# Cooperative Agenda for **Children's Health** and the Environment in North America



#### Ottawa, 19 June 2002

#### **COUNCIL RESOLUTION: 02-06**

#### Cooperative Agenda for Children's Health and the Environment in North America

#### THE COUNCIL:

HAVING ADOPTED Council Resolution 00-10, whereby the Parties recognized the particular vulnerabilities of children to environmental risks and agreed to collaborate on the development of a cooperative agenda that promotes the protection of children's health from environmental risks;

IN ACCORDANCE with Council Resolution 00-10, whereby the Parties decided to focus, as a starting point, on specific health outcomes such as asthma and other respiratory diseases, the effects of lead including lead poisoning, and the effects of exposure to other toxic substances;

TAKING into consideration, with appreciation, Advice to Council 02-01 from the Expert Advisory Board on Children's Health and the Environment, Advice to Council 02-01 from the Joint Public Advisory Committee of the Commission for Environmental Cooperation (CEC), and comments received from the public;

NOTING the productive and informative meeting held with the Expert Advisory Board members during the Council's Ninth Regular Session on 18 June 2002 in Ottawa;

ACKNOWLEDGING the progress of the CEC in integrating children's environmental health into its ongoing activities;

RECOGNIZING that effective domestic and trilateral solutions to address children's health and the environment require a solid knowledge base, education and outreach, and partnerships; and

RECOGNIZING that protecting children's health from environmental risks is an ongoing task and a long-term investment, and understanding that increased knowledge will continue to inform and shape planned activities and projects to maximize their effectiveness and relevance;

#### HEREBY:

ADOPTS the Cooperative Agenda for Children's Health and the Environment in North America (Cooperative Agenda);

CALLS UPON the Parties to work together with the CEC Secretariat to implement the Cooperative Agenda by undertaking the following new initiatives over the next two years:

- select and publish a core set of children's environmental health indicators for North America, working in partnership with the Pan American Health Organization, the International Joint Commission Health Professionals Task Force and others, and in coordination with parallel commitments made by the G-8 Environment Ministers and the Health and Environment Ministerial of the Americas;
- form strategic partnerships with health organizations, including the trilateral network of Pediatric Environmental Health Specialty Units, to strengthen professional training on children's environmental health, with a view toward enabling health professionals to serve as effective conduits of information and advice to parents, care givers, children, and communities;

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Comisión para la Cooperación Ambiental de América del Norte

Commission de coopération environnementale de l'Amérique du Nord

- strengthen decision-making capacity by enhancing the understanding of the economic impacts of
  environment-related illnesses and effects on children, including the implications of action versus inaction;
- advance understanding of risk assessment approaches with a view to increasing collaboration on toxic substances and increasing the cadre of risk assessors trained in children's environmental health risk assessment; and
- work together trilaterally, in the context of increasing cross-border trade, to reduce the risks posed by lead
  in consumer products, in particular those intended for use by children.

AGREES to continue the integration of children's environmental health considerations into the CEC work program. This includes continuing work on the following projects:

- facilitating collaboration on longitudinal cohort studies with a view to improving our common understanding of children's exposures, body burdens, and health outcomes during the course of their growth and development, building on the National Children's Study in the United States;
- assessing the impact of diesel exhaust at congested border crossings as part of the CEC's Air Quality
  project, and exploring the use of the developed methodology to address other regions and contaminants of
  concern;
- working to prevent and reduce children's exposure to lead by promoting increased public awareness and improved practices within selected cottage industries, such as the ceramics industry in Mexico;
- continuing to ensure the integration of a children's environmental health perspective into the work of the CEC's Sound Management of Chemicals program;
- analyzing and publishing data on toxic chemicals that are of particular concern to children's health within the *Taking Stock* report series; and
- continuing efforts to build public awareness and facilitate access to information on issues of children's environmental health and preventive measures, through existing CEC projects and publications and in partnership with other groups;

AGREES, in addition to the focus on asthma and respiratory diseases and the effects of lead and other toxic substances, to include water-borne diseases as a priority health endpoint, and DIRECTS the CEC Secretariat, in coordination with the Parties, to develop options for collaborative action in this area;

CALLS FOR the North American Regional Action Plan on environmental monitoring and assessment to include bio-monitoring of persistent bioaccumulative toxics - in particular, mercury and lead - in infants, children, pregnant women, and women of child-bearing age; and

AGREES to bi-annually review progress achieved, assess relevance of planned activities in light of new knowledge acquired, and further advance the implementation of the Cooperative Agenda with the input and involvement of interested parties and members of the public.

APPROVED BY THE COUNCIL:

David Anderson Government of Canada

Víctor Lichtinger Government of the United Mexican States

Christine Todd Whitman Government of the United States of America

# Cooperative Agenda for **Children's Health** and the Environment in North America

The **Commission for Environmental Cooperation** (CEC) of North America was established to build cooperation among the NAFTA partners—Canada, Mexico and the United States—in protecting shared environments, with a particular focus on the opportunities and challenges presented by continent-wide free trade.

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## En hold a special place in our families, our communities and in our

Children hold a special place in our families, our communities and in our societies. Children's bodies undergo rapid development, which increases their vulnerability to many environmental risks. Compared to adults, they take in more food, air and water per kilogram of body weight, which can increase their risk, relative to an adult, of adverse impacts of contaminants that may be present. Because children spend their time in different "microenvironments" than adults—on or near the floor, for example, or playing in the soil—they have different exposure patterns than an adult living in the same home or neighborhood. All of these factors underscore the fact that "children are not little adults."

In the past, environmental regulations, tolerance levels for contaminants in food, and other public health protection measures were primarily designed based on information about the average adult male with the assumption that this would also be protective of children. Gradually this situation is changing as scientists learn more about children's particular vulnerabilities to environmental contaminants and as governments and other responsible actors shift their approaches to start taking the specific characteristics of children into account.

## THE CEC COUNCIL RESOLUTIONS ON CHILDREN'S HEALTH AND THE ENVIRONMENT

In North America, the impact of environmental hazards on children's and the public's awareness about environmental risks to children's health is receiving increasing attention among scientists, policymakers health and methods of preventing exposures, and affirmed that parents and the public alike. Recognizing the need for greater coordination have a right to know about the presence of potentially harmful and cooperation to protect children from environmental threats in North America, the CEC Council, composed of the top environmental officials in the three countries, announced a special initiative to explore opportunities for the CEC involvement in this area in June 1999. In its In June 2001, the Council reiterated its commitment to working Resolution 00–10 on Children's Health and the Environment (see Annex 1), adopted in June 2000, the Council recognized that there is a growing body of scientific evidence that children are particularly vulnerable to many environmental contaminants. The parties commit- of other vulnerable groups. ted to "working together as partners to develop a cooperative agenda to protect children from environmental threats with the overall objective In June 2002, the Council signed Resolution 02–06, in which it of reducing human-made pressures on children's health."

outcomes such as asthma and other respiratory diseases, the effects it had set in Council Resolution 00–10. of lead including lead poisoning, and the effects of exposure to other toxic substances. Council also called for activities to increase parents'

substances that may affect the health of their children. Council also called for scientific exchange among the three countries.

together to address environmental threats to children's health and indicated its interest in building on the children's environmental health initiative in order to address environmental risks to the health

adopted the present Cooperative Agenda. The Council also identified water-borne diseases as a priority health endpoint for the CEC's As a starting point, Council called for a focus on specific health children's environmental health initiative, in addition to the priorities

#### THE EXPERT ADVISORY BOARD AND THE CEH TEAM

The Council Resolution 00–10 also called for the formation of an directions for the CEC's children's environmental health initiative. Expert Advisory Board comprised of three highly qualified individuals After the public meeting, the Expert Advisory Board issued its Advice from each of the countries to provide advice to Council on matters of to Council 02-01 (attached as Annex 2). The JPAC also issued an Advichildren's health and the environment. The Expert Advisory Board on ce to Council (02–01, available on the CEC website at<www.cec.org>). Children's Health and the Environment in North America (the Board) was convened in October 2001 following the issuance of terms of In addition, a working level Trilateral Children's Environmental Health reference in Council Resolution 01–04. The Board held its first meet- (CEH) Team, comprised of governmental officials from health and ing in November 2001 in Montreal. In March 2002, the Board and environment ministries, has been formed to advance implementation the CEC's Joint Public Advisory Committee (JPAC) held of Council Resolution 00-10. a public meeting to discuss and obtain public input on proposed

## DEVELOPMENT OF THE COOPERATIVE AGENDA

on Children's Health and the Environment in North America, held on 10 May 2000 in Toronto, and the government meeting on 11 May 2000 were important first steps in the process of identifying a common In keeping with the Council resolution, the CEH Team organized a agenda for action among the three countries. The outcomes of the symposium and government meeting provided important groundwork for Council Resolution 00-10 on Children's Health and the Environment, which was adopted by the CEC Council during its session in Dallas, Texas, in June 2000.

of national, bilateral and trilateral activities related to children's in North America. environmental health as a basis for identifying gaps and opportunities for collaboration. The CEH project also provided support for the A first draft of the Cooperative Agenda was circulated for public and the environment held in Mexico in June 2001. The workshop, a public meeting on 7 March 2002 in Mexico City, jointly organized

The development of a Trilateral Cooperative Agenda on Children's Envi- set the groundwork for a national children's environmental health ronmental Health is a culmination of many activities. The Symposium agenda in Mexico. Proceedings from this workshop can be found at the website of the Mexican Ministry of Health (http://www.ssa.gob.mx).

trilateral workshop for scientific experts and other officials from the three governments in November 2001 in Montreal. The workshop objective was to identify the opportunities for collaboration among the three countries to address CEH issues with a view to developing a longer-term strategy to guide the CEC's trilateral work. The ideas generated during the Montreal workshop form the basis of this In 2000–2001 the CEH Team coordinated the compilation of inventories Cooperative Agenda for Children's Health and the Environment

organization of a successful national workshop on children's health comment in February 2002, and was the focus of discussion during which was jointly convened by SEMARNAT and the Ministry of Health, by the Expert Advisory Board on Children's Health and the Environment participated in the public meeting, and written comments were received from 13 organizations and individuals. Based on input and comments received, a revised version of the Cooperative Agenda was prepared, for consideration by the CEC Council during its Ninth Regular Session in June 2002.

Both the Montreal workshop and the subsequent public consultation generated a wide range of ideas and proposed activities, far more than could be accommodated in the Cooperative Agenda. The CEH Team selected projects for inclusion in the Cooperative Agenda based on: relevance to the ongoing work of the CEC; availability of resources from the existing CEC budget or other identified sources; the potential for trilateral work to provide added value, and the commitments made by the Council in their Resolutions 00-10 and 01-04. The report of the trilateral workshop, which summarizes the full range of

and the Joint Public Advisory Committee (JPAC). More than 100 people topics and ideas discussed, the summary of the March 2002 Expert Advisory Board–JPAC meeting, and copies of the written comments received, are available on request from the CEC Secretariat or on the CEC website at <www.cec.org>.

> During its Ninth Regular Session in Ottawa, the CEC Council agreed to adopt the Cooperative Agenda, and called upon the Parties and the Secretariat to undertake a number of priority initiatives in the next two years towards the implementation of the Cooperative Agenda (see Council Resolution 02-06, pp. i-ii). Council also agreed to bi-annually review progress achieved, assess relevance of planned activities in light of new knowledge acquired, and further advance implementation of the Cooperative Agenda with the input and involvement of interested parties and members of the public.

## KNOWLEDGE. PARTNERSHIPS AND OUTREACH FOR CHILDREN'S ENVIRONMENTAL HEALTH

Throughout the development of the Cooperative Agenda, several well as between regulatory managers and health researchers. A second cross cutting issues have emerged. The first is the need to strengthen the knowledge base in order to devise effective long-term risk reduction strategies. In addressing asthma, lead poisoning and the effects of other toxic substances, it has become evident that it would be beneficial to enhance the understanding of environmental effects on children's health, to strengthen our understanding of the economic impacts of children's mortality and morbidity, and to share expertise on risk Finally, a third cross cutting issue that emerged is the need for partassessment approaches. For example, addressing the health risks nerships. Because pollutants know no boundaries, ensuring a safe caused by chemicals requires that we develop a common understanding of approaches between health and environment risk assessors as regionally, and globally) by various sectors and disciplines (environ-

cross-cutting issue that has emerged is the need for increased education and outreach on children's environmental health. Information is needed to empower stakeholders and the public to effectively participate in decision making processes and in the design and implementation of effective solutions.

environment for children requires action at all levels (locally, nationally,

unique position as a regional body focused on environmental issues, work of others.

mental protection, health care and promotion, education, family sup- the CEC can play an important role in facilitating partnerships to port, etc.). Collaboration among sectors and disciplines allows for a effectively address children's health and the environment on a North better use of resources, particularly during times of resource con- American scale. The notion of partnership permeates most of the straints. New partnerships must be formed to enhance our capacity activities under the CEC CEH Collaborative Agenda by proposing to address CEH issues while preventing duplication of effort. Given its activities that promote intersectoral collaboration and build on the

#### THE PURPOSE OF THE COOPERATIVE AGENDA

already been started or will be implemented within the next 2–3 initiated/conducted within a longer time-frame. years, while others will be implemented over the long term. The Cooperative Agenda is a living document that will be periodically For each of the projects, the document provides a rationale, objective, revised and updated to reflect the progress achieved, emerging issues and priorities, and the contributions and involvement of interested organizations and partners throughout North America.

To provide a full picture of CEC activities related to children's environmental health, the CEH Cooperative Agenda presents three types of projects. Those identified as **ongoing** are projects that are already underway. Those denoted as planned have been integrated

The Cooperative Agenda is intended to serve as the blueprint for tril- into the 2002–2004 Work-Program and will be initiated in the course ateral action to advance the protection of North American children of that period. Those listed as proposed future activities are new from environmental risks to their health. Some of the activities have initiatives identified as relevant for the three countries and that will be

> actions, schedule, budget and results. The Agenda is structured around three health outcomes (Asthma and Respiratory Diseases; Lead Poisoning; and the Effects of Toxic Substances) and two crosscutting themes (Knowledge Development; and Partnerships and Outreach). This reflects both the charge given by the Council in its Resolution 00–10 and the emergence of cross cutting issues that are of relevance to more than one health outcome.

## ELEMENTS AND ACTIVITIES OF THE COOPERATIVE AGENDA

**1. ASTHMA AND RESPIRATORY DISEASE** Asthma and respiratory disease affect millions of children in North America and in some regions have reached epidemic proportion. Council Resolution 00–10 called for collaborative action among the three countries to address asthma and other respiratory diseases.



## ONGOING AND PLANNED ACTIVITIES

## 1.1 Assessing the Impact of Diesel Exhaust at Congested Border Crossings

**Rationale** ■ In the context of increasing social and economic ties among the NAFTA partners, one of the challenges that arises is the impact of increased vehicle traffic along trade and transportation corridors, particularly at congested border crossings. There is a need for a better understanding of the health effects resulting from exposure to air pollution attributed to border traffic and vehicle diesel emissions along these corridors. The positive association between exposures to ambient particulate matter and ozone concentrations with emergency room visits due to exacerbation of childhood asthma, even at concentrations below US and Mexican health standards, supports the need for further research of susceptible populations.

**Objective** 
Assess the impact of diesel exhaust—including diesel exhaust related particles and particles emitted by other sources— on the severity of asthma, allergies, and respiratory health among susceptible and healthy children or other sensitive subpopulations residing along congested NAFTA trade corridors.

What ■ Develop a methodology to assess population exposures to the diesel exhaust component of the ambient air pollution along congested NAFTA trade corridors and apply it to test three hypotheses:

- Exposure to diesel exhaust at environmental concentrations is associated with increased respiratory events and inflammatory and allergic reactions in asthmatic children or other sensitive subpopulations.
- The association of diesel exposures with health outcomes is stronger in asthmatic children than in healthy children.
- Diesel exhaust particles are more strongly associated with respiratory health outcomes than with particles emitted by gasoline vehicles.

#### The project will entail the following steps:

- Develop a standard methodology to assess diesel exhaust exposures of children in Mexico living along a congested trade route crossing the Mexico/US border
- 2\_ Determine the content of diesel exhaust in particulates in the corridors
- 3\_ Investigate the effects of particulate composition on child health outcomes
- 4\_ Conduct a diesel exhaust exposure study along a major trade artery associated with a Canada/US border crossing using a comparable methodology.

**Who**  $\blacksquare$  Coordinated by CEC Air Quality Project. Potential participants include officials from the General Directorate of Environmental Health in the Mexico Ministry of Health, the *Instituto Nacional de Salud Pública*, and Health Canada. Also involved will be members of the public health research community.

#### 

**Funding** 
■ From the CEC: US\$90,000 for 2002

**Expected Results** A methodology that is transferable to future studies not only along major trade corridors across North America, but to other cities and industrial areas with diesel exhaust-related air quality problems.

## PROPOSED FUTURE ACTIVITIES

## 1.2 Developing a Framework for Asthma Surveillance

**Rationale** ■ A sound understanding of the prevalence of asthma and its impacts on various socio-economic groups and geographic regions is key to sound policy making to prevent and reduce asthma among North America's children. Currently, the surveillance data for asthma are piecemeal and not collected in comparable ways between and within the three countries. Over the long term, information on asthma and respiratory diseases could be juxtaposed with information on environmental factors (e.g., air pollution data) to convey messages to the public on how best to protect children's health.

**Objective** Foster collaboration among the three countries to improve asthma surveillance systems to enhance the understanding of asthma in North America

What ■ Convene a small group of experts from the three countries to explore the development of a a common methodology for conducting periodic surveys taking into account risk factors specific to each country.

Funding 
To be determined

**Expected Results** 
Common methodology and framework for conducting asthma surveillance; identification of key issues of data comparability among the three countries

## 1.3 Working with Pilot Communities on Asthma Prevention

**Rationale** ■ Asthma is a growing environmental health concern that many communities across North America are facing. However, each community struggles with different issues and needs depending on geographic location, economic and social resources, and infrastructure. Many resources for asthma education exist, however, no coordinated effort has been made to organize these resources into a menu or kit, from which communities could select those items which best suit their needs.

**Objective** Empower communities in Mexico, Canada and the United States to reduce the incidences of asthma by adapting existing educational materials and services to meet specific, regional/ local needs.

What ■ Identify 3–4 communities to work with as pilot communities using existing asthma programs and services, with a focus on environmental factors including indoor and outdoor air quality. This would entail the following steps:

1\_ Conduct a needs assessment in all 3–4 border communities to identify the specific needs of each of those communities for reducing incidences of asthma. For example, to what extent is there a problem with outdoor pollution resulting from diesel powered vehicles and factories, deteriorated school buildings, poor air quality in the home environment including environmental tobacco smoke, lack of access to health care, etc.

- 2\_ Provide support to these communities to establish a coordinated approach to managing asthma through infrastructure development and implementation of programs. A list of programs and services to address specific needs identified by each community will be provided. (e.g., Indoor Air Quality (IAQ) *Tools for Schools*, Smoke-Free Home Pledge, Open Airways for Schools Education Program, Ozone Action Days Information and Index, etc. In addition, each community will launch a multi-pronged asthma education campaign (TV, print media).
- 3\_ Launch the pilot communities with media events featuring highranking government officials and/or other public figures to leverage additional media coverage.
- 4\_ Track outcomes and results in each of the pilot communities and develop a report that other communities can use to replicate this initiative.

**Who** ■ The program would be organized jointly by the CEC and a steering group of representatives from the three countries. At the community level, project implementers and participants would include government officials, interested groups and members of the public.

**Funding •** To be determined in planning process

**Expected Results** Improved knowledge of asthma prevention in the pilot communities. Development of an approach that could be replicated by other interested communities.

## 2. EFFECTS OF LEAD

Lead is a heavy metal that is toxic to many body systems, particularly the nervous system. For some of these effects no safe level of lead exposure has been found. The developing fetus and young children are at particular risk due to high lead absorption coupled with rapidly developing systems. Sources can include leaded paint in older homes, emissions from smelters and other industrial processes, pottery with leaded glaze, and various other consumer products that have been found to contain lead such as inexpensive jewelry, imported crayons and mini-blinds. Council Resolution 00–10 identified the effects of lead including lead poisoning as one of the priorities for collaborative action among the three parties.



## ONGOING ACTIVITY

## 2.1 Assisting Cottage Industries to Reduce/Eliminate the Use of Lead

**Rationale** The use of lead in certain micro-cottage industries in Mexico has been identified as a priority issue due to concerns about local environmental contamination as well as potential exposures via goods traded in commerce. Population exposures via consumption of food and liquids prepared, cooked or stored in lead glazed pottery is of concern. Not only is lead exposure particularly harmful to children, but recent evidence suggests no reversibility of related nervous system effects. There is a need to build awareness of the risks that these practices and products can pose to children, and to take actions to prevent and reduce the use of lead and thereby reduce exposures. There is an opportunity to build on ongoing work of the OECD as well as other agencies.

**Objective** To accelerate the adoption of technologies and practices within cottage industries that will reduce or eliminate the use of lead.

What ■ A program to assist selected cottage industries (e.g., pottery/ceramics, battery recycling, lead shot and sinkers) to reduce/avoid the use of lead through implementation of pollution prevention measures, as a means of reducing potential lead exposures among children via the local environment and/or products. It will entail the following steps:

- 1\_ Prepare an inventory of cottage industries that work with lead
- 2\_ Work with 2–3 affected industries to develop and implement incentives and solutions to reduce/avoid the use of lead

- Evaluate the pilots and disseminate results to other industries and the public
- 4\_ Develop risk communication programs for the public, making use of existing resources in the three countries, to foster awareness of risks and avoid using leaded glazed pottery for preparing, cooking or storing liquids and food, as well as usage of other contaminated goods traded in commerce
- 5\_ Create program based on the project outcomes

**Who m** Coordinated by CEC with guidance and technical support from an informal steering committee of government officials from the three countries and other partners. The implementation of the pilot projects is to be carried out in collaboration with local partners.

**Funding** ■ Startup funding from CEC budget: US\$21,810 for 2002, further funding to be determined.

**Expected Results** 
Reduced lead exposures, improved technologies/processes and potential cost savings for participating industries, and improved product stewardship initiatives. A pilot-tested approach that can be replicated with other industries and/or with other environmental health threats (e.g., dioxins, mercury). The creation of partnerships with key organizations and identification of vulnerable population groups.

## PROPOSED FUTURE ACTIVITIES

## 2.2 Gather and Exchange Data on Blood Lead Levels

**Rationale** ■ Information on blood lead levels provides the ability to track the effectiveness of control measures. There is currently a lack of up-to-date blood lead monitoring data for parts of North America.

**Objective** 
Gather and share national surveillance data for blood lead levels in children to evaluate progress in decreasing lead exposure. What 
The Sound Management of Chemicals (SMOC) Task Force on Environmental Monitoring and Assessment is elaborating a project on monitoring human blood for selected persistent organic and inorganic contaminants, potentially including lead, that proposes a focus in particular on women of child bearing age and children. This would provide insights into fetus and infant exposure to these same contaminants. The CEH Team will seek to provide input into the development of the project.

**Who** ■ To be implemented under the auspices of SMOC, with input from the CEH Team

Funding 
To be determined

**Expected Results** Improved information on blood lead levels (and levels of other persistent toxics), enabling better decision-making.

## 2.3 Workshop on Lead in Consumer Products

**Rationale** ■ There have been occurrences of lead exposure arising from consumer products. Of particular concern are those products intended for use by children, such as crayons, toys and costume jewelry, as well as the use of lead glazed potter for cooking and storing of food. In the context of increasing trade among countries in North America and globally, there is a need to enhance understanding of the risks of exposure to lead in consumer products and explore ways of reducing these risks.

**Objective** To identify areas of concern and potential collaborative actions to reduce the risks to children posed by consumer products containing lead.

What 
A trilateral workshop

Who 
■ Relevant government officials from the three countries (e.g., from departments of health, environment, consumer product safety, customs), the California Department of Health Services, and other interested groups and organizations.

When 
■ Commencing in 2003

**Funding I** To be determined

**Expected Results** Improved information on lead in consumer products including leaded glazed pottery, and collaborative actions to reduce risks.

## 3. EFFECTS OF EXPOSURE TO TOXIC SUBSTANCES INCLUDING PESTICIDES

Exposures to toxic substances, including pesticides, have been linked to causes of childhood death, illness and hospitalization. Council Resolution 00–10 directed the CEC and its member countries to focus on the effects of exposure to toxic substances as a priority for cooperative action to protect children from environmental threats.



## ONGOING AND PLANNED ACTIVITIES

### 3.1 Integrating CEH considerations into the Sound Management of Chemicals (SMOC) Program

Rationale II The CEC's SMOC program addresses chemicals of ment, take exposures and risks to children into consideration. common concern, many of which are of particular concern to children's health. The North American Regional Action Plans (NARAPs) developed through SMOC provide an important vehicle for preventing, reducing or eliminating the sources and potential exposures to these priority substances. Further effort is needed to capitalize on the important work of SMOC, including NARAP development as well as SMOC's environmental and bio-monitoring activities, as a means of better addressing children's environmental health concerns associated with toxic chemicals.

**Objective E** Ensure that SMOC activities, including the substance selection process and the North American Regional Action Plans on priority substances as well as the NARAP on monitoring and assessWhat 
The CEH Team will follow and provide input into SMOC plans and activities as they develop, with a view to ensuring that children's environmental health concerns are taken into account. Establish means for periodic communication between the SMOC Working Group and its task forces and the CEH Team.

When 
2002. ongoing

**Funding** I No additional resources required

**Expected Results** I Trilateral actions that reduce exposures/risks to children associated with priority substances; improved monitoring and surveillance data of relevance to children's environmental health.

### 3.2 Special Taking Stock Report on Toxics and Children's Environmental Health

**Rationale** In *The Taking Stock* report on pollutant releases and transfers from industrial sources is a well established CEC publication that gets wide distribution. The special report on toxics and CEH will provide information on CEH issues to an audience concerned about environmental policy in general and toxics in particular.

**Objective I** To increase the awareness of CEH issues among the interested public and stakeholder groups such as industry, community groups, environmental organizations, government officials, academics and others.

What Device the Publication of a special feature report on toxics and children's environmental health, as part of the Taking Stock series.

**Funding** 
■ US\$21,810 (CEC budget 2001–2002)

**Expected Results** 

Greater profile of CEH with an audience interested in environmental policy.

## 4. STRENGTHENING THE KNOWLEDGE BASE FOR LONG-TERM SOLUTIONS

Decision making aimed at protecting children's environmental health is an evolving area that incorporates a range of science-based methodologies for analyzing environmental and health risks as well as economic and social factors. It also requires stakeholder involvement and communication with the public.

Protecting children's health from environmental hazards also entails knowing what children are exposed to and the associated health outcomes. As risk management strategies are being implemented, knowledge is needed to ensure that these strategies are effective in protecting children's health.



## ONGOING AND PLANNED ACTIVITIES

## 4.1 Facilitate Collaboration on the National Children's Study (longitudinal cohort studies)

**Rationale** Relatively little is known about the chemicals children are exposed to, in what combinations, at what times in their lives, and ultimately what effects, acute or chronic, immediate or in the long term, of such exposures. As a result, there is increasing interest in North America to undertake longitudinal cohort studies to track exposures, body burdens and health outcomes over time, from conception to adulthood.

The United States is planning the National Children's Study, a major longitudinal cohort study. Canada is attending the planning meetings and is considering a Canadian study. There is interest in extending the collaboration to include Mexico in order to have comparable/coordinated studies across North America, avoiding duplication of effort and achieving cost savings, and expanding the range of exposures covered. **Objective m** To facilitate collaboration among the three countries on the longitudinal cohort studies, including facilitating the participation

of governmental officials/researchers from all three countries in planning meetings and other events related to the development of the studies. **What m** Support participation of Mexico and Canada in the U.S. National Children's Study planning work.

**Who** ■ Relevant governmental representatives and researchers, including the General Directorate of Environmental Health from the Ministry of Health in Mexico, with coordination provided by CEC.

**Expected Results** ITrilateral collaboration on the development and implementation of such studies, with the potential for North America-wide study/studies. The long term expected result is a better understanding of children's environmental exposures and associated health impacts.

## 4.2 Development of North American Indicators of Children's Environmental Health

**Rationale** Indicators can play a valuable role in demonstrating the current status of an issue, raising its profile and encouraging action, and tracking progress towards stated goals. While there is some work ongoing at the national level in North America on environmental and health indicators, currently there are relatively few environmental health indicators, and even fewer that focus in particular on the health and well being of children. There is an opportunity for North America to build upon and apply the work on CEH indicators being spearheaded by the World Health Organization (WHO), as well as the work of other institutions such as the Pan America Health Organization (PAHO), the Organization for Economic Cooperation and Development (OECD), the United Nations Children's Fund (UNICEF) and the United Nations Environment Program (UNEP). Such an initiative is consistent with commitments made at the Health and Environment Ministerial of the Americas (HEMA) meeting in March 2002, as well as the G-8 Meeting of Environment Ministers. **Objective I** To provide decision-makers and the public with periodic, understandable information on the status of key parameters related to children's health and the environment in North America as a means of measuring and promoting change.

What ■ The development and periodic publication of a core set of indicators on children's environmental health in North America. The project will entail the following steps:

1\_ Based on work done by other international organizations on children's environmental health indictors, select a core set of CEH indicators for North America through the work of a trilateral technical committee and with involvement of potential users of the indicators. The core set of indicators will take into account the priority issues identified by Council in Resolution 00–10, and be informed by a feasibility study to assess the comparability of existing indicators, including examples of regional, state, provincial, and municipal indicators, and the availability of relevant data in the three countries to populate the selected core set of CEH indicators (to be initiated in 2002, completed in 2003);

- 2\_ Compile and publish first set of indicators by (early 2004)
- 3\_ Periodic updating and publication of the indicators (e.g., every 2–3 years), with additional indicators added on an ongoing basis taking into account emerging priorities and availability of information and other resources.

**When**  $\blacksquare$  Commencing 2002, publication of first set of indicators in early 2004.

**Expected Results** 
Periodic publication of a North American set of indicators of CEH that focus attention on and motivate action to improve CEH. Gradual improvement in the comparability of data among the three countries as a result of increased trilateral data sharing and collaboration.

## PROPOSED FUTURE ACTIVITIES

## 4.3 Trilateral Workshop on Risk Assessment

**Rationale** ■ A common understanding of risk assessment terms and approaches—among the three countries, between environment and health departments, between those dealing with toxic chemicals, including pesticides, and among the public and interested groups is a prerequisite for effective collaboration and sharing of information and results to ensure that children's vulnerabilities are taken into consideration. Enhanced information exchange between the health and environment sectors can also foster mutually beneficial improvements in risk assessment approaches, particularly with respect to methods for incorporating children's health concerns and vulnerabilities into risk assessment. The roles played by precaution and transparency are important parts of the overall picture.

A common understanding of risk assessment and its application in decision-making will also facilitate the sharing of work, expertise, information and ideas, while maintaining the capacity and flexibility of governments to take their own decisions based on the analyses and in light of national/local circumstances.

**Objectives (1)** To facilitate a common understanding of risk assessment methodologies, principles, terms and concepts. (2) To help identify mechanisms for incorporating existing data often gath-

ered in health research studies (e.g., epidemiological surveillance and biomonitoring data) that may not currently be used in regulatory risk assessment processes. (3) To identify areas where governments can benefits from the sharing of work, expertise, information and ideas. (4) To discuss the context within which risk assessments are used, including the role of precaution and the need for transparency.

What ■ A trilateral workshop to share principles and methodologies for conducting risk assessments for toxic chemicals and pesticides, and specifically addressing how they address children's health, and to discuss the role of risk assessment within the broader decisionmaking framework.

When 

■ Fall 2002 or early 2003

**Expected Results** 
Common understanding of risk assessment methodologies and concepts that address potential chemical/pesticide risks to children's health and the identification of areas for collaboration.

## 4.4 Increasing the Supply of Trained CEH Risk Assessors

**Rationale** 
■ There is currently a shortage of people with training in children's environmental health risk assessment, limiting the capacity of governments to assess potential risks to children posed by chemicals, including pesticides. Mexico, in particular, has identified this as a priority need and has initiated a program of risk assessment training. Trilateral collaboration will support the inclusion of a CEH focus within this ongoing training

**Objective** ■ Explore means to increase the number of people trained in CEH risk assessment

What ■ Phase 1: Organize a working session, as part of the abovementioned Risk Assessment Workshop (item 5.3), to identify a profile of skills needed for children's health risk assessment and assess means by which more people can be trained, taking into account on-

## 4.5 Integration of Risk Assessment and Economic Valuation

**Rationale** ■ Decision-makers are faced with the need to take into account a wide range of factors when making decisions aimed at protecting public health, including children's health estimates of risk, analyses of economic benefits and costs, and a host of social factors. However, assessments of risk, economics and social factors are generally conducted independently of each other. The OECD has done some groundbreaking work in this area, which could be used as a starting point to demonstrate the feasibility of an integrated approach, particularly with respect to children's environmental health.

**Objective**  $\blacksquare$  (1) To improve the understanding of the specific valuation of children's health by combining assessments of risk, economics and social impacts (including poverty etc). (2) To disseminate the findings of the study and share experiences, knowledge and methods. going efforts at the national level as well as the work of international entities such as the International Program on Chemical Safety (IPCS). Phase 2: Develop actions to increase the number of trained people, for example through staff exchanges, training programs at universities and the development of appropriate courses by universities and other training institutions.

**Who** 
■ A trilateral working group

When 
■ Phase 1: 2002/2003 (in conjunction with Risk Assessment); Phase 2: to be determined

**Funding I** To be determined

**Expected Results** A training profile for CEH risk assessment (phase 1); Additional experts trained in risk assessment methods that take children's health risks into account (Phase 2)

What ■ Phase 1 would be a demonstration project in each of the three countries to determine how risk assessment and economic valuation could be integrated to better protect children's health. The valuation of children's health would be examined with regard to selected parameters, for example lead, pesticides, asthma and other respiratory diseases. Best available valuation methods would be used. Cross-border comparisons and lessons would also be possible. Phase 2 would be a trilateral workshop to share the information generated by the pilot projects as well as other information and experiences on the valuation of children's health by combining assessments of risk, economics and social impacts.

**Funding I** To be determined (estimated budget needed for project

design, planning and coordinating: US\$75,000). In-country activities to be funded by each respective government.

**Expected Results** A simple risk/valuation tool that could help risk managers in each of the three countries to make better decision about children's health policies.

## 4.6 Report on the Economic Impacts of Children's Environment Related Illnesses

**Rationale** 
■ While actions to better protect children's health often require commitment of resources, lack of action can also carry real economic costs. Providing quantitative estimates of the costs of no action can assist decision-makers and the public to better understand the implications for children associated with action vs. no action.

**Objective** To provide decision-makers and the public with information on the economic costs associated with not addressing children's environmental health problems, including the costs associated with child mortality and morbidity as well as other factors such as loss of parental work time, school absenteeism, etc.

What ■ Publish a report on the economic impact of children's environmental health illnesses in North America. The first report could focus on a subset of 3–4 children's illnesses that are associated with exposures to environmental contaminants, and/or the costs associated with childhood asthma, other respiratory diseases, dev-

elopmental disorders, and childhood cancer. Development of the report would rely on cost of illness estimates from each of the three governments and peer-reviewed journals as a starting point. However, some studies would need to be conducted to fill gaps where they exist. **Who m** One government representative from each of the three countries, with CEC providing coordination and overseeing the development and publication of the report.

**Funding** 
■ To be determined. US\$12,460 available in CEC budget for preparatory work in 2002.

**Expected Results** Report on the Economic Impacts of Children's Environmental Health Illnesses in North America, greater understanding among decision-makers and the public about the tradeoffs between policy options.

## 5. PUBLIC INFORMATION, OUTREACH AND EDUCATION

There is a need to share information on risks to children's health with the public in a timely and meaningful manner, so that the public (parents, community leaders, educators, etc.) are able to make informed decisions and to take informed action. The public, health care professionals, and others have key roles to play in furthering children's environmental health. Through their actions, they can reduce the use of, and the potential for exposure to, hazardous substances, thereby better protecting children's health. An informed public can also play a critical role by contributing to sound decision-making by governments, the private sector and others whose actions and decisions can affect the quality of the environment in which children live, learn and play.



## ONGOING AND PLANNED ACTIVITIES

## 5.1 Partner in the Production of a Global Video on Children's Environmental Health

**Rationale** Worldwide, millions of children die every year because of risks in their environment that are largely preventable. Yet awareness of the scale of the problem is low and information on potential solutions is not widely disseminated. Public awareness needs to be raised at the global, regional, national, community and family levels. Collaboration among organizations that are working to promote awareness and education on environmental health issues will help to ensure broader dissemination of information and avoid duplication of effort. **Objective** To increase awareness of environmental threats affecting children worldwide and in the North American region, including strategies for prevention.

and video news releases on CEH, to be broadcast through various international news agencies.

Type of activity: partnership, outreach

**Who** ■ Project coordinator: World Health Organization (WHO); video producer: Television Trust for the Environment (TVE); contributing partners: CEC and others.

**Funding** 
■ Total budget: US \$169,950; CEC contribution (2001): US\$20,000

**Expected Results** 
Video documentaries and news clips that will be available for use at the regional, national and local levels.

What 
Contribute to the development of video documentaries

## 5.2 Communicating Children's Environmental Health Issues and Concerns

**Rationale** The CEC has a number of publications and communication initiatives that could be used to disseminate information on CEH issues to members of the interested public and stakeholder groups.

**Objective** To inform the interested public and stakeholder groups in North America about issues of children's environmental health, with a priority focus on topics that relate to existing work areas of the CEC.

lications and communication initiatives. Inclusion of CEH articles in the Trio newsletter.

**When** 
■ Ongoing. Articles on CEH to appear periodically in *Trio*, which is published quarterly.

**Funding** 
■ No additional resources required

**Expected Results** 

Greater profile of CEH with the audiences for CEC communications.

## PROPOSED FUTURE ACTIVITY

## 5.3 Working with Health Professionals

**Rationale** 
■ Health professionals (e.g., pediatricians, family doctors, nurses, public health workers) are often the first people that concerned parents or community members will turn to with questions and concerns about children's environmental health. While some local/national activities are ongoing, there are limited communication mechanisms to allow health professionals across North America to exchange information and concerns, and to access the information they need to be effective conduits of information and advice to parents, caregivers, children and others.

**Objective** To use existing channels to improve the flow of information on CEH between and among health professionals in the three countries. To improve the public's access to information/advice on CEH by better equipping health professionals, a key intermediary with the public, with information and knowledge of CEH issues and preventive measures.

What ■ Work with existing groups and networks, such as the International Joint Commission (IJC) Health Professionals Task Force (HPTF) and the Pediatric Environmental Health Specialty Units (PEHSUs) in Canada, Mexico, and the US, to identify and fill information needs and to share expertise among health professionals and professions in the three countries, with an initial emphasis on asthma and other respiratory diseases, lead, and toxic substances including pesticides. Possible activities include:

 Translate existing training materials (e.g., Environmental Health in Family Medicine module produced by the IJF HPTF) and organize a conference and training session for medical professionals along the Mexico-US border, similar to an event organized by the HPTF in April 2002 in Chicago for US and Canadian professionals.

- 2\_ Translate and broaden dissemination of the IJC HPTF newsletter "Health Effects Review", a brief (2-page) periodic news release on current environmental health issues, or other similar resources.
- 3\_ Foster the development of tri-lateral networks of health professional networks/associations in the three countries, e.g., pediatricians, nurses, public health officials, building on the network of Pediatric Environmental Health Specialty Units that now spans all three countries and which facilitates collaboration and information sharing.
- 4\_ Share experiences on risk communication through case studies and other strategies.

**Who** ■ CEC, in coordination with the PEHSUs, the IJC HPTF and other relevant partners

**When** 
■ To be determined

**Funding I** To be determined

**Expected Results** Improved flow of information and sharing of expertise among health professionals in the three countries, with expected benefits for the public in the form of more informed advice and better access to information on CEH issues through the health care system.

## ANNEX 1: COUNCIL RESOLUTION 00-10

Dallas, 13 June 2000

THE COUNCIL:

## **COUNCIL RESOLUTION 00-10** Children's Health and the Environment

**RECOGNIZING** that children are not little adults and that there is abundant scientific evidence that children are particularly vulnerable to many environmental hazards in the air they breathe, the water they drink, the food they eat and the environment in which they live, learn, and play;

ACKNOWLEDGING that prevention of exposure is the most effective means of protecting children from environmental threats;

**AFFIRMING** that parents have a right to know about the presence of potentially harmful substances that may affect the health of their children, and that they play an important role in protecting the health of their children;

**NOTING** that governments, individuals, communities, industry, and non-governmental environmental and health groups have roles to play in addressing children's health issues;

**ENDORSING** the ideals affirmed in the 1997 Declaration of the Environmental Leaders of the Eight on Children's Environmental Health, as well as Chapter 25 of Agenda 21 of the United Nations Conference on Environment and Development;

ALSO NOTING the 1989 United Nations Convention on the Rights of the Child;

**ENCOURAGED** by the record of achievement of the Commission for Environmental Cooperation (CEC) in health-related issues, including the elimination or reduction of harmful substances such as DDT, chlordane, and PCBs, and by enhancing the public's awareness and understanding of releases of pollutants to the environment;

**FURTHER NOTING** that Phase II of the North American Regional Action Plan (NARAP) on mercury specifically addresses the concern for women of child bearing age and children's exposure to increasing levels of mercury;

(27)

## HEREBY:

**COMMITS** to working together as partners to develop a cooperative agenda to protect children from environmental threats with the overall objective of reducing human-made pressures on children's health;

**DECIDES** to focus, as a starting point, on specific health outcomes such as asthma and other respiratory diseases, the effects of lead including lead poisoning, and the effects of exposure to other toxic substances;

**AGREES** to establish for a period of two years an Expert Advisory Board composed of environment and health experts selected by the Parties to advise the Council on issues concerning children's health and the environment;

DIRECTS the Secretariat of the CEC to work with the Parties to develop a CEC agenda on children's health and the environment in North America by:

- 1\_ Developing inventories of national, bilateral, and trilateral activities related to children's environmental health. The purpose of this activity would be to take stock of what is currently being done, assess gaps and identify opportunities for further collaboration on children's environmental health under the CEC;
- 2\_ Convening a government workshop in the fall of 2000 in Mexico, with representation from ministries with responsibilities for environment, health, industry, finance, natural resources and others, as appropriate, in order to share information and expertise on national programs, and in order to develop a CEC agenda for children's health and the environment. As a starting point, this agenda will address asthma (including triggers such as environmental tobacco smoke, indoor pollutants and outdoor air pollutants) and other respiratory diseases, the effects of lead including lead poisoning, and the effects of exposure to other toxic substances;
- 3\_ Ensuring public and stakeholder consideration and feedback on the CEC agenda;
- 4\_ Applying the perspective of children's health and the environment to key work areas of CEC to find opportunities to advance the protection of children's health from environmental threats. In particular, opportunities in the following areas will be explored:

Sound Management of Chemicals: ensure inclusion of a strong children's health focus in the development of the draft NARAP on environmental monitoring and assessment and, where appropriate, identify initiatives that will decrease the impacts on children's health from bioaccumulative, persistent and toxic substances addressed in other NARAPs;

■ North American Free Trade Agreement (NAFTA) Trade and Transportation Corridors Project: ensure that this project, while addressing air quality issues associated with increased transboundary transportation, takes into account the effects on children's respiratory health; and

Exploring, with the advice of relevant experts (such as the Expert Advisory Board), the feasibility of developing a special feature on children's health and the environment, possibly as part of the North American Pollutant Release and Transfer Register;

- 5\_ Initiating activities to increase parents' and the public's awareness and education about environmental threats to children's health and ways of preventing exposure to these threats. As a first step, the CEC Secretariat will work with the Parties, engaging other relevant experts to:
  - B Develop a web page that would provide relevant information and links to other sources on children's health and the environment; and

Facilitate the exchange of information, scientific techniques, and experiences of jurisdictions in providing smog forecasts/alerts to the public so
that they can take action to protect themselves, noting that Environment Canada is hosting a tripartite workshop in November on air quality forecasting; and

6\_ Providing, through the CEC web page, a repository of research initiatives and other relevant scientific information related to children's health and the environment to build synergy between the health and environment research communities in the three countries.

## APPROVED BY THE COUNCIL:

**David Anderson** Government of Canada

Carol M. Browner Government of the United States of America

Julia Carabias Lillo Government of the United Mexican States

## ANNEX 2: ADVICE TO COUNCIL 02-01

Expert Advisory Board on Children's Health and the Environment in North America

27 March 2002

## ADVICE TO COUNCIL: 02-01

## Development of the Cooperative Agenda for Children's Health and the Environment in North America

The Expert Advisory Board on Children's Health and the Environment in North America (hereinafter referred to as the 'Expert Advisory Board' or the 'Board') of the Commission for Environmental Cooperation (CEC)

IN ACCORDANCE with its mandate to advise Council on matters pertaining to children's environmental health,

**COGNIZANT** of the importance of advancing the protection of children from environmental threats to their health, and the benefits of collaboration among the three countries,

**HAVING** held a joint public meeting with the CEC's Joint Public Advisory Committee on 7 March 2002 in Mexico City, in which members of the public and representatives of various sectors of civil society actively participated,

**RECALLING** the discussions during the Trilateral Workshop held in Montreal in November 2001, in which environment and health officials from the three governments, the Expert Advisory Board and representatives of the Canadian and US National Advisory Committees participated,

**HAVING** reviewed in detail the draft Cooperative Agenda for Children's Health and the Environment in North America, which has been prepared by the trilateral Children's Environmental Health (CEH) Team based on the ideas and proposed actions generated during the Trilateral Workshop, and having benefited from the public's comments, ideas and discussions during the 7 March meeting,

**HEREBY** makes the following observations and recommendations for consideration by the Council:

A high priority must be placed on the development of policies and measures that will prevent exposures and risks to children's health in the environments in which they live, learn and play, and via food, water and products.

Research is vital for gaining a better understanding of how environmental factors, e.g., substances found in our air, water, food and products, are affecting or could potentially affect the health of children and fetuses.

However, additional research is not always warranted. Immediate action is needed to promulgate or strengthen regulations to prevent children's exposures to pollutants and toxic substances for which adequate scientific knowledge already exists.

The application of the precautionary principle in policy and regulatory decision-making is vital to the protection of our children and future generations from environmental threats to health. In cases where there exists a potential for harm, protective action must be taken even in the absence of full scientific understanding.

A high priority must be placed on capacity building and training at all levels. This includes building up a cadre of professionals, particularly in Mexico, who have the expertise needed for conducting exposure and risk assessment including, inter alia, toxicologists and epidemiologists. Training and capacity building is also needed for medical professionals, community organizations, educators and other relevant actors, and should build on existing successful models such as the U.S. National Institutes of Health (NIH) training program. Efforts should also be directed to increasing interactions among the various disciplines and among the three countries.

Education and advocacy are critical for prevention and informed action to reduce exposures and risks. A high priority should be placed on educating and empowering people at the grassroots level, including parents and community groups, and providing the resources (e.g., small grants) for grassroots groups. However, such efforts are not a substitute for the development and improvement of regulations to protect children from environmental threats. Among the areas in which improved regulation is needed include air pollution, elimination of lead in housing and consumer products, and the banning of smoking in public places.

Having reviewed and discussed the draft Cooperative Agenda, the Expert Advisory Board also offers the following specific advice and recommendations with respect to the items outlined therein:

In the area of **public information**, **education and outreach**, the Board supports the proposed work with health professionals, and encourages similar partnerships with community-based organizations. There is a need to build core competencies on children's environmental health among community health workers. The Board urges the CEC to pursue opportunities to work with the trilateral network of Pediatric Environmental Health Specialty Units (PEHSUs) and the U.S. network of Pediatric Environmental Health Research Centers. Education and involvement of children themselves is also of high importance. In addition, there is a need for training programs and the development of relevant curricula and continuing education programs in order to ensure a future supply of clinical specialists in pediatric environmental health. This is an area in which the Board stands ready to play a leadership role. With respect to specific topics, there should be increased education and awareness raising aimed at limiting the cosmetic use of pesticides.

With respect to **asthma and respiratory disease**, the Board supports the ongoing research project on the health effects of diesel on children and other vulnerable groups, which is a substance for which improved scientific understanding would be beneficial. However, the Board recommends that the CEC also address other air pollutants that are affecting children's health, such as fine particulates, and to broaden the focus beyond the borders to address regions of high exposure.

With respect to **lead**, there is a need for improved data on blood lead levels and monitoring of the effects of lead. The Board encourages the SMOC to include biomonitoring for lead in its work within the NARAP on Environmental Monitoring and Assessment. The project to reduce children's exposure to lead by targeting lead in ceramics and in other micro-industries is a good example of practical work to identify and target an specific problem, which can then serve as a model for tackling other similar issues.

With regard to **toxic substances**, **including pesticides**, there is need for improved data on exposures and biomonitoring, better health surveillance, and a commitment to trilateral cooperation to enhance data comparability. As a starting point for these efforts, the priority focus should be on mercury and other metals, DDT and other pesticides, PCBs and other persistent organic pollutants (POPs), and high production volume chemicals for which more research is needed, in particular those thought to have neuro-developmental effects. Opportunities to build on ongoing work, including national surveys such as National Health and Nutrition Examination Survey (NHANES), should be pursued. This will not only aid in avoiding duplication and unnecessary effort, but will also strengthen linkages among researchers in the three countries and foster common approaches.

With respect to **risk assessment and economic valuation**, it is vital that the use of these tools be done in a transparent way. It is also important to ensure that the appropriate science is used to contribute to sound decisions, for example not relying on adult studies or the wrong types of studies. When there is not adequate scientific knowledge, conservative and protective measures should be taken.

Strengthening the knowledge base for long-term solutions should be among the core aims of the cooperative efforts of the three nations. The Board strongly supports the need for the U.S. National Children's Study and its expansion to include Mexico and Canada. As noted above, further work is needed to improve biomonitoring and health surveillance.

Concerted efforts need to be made to obtain the resources needed to implement the Cooperative Agenda. Such efforts such include building elements of the Cooperative Agenda into ongoing programs of the national governments and into the existing work program of the CEC, seeking partnerships with groups and organizations outside of government, and pursuing extra-budgetary resources.

The Board stands ready to support the Council in advancing work on children's environmental health and to participate in, and contribute to, other program areas of CEC, such as the Sound Management of Chemicals initiative, including the development of the NARAP on Environmental Monitoring Assessment.