while developing mechanisms to coordinate and collaborate internationally on this issue.

Most countries have future plans for work on children's environmental health, ranging from continuing their current initiatives to plans for innovative, new activities. The nature and scope of these plans indicates that this issue is perceived as an important priority for action.

Recent national and international efforts to protect children's health from environmental hazards have had several important benefits. The single most important outcome is that children's exposures and risks to environmental hazards have been reduced. Perhaps the clearest example of this is lead, where the phase-out of leaded gasoline and other government measures have had a dramatic effect on lead levels in ambient air and on blood lead levels in children in many G8 countries. Other benefits include the increased national and international awareness of the need to protect children's environmental health, and the creation of multi-disciplinary, multi-sectoral partnerships on this issue.

In conclusion, many countries as well as international organizations have become more concerned about the need to protect children's health from environmental hazards since the

Declaration was adopted in 1997. The Declaration has helped raise national and international awareness of children's environmental health. Overall, countries have made progress in addressing children's environmental health, however, much remains to be done and countries need to assess the path forward on this issue.

## 1. Introduction

At their meeting in Miami in May 1997, the Environment Ministers of the G8 countries (Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, the United States, as well as the European Commission) declared that children's environmental health was a shared priority among the eight countries. The Miami Declaration on Children's Environmental Health, a non-legally binding document that was adopted at the meeting, provides the basis for a framework for domestic, bilateral and international actions to improve the protection of children's health from environmental threats. Specific implementation actions were also adopted at the meeting. The Declaration and the specific implementation actions are shown in Appendix B.

2002 marks the fifth anniversary of the G8 Declaration on Children's Environmental Health. At the 2001 G8 Environment Ministers' meeting in Trieste, Italy, Canada committed, as host of the 2002 G8 Environment Ministers' meeting and in collaboration with its G8 partners, to prepare a status report on implementation of the Declaration and to identify further practical actions.

This report summarises the status of implementation of the 1997 G8 Declaration on Children's Environmental Health, based on information provided by representatives of the G8 countries<sup>1</sup>. It comprises a review of each of the major issues addressed in the Declaration, including an overview of the key commitments in the Declaration and a summary of the implementation status in each country that provided information. It should be noted that the activities highlighted for

each country are illustrative, and may not provide a comprehensive description of all relevant activities being undertaken on the issue by the country concerned. After the issue-by-issue reviews, there are sections on other programs and initiatives, including international collaboration, other government initiatives, additional initiatives and scientific research, and each country's future plans for work on children's environmental health. Appendix A summarises the implementation of the G8's 1997 Declaration on Children's Environmental Health on a country-by-country and an issue-by-issue basis.

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1. Information was collected in a standardised format using a template that was sent to G8 environment officials, with a request for them to complete and return. No information was available from Russia.



## 2. Environmental Risk Assessment and Standard Setting

### 2.1 Key Commitments in the Miami Declaration

- “We pledge to establish national policies that take into account the specific exposure pathways and dose-response characteristics of children when conducting environmental risk assessments and setting protective standards”.
- “We agree there is a need to upgrade testing guidelines to improve our ability to detect risks to children and to assess and evaluate the effects of both single and multiple exposures for children”.
- “We urge cooperation through the OECD on adopting revised, harmonized testing guidelines”.
- “We will promote research to understand the particular exposures and sensitivities of infants and children to environmental hazards and exchange research results and information on regulatory decisions”.
- “Where there is insufficient information, we agree to pursue the precautionary principle or precautionary approaches to protecting children’s health”.
- “We call for the consideration of children’s environmental health, based on sound science, in the negotiation and implementation of future bilateral, regional and global agreements, such as the negotiations on persistent organic pollutants, long range transboundary air pollution, and trade in particularly dangerous pesticides, chemicals and hazardous wastes”.

### 2.2 Implementation Status by Country

#### Canada

Canadian legislation, including the *Canadian Environmental Protection Act (1999)*, the *Food and Drugs Act*, the *Pest Control Products Act* and the *Hazardous Products Act*, takes account of the potential effects of environmental impacts on human health. Human risk assessments consider children’s unique behaviours and exposures, as well as their physiological norms, when data is available and when appropriate. Also, the special sensitivities of children are factored into assessments to the extent possible. When studies are not sufficiently reliable to serve as a basis for the derivation of tolerable intakes or concentrations, appropriate uncertainty factors are used. The *Food and Drugs Act* has a zero tolerance for non-essential food additives in infant formula. The Pest Management Regulatory Agency (PMRA) has finalized a document on Children’s Health Priorities that describes its approach to children’s environmental health and risk assessments for pesticides (available at: <http://www.hc-sc.gc.ca/pmra-arla/english/pdf/spn/spn2002-01-e.pdf>). The Government of Canada has recently tabled a new *Pest Control Products Act*. The new bill would require the special consideration of children’s sensitivities, which are already being incorporated into PMRA’s risk assessment processes.

The *Hazardous Products Act* contains a duty of care to protect children’s health and has regulatory provisions for a few types of children’s products, including toys, sleepware, cribs and cradles, carriages, strollers, and pacifiers. Recent advisories on children’s environmental health issued under this *Act* include advisories on diisonyl phthalate in soft vinyl teethers and rattles (1998) and lead in mini-blinds (1999).

## European Community

In the European Community (EC), acceptable levels of exposure are determined using the best available scientific information and risk assessment methodologies. When determining acceptable levels of exposure, special attention is paid to sensitive population groups, including children.

EC legislation on general product safety singles out children as a sensitive group. The main objective of Council Directive 92/59/EEC on general product safety is to ensure that products placed on the market are safe, taking account of several factors including the categories of consumers at serious risk when using the product, in particular children.

In addition, there is EC legislation on toy safety. Council Directive 88/378/EEC on the approximation of the laws of the Member States concerning the safety of toys (Amended by Council Directive 93/68/EEC) lays down the safety criteria or essential requirements which toys must meet during manufacture and before being placed on the market.

The Sixth Environment Action Programme of the European Community - Environment 2010: Our Future, Our Choice, sets up the basis for further actions on environment and health issues, addressing chemicals, pesticides, noise, urban environments and air. Based on this Programme, future policies will be based on an integrated approach, making synergies between the current policies, and help reduce the impact of environmental threats to human health. To this end, the Sixth Environment Action Programme requires that for each group of contaminants, the following be considered: identifying the risks for

human health, taking into account particularly vulnerable groups, such as children and the elderly, and set standards accordingly; assess the contamination pathways and determine the most effective course of action needed to minimise exposure levels; and, feed the different environment and health priorities into specific policies and standards on air, water, waste, and soil, as well as into the new Integrated Product Policy.

The European Commission participates in the Organization for Economic Cooperation and Development (OECD) Programme on Testing Guidelines for Chemicals.

## France

The Ministries of Environment, Health and Public Works rely on the French Higher Council for Public Health for risk assessments. As part of the Directorate for Pollution and Risk Prevention of the Ministry of the Environment, the Industrial Environment Department supervises monitoring networks, pollution modeling, and issues related to the impacts of pollutants on health.

The National Public Health Network is responsible for coordinating and strengthening epidemiological interventions in infectious diseases and the health effects of environmental pollution.

The French Agency for Environmental Health Safety was established in 2001. Since 1997, the French Government and Parliament have established several agencies and institutes to improve health and safety, including the Institute for Health Monitoring, the French Agency for Health Product Safety, and the French Agency for Food Safety.

## Germany

In October 2000, an *ad hoc* commission on the Reorganization of Procedures and Structures for Risk Assessment and Standard-setting was established by the federal Ministries for Environment and Health. The Commission is developing proposals for a more harmonized and transparent approach to environmental health risk assessment and standard setting. The Commission will consider vulnerable and sensitive groups of the population, in particular children. Other relevant activities include a literature survey on Consideration of Children as a Risk Group in Setting Health-related Environmental Standards (2001/2002), and two international workshops on children's environmental health (September and November, 2001).

Germany has also been actively involved in the OECD Programme on Testing Guidelines for Chemicals.

## Italy

The protection of children's health is a priority objective of environmental policies for sustainable development. Italy has taken steps to protect children's health through environmental protection programs, environmental standards and testing protocols. Italy also cooperates with the World Health Organization (WHO) Health and Environment Center in Rome, and participates in the OECD Programme on Testing Guidelines for Chemicals.

## Japan

The government of Japan has gathered information on risk assessments of children who may be susceptible to various chemical substances, conducted exposure assessments, including an assessment of dioxin concentrations in human umbilical cords, and established a TDI (Tolerable Daily Intake) for diox-

## OECD Guidelines for the Testing of Chemicals

Annex A of the 1997 Declaration urged the Organization for Economic Cooperation and Development (OECD) to expedite completion of the process of updating and harmonizing developmental and reproductive toxicity testing guidelines. These guidelines have been completed and adopted by Council in June 2001.

The OECD Guidelines for the Testing of Chemicals are a collection of internationally agreed testing methods used by governments, industry and independent laboratories to identify and characterize potential hazards of new and existing chemical substances and chemical preparations/mixtures. They cover tests for physical-chemical properties of chemicals, human health effects, environmental effects, as well as degradation and accumulation in the environment. Since they were adopted in 1981, the Test Guidelines have become the recognized reference tool for professionals working on the testing of chemicals and the assessment of their potential hazards in OECD countries, as well as in non-Member countries.

The OECD Guidelines for the Testing of Chemicals represent a basic set of tools that are primarily for use in regulatory safety testing and subsequent chemical and chemical product notification and chemical registration. In addition, they can also be used for a variety of other purposes including the selection and ranking of candidate chemicals during the development of new chemicals and products and in toxicology research.

ins using vulnerable endpoints. The Ministry of the Environment (MOE) is planning a further study to analyze children's risk to chemicals.

The MOE will set Environmental Quality Standards with adequate safety factors, giving careful consideration to the need to protect children and infants who are particularly sensitive and vulnerable to pollution. In addition, the MOE takes account of the special risks of infants when setting standards. For instance, in 2000, the Ministry set standards for the nitrate nitrogen and nitrite nitrogen to protect infants from methemoglobinemia.

### **United Kingdom**

Routine risk assessment and standard setting procedures aim to protect specific subgroups of the population, such as children. This involves, for instance: appropriate use of animal data involving exposure of the fetus and the growing animal; aiming for a sufficient margin of safety by use of uncertainty factors; and consideration of epidemiological studies of children. Information on exposures and effects in children is taken into account, insofar as specific or relevant data exist, or can be obtained ethically and practically. Examples include the exposure assessment model for generating UK soil guideline values, and the epidemiological basis for standards for lead.

The UK is playing a leading role in the OECD Programme on Testing Guidelines for Chemicals.

### **United States**

The *Food Quality Protection Act* (FQPA) establishes a single, health-based standard for pesticide residues in raw and processed food, provides tools for enhancing the protection of all consumers, particularly infants and chil-

dren, and creates an environment favourable for the development and adoption of lower risk pesticides. FQPA emphasises the potential for infants and children to be especially sensitive to pesticides and the need to ensure that they are afforded adequate protection. All tolerances, or maximum legal pesticide residue limits, established since passage of FQPA have been set to be protective of children. The US Environmental Protection Agency (EPA) has updated pesticide guidelines to better assess risks to infants and children, and EPA now routinely considers the combined effects of pesticide exposures from food, drinking water, other non-work related exposures, and other pesticides that act in the same manner in the body.

The US has initiated a Voluntary Children's Chemical Evaluation Program to provide data to the public about the potential health risks to children associated with chemical exposures.

### **Children's Unique Vulnerability to Toxicants in the Environment**

- Children have a disproportionately higher exposure to environmental toxicants. Kilogram for kilogram of body weight, children drink more water, eat more food, and breathe more air than adults. Thus, children have substantially greater exposures to many toxicants in water, food, and air. Additional factors that further magnify children's exposures are their normal hand-to-mouth behaviour and their play close to the ground.
- Children's metabolic pathways, especially in the first months after birth, are immature. Children's ability to

detoxify and excrete pollutants is different from that of adults. In many instances, children are less able than adults to deal with toxic compounds.

- Children are undergoing rapid growth and development, and these developmental processes are easily disrupted. During embryonic and fetal life as well as in the first years after birth, the brain, endocrine system, reproductive organs, immune system, and respiratory organs are undergoing rapid growth, development and differentiation. If these developmental processes are disrupted by lead, mercury, solvents, endocrine disruptors, or other environmental toxicants, there is high risk of injury, and such injury is frequently irreversible.
- Because children have more future years of life than most adults, they have more time to develop chronic diseases that may be triggered by early exposures. Early exposure to carcinogens, for example, can lead to increased risk of cancer in adult life and childhood exposure to ionizing radiation has been linked to the development of cancer in adulthood.

### 3. Children's Exposure to Lead

#### 3.1 Key Commitments in the Miami Declaration

- "We call for further actions that will result in reducing blood lead levels in children to below 10 micrograms per decilitre. Where this blood lead level is exceeded, further action is required".
- "We commit to fulfill and promote internationally the OECD

Declaration on Lead Risk Reduction".

- "We commit to a phase-out of the use of lead in gasoline, the elimination of exposure to lead in products intended for use by children, the phase-out of the use of lead in paint and rust-proofing agents, the restriction of lead in products that may result in ingestion in food and drinking water and to set schedules and develop strategies for elimination or reduction of lead from these sources".
- "We agree to conduct public awareness campaigns on the risks to children from lead exposure and to develop scientific protocols and programs to monitor blood lead levels in children".

#### 3.2 Implementation Status by Country

##### Canada

Lead additives in gasoline for on-road vehicles were banned in Canada in December 1990. New regulatory initiatives on lead and children's health include: the *Hazardous Products (Liquid Coating Materials) Regulations*, that restrict the lead content in residential paints and paints for application on children's products such as toys, playpens, cribs and playground structures; and the *Hazardous Products (Glazed Ceramics and Glassware) Regulations*, that harmonize the leachable amounts of lead from glazed ceramic foodware with those in the US ranging from 0.5-3.0 milligrams per litre depending on the product.

Health Canada has drafted a lead risk reduction strategy for consumer products to which children are likely to be exposed.

## **European Community**

European Community legislation addresses lead contamination through horizontal legislation on dangerous substances as well as in some sectoral legislation (i.e., the use of lead in vehicles or electronic products).

### **France**

The sale of leaded gasoline has been prohibited since January, 2000. Monitoring of ambient air quality indicates compliance with permissible levels of lead (annual average less than 0.05 micrograms per m<sup>3</sup> in all urban areas). Ambient air concentrations of lead have been reduced by a factor of three, due to the elimination of leaded gasoline.

As part of efforts to reduce levels of toxic metals around industrial sites, special attention has been paid to monitoring blood lead levels in at-risk children. Moreover, special programs have been put in place to monitor blood lead levels in children living in older houses, where exposure to lead from lead-based paint is likely.

Several initiatives have been taken to reduce lead in drinking water, for example, a new regulatory standard introduced in 2001 requires lead levels in drinking water to be less than 25 micrograms per litre by 2003, with a further reduction to 10 micrograms per litre by 2013.

### **Germany**

There has been a considerable and continuing decline in blood lead levels during the past 15 years. Nevertheless, investigations on sources of higher lead pollution will continue. A particular challenge is the reduction of high lead levels in tap water. The revised Ordinance on Drinking Water will be effective in January 2003. The limit

value for lead in drinking water will be reduced from 40 micrograms per litre to 25 micrograms per litre beginning in December 2003 and finally to 10 micrograms per litre in December 2013.

Representative samples of blood lead levels of German children will be collected as part of the German Environmental Health Survey for Children and Adolescents between 2003–2005. The Human Biomonitoring Commission of the federal Environmental Agency has defined reference values and health effects based values for blood lead levels in children.

Germany has contributed to the OECD lead risk reduction program.

### **Italy**

Over the past decade the levels of lead in air, water and food have decreased significantly as a result of the phase-out of leaded gasoline and restrictions on industrial uses of lead. Italy has contributed significantly to the fulfillment of OECD lead risk reduction program.

### **Japan**

The Ministry of the Environment has collected information on children's exposure to lead in other countries and will conduct preliminary research to explore lead exposure in Japanese children.

### **United Kingdom**

The results of blood lead surveys in England show that there has been a decrease in children's blood lead levels to a quarter of the level above which there is convincing evidence of adverse effects. Nevertheless, because there may be no completely safe level of exposure to lead, the government is continuing to reduce human exposure wherever reasonably practicable. The decrease in blood lead levels is expect-

ed to continue as a result of measures already taken and as additional measures, such as the recent ban on leaded gasoline, and forthcoming lower limits for lead in drinking water, take effect.

The Department for Environment, Food and Rural Affairs has issued advice on lead, including free booklets on: *Lead in Your Drinking Water: Have You Got Lead Pipes?* (first published in 1995), and *Are You Redecorating?: Advice on Old Lead Paint in Your Home* (first published in 1998). In 1998, the Chief Medical Officer reminded all doctors in England of the need to remain aware of the potential hazards of exposure to lead.

### United States

Average blood lead levels in children 5 years old and under dropped from 16.5 micrograms per decilitre between 1976 and 1980 to 3.6 micrograms per decilitre between 1992 and 1994, a decline of 78%. The decline in average blood lead levels is due largely to the phasing out of lead in gasoline between 1973 and 1995. In 1992-1994, approximately 1.5 million children (2.3%) 17 and younger had concentrations greater than 10 micrograms per decilitre. Four percent of children between the ages of 1 and 5 (890,000) had elevated blood lead levels.

The US is currently implementing the recommendations of the federal Strategy to Eliminate Childhood Lead Poisoning by 2010, developed under the President's Task Force on Environmental Health Risks and Safety Risks to Children. The recommendations include: acting before children are poisoned by preventing residential lead paint hazards; improving early intervention by expanding blood lead screening and follow-up services for at-risk children; conducting research that pro-

notes innovation to drive down lead hazard control costs and quantify ways in which children are exposed to lead to improve prevention strategies; and measuring progress.

The US has lowered the reporting threshold under the Toxic Substances Release Inventory for the release of lead and lead compounds into the environment.

The Identification of Dangerous Levels of Lead Rule sets standards for soil and dust that trigger US compliance activity. The program includes compliance assistance, monitoring, and enforcement effort as well as community outreach and educational materials to inform parents and community centers about the dangers of lead, especially exposure from lead-based paint.

The Centers for Disease Control and EPA have worked in partnership with other countries to conduct blood lead level surveys and promote the phase-out of lead from gasoline.

### Why Children are Particularly Vulnerable to Lead

Lead is a potent neurotoxin that can cause significant health problems in children. Children and the fetus are particularly at risk because they absorb lead more efficiently than adults, and because immature organs and tissues are thought to be more susceptible to lead. It is absorbed into the bloodstream and can accumulate in tissues, particularly in the bones and teeth. The unborn and young children are at particular risk due to high lead absorption coupled with rapidly developing systems. Lead is known to cross the placenta.

## Health Effects of Lead to Children

Lead is poisonous because it interferes with some of the body's basic functions. Exposure to even low levels of lead can permanently affect children. At low levels, lead can cause nervous system and kidney damage, learning disabilities, hyperactivity, attention deficit disorder, behavioural problems, impaired growth, hearing loss, and decreased intelligence. High levels of lead can have devastating effects on children, including seizures, unconsciousness, and, in some cases, death. Some health effects are found at levels lower than 10 micrograms per decilitre and no safe level of lead exposure has been found.

## 4. Microbiologically Safe Drinking Water

### 4.1 Key Commitments in the Miami Declaration

- "We agree to focus increased attention on drinking water disinfection, source water protection and sanitation, as major instruments of good drinking water quality in our national and regional programs, as well as through existing bilateral foreign assistance programs, international organizations and financial institutions".
- "We will facilitate technology transfer to and capacity building in developing countries where microbiologically safe drinking water is a primary child survival concern".
- "We strongly support the initiative on sustainable use of freshwater for social and economic purposes, including, *inter alia*, safe drinking

water and sanitation".

- "We agree to share information and policies among our countries to improve our drinking water standards and will designate officials from our ministries to exchange monitoring data".
- "We agree to collaborate on research to support the development of technologies and methods to control disease outbreaks and will give special emphasis to appropriate technology for small drinking water treatment systems".

## 4.2 Implementation Status by Country

### Canada

About 87% of Canadians and their children receive treated municipal water, resulting in one of the lowest incidences of water-borne diseases in the world. Municipal water quality must generally comply with provincial requirements based on the Guidelines for Canadian Drinking Water Quality. The guidelines are regularly updated to take into account the latest scientific information, and include a guideline for coliform bacteria and an operational guideline for protozoa. An operational guideline for human enteric viruses is being developed. The federal government works in partnership with First Nations communities to ensure that water quality sampling, monitoring and surveillance programs are in place on their lands.

In 2000, clean water was named as one of the Canadian International Development Agency's (CIDA) Priorities for Social Development for 2000-2005. CIDA has supported many projects on clean water including proj-



ects in Ghana, where the Agency has helped to provide 1.4 million people with access to safe water and trained 2,500 women in water management, and sponsoring WaterCan, a Canadian non-governmental organization (NGO) that provides clean water and sanitation services in developing countries.

### **European Community**

Many of the policies, legislation and standards needed to achieve the European Community objectives for water quality and use have already been put in place. The Community has recently adopted a new Water Framework Directive that expands water protection to all waters and sets a legally binding objective of 'good status' for those waters. It also obliges Member States to use pricing for water-related services to promote water conservation.

### **France**

The European Community Council Directive on drinking water quality has just been adopted as French law in Decree No. 2001-1220 on water intended for human consumption, excluding natural mineral water.

Several measures have been adopted to enhance drinking water monitoring. Turbidity tracking has been strengthened to ensure greater protection of the general public from microbiological contamination. In addition, new parameters have been taken into account such as disinfection by-products. Chlorite levels in water for human consumption are monitored to ensure proper disinfection conditions for drinking water treatment units that use chlorine dioxide.

### **Germany**

The German Drinking Water Ordinance states that drinking water must not contain microbiological organisms that cause disease. This obligation is strictly enforced by the public health offices. Due to their control and the high technical standard of the water supply system, outbreaks of drinking water borne diseases are not a significant public health problem in Germany. Several research projects are collecting information on microbiological organisms that are not routinely monitored, such as *Cryptosporidium* and *Legionella*.

Germany hosted the International Conference on Freshwater in December 2001 in Bonn.

### **Italy**

In recent years, Italy has adopted regulations on water quality and quantity. The regulations balance the availability of water resources with the needs of water users and address drinking water treatment; monitoring of chemicals and microbiological contaminants; the protection of source water; and wastewater treatment. Authorisations to discharge waste in receiving water are based on regional water quality standards under the framework of European regulations.

### **Japan**

The Ministry of Health, Labour and Welfare collects monitoring data on microbiological contaminants in drinking water.

In 1997, Japan announced its international Initiatives for Sustainable Development Toward the 21st Century, which include water as a priority issue. Japan has also supported measures for safe water supply in Africa, as part of its assistance to the health sector, consistent with the Okinawa Infectious Diseases Initiative.

## United Kingdom

The UK successfully encouraged the inclusion of a target on safe drinking water in the Millennium Declaration. The target is to halve the proportion of people who are unable to reach or to afford safe drinking water by 2015. Subsequently, at the International Conference on Freshwater, the UK successfully negotiated for the inclusion of an equivalent sanitation target – to halve the proportion of people lacking access to improved sanitation by 2015.

The UK's recent publication *Addressing the Water Crisis – Healthier and More Productive Lives for Poor People* highlights priority actions focussed on transforming institutions, promoting best practices and disseminating knowledge. At the World Water Forum in The Hague, the UK pledged to double its financial commitment to water supply and sanitation over the next three years in developing countries.

Several UK regulations require disinfection of all public water supplies. Microbiological quality is monitored closely.

The UK government is working with NGOs and the private sector to help reduce the number of people, including children, without access to clean safe drinking water and sanitation services through Partnering for Sustainable Water Supply and Sanitation – a joint venture between multi-sector partners from the UK and Africa.

## United States

The EPA's current drinking water standards are designed to protect children and adults. New final rules have been issued to protect children from microbial contaminants, such as *Cryptosporidium*, and disinfection by-products. The risk assessments used to

issue these rules incorporated the evaluation of the risks to fetuses, infants and children.

Under the *Safe Drinking Water Act* (1996), EPA must periodically review existing national primary drinking water regulations (NPDWRs) and, if appropriate, revise them. Under the first Six Year Review project, EPA has reviewed 68 chemical NPDWRs and the Total Coliform Rule.

The EPA is developing outreach products to help individuals make informed decisions about the water they and their children drink. A brochure on *Children and Drinking Water* (1999) explains how national standards contribute to drinking water safety. In addition, a brochure on the safety of water from private wells, and a video on *Waterborne Illness Prevention* will be released soon.

The EPA has developed an International Safe Drinking Water Initiative to improve the microbiological quality of drinking water in less-developed countries. Through an international, multi-donor technical assistance working group, coordinated by the Pan American Health Organization, the US has provided scientific, water policy and international expertise on improving the microbiological quality of drinking water in Latin America and the Caribbean. The Initiative focusses on training in a variety of areas, including laboratory capacity building, treatment plant optimization, source water protection and safe drinking water program development in Nicaragua, Honduras and El Salvador. In Africa, 20 pilot projects are underway in Malawi, Zambia, Kenya, Tanzania and Uganda.

## The Importance to Children of Microbiologically Safe Drinking Water

Very young children's immune systems are not yet fully developed, making them less able than healthy adults to fight microbes in drinking water. Children are especially vulnerable to contaminated water, because they consume more for their body weight than adults. In addition, swimming in contaminated surface waters can put children at particular risk of exposure to harmful microbes. These microbes may induce diarrhea and vomiting, which may cause children to become dehydrated more quickly than adults.

## 5. Air Quality

### 5.1 Key Commitments in the Miami Declaration

- "We undertake to reduce air pollution in our respective countries".
- "We agree to exchange information on indoor air health threats and remedial measures".

### 5.2 Implementation Status by Country

#### Canada

The federal government, in partnership with the provinces and territories, has developed Canada-wide Standards on particulate matter and ozone, as well as benzene, mercury emissions from base metal smelters and incinerators, dioxins and furans. These standards are now being implemented. Canada-wide Standards are being developed on mercury emissions from the coal-fire electric power generation sector. In December 2000, the federal govern-

ment signed the Ozone Annex. Brought about under the Canada-U.S. Air Quality Agreement, it includes commitments by both countries to dramatically reduce nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) that cause ground-level ozone to form. The federal government has also launched a new federal Clean Air Action Plan (2001) that includes measures for cleaner vehicles, engines and fuels, and collaboration with industrial sectors to reduce emissions that cause ground-level ozone and particulate matter. These actions will bring cleaner air and health benefits to Canadians.

Canada also is developing and implementing its own version of the US Tools for Schools Action Kit, aimed at improving air quality in schools. Canada plans to expand its air quality forecasting program to help warn hundreds of thousands of families whose children suffer from asthma and other respiratory problems so they can avoid unnecessary exposure to smog.

#### European Community

The European Community is acting to reduce exposure to air pollution through legislation, working at the international level to reduce cross-border pollution, collaborating with sectors responsible for air pollution and with national and regional authorities and NGOs, and through research. For the next ten years, the European Union (EU) will focus on implementing air quality standards and ensuring the coherence of all air quality legislation and related policy initiatives.

Air quality standards have been set within the framework of the Air Quality Framework Directive adopted in 1996. This Directive requires Member States to set up and maintain a system for assessing air quality, identifying areas

where limit values are likely to be exceeded, and drawing up action plans to reduce the risk of exceedances.

In 2001, the Commission launched a new air quality program that will lead to a long-term integrated strategy called Clean Air for Europe. The links between air pollution and road transportation are of concern and there are several Directives regulating vehicle emissions and the quality of gasoline and diesel fuel.

### **France**

Levels of sulphur dioxide have been declining by approximately 10% a year, although there are still several industrial zones that are of concern. There are no clear trends in concentrations of other pollutants, such as NO<sub>x</sub>, fine particulates and ozone, although overall atmospheric emissions of the primary pollutants appear to be decreasing. The impact of most vehicle and industry-related measures will be visible in the mid- to long-term future.

To protect sensitive populations, emergency measures are implemented when pollution thresholds are exceeded. Pollutants targeted by these measures are sulphur dioxide, nitrogen dioxide and ozone. As soon as a threshold is exceeded, the public is immediately warned, and measures to limit the scope of the pollution spike are implemented.

The PRIMEQUAL-PREDIT research program encourages the integration of all types of air pollution studies, from physico-chemical studies to social science studies, including epidemiological studies, monitoring and transportation.

There is increasing recognition of the significance of links between outdoor and indoor air quality. An indoor air

quality observatory has been established, with the participation of the government departments responsible for housing, health and the environment.

### **Germany**

One of guiding principles of German Air Pollution Control Policy is the protection of the most vulnerable groups in the population, particularly children. In 2000, the federal government initiated a program for rapid ozone reduction. As well, three proposals have been considered by the federal Cabinet: revision of the *Federal Immission Control Law*; proposal for an Ordinance on air quality standards based on the EC Daughter Directives of Council Directive 96/62/EG on ambient air quality assessment and management; and proposal for revising the Technical Instructions on Air Quality Control (TA-Luft). These proposals are expected to be finally adopted in 2002.

The Indoor Air Commission of the federal Environmental Agency is setting guidelines for indoor air quality that explicitly consider children's health. In June 2000, the Commission published a Guide on Indoor Air Hygiene in School Buildings.

### **Italy**

Italy has adopted policies and programs to address air pollution from industrial sources and from the transportation sector. Measures have been taken to reduce the use of polluting substances by industrial sectors, control the use of natural resources, and prevent and reduce industrial risks.

Under the framework of the United Nations Economic Commission for Europe (UN ECE) Convention on Long-Range Transboundary Air Pollution (1979), Italy has accomplished the obligations of the Helsinki Protocol (1985)

on the reduction of sulphur emissions and the objectives of the Sofia Protocol (1988) on the control of emissions of NO<sub>x</sub>.

Various transportation measures have been taken to improve air quality, including expanding the railway system, closing city centers to automobile traffic on Sundays, creating new cycle paths, expanding pedestrian zones, promoting car sharing, adopting a General Transport Plan in 2000, and a Law on urban air quality (Law n. 351, 1999).

### Japan

With regard to automobiles, the *Air Pollution Control Law* contains regulatory emission standards for carbon monoxide, hydrocarbons, NO<sub>x</sub> and particulate matter. In addition, under the *1992 Automobile NO<sub>x</sub> Law*, the government has implemented various integrated measures to improve air quality in areas with poor air quality, where there is high traffic density. The government is planning to strengthen its activities under the 2001 amended *Automobile NO<sub>x</sub> and Particulate Matter Law*. Moreover, Japan encourages the development and promotion of low emission vehicles through subsidies, reduced taxes, etc.

With regard to emissions from stationary sources, strong regulatory measures, including end-of-pipe emission standards for air pollutants such as SO<sub>x</sub> and NO<sub>x</sub>, play a key role in improving air quality. Legal measures to manage releases of specific substances, such as benzene, have been in place since 1997 and the private sector has implemented voluntary management to reduce atmospheric emissions of hazardous air pollutants. In addition, the emission regulations under the *Law Concerning Special Measures Against Dioxins* have

contributed to significant emission reductions of dioxins in recent years: dioxin emissions decreased by about 70% between 1997 and 2000.

### United Kingdom

Air quality in the UK is continuing to improve. Progressively stricter controls on harmful emissions, particularly from motor vehicles, but also from industrial and domestic sources, have led to a substantial reduction in levels of air pollutants in urban areas. Elsewhere, peak concentrations of ground level ozone are also decreasing, due to abatement measures across Europe, and international agreements within the EC and UN ECE.

Improving air quality is one of the government's key environmental objectives. The government's policies and measures to reduce the impacts of air pollution are set out in its Air Quality Strategy (2000). The Strategy contains health-based ambient air quality standards for eight key pollutants and includes an objective for their achievement across the UK by 2005.

### United States

The US has been working to reduce air pollution for over 30 years. Air pollution control programs have been implemented in each state for each of the air quality criteria pollutants. For carbon monoxide, lead, nitrogen dioxide, and sulphur dioxide there are no, or very few non-attainment areas. The state and federal governments are actively implementing the existing one hour ozone and coarse particle standards. The eight hour ozone and fine particle standards promulgated in 1997 are still in litigation. The federal government is taking preliminary steps to ensure that, assuming a favourable outcome to the litigation, it can proceed to work cooperatively with the states to implement those standards.

In 2000, a White House Task Force on Asthma expanded its work to include outreach and education activities to help children. As a result, the key asthma recommendations of the Asthma and the Environment: An Action Plan to Protect Children, the Interagency Plan developed under the President's Task Force on Environmental Health Risks and Safety Risks to Children, were implemented. The US is also working with partners to address asthma in schools by expanding the Indoor Air Quality Tools for Schools Program. The program is designed to reduce indoor asthma triggers commonly found in schools and increase asthma management and education programs for children with asthma.

Recently, there has been increased emphasis on economic analyses. The outcomes of such analysis may, for example, identify economic incentives for managed care and health care groups to help reduce asthma attacks.

The US plans to convene a national summit so that practitioners, researchers, industry and the public sector can identify the most effective ways to target and educate the public about environmental triggers of asthma.

### **The Special Vulnerability of Children to Air Pollution**

Air pollution can be harmful to anyone, but is particularly unhealthy for children. Children breathe more rapidly and inhale more pollutants per kilogram of body weight than adults.

They play more often and more vigorously outdoors, often leading to greater exposure. They also tend to focus less on symptoms, and they may not stop playing even if they are wheezing. Because children's lungs are still develop-

ing, repeated exposure to air pollutants can cause damage to children's lungs, impede lung development and may lead to chronic lung disease later in life.

## **6. Environmental Tobacco Smoke**

### **6.1 Key Commitment in the Miami Declaration**

- "We agree to cooperate on education and public awareness efforts aimed at reducing children's exposure to environmental tobacco smoke".

### **6.2 Implementation Status by Country**

#### **Canada**

The federal Tobacco Control Strategy, announced in April 2001, will invest about \$560 million over the next five years to support protection, prevention, cessation and harm-reduction activities in tobacco control. The protection component includes protecting non-smokers, especially youth, from environmental tobacco smoke (ETS). The intent is to create an environment—social, physical, and regulatory—that supports non-smoking as the norm. Since 85% of Canadian smokers start smoking before the age of 19, the prevention component will place considerable focus on youth resources and activities. The cessation component will enhance access to cessation programs, resources and information cessation. The new strategy will also direct almost half its total effort, \$210 million, to mass media campaigns, which will target youth and other high-risk groups and support other programming components.

Canada is actively involved in developing a Framework Convention on Tobacco Control under the auspices of the WHO.

In recent years, many Canadian municipalities have implemented smoke-free bylaws for public places and workplaces.

### European Community

Since 1997, the European Commission has launched several Community-wide initiatives that should result in a reduction of the public health impact of smoking. A new proposal for a Tobacco Advertising Directive was released in May 2001 and it is hoped that the measures foreseen will complement the 1989 Directive banning the television advertising of tobacco products and the sponsorship of television programs by tobacco companies.

The Community has two Directives protecting workers from passive smoking. The first of these Directives requires employers to protect workers from passive smoking in their rest areas and the second concerns measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding. Member States retain the competence to legislate in all areas outside the workplace.

The Community is involved in negotiations for the WHO's Framework Convention on Tobacco Control.

### WHO Addresses Environmental Tobacco Smoke (ETS)

Annex A of the 1997 Declaration on Children's Environmental Health called on the WHO, or another appropriate scientific organization, to synthesize and share the latest scientific information on risks to infants and children from ETS. In response, WHO convened an expert consultation on ETS and child health in 1999. Experts from developing and developed countries adopted recommendations for

actions to reduce this exposure. Their recommendations were endorsed at the June 1999 European Health and Environment Ministerial Conference of WHO Regional Office for Europe.

### France

A national plan against smoking was drawn up in May 1999. A Parliamentary Mission produced a report on tobacco taxation (the *Recours Report* of September 1999) recommending the prohibition of tobacco sales to minors under 16 years of age, substantial increases to tobacco prices, and the sale of nicotine substitution products without a prescription in pharmacies. Proposals have been made on ETS (in the *Dautzenberg Report* of May 2000).

One of the major preventive measures adopted in the framework of the campaign against smoking for 1999-2001 was the training of doctors in cessation techniques, prescribing substitutes and providing psychological support during withdrawal. New smoking cessation centers will be set up in hospitals for 2002 and public information campaigns will be strengthened, specifically for target audiences such as women and children.

### Germany

There are various regulations for the protection of non-smokers from ETS, but there are no special regulations for children and adolescents.

The *Law on Youth Protection* is currently being revised and tighter rules forbidding sale of cigarettes (in particular through vending machines) and tobacco to persons below 16 years of age are anticipated. The federal government is supporting public information campaigns encouraging teenagers not to start smoking.

## **Italy**

Italy introduced a National Health Plan (NHP) 1998-2000, to protect public health, reduce smoking, and to implement measures to prevent health problems caused by exposure to ETS. The most significant programs of the NHP are intended to persuade smokers to give up smoking, and to prohibit smoking in public places and workplaces.

## **Japan**

The Ministry of Health, Labour and Welfare established a 10-year-plan entitled National Health Promotion in the 21st Century (Health Japan 21) in March 2000. It contains four main objectives concerning tobacco, to be attained by 2010: to raise public awareness about the impact of tobacco on health; to prevent minors from smoking; to protect non-smokers from exposure to ETS; and to support smoking cessation.

The Ministry designates one week, starting from World No Tobacco Day, 31 May, as Non Smoking Week, and is implementing various events. In 2001, the Ministry held a World No Tobacco Day Anniversary Symposium, focussing on ETS. At the Symposium, lectures were provided on the effects of tobacco on health, measures to support smoking cessation, and the protection of the public, especially women and children, from environmental exposure to tobacco smoke.

## **United Kingdom**

The tobacco control strategy set out in the 1998 government proposal Smoking Kills is designed to emphasise the dangers of active and passive smoking, offer support to those wishing to give up, and reduce social acceptance of smoking.

Leaflets on the effects of ETS are widely available. The mass media program,

currently focussed on smokers and persuading them to give up for the sake of their own health, is being broadened to include the effects of smokers' habits on those around them. In this context, a television approach is being developed concentrating on the damage parental smoking can cause to children's health.

The Public Places Charter, launched in 1999 by the hospitality industry, is supported by the government. The Charter commits signatories to improving the facilities in pubs, bars and restaurants for customers who do not smoke.

Many local authorities and health promotion agencies have published information on non-smoking facilities in their area.

## **United States**

The US has developed a new national public information campaign and materials to educate the public, especially parents of children with asthma, about ways to reduce and avoid children's exposure to ETS, ozone, particulate matter and other indoor asthma triggers in the home. Funding to local communities, through established tobacco control programs, for work with doctors, health clinics, and civic groups is designed to lessen children's exposure to ETS. The EPA's Indoor Environment's Division Surveys on Radon Awareness and Environmental Tobacco issues found that the percentage of homes with children under 7 in which someone smokes on a regular basis decreased from 29% in 1994 to 19% in 1999.

In the fall of 2001, EPA and WHO began a pilot effort in four countries to establish programs to reduce childhood exposure to ETS. The aims of the pilot project are to: develop strategic plans



for reducing childhood ETS through the use of social marketing techniques; and generate public commitment and action to implement the plans. The first two programs, in Latvia and Poland, have begun and include various societal sectors, including government, industry, media, and health care providers.

### **Environmental Tobacco Smoke (ETS)**

ETS is one of the most significant indoor air pollutants affecting children's respiratory health. Exposure to ETS, also referred to as 'second-hand smoke,' or 'passive smoking' has been linked to a variety of respiratory symptoms. Children who live with at least one smoking parent tend to have a higher incidence of bronchitis, pneumonia, otitis media (middle ear infection), and viral respiratory infections than unexposed children. Also, maternal smoking during pregnancy has been associated with low-birth-weight infants, and a greater risk of pulmonary hypertension and lower respiratory tract infections in the newborn. Maternal smoking during pregnancy is also associated with an increased incidence of Sudden Infant Death Syndrome (SIDS).

## **7. Emerging Threats to Children's Health from Endocrine Disrupting Chemicals**

### **7.1 Key Commitments in the Miami Declaration**

- "We encourage continuing efforts to compile an international inventory of research activities, develop an international science assessment of the state of the science, identify and prioritize research needs and data gaps, and develop

a mechanism for coordinating and cooperating on filling the research needs".

- "We pledge to develop cooperatively risk management or pollution prevention strategies, as major sources and environmental fates of endocrine disrupting chemicals are identified and will continue to inform the public as new knowledge is gained".

### **7.2 Implementation Status by Country**

#### **Canada**

The renewed *Canadian Environmental Protection Act* (1999) requires the Ministers of Health and the Environment to conduct research on endocrine disrupting substances (ss.44(3)). Consistent with this requirement, Canada has developed and is now implementing its National Agenda on the Scientific Assessment of Endocrine Disrupting Substances in the Canadian Environment. The goals of the National Agenda are to establish: national leadership and communication on endocrine disrupting chemicals (EDCs); a better knowledge base on the exposure and effects of EDCs in the Canadian environment; national and international harmonisation of screening and testing protocols; and enhanced scientific assessment and action on priority substances.

A national inventory of research projects and activities was compiled in 2000 and these have been added to the web-based Global Endocrine Disruptor Research Initiative Database.

One of the priority areas under the federal Toxic Substances Research Initiative is EDCs (see Canada under section 9.4).

## **Global Endocrine Disruptor Research Inventory**

This compilation of ongoing research projects related to endocrine disruptions was assembled following the recommendation of the Intergovernmental Forum on Chemical Safety (IFCS) and the 1997 Declaration of the Environment Leaders of the Eight on Children's Environmental Health. The International Programme on Chemical Safety (IPCS) agreed to accept this responsibility in conjunction with the development of an international state of the science on endocrine disruption. The initial goal was to bring together and update the existing US Inventory with those of the Canadian government and the European Union. For more information see:

[http://endocrine.ei.jrc.it/gedri/pack\\_edri.All\\_Page](http://endocrine.ei.jrc.it/gedri/pack_edri.All_Page)

### **European Community**

The European Community Strategy for Endocrine Disruptors (1999) is being implemented.

Under the 5th Community Framework Programme for Research and Development (1999-2002), approximately 20 million Euros has been spent on ongoing research projects related to EDCs and another 20 million Euros has been allocated to four new research projects that will begin in 2002. There have been several studies funded by the Commission on exposure to EDCs via drinking water, the development of test methods, data-gathering and in-depth evaluations of specific substances. In June 2001, there was a European Workshop on Endocrine Disruptors in Sweden.

### **France**

France has assessed the risk of four substances (two phthalates and two brominated flame retardants) with the potential to disrupt the human endocrine system. Based on these risk assessments, risk reduction measures were, or soon will be, implemented at the European level.

France has prohibited sales of toys and baby products that children under the age of 3 are likely to put in their mouths, that are made of flexible PVC and that contain certain phthalates.

A program to reduce dioxin emissions has been in place since 1997. Monitoring results confirmed that the incineration of household garbage and the metal industry are the two key sources of dioxin emissions. Subsequent action led to a drop of about 70% of emissions from plants incinerating household garbage between 1997 and 2000. A reduction of the same magnitude was observed in the metal sector.

France also participates in work undertaken under the OECD to develop testing methods to enable identification of substances that interfere with the human endocrine system.

### **Germany**

The federal Ministries for the Environment and Research have supported research projects on "environmental chemicals with effects on the endocrine system" amounting to a total of about 6 million Euros. The projects include database searches and literature reviews, the development of test methods, monitoring selected substances in the environment, toxicological studies, and assessments of the effects on human health and wildlife/ecosystems.

Germany is supporting the OECD activities in reviewing toxicological and ecotoxicological test methods for their ability to detect EDCs. A corresponding national working group has been established.

Work by the International Programme on Chemical Safety (IPCS) and WHO to develop a Criteria Document on "principles for evaluation of health risks for reproduction associated with exposure to chemicals" and setting up of a database on relevant research, has been financially supported from the federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

### **OCED Screening and Testing Guidelines**

In Annex A of the 1997 Declaration, the G8 Environment Ministers agreed to support an OECD initiative to develop a battery of screening and testing guidelines for endocrine disrupting chemicals that considers the special susceptibilities and exposures to children. In 2002, OECD expects to develop, complete, and validate three testing guidelines for endocrine disrupting chemicals.

### **Italy**

Italy contributes actively to the EC Strategy for Endocrine Disruptors, adopted in 1999. The objectives of the strategy are to identify the problem of endocrine disruption, and to identify appropriate policy action on the basis of the precautionary principle to respond quickly and effectively to the problem. The strategy points to the need for further research, international cooperation, communication to the public and appropriate policy action and identifies actions in the short, medium and long-term to meet these requirements.

Italy participated in the European Workshop on Endocrine Disrupting Chemicals held in June, 2001 in Sweden.

### **Japan**

Japan has strengthened its research activities on suspected EDCs. Several inter-ministry activities such as monitoring, development of screening test methods, and risk assessment have been undertaken, especially through the government's Millennium Projects. Moreover, Japan has held international symposia on endocrine disrupting chemicals.

The Ministry of the Environment, which announced the Strategic Programs on Environmental Endocrine Disruptors '98, has conducted environmental monitoring of 65 listed chemicals, investigated fetal exposure to some of them, and held annual international symposia. Also, in March 2001, it has started studies on EDCs at the newly constructed facilities of the National Institute for Environmental Studies.

### **United Kingdom**

The UK has contributed funding to the development of the IPCS and WHO global assessment of the state of the science on endocrine disruption. The recommendations from the IPCS assessment will be compared with an international inventory and gaps identified.

The UK is also contributing to the development of the EC Strategy for Endocrine Disruptors, and to the further development of internationally agreed test guidelines through the OECD.

The UK has an extensive research program on EDCs including research on male reproductive health that is looking at the impacts of pre- and postnatal

exposure to chemicals. Other activities on endocrine disrupting substances are described in *Hormone (Endocrine) Disrupting Substances in the Environment* at <http://www.defra.gov.uk/environment/hormone/index.htm>.

### **Global State-of-the-Science Assessment of Endocrine Disrupting Chemicals**

In response to these concerns, a number of international and national authorities requested that the WHO / United Nations Environment Programme (UNEP) / International Labour Organization (ILO) / International Programme on Chemical Safety (IPCS) take a leadership role in developing a Global Assessment of the State-of-the-Science of Endocrine Disruptors. The objective of this assessment is to provide an international, peer-reviewed scientific report summarising what is known and what uncertainty remains with respect to the health and ecological effects of endocrine disrupting chemicals. For more information see: <http://www.who.int/inf-pr1998/en/pr98-31.html>.

### **United States**

The US research program on EDCs is addressing key questions, such as: what effects are occurring in humans and wildlife; what are the chemical classes of interest; do testing guidelines adequately evaluate potential endocrine effects; what are the major sources and environmental fates of EDCs; and how can unreasonable risks be managed. A Multi-Year Plan that describes the specific research it will conduct through 2007.

The US coordinates its research through a federal Endocrine Disruptor Working

Group that EPA chairs under the National Science and Technology Council.

EPA is also implementing an Endocrine Disruptor Screening Program (EDSP) to screen pesticides, commercial chemicals and environmental contaminants. This program is mandated under the FQPA (1996) and comprises two tiers: Tier 1 identifies the potential substances to interact with the endocrine system and the need for further testing, and Tier 2 develops data to identify adverse effects and information to be used in hazard assessments for human health and wildlife. EPA is developing and validating new assays for the EDSP and coordinating this effort with the OECD.

In August 1999, the National Academy of Sciences issued its state of the science assessment on *Hormonally Active Agents in the Environment*. The report includes effects on reproduction and development.

### **Endocrine Disrupting Chemicals**

Studies of wildlife and laboratory animals have convincingly documented hormone disruption from certain contaminants. While data on the human health effects of endocrine disruptors are still scant, it appears that the embryo, fetus, and young child are at greatest risk of adverse consequences following early exposure to these chemicals. Human reproductive and endocrine systems undergo complex development in fetal life and are thus highly vulnerable to toxic influences at that stage of development. It has been hypothesized (but not proven) that endocrine-disrupting compounds may be at least partly responsible for several disconcerting trends in children's

health. These include a recently reported doubling in incidence of hypospadias (a birth defect involving the shortening of the urethra in baby boys), the increasingly early onset of puberty in young girls, and increases in incidence of testicular cancer.

## 8. Impacts of Global Climate Change to Children's Health

### 8.1 Key Commitments in the Miami Declaration

The Declaration does not contain any specific commitments on this issue but recognizes that "action must be taken to confront the problem of global warming" given that "children and future generations face serious threats to their health and welfare from changes in the Earth's climate".

### 8.2 Status by Country

#### Canada

During 2000 and 2001, the government of Canada committed over \$1.6 billion to climate change initiatives targeting the most cost-effective measures to reduce greenhouse gas emissions. As part of its Public Education and Outreach Program, the government, with partners across Canada, has produced information materials in particular, on climate change and health, including children's health.

In addition to these direct efforts, federal funding through programs such as the Climate Change Action Fund and EcoAction has supported projects such as the the Canadian Institute of Child Health's initiative Changing Habits, Changing Climate which aims to provide parents and health professionals

with information to encourage actions to reduce greenhouse gas emissions at home, in the workplace and in their communities. Canadians and their communities are engaged in actions to reduce their own urban air pollution including those emissions causing climate change to protect human health.

Health Canada has identified the knowledge gaps relating to health and climate change, including vulnerable populations, such as children. A health research agenda has been developed and networks of scientific researchers have formed. Health Canada is also collaborating with several international organizations to develop climate change human health impact assessment guidelines that will help identify the health effects of climate change, including the risks to vulnerable populations such as children, along with possible adaptation strategies.

#### France

The Ministry of the Environment has numerous decrees for enforcement of the *Air Law* adopted in December 1996. This legislation, together with the sound use of energy, helps to address both air quality and climate change concerns.

As an expert advisor to the Ministry, Citepa has just published an emissions inventory of the major atmospheric pollutants responsible for climate change. Other efforts to reduce greenhouse gas emissions include the policy of informing the general public of pollution peaks, to promote the use of public transportation and the participation of 18 companies in discussions to set conditions for implementing voluntary agreements to reduce their greenhouse gas emissions. These 18 companies account for two thirds of such emissions by French industry, and represent the sectors with the heaviest emissions.

## **Germany**

Germany's national climate change program commits itself to reduce carbon dioxide emissions by 25% of 1990 levels by 2005. Between 1990 and 2000, Germany reduced carbon dioxide emissions by 15.3% and greenhouse gas emissions by 18.5%. A research project on Possible Effects of Climate Change on the Spread of Infectious Agents in Germany was initiated in 2000. There are no specific projects on children's health and climate change.

## **Italy**

In 2002, the Italian Ministry for Environment and Territory will publish the Third National Communication under the UN Framework Convention on Climate Change (UNFCCC), updating information and objectives for the implementation of domestic policies and measures to reduce greenhouse gas emissions.

## **Japan**

Japan is contributing to various international fora on climate change. Japan's input is based on close cooperation among several Ministries, especially Environment and Health, as well as cooperation with related parties.

## **United Kingdom**

The UK supports research on the global impacts of climate change, which includes initial assessments of the response of vector-borne diseases, and assessments of mortality rates in major urban centers arising from changing patterns of thermal stress. This work has been published and presented to the fourth and fifth Conferences of the Parties to the UNFCCC. Further details can be found at <http://www.met-office.gov.uk/research/hadleycenter/pubs/brochures/B1999/index.html>

In 2001, the UK published a review on the health effects of climate change in the UK showing that by the 2050's, higher summer temperatures and heat waves are likely to lead to an increase in heat related deaths, and milder winters are likely to lead to a decline in the number of cold related deaths. Warmer temperatures are likely to lead to significant increases in food poisoning. The review also found that the overall effects on vector-borne and water-borne diseases are likely to be small, but that risks associated with severe gales and coastal flooding are likely to increase. In general, the effects of air pollution on health are likely to decline, but the effects of ozone during the summer are likely to increase. Further details can be found at: [www.doh.gov.uk/hef/airpol/climate-change/index.htm](http://www.doh.gov.uk/hef/airpol/climate-change/index.htm).

## **United States**

The US Global Change Research Program is emphasizing understanding the potential consequences of global change on human health, air quality, water quality, and ecosystems in the US. Assessments are also being conducted on ways society can adapt in order to increase its resilience to change. The Global Change Research Program is conducting Health Sector Assessments during the next decade that will provide additional insights about the potential impacts of climate change on children's health.

The US is working with partners such as WHO to better understand the potential impacts of climate change on human health, including children's health. For example, EPA is supporting the WHO effort to revise its 1995 assessment report, Climate Change and Human Health. The revised report will be completed in 2002.

EPA is also working with several countries, including Argentina, Brazil, Chile, China, India, Mexico, South Africa, and South Korea, to evaluate and implement integrated strategies to reduce air pollutants and greenhouse gas emissions while improving public health and economic sustainability.

## 9. Other Programs and Initiatives on Children's Environmental Health

### 9.1 International Collaboration by Country

#### Canada

The federal government co-funded the conference Children's Environmental Health II: A Global Forum for Action, in Washington DC, in September 2001 with the US. The Forum was an example of government-NGO cooperation on children's environmental health.

Canada was the first country to ratify the 1998 Protocols on Persistent Organic Pollutants and Heavy Metals under the UN ECE Convention on Long-Range Transboundary Air Pollution. Canada was also the first country to sign and ratify the Stockholm Convention on Persistent Organic Pollutants (2001).

The federal government is collaborating with Mexico and the US on a program on children's environmental health under the North American Commission on Environmental Cooperation.

#### **Children's Environmental Health II: A Global Forum for Action September 8 -11, 2001, Washington, D.C.**

The Forum built on the momentum, themes and networking generated at

the First International Conference on Children's Environmental Health, held in Amsterdam, in August 1998, where the International Network on Children's Health Environment and Safety was established. The Forum was co-hosted by the Canadian Institute of Child Health and the US Children's Environmental Health Network with the participation from the WHO, PAHO and other international non governmental organizations. The objectives of the Forum were to promote a common framework and understanding of the unique susceptibilities of children, encourage collaborative efforts among different sectors of society on a global scale, promote action and policy change to protect children, highlight the latest science and best practices in policy and program and facilitate participation from developing countries. More than 300 participants from around the world, including from developing countries participated in this event. A key outcome of the Conference was a Joint Declaration which can be found at <http://www.cich.ca/Declaration.htm>

#### **European Community**

The European Commission is a member of the European Environment and Health Committee (EEHC) and is participating in the preparation of the Fourth WHO Regional Office for Europe Ministerial Conference on Environment and Health that will take place in 2004 in Budapest. There was an EC/WHO seminar on Environment and Health held in September 2000 in Brussels, which discussed cooperation on priority issues and decided on concrete actions, some of them are addressing children. Further co-operation programs are to be developed with the EPA, North American Commission for Environmental Cooperation, and WHO.

### **Third European Ministerial Conference on Environment And Health**

In June 1999, the Third European Ministerial Conference on Environment and Health adopted the London Declaration and an accompanying action plan on children's environmental health. The Conference included a session on Children's Health and Environment and an event titled Children in Focus-Research and Policy Action. In addition, the Healthy Planet Forum, a public satellite event, focussed on Children and Environmental Health: Vulnerable, Valuable and at Risk. In the Declaration, the Ministers supported the 1997 G8 Declaration "as a framework for developing policies and actions for our countries".

#### **France**

Through various Conventions and with various partners, such as WHO, UNICEF, and the World Bank. France is committed to promoting the protection of children's health by improving their environment. For example, France has signed the Stockholm Convention on Persistent Organic Pollutants and expects to ratify it by September 2002.

France works actively at the European level. For example, the third pole of the European centre concerning environment and health is located in Nancy. France also participates in the national and international action plans addressing environmental threats to the health of young people.

Many institutional and inter-organizational agreements facilitate an inter-sectoral focus on health, environment and development issues. Among the targeted issues are water (the Global Water Partnership and the Water Supply and Sanitation Collaborative Council bring

together the main players in these fields to create a group of specialists dealing with major issues on water); chemicals (the International Programme on Chemical Safety); climate change (for example, the Urban Forum created following the UN Habitat II Conference); and public health (the Schools for Health Promotion Programme to which the Council of Europe, the European Commission and the WHO belong).

#### **Germany**

Germany has actively supported environmental health activities at the WHO-Regional Office for Europe, including the 1999 Ministerial Conference on Environment and Health in London, where children's health and the environment was one of the conference topics. Germany also supported WHO projects including the meeting of experts on Environmental Affairs and Child Health: Consequences for Risk Assessment (2000), and establishing a European platform on children's environment and health.

Germany participated in the Global Forum on Children's Environmental Health held in Washington DC, in September 2001.

#### **Italy**

Italy participates in the work of the EEHC. During the Fourth meeting of the EEHC held in November 2001, in Istanbul, the Committee decided that environmental protection for future generations will be the key theme of the Fourth WHO Regional Office for Europe Ministerial Conference on Environment and Health that will take place in 2004 in Budapest.

#### **Japan**

Measures under the Japanese international Initiatives for Sustainable Development Toward the 21st Century



include the improvement of water and sanitation infrastructure, the prevention of water pollution related diseases and bad influence on residential environment, etc. Under these Initiatives, in fiscal year 2000, Japanese development assistance on environmental issues, including those which have positive impacts on children's health, reached 542.5 billion Yen, more than 30% of the total official development assistance committed that year.

Bilateral initiatives include: i) Japan and the Republic of Korea have decided to cooperate to promote and enhance environmental protection by fostering research and development on endocrine disrupting chemicals, dioxins/furans and PCBs; and ii) Japan and the UK decided to cooperate to promote studies and basic research on EDCs.

Japan has contributed to the work of several international organizations, including the OECD, UNEP and IFCS. Japan is now preparing to sign and ratify the Stockholm Convention, if possible, prior to the World Summit on Sustainable Development later in 2002.

### **United Kingdom**

In December 2001, the UK signed the Stockholm Convention on Persistent Organic Pollutants.

Three G8 countries (UK, US and Canada) are partners in the Global Alliance for Vaccines and Immunization (GAVI), an international initiative to improve child health through immunization. Though not directly a child environmental health initiative *per se*, GAVI, which amongst other things promotes the use of auto-disable syringes, has implications for environmental health which GAVI partners (both G8 and others) will need to address.

### **United States**

In December 2000, EPA published America's Children and the Environment: A First View of Available Measures, a first report on trends in measures reflecting environmental factors that may affect the health and well-being of children in the US. The report is a compilation of quantitative information to show trends in: levels of environmental contaminants in air, water, food, and soil; concentrations of contaminants measured in the bodies of mothers and children; and childhood diseases and disorders that may be influenced by environmental factors. A second edition of the report is being prepared for release in Spring 2002.

The federal government is collaborating with Mexico and Canada on a program on children's environmental health under the North American Commission on Environmental Cooperation.

In a collaborative effort, the US has supported the establishment of a new pediatric unit in Cuernavaca, Mexico. This pediatric unit will work as part of the existing Pediatric Environmental Health Specialty Unit network in the US and Canada. This network is managed by the Association of Occupational and Environmental Clinics and established by the Agency for Toxic Substances and Disease Registry of the US Department of Health and Human Services and the EPA.

The federal government co-funded Children's Environmental Health II: A Global Form for Action in Washington DC in September 2001 with Canada.

## 9.2 Other Government Initiatives by Country

### Canada

In 2000, Health Canada and Environment Canada established focal points to ensure that children's environmental health is considered in relevant policies and programs, and to coordinate departmental activities on this issue.

The federal government's natural resource departments (Agriculture and Agri-Food Canada, Environment Canada, Fisheries and Oceans Canada, Health Canada, Indian and Northern Affairs Canada, and Natural Resources Canada) have made children's environmental health a priority, established an inter-departmental committee, and held a workshop to consider the development of a federal agenda on children's environmental health.

The Community Animation Program is a joint funding initiative of Health Canada and Environment Canada that helps build the capacity of groups to understand and take action on environmental health issues. Many of the community projects funded involve or focus on children. Health Canada also provides funding for projects on children's environmental health under the Population Health Fund.

The Department of Indian Affairs and Northern Development coordinates work on the program Children and Youth in the North. As well, the Northern Contaminants Program has funded relevant research, including studies on the exposure of pre-school children to PCBs and methylmercury, and PCBs and infant development.

Environment Canada, together with pharmacists, have begun an initiative to

reduce mercury levels in the environment by safely collecting and disposing of unbroken mercury fever thermometers as part of a Mercury Fever Thermometer Take Back pilot project. While mercury fever thermometers are safe to use, the toxic liquid metal that spills from broken fever thermometers is a risk to human health and the environment. This initiative aimed at preventing mercury contamination is an important first step toward providing Canadians with a safe and simple collection and disposal option.

### European Community

Environment and Health has been identified as a priority under the European Community's Sixth Environment Action Programme. The Programme stresses that a more holistic policy approach is needed to address relationships between different environment-related health risks, emphasising that more attention should be given to particularly vulnerable groups, in particular, children. A communication of the European Commission, setting up the basis for a new Community Strategy on Environment and Health, is under development.

A Communication on a Community Strategy for Dioxins, Furans and PCBs (COM(2001)593 final) was adopted by the Commission on 24 October 2001. The Environment Council adopted the conclusions of the Commission Communication in December 2001.

In February 2001, the European Commission adopted a proposal setting out the strategy for a future Community Policy for Chemicals. The main objective of the new Chemical Strategy is to ensure a high level of protection for human health and the environment, while ensuring the efficient functioning of the internal market and stimulating

innovation and competitiveness in the chemical industry. New legislation is being prepared accordingly.

### France

Of the various environmental determinants of health, there have been developments in French policy on water supply quality, noise control and the prevention of indoor and outdoor air pollution.

In 2001, a new draft health policy was released, together with a draft bill, to modernize the French health system. The government intends to organize public health priorities along new lines, most of which either directly or indirectly cover children's environmental health. For example, there is an action plan for asthma that takes special account of children. Also, there are specific action programs that cover children's health, particularly through the 2001 National Plan for Health Education. The Plan provides for the training of professionals involved, developing research and establishing a national health education network capable of developing quality, timely actions.

Health and safety legislation and policy has made it possible to create health and safety agencies and the Institute for Health Monitoring. The National Council for Health Monitoring, a coordinating body, has been meeting under the presidency of the Health Minister to study major challenges for health policy. At the same time, new regulations establish the conditions under which each caregiver in the health system should be careful to reduce risk and to intervene if necessary. Moreover, Parliament created the Agency for Environmental Safety in 2001, providing a tool for environmental monitoring and warnings.

### Germany

A Resolution on Environment and Health, adopted by the German federal parliament in January 2001, requested the federal government to put strong emphasis on the issue of environmental health of children. The Resolution emphasises the need for research and regular surveys of children's environmental health.

The federal government's revised Working Procedure (*gemeinsame Geschäftsordnung*) (2000) requires the federal Ministry for Family Affairs, Senior Citizens, Women and Youth to be consulted if anticipated legislative regulations might affect children.

The federal *Soil Protection Act* (1988) sets trigger values for 14 substances (heavy metals and organic pollutants) for playgrounds (excluding play sand) in the relevant Ordinance of 12 July 1999. Trigger values are concentrations in soil which, if exceeded, require investigation.

Phthalates have been forbidden in teething-rings and toys intended for children of less than 36 months, if those toys contain plastic material and may be taken into the mouth by children (federal Ordinance of March, 2000).

### Italy

Italy has transposed into legislation the provision of the EC on lead exposure.

Italy has adopted two laws on drinking water that establish measures to protect and to improve hydrological resources, such as lakes, coastal marine areas, transboundary waters, artificial hydrological resources, and underground waters.

With respect to air quality, environmental tobacco smoke, and endocrine dis-

rupting chemicals, Italy has transposed the EC communications into national legislation.

### **Japan**

The Japanese Pollutants Release and Transfer Register (PRTR) entered into force in 2001, under the *Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management*. Under the Law, 354 substances are currently subject to the PRTR and 435 substances are required to provide material safety data sheets.

### **United Kingdom**

The UK achieved its target commitment in the Protocol on Volatile Organic Compounds under the UN ECE Convention on Long-Range Transboundary Air Pollution. In December 1999, the UK signed the UN ECE Protocol to Abate Acidification, Eutrophication and Ground-Level Ozone (the Gothenburg Protocol).

Last year, the UK transposed into legislation the provisions of the European Commission Air Quality Framework and 1st Daughter Directive that set ambient air quality limit values for four pollutants.

In July 2001 the UK, as part of the EC, agreed the National Emission Ceilings Directive, which covered similar ground to the Gothenburg Protocol but which set even more stringent emission ceilings for some pollutants.

The UK recently published proposals to strengthen several air quality objectives, including particles, in its Air Quality Strategy.

The government set up the School Travel Advisory Group in 1998 to pro-

vide alternatives to the car whilst at the same time improving safety on the journey to school. Various initiatives have been set up to encourage the voluntary adoption of travel plans by businesses, schools, hospitals, local authorities and other major employers.

### **United States**

Additional initiatives include the protection of school children from unnecessary exposure to pesticides used in schools. EPA is encouraging school officials to adopt Integrated Pest Management practices to reduce exposure, and has published over 1 million copies of a brochure to aid in this work.

In December 2001, Congress enacted brownfield legislation to encourage revitalization and reutilization of the nation's brownfields. A brownfield site is defined generally as real property where redevelopment or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant. In some cases, brownfields have been cleaned up and replaced with parks for children.

### **International Conference on Environmental Threats to the Health of Children: Hazards and Vulnerabilities, Bangkok, Thailand, 3-7 March 2002.**

The Conference was organized by the World Health Organization (WHO) and the Chulabhorn Research Institute. The five day conference addressed new scientific data and research results on the special vulnerability of children to environmental hazards. It aimed to increase awareness of different sectors about children's environmental health issues. Participants included professionals

from the health, environment and educational sectors. The focus was on environmental issues in South-East Asia and the Pacific. One of the key outcomes of the conference was the Bangkok Statement addressing four areas critical to children's environmental health: protection and prevention; health care and research; empowerment and education; and advocacy.

### 9.3 Additional Initiatives by Country

#### Canada

- In 1997, the Canadian Institute of Child Health organized a national workshop on children's environmental health, with support from the federal government.
- The Laidlaw Foundation (a private foundation) launched a new funding initiative to support projects on children's environmental health in 1998.
- In 1999, the Canadian Public Health Association adopted a Motion on children's environmental health.
- In 2000, the Canadian Environmental Law Association and the Ontario College of Family Physicians released a comprehensive report on Environmental Standard Setting and Children's Health.
- The Canadian Association of Physicians for the Environment has a website on children's environmental health at: <http://children.cape.ca>

#### European Community

- Among other programs and actions, the following two concentrate on children: i) A seminar on children's

Health and Environment is to be held during the Green Week, 2002 (Brussels 15-19 April 2002). Green Week is the most important annual event of the Directorate General for Environment. The seminar will focus on chemicals, air pollution, noise, the impact of radiation and accidents; ii) A workshop on the effects of ionizing radiation during the early phases of pregnancy was held in November 2001.

#### France

- Many programs have been implemented; including participation in the national policy for cooperation in the field of children's environmental health.
- Joint work objectives have been established by the National Institute of Health and Medical Research, the National Center for Scientific Research, the National Institute of Demographic Studies, teaching hospitals and territorial authorities.
- In 1998, a framework agreement was signed by the National Ministry of Education, the Ministry of Research and Technology, the Conference of University Presidents and the National Institute of Health and Medical Research. Furthermore, a program to synthesize and evaluate scientific knowledge on ways of improving child and adolescent health was agreed upon by the National Institute of Health and Medical Research and the National Health Insurance Fund.

#### Germany

- In June 1999, the federal Ministers of Health and the Environment published a joint Action Program on Environment and Health. Children's environmental health is one of the main areas of activity.

- There was a meeting on Children's Environment and Health in the New Federal States in November 2000.
- There was a scientific symposium on Children's Environment and Health: Status, Deficits, and Proposals for Actions, held in February, 2001.
- In November 2001, the federal Ministries of Health and the Environment convened a forum on Children's Environment and Health in collaboration with the City of Munich. A Children's Agenda for Health and Environment was released at the forum.
- The federal Ministry of Health has created a national Alliance for Allergy Prevention.

### **Italy**

- In 2000, Italy published the National Environmental Strategy for Sustainable Development, developed in consultation with regions, trade unions, private sector representatives, and NGOs.
- The 2001 *Financial Law* (n. 388/2000) has introduced important environmental protection measures and allocates funds to the improvement of the environmental quality and environmental education and information.
- Italy has promoted voluntary instruments for environmental protection including: voluntary agreements with private sector companies, especially those in the transportation and energy sectors; certification, such as Ecolabel and ISO (International Organization for Standardization); and Environmental Management Systems, such as the European Eco-

Management Audit Scheme.

- In April 2001, the Ministry for the Environment and Territory, in collaboration with local authorities, promoted a project on Sustainable Cities for Boys and Girls, with the objective of improving the quality of children's urban life and their relation with the environment.

### **Japan**

- The Ministry of the Environment conducts a Comprehensive Environmental Survey of Chemical Substances to investigate levels of harmful chemicals in the ambient environment. By 1999, 782 such substances were subject to this survey.
- The Ministry of the Environment collects information on other studies on environmentally hazardous chemicals.

### **United Kingdom**

- In February 2001, the Chancellor of the Exchequer and the Secretary of State for International Development hosted a high-level, international conference on child poverty to promote international efforts on reaching the 2015 poverty reduction targets and the need for sustainable development strategies for all countries by 2005.
- The UK government has taken a leading role in establishing the Global Fund to fight HIV/AIDS, tuberculosis and malaria. The UK has so far pledged \$200 million to the fund over five years. Total commitments from the public, private and voluntary sector now equal \$1.8 billion.

- The rate of SIDS has reduced by 70% since 1991, following advice issued on avoiding risk factors. The related publicity campaign entitled Reduce the Risk of Cot Death continues.
- The Sure Start scheme, introduced in 1998, provides support and advice for less privileged families with children under 4 years of age. Other initiatives include more antenatal care in deprived areas, help with giving up smoking and more postnatal support.
- The UK's priority for the UN General Assembly Special Session on Children (May 2002) is to consolidate commitments to action to achieve the child-related Millennium Declaration Goals, including those for reducing child mortality and improving access to safe water and sanitation and improved hygiene practice.

**The United Nations General Assembly Special Session on Children** is an unprecedented meeting of the UN General Assembly dedicated to the children and adolescents of the world. It will bring together government leaders and Heads of State, NGOs, children's advocates and young people themselves at the United Nations in New York, May 8-10, 2002. The gathering will present an opportunity to change the way the world views and treats children. UNICEF serves as the Secretariat.

## United States

- The American Academy of Pediatrics for Chief Pediatric Residents is implementing a four-year project to heighten awareness of pediatric environmental health issues in residency training programs.
- The Ambulatory Pediatric Association is developing a new Pediatric Environmental Health Fellowship Training Program, funded by the Educational Foundation of America, the New York Community Trust, and EPA.
- The American State and Territorial Health Officials and Environmental Council of States is developing state profiles on children's environmental health in all fifty states. EPA is also working with these organizations to develop a state-focussed childhood asthma reduction campaign.
- The National Council of State Legislatures and EPA are working together to produce a guide to legislative policy options for legislators, track children's environmental health legislation, conduct a national children's environmental health meeting, provide technical assistance to state legislatures, and develop a children's environmental health information clearinghouse.
- The National Governors' Association and EPA are working together to develop the connection between smart growth and design initiatives and the protection of children's health.
- As part of the US Youth Strategy, the US is working with over 10 million children in five youth-based organizations (Boy Scouts, Girl

Scouts, National 4-H Club, Future Farmers of America, and the United Nation Indian Tribal Youth Corporation) to incorporate children's environmental health topics into their programs.

- EPA is developing a strategy for older Americans to work directly with youth organizations to implement children's environmental health information and activities.
- The University of Wisconsin-Extension completed a project to reduce and eliminate mercury usage in schools throughout the Great Lakes states.

## 9.4 Scientific Research by Country

### Canada

In 1998, the federal government launched the Toxic Substances Research Initiative, a \$40 million research fund that supported research in five specific priority areas, each of which are designed to benefit ecosystems and specific populations at risk such as children. The five research priority areas included persistent organic pollutants, metals in the environment, endocrine disrupting chemicals, urban air quality, and the cumulative effects of toxic substances on health and the environment.

Health Canada and Environment Canada sponsored a Canadian children's Environmental Health Research Workshop in March 2002 focussing on: assessing exposure to environmental contaminants; childhood cancer; asthma and respiratory diseases; reproductive and developmental outcomes; neuro-developmental disorders; and endocrine and immunological out-

comes. The workshop discussed: the current state of knowledge; Canadian research in this area; and identified Canadian children's environmental health research priorities.

### European Community

Studies on dioxins and PCBs have been initiated, including a compilation of information on exposure to dioxin and its effects on health, the European Dioxin Inventory, and studies on dioxins and persistent organic pollutants in waste and their potential to enter the food chain, etc.

Research is one of the most important pillars of the new Community Strategy on Environment and Health.

### France

Between 1996-2000, the French government invited research proposals under its Health-Environment Program. Eleven of the selected projects dealt explicitly with children's health. Among the eight projects directly financed by the Department of the Environment, three focussed on the effects of radiation on child leukemia and three on the effects of heavy metals. One concerned infection risks, and one targeted asthma risk factors. Two of the three remaining projects focussed on maternal exposure. Overall, projects concerned with children's environmental health represented 8% of the projects selected and financed.

### Germany

An Environmental Health Survey is planned in combination with the German Health Survey on Children and Adolescents. The survey will be finished by 2005.

In Baden-Württemberg there has been a sentinel environmental health surveillance system since 1992. The system



collects data on the body burden (heavy metals and organic chemicals) of a ten-year old child and their health status (chronic respiratory disease and allergies).

The federal Environment Agency is compiling an inventory of environmental health studies in Germany. Relevant studies include epidemiological studies of health effects of traffic-related emissions in children (1995–1997); and the influence of motorised traffic on allergic and asthmatic diseases in children living in the Munich area (2001).

### Italy

Italy contributes the results of its scientific research on EDCs to the European Commission and the OECD.

The Ministry for the Environment and Territory is collaborating with the Rome Division of WHO European Center for Environment and Health on research and monitoring programs on health effects of climate change and stratospheric ozone depletion.

### United Kingdom

The UK has undertaken the largest-ever epidemiological study of landfill sites and birth outcomes, and further research on this issue is underway (see <http://www.doh.gov.uk/landh.htm>). An epidemiological study is underway on chlorination by-products in drinking water and birth outcomes. There is also a program of epidemiological studies on environmental and occupational exposure to chemicals and male reproductive health, which includes work on exposures to the fetus and child.

The UK has initiated major research program (approximately £4 million, none specifically aimed at children's health) to understand EDCs and the impacts they may be having on human health and the

environment. A pilot study is underway to develop a breast milk bank.

### United States

EPA is implementing the Strategy for Research on Environmental Risks to Children (2000) to strengthen the scientific foundation of EPA risk assessments and risk management decisions that affect children. The Strategy provides a framework of research needs and priorities to guide its programs over the next five to ten years and includes a stable, long-term core program of research in hazard identification, dose-response assessment, exposure assessment, and risk management. The Strategy also includes problem-oriented research that addresses current critical needs identified by EPA program offices and encompasses research performed by EPA in-house scientists and research supported through the Office of Research and Development's Science to Achieve Results grants program.

In conjunction with the National Institute of Environmental Health Services, EPA has funded 12 children's Environmental Health Research Centers to focus on specific children's environmental health issues (e.g. the Center at the University of Southern California focusses on the relationship between environmental tobacco smoke and asthma in children).

In the *Children's Health Act* (2000), Congress directed the National Institute of Child Health and Human Development to establish a consortium of federal agencies to design and implement a national birth cohort study. The National Children's Study will follow a cohort of children from as early in pregnancy as possible to adulthood to evaluate the effects of chronic and intermittent exposure on child health and human development.

The Children's Environmental Health and Safety Inventory of Research is a publicly accessible database created and maintained in response to Presidential Executive Order 13045 (Protection of Children). The database is available to the public, scientific, and academic communities, as well as all federal agencies.

## 10. Future Plans by Country

### Canada

- Continue to work to ensure the protection of children's environmental health, including taking action on high priority issues, such as lead and air quality, integrating children's environmental health into policies, programs and other initiatives, as appropriate, and examining how children's environmental health is addressed under the *Canadian Environmental Protection Act* (1999), when this Act becomes subject to review.
- Maintain and strengthen partnerships on children's environmental health with provincial/territorial government agencies, research and academic organizations, the private sector, and NGOs.
- Support and participate in regional and international initiatives on children's environmental health, such as the children's environmental health initiative under the North American Commission for Environmental Cooperation.

### European Community

- The European Commission is preparing a Communication on Environment and Health, scheduled to be adopted by the end of 2002. The Communication will establish a

strategy to reduce the effects of environmental hazards on health, paying special attention to children.

### France

- Extend collective efforts in the framework of the National Programme Against Climate Change.
- Further integrate concerns for children in health policies.
- Increase cooperation between the Health and Environment Ministries.
- Continue with the process leading to ratification of the Kyoto Protocol.

### Germany

- Strengthen the dialogue between the public, stakeholders and government officials through a second public forum on children's environment and health.
- Better integration of efforts on children's environmental health with sustainable development.
- Establish organizational infrastructure responsible for children's environmental health within the federal government.
- Strengthen cooperation among ministries with particular emphasis on effects of traffic and on research.

### Italy

- Adopt the National Environmental Strategy for Sustainable Development by the end of 2002.
- Implement Local Agenda 21 for sustainable development and the promotion of public-private partnerships.
- Engage civil society by promoting public participation in decision-making processes, and consult with

NGOs, the public, government officials, trade unions, and the private sector.

- Continue to participate in the activities of international organizations.

### Japan

- Continue to address the problem of EDCs in risk assessments
- Continue to make efforts to conclude international conventions, such as the Stockholm Convention on Persistent Organic Pollutants, and to support international organizations.
- Strengthen efforts to reduce environmental risks by using data from the PRTR and other hazard information, and improving risk communication among the public, industries, and government.

### United Kingdom

- The National Health Service Plan outlined plans to introduce "effective and appropriate screening programs for women and children" by 2004, including a comprehensive national screening program to detect thalassaemia and sickle cell disease in pregnant women and newborn babies.
- The Antenatal sub-group of the UK National Screening Committee is reviewing antenatal screening programs. The first program to be examined was screening for Down's Syndrome and the National Health Service has been advised that all pregnant women should be offered second trimester screening.
- A new hearing test for babies is being piloted that will replace the current infant distraction test.

### United States

- The US will continue to support and participate in regional and international initiatives on children's environmental health, such as the children's environmental health initiative under the North American Commission for Environmental Cooperation.
- The US will continue to work to ensure the protection of children's environmental health through partnerships and through integration into core programs.
- EPA is currently working on the second version of its indicators report, America's Children and the Environment, due out in 2002.

## 11. Key Findings and Conclusions

### 11.1 Key Findings

Since 1997, many countries as well as international organizations have become more concerned about the need to protect children's health from environmental hazards, for example, the WHO's Regional Office for Europe launched its program on children's environmental health in 1998 and the Third Ministerial Conference on Environment and Health's London Declaration (1999) recognized the importance of this issue. It is likely that the Miami Declaration helped to raise national and international awareness of children's environmental health and helped to promote activities that are protective of children's health.

The information presented in this report indicates that most G8 countries, and the European Commission, have a range of legislation, regulations, policies, plans,

programs and other activities that are intended to protect children's health from environmental hazards. Most of these initiatives protect children as part of the general population and a few are targeted specifically at protecting children's health. For example, countries have taken action to ensure microbiologically safe drinking water, but in most cases national regulations, standards and guidelines protect children as part of the general population. One country, the US, mentioned that its new rules on Cryptosporidium and disinfection by-products specifically take account of children's potential exposures and effects.

### Partnerships

One of the main features of G8 countries' initiatives on children's environmental health is the extent to which national governments work in partnership with other types of organizations. Partnerships are a very important aspect of many initiatives, especially research studies and projects that focus on public education and information. Key partners on children's environmental health activities include:

- International organizations, including the World Health Organization and its Regional Office, European Environment and Health Committee and the Task Force for the Protection of Children's Health and the Environment, the Organization for Economic Cooperation and Development, and the North American Commission on Environmental Cooperation;
- Other levels of government, including state and provincial government agencies, and local authorities;
- Academia, including universities and other research institutions;

- Civil society organizations, including health care organizations, trade unions, national and international NGOs, and community organizations;
- Health care professionals, educators, the media; and
- The private sector.

As well as establishing partnerships on children's environmental health with other types of organizations, many G8 governments have developed close internal links. Links between different departments at the federal/national level of government are now much stronger than in 1997. For example, in Canada the federal government's natural resource departments have collaborated to make children's environmental health a joint priority.

### North American Commission for Environmental Cooperation - Children's Health and the Environment in North America

Within North America, children's environmental health is gaining attention. At the June 2000 Council meeting of the Commission for Environmental Cooperation, the Environment Ministers of Canada, Mexico, and the US adopted Council Resolution 00-10 on children's Health and the Environment. The Resolution commits the Parties to work together to develop a cooperative agenda to protect children from environmental threats. As a starting point, the agenda focusses on specific environmentally-related impairments to good health, such as asthma and other respiratory diseases, the effects of lead, including lead poisoning, and the effects of exposure to other toxic substances. Increasing public awareness and providing parents and communities

with information on environmental threats to their children's health, were also recognized as priority needs. The Resolution also calls for the formation of an Expert Advisory Board to provide advice to Council on matters of children's health in the environment, which was formally established in the Fall of 2001.

### **World Health Organization Task Force for the Protection of Children's Environmental Health**

The Department for the Protection of the Human Environment set up a Task Force for the Protection of Children's Environmental Health in July 1999 in response to the growing concern and specific needs expressed by countries. The G8 Declaration states some of the main environmental health threats and sets priorities for action, calling for the specific participation of WHO. The Task Force's activities aim to raise awareness on the subject and promote the recognition, evaluation and mitigation of the main, emerging and re-emerging environmental threats menacing children's health. The mission of the Task Force is to prevent disease and disability in children associated with chemical and physical threats, taking into consideration biological risks in the environment and acknowledging the importance of social and psychosocial factors. To achieve this mission, the Task Force will promote activities on the identification, assessment, mitigation and prevention of, as well as communication about, environmental threats.

### **Impacts and Outcomes**

There have been several positive consequences of national and international initiatives on children's environmental health.

The single most important outcome of efforts on children's environmental health is that children's exposures and risks to environmental hazards have been reduced. Perhaps the clearest example of this is lead, where the phase-out of leaded gasoline and other government measures have had a dramatic effect on lead levels in ambient air and on blood lead levels in children. For example, Italy reported a significant decrease in lead levels in air, water and food and the UK reported that between 1984 and 1995 median blood lead levels in children fell by a factor of between 3.6 and 5. These decreases are likely to have important public health and economic benefits. A second example of reduced exposures and risks is ETS, with many countries now implementing measures that reduce children's exposures at home and in public places. The US is partnering with the WHO to launch programs to reduce childhood exposure to ETS in several countries including Poland, Latvia, and two nations in Asia. These, and other programs, are likely to have significant benefits for children's health.

Two other important outcomes of efforts on children's environmental health are the increased national and international awareness of the need to protect children's environmental health, and the creation of multi-disciplinary, multi-sectoral partnerships on this issue, as discussed previously.

## 11.2 Issue-by-Issue Conclusions

### Risk Assessment and Standard Setting

Risk assessment and standard setting processes in many G8 countries have recently been revised, or are being revised, to take account of the need to protect children's environmental health. This includes considering children's unique exposures, physiology, and the potential for effects at different stages of development. Where reliable data are not available, some countries, such as the US, are incorporating extra uncertainty factors to protect children's health.

Further work on this issue may be helpful in several areas, especially ensuring that scientific information is shared among countries and communicated to government decision-makers, so that international and national policies and programs can be based on the best available information. There is also a need to encourage and support more toxicological and epidemiological studies on children's environmental health, and to consider when and how the precautionary principle or precautionary approaches should be applied.

### Lead

Substantial progress has been made on the commitments relating to lead in the 1997 Declaration: blood lead levels in children have been significantly reduced; the OECD Declaration on Lead Risk Reduction is being implemented; measures have been taken to reduce children's exposure to lead, such as phasing out leaded gasoline; public awareness campaigns have been conducted; and surveillance programs have been designed and implemented.

But although lead in air is an important success story, further work may be

needed with respect to lead in drinking water. Many G8 countries have lead service connections in older buildings that link the municipally treated and supplied drinking water with domestic systems. These connections can give rise to significant levels of lead in drinking water, unless preventive and/or corrective measures are taken. Other sources of lead exposure to be addressed include those found in products, especially children's toys.

### Microbiologically Safe Drinking Water

Most, if not all G8 countries, have regulations, standards or guidelines for microbiological hazards in drinking water, although in most cases children's environmental health was not explicitly considered in the risk assessment processes that gave rise to the regulations, standards or guidelines. In the future, it may be important to ensure that children's environmental health is considered to the extent possible.

Another important area is the need to ensure safe and sanitized drinking water for children in developing countries. Several G8 countries, including Canada, the UK and the US, outlined programs to assist developing countries in this regard.

### Air Quality

Several G8 countries, including France and the UK, reported improvements in air quality since 1997 for some pollutants. Others described the measures they have put in place to control emissions from various industrial sectors, and the transportation sector. A few mentioned initiatives on indoor air quality that are relevant to children's environmental health: The Indoor Air Commission of the German Environment Agency is developing guidelines that consider children's

health; and the US has developed a Tools for Schools program that is being revised and adapted for use in Canada.

Since children in the G8 countries usually spend the majority of their time in indoor environments and indoor environments can have higher levels of some air pollutants than outdoor environments, it will be important to ensure that G8 countries strengthen their activities on indoor air quality, while continuing to improve outdoor air quality including, *inter alia*, the actions taken under the UN ECE Convention on Long-Range Transboundary Air Pollution.

### **Environmental Tobacco Smoke (ETS)**

Many G8 countries are now implementing measures that reduce children's exposures to ETS at home and in public places. These measures include encouraging smoking cessation among adults and young people who already smoke, working to prevent young people from starting to smoke, and voluntary and regulatory means of reducing non-smokers' exposure to ETS. Voluntary measures include the UK's Public Places Charter and advertising campaigns that emphasise the hazards of ETS. Regulatory measures include local bylaws and ordinances that prohibit smoking in public places or require separate facilities to be provided. Ongoing efforts will be needed to continue to reduce children's exposure to ETS.

### **Endocrine Disrupting Chemicals (EDCs)**

The international inventory of research on EDCs has been completed and an international science assessment will be released within the next two months. Many G8 countries are participating in the assessment.

After the completion of the science assessment, G8 and other countries will develop a coordinated research strategy and cooperate on risk management and pollution prevention strategies. Much work will be needed to communicate the risks of EDCs to the public effectively.

### **Climate Change**

As noted previously, several G8 countries have taken action to address the impacts of global climate change on children's health, although there are no specific commitments in the Declaration. Key among these are Germany's national climate change program which commits to a reduction of carbon dioxide emissions by 25% of 1990 levels by 2005, and Italy, which has developed national strategies and objectives to reduce its greenhouse gas emissions consistent with the Kyoto Protocol, and Canada, which has supported projects on climate change and children's health.

Future work on the effects of climate change on children's health could address the need for adaptation strategies, including those based on public education and awareness.

### **Other Programs and Initiatives on Children's Environmental Health**

G8 countries reported a variety of other programs and initiatives on children's environmental health. All countries are participating in international activities on this issue, including organizing and participating in workshops and conferences, collaborating with international agencies, and signing, ratifying and implementing international agreements, such as the Stockholm Convention on Persistent Organic Pollutants. A few countries, including Japan and the US, mentioned official development assis-

tance for projects related to children's environmental health. The huge differences in childhood mortality and morbidity rates between developed countries and developing ones suggests that future work by G8 countries could place a greater emphasis on building the capacity of developing countries to protect children's environmental health.

The G8 countries also described additional government policies, plans and programs, activities of other types of organizations, and key scientific research and monitoring and surveillance on children's environmental health. The summaries provided suggest that individual countries are responding to their own unique needs and circumstances, while developing mechanisms to coordinate and collaborate internationally on this issue.

### **Future Plans**

Most countries outlined their future plans for work on children's environmental health. These plans range from a continuation of current initiatives to plans for innovative, new activities. Plans included establishing organizational infrastructure on children's environmental health and strengthening links among government departments, public education and awareness activities, participating in international activities, engaging stakeholders, strengthening research, monitoring and surveillance, and launching new risk management initiatives.

The nature and scope of G8 countries' future plans on children's environmental health indicates that this issue is perceived as an important priority for action.



## Appendix A: Summary of Implementation of the

# 1997 Declaration of the Environment Leaders of the Eight on Children's Environmental Health

	<b>Risk Assessment &amp; Standard Setting</b>	<b>Lead</b>	<b>Microbiologically Safe Drinking Water</b>	<b>Air Quality</b>	<b>Environmental Tobacco Smoke</b>	<b>Endocrine Disrupting Chemicals</b>	<b>Climate Change</b>
<b>Canada</b>	Federal legislation takes account of potential effects on children	New regulations restrict lead content in children's products and paints  Canada banned lead additives in on-road vehicles in 1990	Municipal water quality must comply with provincial requirements, based on the Guidelines for Canadian Drinking Water	Canada-wide Standards and a new federal Clean Air Plan are being implemented	The national strategy on New Directions for Tobacco Control in Canada emphasises smoking prevention, cessation and reducing exposure to ETS	Legislation requires the federal government to conduct research on EDCs  EDCs research is also conducted under the Toxic Substances Research Initiative (TSRI). TSRI also includes specific research on children's environmental health	The Climate Change Action Fund has supported projects on children's health
<b>EC</b>	Acceptable exposures are determined using best available scientific information and risk assessment	Addressed in legislation on dangerous substances and others	The new Water Framework Directive expands water protection	Air Quality Framework Directive (1996) and the new Clean Air for Europe (2001) program are being implemented	Implementation of the Tobacco Advertising Directive (1998) will benefit young people	Implementation of the EC Strategy for Endocrine Disruptors	
<b>France</b>	Since 1997 several agencies and institutes have been established to improve health and safety	Sale of leaded gasoline prohibited in January 2000	Turbidity tracking has been strengthened to ensure greater protection of the general population from microbiological contamination	To protect sensitive populations, emergency measures are implemented to protect health when pollution thresholds are exceeded	Public information campaigns will be strengthened, specifically for target audiences such as women and children	Risk assessments of four substances completed	Publication of an inventory of emissions of the major atmospheric pollutants
<b>Germany</b>	A commission is examining how to strengthen risk assessment and standard setting	A new Ordinance reduces the limit value for lead in drinking water	The German Drinking Water Ordinance states that drinking water must not contain disease-causing microbiological organisms	The German Air Pollution Control Policy is intended to protect children's health	Various regulations protect non-smokers from exposure to ETS	The federal government has supported research projects on EDCs	Research on climate change and the spread of infectious diseases is underway

Status Report on Implementation of the 1997 Declaration of the Environment Leaders of the Eight on Children's Environmental Health

	<b>Risk Assessment &amp; Standard Setting</b>	<b>Lead</b>	<b>Microbiologically Safe Drinking Water</b>	<b>Air Quality</b>	<b>Environmental Tobacco Smoke</b>	<b>Endocrine Disrupting Chemicals</b>	<b>Climate Change</b>
<b>Italy</b>	Children's health is a priority in environmental policies	The sale of leaded gasoline is prohibited and industrial uses restricted	There are Regulations on water quality and quantity	Policies and programs have reduced emissions from industrial sources and transportation	The National Health Plan contains measures to reduce exposure to ETS	Contributed to the EC Strategy	The government will publish a report with information and objectives for domestic policies and programs in 2002
<b>Japan</b>	Risk assessments and exposure assessments for children have been conducted for several substances, including dioxins	Conducting research	Monitors microbiological contaminants	The <i>Air Pollution Control Law</i> contains emission standards	The ten-year plan National Health Promotion in the 21 <sup>st</sup> Century contains measures to reduce exposure to ETS	Monitoring, development of screening test methods, and risk assessment under the Millennium Projects	Contributes to international fora on climate change
<b>UK</b>	Routine procedures aim to protect population subgroups, including children	Sale of leaded gasoline prohibited and lower limits for lead in drinking water	Encouraged the inclusion of a target in the Millennium Declaration All public water supplies are disinfected	The Air Quality Strategy (2000) contains health-based standards	Leaflets on ETS are widely available. The Public Places Charter (1999) will improve facilities for non-smokers	Extensive government funded research Participates in the international inventory and global state of the science assessment - see website listed in main text	
<b>US</b>	Implementation of the <i>Food Quality Protection Act</i> requires an additional X10 margin of safety for threshold effects	Implementation of the federal Strategy to Eliminate Childhood Lead Poisoning by 2010	There are new final rules for Cryptosporidium and disinfection by-products	Implementation of Asthma and the Environment: An Action Plan to Protect Children	A new national public information campaign focuses on reducing at risk children's exposure to ETS and other indoor and outdoor asthma triggers	The US has a research program on EDCs and a screening program	Global Change Research Program includes human health assessments

**The 1997 Declaration of the Environment Leaders of the Eight on Children's Environmental Health  
May 6, 1997, Miami, Florida**

We acknowledge that, throughout the world, children face significant threats to health from an array of environmental hazards. The protection of human health remains a fundamental objective of environmental policies, to achieve sustainable development. We increasingly understand that the health and well-being of our families depend upon a clean and healthy environment. Nowhere is this more true than in the case of children, who are particularly vulnerable to pollution. Evidence is growing that pollution at levels or concentrations below existing alert thresholds can cause or contribute to human health problem and our countries present levels of protection may not, in some cases, provide children with adequate protection.

Among the most important environmental health threats to children worldwide are microbiological and chemical contaminants in drinking water, air pollution that exacerbates illness and death from respiratory problems, polluted waters, toxic substances, pesticides, and ultra-violet radiation. Most of these threats are aggravated for children living in poverty. While not a comprehensive list, we have chosen items for action, enumerated below, because they can benefit most from collective effort by the Eight.

We affirm that prevention of exposure is the single most effective means of protecting children against environmental threats. We seek to improve levels of protection for children, and we reaffirm the priority of children's environmental health in our own countries, as well as in bilateral and multilateral agendas. We agree to cooperate on environmental research, risk assessment, and standard-setting within the jurisdictions of each ministry. We agree to raise public awareness that would enable families to better protect their children's health. We urge our Leaders to make the protection of children's environmental health a high environmental priority and call for international financial institutions, the World Health Organization, the United Nations Environment Programme and other international bodies to continue ongoing activities and give further attention to children's environmental health, in particular the environmental, economic and social dimensions of children's health.

**Environmental Risk Assessments & Standard Setting:**

Historically, due to a lack of comprehensive science, environmental protection programs, standards and testing protocols often have not adequately taken into account nor fully protected infants and children from environmental threats. While our countries have incorporated the precautionary principle or precautionary approaches and safety factors into environmental standard setting, it is important to employ more explicit scientific consideration of children's characteristics and behavior in this process.

We pledge to establish national policies that take into account the specific exposure pathways and dose-response characteristics of children when conducting environmental risk assessments and setting protective standards. We agree there is a need to upgrade testing guidelines to improve our ability to detect risks to children and to assess and evaluate the effects of both single and multiple exposures for children. We urge cooperation through the OECD on adopting revised, harmonized testing guidelines. We will promote research to understand the particular exposures and sensitivities of infants and children to environmental hazards and exchange research results and information on regulatory decisions. Where there is insufficient information, we agree to pursue the precautionary principle or precautionary approaches to protecting children's health. We call for the consideration of children's environmental health, based on sound science, in the negotiation and implementation of future bilateral, regional and global agreements, such as the negotiations on persistent organic pollutants, long range transboundary air pollution, and trade in particularly dangerous pesticides, chemicals and hazardous wastes.

### **Children's Exposure to Lead:**

Lead poisoning is a major environmental hazard to children and our countries have taken many successful actions to reduce children's exposure to lead. Our countries continue to support the reduction in risks from exposure to lead.

We call for further actions that will result in reducing blood lead levels in

children to below 10 micrograms per deciliter. Where this blood lead level is exceeded, further action is required. We acknowledge the importance to child health of maternal exposure to lead and agree to reduce maternal exposure.

We commit to fulfill and promote internationally the OECD Declaration on Lead Risk Reduction. We commit to a phase-out of the use of lead in gasoline, the elimination of exposure to lead in products intended for use by children, the phase-out of the use of lead in paint and rust-proofing agents, the restriction of lead in products that may result in ingestion in food and drinking water and to set schedules and develop strategies for elimination or reduction of lead from these sources. In addition, we agree to conduct public awareness campaigns on the risks to children from lead exposure and to develop scientific protocols and programs to monitor blood lead levels in children to track our progress in this important effort.

### **Microbiologically Safe Drinking Water:**

Worldwide, the greatest threat to childhood survival is lack of access to clean water, with more than four million children dying annually from diarrheal disease associated with contaminated water. In recent years, a number of countries have experienced serious waterborne disease outbreaks associated with microbial contaminants, such as cryptosporidium and bacterial and viral pathogens. All countries and relevant international organizations should better incorporate the existing knowledge bases into protecting children from microbiological contaminants in drinking water.

We agree to focus increased attention on drinking water disinfection, source water protection and sanitation, as major instruments of good drinking water quality in our national and regional programs, as well as through existing bilateral foreign assistance programs, international organizations and financial institutions. We will facilitate technology transfer to and capacity building in developing countries where microbiologically safe drinking water is a primary child survival concern.

We strongly support the initiative on sustainable use of freshwater for social and economic purposes, including, inter alia, safe drinking water and sanitation, proposed in the context of the preparations for UNGASS and consider that this initiative should make a major contribution to children's health.

We agree to share information and policies among our countries to improve our drinking water standards and will designate officials from our ministries to exchange monitoring data on microbiological drinking water contaminants and waterborne disease outbreaks on a regular basis. We agree to collaborate on research to support the development of technologies and methods to control disease outbreaks and will give special emphasis to appropriate technologies for small drinking water treatment systems.

**Air Quality:**

Air quality is of particular importance to infants and children, both indoors and outdoors. Childhood asthma and other pediatric respiratory ailments are increasing dramatically in our countries and are substantially exacerbated by

environmental pollutants in the air, including emissions from fossil fuel combustion and other sources. While research on children's exposure to some specific air pollutants has been conducted by some of our countries, further research is needed.

We undertake to reduce air pollution in our respective countries, which will alleviate both domestic and transboundary impacts of air quality and, particularly, children's health. Recognizing that indoor air pollution has been identified as a critical problem affecting children's health worldwide, we agree to exchange information on indoor air health threats and remedial measures.

**Environmental Tobacco Smoke:**

Children exposed to environmental tobacco smoke are more likely to suffer from reduced lung function, lower respiratory tract infections and respiratory irritations. Asthmatic children are especially at risk. Many of these symptoms lead to increased hospitalizations of children.

We affirm that environmental tobacco smoke is a significant public health risk to young children and that parents need to know about the risks of smoking in the home around their young children. We agree to cooperate on education and public awareness efforts aimed at reducing children's exposure to environmental tobacco smoke.

**Emerging Threats to Children's Health from Endocrine Disrupting Chemicals:**

There is growing scientific evidence that a variety of environmental contam-

infants can exert adverse health effects by their ability to alter the functions of hormones within the body. These effects, which include cancer, reproductive disorders, changes in behaviour and immune dysfunction, have been observed in laboratory animals exposed to specific chemicals, wildlife populations in several broadly contaminated ecosystems such as the Great Lakes, and to a more limited extent in humans exposed to some organochlorine compounds. Some of these chemicals also are capable of causing long-term neurological damage. Infants and children may be at particular risk to the potential effect of these contaminants. Children may be exposed to endocrine disrupting chemicals *in utero*, through breast milk and in the environment.

We encourage continuing efforts to compile an international inventory of research activities, develop an international assessment of the state of the science, identify and prioritize research needs and data gaps, and develop a mechanism for coordinating and cooperating on filling the research needs. These activities should complement initiatives that are being pursued in international fora such as the Intergovernmental Forum on Chemical Safety (IFCS) and through the work of agencies such as the United Nations Environment Programme. We pledge to develop cooperatively risk management or pollution prevention strategies, as major sources and environmental fates of endocrine disrupting chemicals are identified and will continue to inform the public as knowledge is gained.

### **Impacts of Global Climate Change to Children's Health:**

Decisive international action must be taken to confront the problem of global warming, including at Kyoto. Our children and future generations face serious threats to their health and welfare from changes in the Earth's climate due to the build-up of greenhouse gases in the atmosphere. Overwhelming scientific evidence links human actions to anticipated changes in the global climate system that are likely to result in unacceptable impacts to all nations. In the words of the Intergovernmental Panel on Climate Change: "Climate change is likely to have wide-ranging and mostly adverse impacts on human health, with significant loss of life." Children will be among the most susceptible to more severe heat waves, more intense air pollution, and the spread of infectious diseases, and we are only beginning to understand the interactions between these issues and other global trends, such as ozone depletion. Future generations will face many potential impacts of climate change with serious health, environmental and economic consequences.

We must address environmental health threats with a specific focus on children which, for many countries, will require increased coordination between environment, health and other ministries. Countries must increase institutional and other scientific capacities to work on the specific problems of environmental threats to children. We will make the steps agreed upon this declaration a priority in domestic action plans, report on our progress in carrying out those steps in appropriate international fora and

broaden our cooperative efforts on children's environmental health with other countries.

We recognize that environmental threats to children's health must be set in a larger context of poverty alleviation and economic and social development and we urge specific results-oriented actions that will accelerate a global transition to sustainable development at the UNGASS and other international fora.

**Implementation Actions on Protecting, Children's Health and Environment Which the Environment Leaders of the Eight Have Agreed to Promote Within Their Governments and Countries**

**Risk Assessment and Standard Setting:**

- Urge the OECD to expedite completion of the process of updating and harmonizing developmental and reproductive toxicity testing guidelines.
- Designate officials to work towards enhanced international harmonization of risk assessment approaches that explicitly address environmental risks to children.

**Lead:**

- Each country agrees to develop and share individual country actions to accomplish the goals of the OECD Declaration on lead.
- The Eight will establish principal points of contact and a mechanism for sharing timely information regarding lead hazards in toys

and other products to which children might be exposed, including imported products, and will consider other joint actions as appropriate.

- Provide access, on a timely basis, to new technological developments on blood lead level testing.

**Microbiologically Safe Drinking Water:**

- Recommend that foreign assistance program of the Eight, international organizations and international financial institutions focus increased attention on drinking water disinfection and source water protection for nations worldwide.
- Designate contact points to exchange monitoring data on microbiological drinking water contaminants and waterborne disease outbreaks.
- Designate contact points to collaborate on research to support the development of technologies and methods, focussed on small drinking water systems, to control disease outbreaks.

**Endocrine Disrupting Chemicals:**

- Request that the International Organization on the Management of Chemicals and US EPA complete an international inventory of ongoing research activities.
- Work with UNEP and other appropriate international organizations to complete an international scientific assessment.

- Develop an international research strategy after completion of the inventory and scientific assessment.
- Support an OECD initiative to develop a battery of screening and testing guidelines for endocrine disrupting chemicals that considers the special susceptibilities and exposures to children.

### **Environmental Tobacco Smoke:**

- Convene a scientific conference, through WHO or another appropriate scientific organization, to synthesize and share the latest scientific information on risks to infants and children from environmental tobacco smoke and compile information on the most effective educational strategies concerning exposures to children.

### **Air Quality:**

- Carry out regional commitments to address transboundary impacts of air pollution.
- Cooperate through existing scientific organizations to enhance the exchange of information on health threats and effective remedial approaches for addressing indoor air quality problems.



## Appendix C:

### Major Reports and Publications by Country

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Ministère de l'Aménagement du territoire et de l'Environnement , 1998 Rapport de la France à la Commission de développement durable (chapitre 7 : éducation et sensibilisation) (French report to the Commission on Sustainable development)

Institut National de la Santé et de la Recherche Médicale Rapports « Plomb dans l'environnement: quels risques pour la santé? » (Lead in the environment : what are the risks for health?) ; Education pour la santé des jeunes:

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## Italy

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Appendix D:  
List of Acronyms

**CIDA**

Canadian International Development Agency

**EC**

European Community

**EDC**

Endocrine Disrupting Chemicals

**EDSP**

Endocrine Disruptor Screening Program

**EEHC**

European Environment and Health Committee

**EU**

European Union

**ETS**

Environmental Tobacco Smoke

**EPA**

Environmental Protection Agency

**FQPA**

*Food Quality Protection Act*

**GAVI**

Global Alliance for Vaccines and Immunization

**HIV/AIDS**

Human Immune Virus/Acquired Immune Deficiency Syndrome

**IFCS**

Intergovernmental Forum on Chemical Safety

**IPCS**

International Programme on Chemical Safety

**ILO**

International Labour Organization

**ISO**

International Organization for Standardization

**MOE**

Ministry of the Environment

**MSDS**

Material Safety Data Sheet

**NPDWRs**

National Primary Drinking Water Regulations

**NGO**

Non Governmental Organization

**NHP**

National Health Plan

**NO<sub>x</sub>**

Nitrogen Oxides

**OECD**

Organization for Economic Cooperation and Development

**PAHO**

Pan American Health Organization

**PCB**

Polychlorinated Biphenyl

**PMRA**

Pest Management Regulatory Agency

**PRTR**

Pollutant Release and Transfer Register

**PVC**

Polyvinyl Chloride

**SIDS**

Sudden Infant Death Syndrome

**SO<sub>x</sub>**

Sulphur Oxides

**TDI**

Tolerable Daily Intake

**UK**

United Kingdom

**UN**

United Nations

**UN ECE**

United Nations Economic Commission  
for Europe

**UNEP**

United Nations Environment  
Programme

**UNFCC**

United Nations Framework Convention  
on Climate Change

**UNGASS**

United Nations General Assembly  
Special Session

**UNICEF**

United Nations Children's Fund

**US**

United States

**VOCs**

Volatile Organic Compounds

**WHO**

World Health Organization







