

**Commission for Environmental Cooperation of North America**



**Report of the Trilateral Workshop on  
Children's Health and the Environment in  
North America**

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## Introduction

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Created under the North American Agreement on Environmental Cooperation (NAAEC), the Commission for Environmental Cooperation (CEC) facilitates cooperation and public participation to foster conservation, protection and enhancement of the North American environment in the context of increasing economic and social ties among the three North American countries. The CEC Council, the organization's governing body, is comprised of the top environmental officials from the three countries.

On November 27 and 28, 2001, the CEC hosted a Trilateral Workshop on Children's Health and the Environment in North America. The objective of the workshop was to initiate the development of an action-oriented agenda for collaborative work to better protect the health of North America's children from environmental threats, building on the priority issues identified in Council Resolution 00-10 (see appendix).

The meeting involved representatives from the three North American governments who are directly involved in activities related to children's health and the environment, as well as the members of the Expert Advisory Board on Children's Health and the Environment. The Expert Advisory Board is a nine-person panel composed of environment and health experts selected by the Parties to advise the Council on issues concerning children's health and the environment in North America.

The workshop participants spent most of their time in working groups each focused on one of the following subjects:

- ◆ Asthma and respiratory disease
- ◆ Lead poisoning and other effects of lead exposure
- ◆ Effects of other toxic substances including pesticides
- ◆ Measuring children's environmental health
- ◆ Risk assessment, economic analyses and decision-making
- ◆ Improving knowledge of environmental exposures and impacts: cooperation on longitudinal cohort studies

This report serves as the record of discussions in the working groups. The outcomes of the workshop will provide the basis for the development of a draft Cooperative Agenda for Children's Health and the Environment in North America, which will be available for public comment in early 2002.

A public meeting to obtain stakeholder input into the draft Cooperative Agenda will be held in Mexico City on 7 March 2002, co-organized by the CEC's Joint Public Advisory Committee (JPAC) and the Expert Advisory Board on Children's Health and the Environment in North America. To

obtain a copy of the draft document or for information on the public meeting, please contact the CEC Secretariat or consult the CEC website at <[www.cec.org](http://www.cec.org)>.

## Opening Plenary

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Greg Block, the Director of Programs at the CEC, welcomed workshop participants. Mr. Block spoke about the role of the CEC and the growing importance of children's environmental health in the programs of the Commission.

Erica Phipps, the Program Manager responsible for the CEC's activities in this area, described the purpose of the workshop and its expected outcomes. She explained how the CEC operates and provided some examples of successful projects it has undertaken. Finally, she provided background information on the CEC's project on Children's Health and the Environment in North America.

Leonora Rojas Bracho gave a presentation on the outcomes of Mexico's highly successful First National Workshop on Children's Health and the Environment, which was held in Mexico City in June 2001, with support from the CEC. The workshop attracted numerous participants and generated widespread attention to the issues of children's health. Following the workshop a communication campaign was launched to publicize the workshop's recommendations.

### Working Group 1-A

## Asthma and Respiratory Disease

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The discussion began with an exchange of information on asthma and respiratory diseases in the three countries. In Canada there was a documented increase in the number of asthma sufferers in the period 1970-90 (may be partially attributable to improvements in diagnosis), but since late 1990s the number has levelled off. Research has found that higher rates of symptoms of asthma (but not necessarily higher rates of asthma) are experienced in areas with elevated areas of air pollution

In Mexico, rates of incidence of asthma appear stable, but data are only available for children in urban areas (5-12% have asthma). In rural areas of Mexico, respiratory problems are associated with cooking/heating fires. The need for better monitoring was noted.

In the United States, asthma disproportionately affects poor urban children, and exposure to contaminants exacerbates the problem. Environmental tobacco smoke is a more significant factor than cooking fuel (a difference with Mexico). It appears that the indoor and outdoor environment contribute to the exacerbation of asthma .

In all three countries, it seems that rates of asthma may not be that different across socio-economic groups but the ways in which children suffer (e.g., hospitalization, emergency room visits, death) vary.

Following this discussion, working group participants made a list of the types of actions that would provide benefits to all three countries:

- ◆ Sharing information and technologies
- ◆ Developing a common definition of asthma
- ◆ Harmonizing environment and health research methodologies and data collection
- ◆ Sharing successful outreach programs
- ◆ Establishing a common framework for surveillance indicators
- ◆ Identifying research gaps and priorities, for example differentiating between what causes asthma and what exacerbates it;
- ◆ Developing economic models that better measure costs of children's asthma
- ◆ Assessing the effectiveness of publicizing air quality indicators in modifying behaviour,
- ◆ Sharing interventions that reduce frequency and severity of attacks
- ◆ Working together on reduction of exposure from trans-boundary pollutants and sources

The working group developed three trilateral initiatives, outlined below. It was noted that trilateral approaches are practically non-existent in the health sector, so that CEC can play a role in promoting this approach.

### **Asthma Surveillance & Indicator Framework**

The purpose of this proposed project is to create a common framework for asthma surveillance. Four steps are required:

- 1) Prepare a "data dictionary" that outlines what data are being collected by whom
- 2) Prepare a plan on how to share data in an on-going way
- 3) Share the data that exists
- 4) Plan how to get other data

A small group of representatives from each country would do the work, coordinated and administered by the CEC secretariat. The resources required include the time of employees of each government, Internet

resources to share information, and contract money for data access and a peer review process.

Stakeholders should be involved in reviewing the products of the project.

### **Public Education and Awareness Campaign**

The CEC secretariat would convene a group to help to develop a common over-arching message about the need for environmental management to address asthma. Countries would then pursue independent campaigns using the CEC-developed message as a tool, in coordination with each other. They would work with political entities (not just health/environment departments) and various sectors of the public to transmit the message.

The CEC secretariat would then set up a reporting template to share information on how their information campaigns are going.

### **Model Communities**

Two approaches were proposed for working with communities:

- ◆ Working with communities as pilots for coordinating existing asthma programs and services as an innovative approach to asthma management.
- ◆ Sharing work among various communities that have done interesting work and have resources available which could be shared.

It was noted that a community need not be a geographic place. It could be a school community, a web-based community, etc.

## **Working Group 1-B**

### **Effects of Lead Exposure including Lead Poisoning**

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Participants began the discussion by sharing information on lead issues in their respective countries. In the United States, the focus is on eliminating sources, including paint, gas, food, cans, water, industrial emissions, hazardous waste sites. The main strategy at the federal level is focused on lead paint since it is the major source of children's exposure in the United States.

In Mexico, the priority source of lead exposure is glazed ceramics. Other sources are illegal workshops that melt batteries to obtain lead, and "azarcon", a red dust containing 90% lead that is used as a panacea for children's stomach ailments. To date, actions have been taken mostly on a voluntary basis. The Mexican federal government has reacted to problems as they have appeared, however there is not yet a systematic study or program for lead poisoning prevention for the general population

In Canada, risk reduction efforts have been a combination of national and provincial legislation, educational programs and voluntary industry initiatives. Canada has regulations under the Hazardous Products Act which limit the content of lead used on furniture, household products, children's products and the exterior and interior surfaces of any building frequented by children. These regulations are currently being amended to reduce maximum lead content from 0.5% by weight to 0.06% by weight. While lead has been extensively regulated, the issue of renovation of old homes (or old leaded paint) has been addressed primarily through education/awareness programs. Participants noted that there is no extensive regulation on housing issues; that is a different approach to lead-paint issues compared to the USA but the extent of lead-paint problems in relation to housing issues was unclear. A suggestion was that collaboration is needed with the Canadian Paint Association to target lead releases during renovations.

The last national blood-level survey generally showed low blood lead levels; however there has not been a full national survey for at least 23 years. Participants noted that populations around point sources should be monitored as well as blood lead levels for the general population. There is also a need to look at lead present in baby foods and medication imported from other countries.

Following this discussion, working group members agreed that exposure is preventable and that an overall strategy is needed to achieve this goal.

The types of actions that would provide benefits to all three countries were identified as follows:

- ◆ Harmonization of regulatory and policy systems
- ◆ Sharing information and technology transfer (e.g. best practices for battery recycling)
- ◆ Education (including shifting perception) and communication (e.g. between the public and health care professionals)
- ◆ Sharing surveillance data and identification of common surveillance indicators of environmental health's children risk factors (establish key indicators exposure indicators : blood lead level, risk factors indicators: age of housing, poverty level, etc.)
- ◆ Increasing the capacity and involvement of NGO's and industry to understand the problem and the role they can play in addressing it.
- ◆ Exploring links with CEC initiatives like the pollution prevention program for micro-industries and the Sound

### Management of Chemicals

- ◆ Finding a correlation between environmental indicators and health indicators such as blood lead levels

Three actions were discussed in greater detail, as follows.

### Information Sharing and Technology Transfer

The objective of this proposed project is to encourage the sharing and transfer of information and technology to reduce and manage lead exposure in children. It aims to understand and link what information and technology is available and what is needed in each country.

An important focus would be cottage industries in sectors such as ceramics, lead battery recycling, etc.

The following steps should be considered:

1. Assess the nature of the problem and the range of solutions, including the:

- ◆ Industries that use lead
- ◆ Causes of lead-related problems in each country
- ◆ Experiences of the three countries in reducing lead emissions
- ◆ Nature of possible solutions, i.e., regulatory, voluntary, technology transfer, communication, etc.
- ◆ Costs and benefits of proposed actions

2. Convene a tri-lateral expert workshop to discuss the results and make recommendations on actions to be taken

It was suggested that funding options could be explored through CEC as well as other sources. It would be preferable to have the project well underway by June 2002, when the CEC Council meets

### Education, Communication and Outreach

The objective of this project is to inform and educate the public and health professionals regarding the sources, effects and risks of lead exposure. This will foster prevention and help ensure a safer environment for children in the three countries.

The following steps should be considered:

- ◆ Compare and review education programs from the three countries
- ◆ Assess and analyse the programs to identify the potential for use and transfer
- ◆ Identify and link groups with similar interests

- ◆ Develop specific program(s) involving groups in building awareness and participation
- ◆ Develop an implementation plan(s) and secure funding commitments
- ◆ Implement the plan
- ◆ Evaluate the project

The trilateral CEH Team should manage the project, with the work being done by consultants with support from NGO's, professional associations and industry associations. The funding could potentially come from the CEC and/or other sources.

### **Sharing Surveillance Data**

The goal of this proposed project is to gather and share national surveillance data for blood lead levels in children as well as other environmental data, taking advantage of an existing program in the United States. The benefits will include:

- ◆ Better focus of risk reduction and expected results
- ◆ Improved ability to identify sources of exposure
- ◆ Ability to track reductions in national blood lead levels
- ◆ Identification of geographic regions and/or sources of common concern

The following steps would be followed to undertake this project:

- 1) Identify a lead investigator in Canada and Mexico to work with the US investigator; utilize lessons learned by US Center for Disease Control and Prevention, the US Department of Housing and Urban Development and the Canadian Mortgage and Housing Corporation.
- 2) Develop a model for nationally representative surveillance, including a nationally representative sampling methodology
- 3) Identify risk factors specific to each country and modify the survey to take these into account
- 4) Conduct surveys
- 5) Analyze data
- 6) Use published information to take action, if required, to target intervention and to feed into education and communication efforts.

### **Working Group 1-C**

## **Effects of Other Toxic Substances Including Pesticides**

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This working group had a broad mandate to explore trilateral action on toxic substances (including pesticides) as they relate to children's

environmental health. Emphasis was placed on the potential for collaboration with two existing mechanisms: the NAFTA Technical Working Group on Pesticides (TWG) and the Sound Management of Chemicals program of the CEC (SMOC).

The mandate of the TWG is to facilitate collaboration on pesticides regulations among the three countries of NAFTA. The TWG allows the countries to share work and coordinate actions and approaches, providing environmental, health and economic benefits. The NAFTA Technical Working Group on Pesticides is the venue for regional cooperation and harmonization of regulatory activities on pesticides for Canada, the United States and Mexico. A key objective of the NAFTA TWG is to ensure the safety of pest control products throughout North America. Significant steps have already been taken by the PMRA and by EPA to address children's health through the pesticide registration process as well as through training on the safe use of pesticides. These efforts continue. (References: Canadian and US documents) They include factoring the unique characteristics of children into both the evaluation of new pest control products and the re-evaluation of older pesticide products. Comprehensive procedures are in place to specifically address children's health through the scientific risk assessment process and evaluation standards required by the US Food Quality Protection Act (FQPA). The U.S. is also working closely with Mexico in strengthening programs to protect agricultural workers and rural communities from the potential negative effects from pesticides. Children will directly benefit from this effort since it is intended to reduce exposure to pesticides by promoting the safe use and handling of pesticides in rural communities.

The SMOC program focuses on the development and implementation of North American Regional Action Plans (NARAP) for specific substances. NARAPs for DDT and chlordane have been fully implemented, and others for chemicals such as PCB's, dioxins and furans, mercury and HCBs are in different stages of development and implementation. Presently SMOC is examining the UNEP Persistent Organic Pollutants (POPs) list to find other chemicals or groups of chemicals on which to focus future efforts.

Following a discussion of the TWG's work, working group participants agreed to recommend that there be greater contact and coordination between the CEC and the TWG, both within country governments and between the respective secretariats.

Participants then made a list of possible trilateral initiatives:

- 1) Create an inventory of exposure data and monitoring and surveillance activities for toxic substances.

- 2) Study the exposures and effects on migratory workers' families.
- 3) Have Canada and US provide assistance to Mexico to increase its capacity to evaluate pesticides and toxics
- 4) Improve communication between, and among, regulators, researchers, health professionals and the public.
- 5) Assess the economic benefits vs. costs of pesticides and toxics.
- 6) Review the quality of risk assessment and surveillance systems for children's health, i.e. do we collect the right information during pre-market assessment? Do we need a better understanding of what children's actual exposure?
- 7) A workshop sponsored by CEC with support from the TWG to create common understanding of risk assessment methodologies for children's environmental health. It would focus on the use of data and analysis, particularly in risk assessment and in decision-making.
- 8) Create an inventory of approaches to child specific risk assessments for each country
- 9) Write a comparative analysis of risk assessment methods within and between each country
- 10) Develop a harmonized methodology for exposure models for children within North America

There was also some discussion of specific substances that affect children's health that could be dealt with by SMOC. These included:

- ◆ BF flame retardants
- ◆ PFA's – Scotch Guard
- ◆ Pharmaceuticals
- ◆ Biosolids/ Agricultural run off
- ◆ HPDEs
- ◆ Teflon
- ◆ Endocrine Disruptors
- ◆ Cleaning Products

Although some suggestions were made, participants did not feel ready to make specific recommendations. They did recommend that the SMOC Substance Selection Task Force take into account children's environmental health when evaluating substances for selection.

Of the potential trilateral initiatives that were suggested, participants felt the workshop had the most potential to aid in assessing children's health impacts for all substances.

### **A Workshop to Create Common Understanding of Risk Assessment**

The objective of the workshop would be to clarify the definitions of terms used in risk assessment and how it takes children into account. Different agencies and different disciplines use the same terms in different ways, making it difficult to work together and creating misunderstandings.

The workshop would focus on how data and analysis are used in risk assessment. It would seek to create a common understanding upon which better collaboration could be built.

A trilateral team that includes two people from each country as well as the TWG and CEC secretariats would design the workshop. There are existing documents on risk assessment that could be used as background papers. It is also recommended that a host country be identified for the workshop.

### **Working Group 2-A**

## **Measuring Children's Environmental Health**

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Working group participants began by comparing notes on the status of indicators in their respective countries. In the United States, a CEH indicators report "America's Children and the Environment: A First View of Available Measures" was published in December 2000, which provides various national indicators that have been compiled using existing data sources. EPA is currently completing a second report, which has expanded data, new measures on environmental contaminants, and new data on biomonitoring and neurodevelopmental disorders.

Several EPA regional offices have embarked on efforts to address issues of regional concern. The U.S. Department of Health & Human Services publishes "America's Children: Key Indicators of Child Well-being".

Canada has issued two relevant reports. The first, "Healthy Development of Children and Youth" reflects the determinants of health approach, of which environment is one. The second is "Towards a Healthy Future", discussing the health of Canadians, including children and environmental issues. Other relevant reports include "Asthma in Canada" and "Respiratory Diseases in Canada" both of which look at the prevalence of asthma in children and adults using data on hospitalization and mortality rates; the latter also looks at air quality issues and tobacco smoke. The Canadian Institute for Child Health issues a report that includes some CEH indicators that are more qualitative in nature.

Mexico is developing a national diagnostic of environmental health that will include a series of indicators. Consultations on the document are currently underway, with publication anticipated in early 2002. This will

be the first assessment of environmental health in Mexico. The next step is to go to the regional level, since the situations in different regions of the country vary greatly.

Both Mexico and the United States are participating in the US-Mexico border program, which has issued an indicator report covering all environmental media as well as environmental health.

It was noted that the representatives of the CEC, the International Joint Commission (IJC) Health Professionals Task Force, the Pan-American Health Organization (PAHO), the World Health Organization (WHO), and government officials had met in September to discuss the possibility of a collaborative project on indicators. Considerable interest in embarking on a North American indicators project was expressed among the participants, and it was suggested that a feasibility study be prepared as a first step. The discussions in the working group built on the results of this meeting.

Participants came to the conclusion that there was a considerable amount of activity underway in all 3 countries. Going forward, they defined a number of challenges:

- ◆ Gaps in data comparability among and within the three countries
- ◆ Funding constraints
- ◆ Human resource limitations, pressure on individuals who have to cover numerous activities (not a lack of willingness)
- ◆ Obtaining inter-agency coordination
- ◆ Lack of recognition that indicators are an important activity.
- ◆ Lack of recognized priority for multilateral initiatives
- ◆ Lack of understanding of the need for epidemiological expertise to build meaningful indicators of children's environmental health
- ◆ Participants also identified a number of benefits of having a set of North American indicators of children's environmental health:
  - ◆ Raising the political profile of children's environmental health issues, increasing public awareness
  - ◆ Improving accountability, demonstrating results
  - ◆ Promoting improvements in data collection and use, enhancing data comparability
  - ◆ Helping to identify possible links between environmental

exposures and public health effects

- ◆ Providing a unifying framework and means of tracking progress for the North American children's environmental health initiative as a whole

The working group agreed to the following statement as a long term objective:

The development of a set of indicators for North America to measure trends and status of children's environmental health and to stimulate action.

Participants felt that achieving this objective would be an important step forward for children and strongly supported three activities as steps to achieving it. The need for capacity building in Mexico was also noted.

### **Assess the Compatibility of Current Indicators**

The aim of this step would be to compile and review information on what indicators are used in each country, and assess their degree of comparability.

A working group would develop the criteria to define what is to be included. For example, they will need to decide whether or not municipal or regional indicators should be included.

National leads would be identified and the CEC would have a coordinating function. PAHO, the IJC Health Professionals Task Force and WHO should also be involved. The governments would provide their indicators and supporting data to the CEC secretariat, which would hire a consultant to analyse the information.

It is anticipated that this step will take from six months to a year. Approaches for funding could be through the CEC Secretariat and/or PAHO, the IJC task force or other sources.

### **Develop an Indicator Framework**

A small technical working group from the three countries, including both health and environmental expertise, would be created. Its task would be to develop a proposed indicator framework, i.e. the issues to be covered (e.g. asthma) and parameters to be measured. The working group will need to consider what are the right indicators for each issue and how the framework can be kept up to date as the indicators change over time. This framework should take into account CEC priorities (e.g., SMOC substances) and identify other issues that are not currently covered by the countries. The criteria and framework developed by WHO were mentioned as a possible starting point.

The CEC secretariat could host the work, but it was noted that having a chair to champion the project would be useful. The IJC task force, PAHO and the WHO would be potential partners to approach.

This framework would be sent out to a larger group for review. Potential users of the indicators, including consumer groups and other stakeholders, should also be engaged to define their needs and to ensure that the design will fill those needs.

### **Publishing and Updating the Indicators**

It was felt that publication of the first set of indicators could be completed by January 2004.

There is a need to continue updating the indicators and improving the ways of the data can be used. There might also be interest in looking at use of indicators at the state/provincial level and strengthening linkages to other CEC program areas, e.g., the SMOG Monitoring and Assessment NARAP, and the *Taking Stock* report on pollutant releases and transfers. The work of the countries, WHO and PAHO also needs to be taken into account.

There should be a web page that keeps the public updated on the status of the initiative.

### **Working Group 2-B**

## **Risk Assessment, Economic Analyses and Decision-Making**

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The discussion began with an exchange of information among participants on the ways in which risk assessment and economic analysis are used in decision making in their respective countries.

In Mexico, risk assessment will be used on a more systematic basis beginning this year. They mainly use secondary information, sometimes primary (i.e., generated in Mexico). A major challenge is building the capacity within the government to do risk assessment. There is also a need to do a better job of taking into account the conditions in each region of Mexico.

Canada has a risk assessment program for existing chemicals. The objective of the Risk Assessment is to determine whether a substance is to be declared "toxic" (as defined by the Canadian Environmental Protection Act) and thus becomes subject to risk management, where other analytical methodologies come into play. Exposure assessment is an integral part of the risk assessment process and exposure to children is assessed when data are available.

Health Canada has developed a conceptual framework for risk assessment and decision making for existing substances. There is an ongoing study of children's exposures and possible health effects that will lead to more precise assessments. Information on the framework is posted on the Internet. In addition, in fulfilling its mandate under the Pest Control Products Act, the unique characteristics of children are factored into both the evaluation of new pest control products and the re-evaluation of older products (as detailed in the draft document distributed by PMRA at the meeting).

Legislation in the United States specifically mandates the assessment of children's health. EPA has developed policies and techniques for risk assessment specifically for children (available on the Internet). For example, as required by the Food Quality Protection Act of 1996, EPA specifically evaluates the potential risks of pesticides for infants and children. The EPA has also developed a manual on economic analysis for use in assessing children's health issues. Certain states are also very active on CEH. For example, California has a goal of reducing the exposure of children to the maximum extent possible to a selected list of substances.

From this discussion emerged a list of potential trilateral actions:

- ◆ Examine whether the safety factors currently being used in risk assessment are appropriate to protect children's health
- ◆ Improve the methodology for and use of economic cost/benefit analysis related to children's health.
- ◆ Harmonization of approaches to risk assessment (as opposed to harmonization of the results)
- ◆ Increase the supply of people trained to do risk assessment (lack of trained personnel is a barrier to harmonization of approaches)
- ◆ Examine ways to take poverty and other relevant socio-economic information into account in decision -making
- ◆ Engage local decision makers in national or regional decisions that affect them
- ◆ Improve communication of risk assessment and economic analysis to decision makers and the public
- ◆ Harmonize risk assessment and economic analysis (currently they are done sequentially, not together)
- ◆ Integrate risk assessment, economic analysis and societal values (public and decision makers)
- ◆ Ensure that the results of the analysis are reflected in the

#### decisions taken

- ◆ Demonstrate whether or not children are protected

This list was then consolidated and divided among three sub-groups whose task was to define a project to address the actions.

#### **Harmonization and Capacity Building**

This initiative combines the harmonization of approaches and the need to increase the number of trained risk assessors, since the latter is a major barrier to harmonization. Four activities were recommended:

- 1) Each of the three countries to develop an understanding of the approaches to children's environmental health risk assessment that it uses internally, including any differences among agencies. This information should be fed into the workshop in step 2.
- 2) Hold the trilateral workshop on risk assessment proposed by group 1-C
- 3) Organize staff exchanges and training.
- 4) Identify the profile of skills needed for children's health risk assessment. The profile could be used to promote the training of people in risk assessment at universities and other training institutions. Activities 3 and 4 could be conducted in parallel to 1 and 2.

A human resources development working group would be created to undertake these activities, in collaboration with the group organizing the risk assessment workshop. The group would identify training and exchange opportunities as well as funding to take advantage of these.

#### **Communication**

The objective of this project is to increase the effectiveness in:

- ◆ Engaging decision makers from the national to local levels in risk assessment and economic analysis
- ◆ Communicating information generated by risk assessment and economic analysis to the general public.

The actions for this project are:

- 1) CEC to create a template for developing case studies of positive experiences from each country:
  - Key processes, tools, audiences, systems, products, etc., utilized
  - How effectiveness was assessed
- 2) Each country develops its case studies
- 3) CEC facilitates sharing of successful strategies

- 4) CEC analyses the cases studies for common threads
- 5) A workshop to share the experiences could be held
- 6) Assess if any of the communication tools, materials, etc. could be used trilaterally.

### **Integrating Economic Analysis, Risk Assessment and Social Aspects**

The objective of this project would be to improve the understanding of the specific valuation of children's health by combining assessments of risk, economics and social impacts.

This project would demonstrate the difference between children's and adults' health issues in terms of valuation methodology. The project results will contribute to better decision-making on children's health.

Three geographical areas would be selected, one in each country. The valuation of children's health would be examined with regard to selected parameters, for example lead, pesticides, and asthma. Best available valuation methods would be used; the group specifically mentioned that the project should not aim to develop new methodologies, but to demonstrate the use of the best currently existing methods.

A multidisciplinary task force composed of two government representatives from each of the three countries plus one person from the CEC would manage the project. Such a project could be completed within a year. The task force would also be responsible for communicating the results.

## **Working Group 2-C**

### **Cooperation On Longitudinal Cohort Studies**

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The working group began with an exchange of information on the longitudinal studies that were ongoing or planned in the three countries. Three Canadian studies were described:

- ◆ A study of the impact of air pollution on 15,000 children in 24 communities in Canada
- ◆ A study, focussed on indoor air quality, of a birth cohort of 400 mothers and children for the first two years of the child's life
- ◆ The reconstitution of the participants in a 1970s and '80s cohort study of 5,000 children. The objective is to study 1,000 to 1,400 of the children, who are now in their late 20s and early 30s.

The Mexican studies that were described were:

- ◆ Four semi-rural communities involved in study of links between nutrition and development.
- ◆ A study of pregnant women in four rural communities from

conception to two years after birth. The study is looking at the impact of lead on cerebral development.

- ◆ Consideration is being given to reconstituting a group of 3,000 to 4,000 children in the city of Torreon who were affected by severe lead poisoning
- ◆ A study of atmospheric pollution (indoor and outdoor) and children's health was carried out in 1997

The representatives from the United States gave an in depth presentation on a major longitudinal study (the National Children's Study) that will examine the effect of environmental exposure (broadly defined, not just chemical but also behavioural and socio-psychological). The sample size will be 100,000 children, starting during pregnancy. A longitudinal design was chosen so as to be able to infer causality and to look at multiple exposures and multiple outcomes.

This led to a discussion of the way in which countries could benefit from collaboration on the American study. Participants discussed what a trilateral longitudinal cohort study could be like: parallel and/or overlapping national studies? A truly trilateral study with people from all three countries involved in decision-making and implementation? A harmonized study?

If there were to be a separate longitudinal study in each of the three countries, what would be core? What would have to be specific to each country and what would be most easily carried out in each country so as to augment the study as a whole, rather than duplicating effort?

The group was not in a position to answer these questions. They agreed that whatever the form the collaboration would take, there would be some important benefits for Canada and Mexico to work in coordination with the United States, including the opportunities to share research protocols and technologies. Furthermore, should similar efforts be undertaken in the three countries, ensuring the comparability of data would significantly increase the statistical power for those outcomes that are more rare. However, in order to maximize the benefit of collaborating on the study, it would be important for Canada and Mexico to have seat at the US table in order to be involved in planning

Working group participants agreed that the US National Children's Study provides an excellent opportunity for trilateral cooperation. The key to that cooperation is the ability to persuade decision-makers of this opportunity. Working group participants agreed that the CEC can play an active role in promoting collaboration on the longitudinal cohort study by:

- ◆ Raising political appetite for the initiative
- ◆ Facilitating participation of each country
- ◆ Helping build capacity to participate
- ◆ Creating inventory of existing resources
- ◆ Pass a Council resolution specifically about this project, following on from the general resolution on children's health and the environment of June 2000 (CR 00-10)
- ◆ Engaging health ministers on this issue, stressing the health and environment linkages
- ◆ Assisting Mexico and Canada in developing proposal to solicit resources for a study
- ◆ Facilitating the participation of Mexico in trilateral discussion e.g. the coordinating committee for the National Children's Study

A number of suggestions were made on how to involve stakeholders in moving the agenda forward:

- ◆ Make a statement that this working group strongly supports a trilateral longitudinal cohort study and that the meeting participants as a whole sign onto this.
- ◆ This study could be part of the Cooperative Agenda for Children's Health and the Environment in North America and/or specific Council Resolution in June
- ◆ Interaction with the CEC's Joint Public Advisory Committee (JPAC)

## Next Steps

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In the closing plenary Dr. Irena Buka, the chair of the Expert Advisory Board, noted the positive outcomes of the workshop discussions and encouraged continued trilateral collaboration. She welcomed the participants to make use of the Board as a resource. Erica Phipps of the CEC thanked the participants for their active involvement and input, and outlined next steps. A draft meeting report would be prepared and sent out for review by all participants prior to being finalized. Based on the outcomes of the workshop, the trilateral CEH Team, comprised of officials from health and environment departments in the three countries, will prepare a draft Cooperative Agenda for Children's Health and the Environment in North America. The draft Cooperative Agenda will be disseminated in February 2002 for public review and discussion during the joint public meeting of the Expert Advisory Board and the Joint Public Advisory Committee (JPAC) on 7 March 2002 in Mexico City.

## Appendices

- Workshop agenda
- Working group discussion questions
- Participant list
- Council Resolution 00-10

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Report of the Trilateral Workshop on Children's Health and the Environment in North  
America  
Montreal, November 27-28, 2001

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# Trilateral Workshop on Children's Health and the Environment in North America

**27-28 November 2001**

Inter-Continental Hotel (Maisonneuve Room)  
360, Saint-Antoine Street West  
Montreal, Quebec, Canada

## Agenda

**Workshop Objective:** To develop an action-oriented agenda for collaborative work to better protect the health of North America's children from environmental threats

### **DAY ONE — Tuesday, 27 November**

#### **Opening Plenary Session**

- 8:30 Welcome and opening remarks—*Greg Block, Director of Programs*
- 8:40 CEC project update; Outline of a trilateral collaborative agenda—*Erica Phipps, Program Manager*
- 9:00 Results of Mexico's First National Workshop on Children's Health and the Environment—*Carlos Santos Burgoa, Director General de Salud Ambiental*
- 9:10 Workshop objectives and organization - *Raymond Vles, Lead Facilitator*

#### **Working Group Sessions**

##### **Part 1: Addressing Children's Environmental Health Endpoints of Common Concern**

**Objective of Part I:** To identify possible collaborative actions to address priority environmental health endpoints of common concern, with a particular focus on those identified in Council Resolution 00-10.

**Documents:** Working group discussion papers, Inventory of Activities, *North American Children's Health and the Environment* (Draft, October 2001)

- 9:20 Concurrent Working Groups
- Working Group 1-A: Asthma and Respiratory Disease
  - Working Group 1-B: Lead Poisoning and Other Effects of Lead Exposure
  - Working Group 1-C: Effects of Other Toxic Substances including Pesticides
- 10:30 Coffee break
- 10:45 Continue working group discussions
- 12:30 Lunch (provided by the CEC)
- 13:45 Interim reports from working groups - *Facilitators*

- 14:00 Continue working group discussions (coffee break in working groups)
- 17:00 Close of Day One
- 18:00 Reception

## **WEDNESDAY, 28 NOVEMBER 2001**

### **Plenary Session**

- 8:30 Reports from working groups—*Facilitators*
- 8:50 Presentation on process for the day—*Raymond Vles, Lead Facilitator*

### **Working Group Sessions**

#### **Part II: Strengthening Information Resources and Tools**

Objective of Part II: To identify possible collaborative actions needed to improve information/data resources and tools for children's environmental health protection efforts in North America, with a particular focus on supporting collaborative work on the issues discussed in Part I.

Documents: Working group discussion papers, Inventory of Activities, *North American Children's Health and the Environment* (Draft, October 2001)

- 9:00 Concurrent Working Groups
- Working Group 2-A: Measuring children's environmental health
  - Working Group 2-B: Exchanging experiences on risk assessment, economic analysis and decision-making
  - Working Group 2-C: Improving knowledge of environmental exposures and impacts: Cooperation on longitudinal cohort studies
- 10:30 Coffee break
- 10:45 Continue working group discussions
- 12:30 Lunch (provided by the CEC)
- 13:45 Continue working group discussions
- 15:45 Coffee break

### **Plenary Session**

- 16:00 Reports from working groups—*Facilitators*
- 16:30 Plenary discussion on next steps
- 16:45 Closing remarks
- 17:00 Adjourn



# Trilateral Workshop on Children's Health and the Environment in North America

Montreal, Quebec, Canada (27-28 November 2001)

## Working Group 1-A: Asthma And Other Respiratory Diseases

- 9:20 Introductions
- 9:30 Scoping the working group topic. For each country:
- Are there certain groups of children that are affected more than others by asthma and/or respiratory diseases?
  - What are the main environmental factors that contribute to asthma and respiratory diseases, respectively?
  - What is being done to reduce the incidence and severity of asthma and/or respiratory diseases, for example regulations, voluntary action, research, prevention, treatment and management, monitoring, etc.
  - What are the next steps that could be taken the incidence and severity of asthma and respiratory diseases?
- Participants are to identify any country specific challenges and opportunities that flow from their answers
- 10:30 Break
- 10:45 Identify challenges and opportunities for tri-lateral cooperation, those:
- ◆ That are common to the three countries,
  - ◆ Where countries could assist each other, or
  - ◆ Where CEC, as an international forum, could motivate action or raise the issue's profile
- 11:30 Brainstorm potential collaborative actions
- 12:30 Lunch
- 13:45 Plenary report by facilitators on the challenges and opportunities
- 14:00 Return to working groups
- 14:05 Choose 1 to 3 collaborative actions to develop for the action plan
- 14:30 Develop the collaborative actions with respect to:
- The expected results in terms of children's environmental health
  - Steps to be taken to undertake the work
  - Who is involved and how:
    - Who manages/steers the work? (e.g. task force, steering committee)
    - Who does the work? (e.g. consultant, governments)
    - Who administers/hosts the work? (e.g. CEC secretariat, lead country)
    - Who are the potential supporters? (e.g. stakeholders, users)
  - Funding
  - Timeframe
  - Stakeholder outreach and involvement
- (Break at the discretion of the facilitator)
- 16:30 Identify areas for future collaborative action
- 17:00 Adjourn



# Trilateral Workshop on Children's Health and the Environment in North America

Montreal, Quebec, Canada (27-28 November 2001)

## Working Group 1-B: Lead Poisoning and Other Effects of Lead Exposure

- 9:20 Introductions
- 9:30 Scoping the working group topic. For each country:
- Are there certain groups of children that are affected more than others by exposure to lead?
  - What are the main sources and pathways of lead in the environment?
  - What is being done to reduce lead releases and exposures, for example regulation, voluntary, research, prevention, treatment and management, monitoring, etc?
  - What are the next steps that could be taken reduce lead releases and exposure?
- Participants are to identify any country specific challenges and opportunities that flow from their answers
- 10:30 Break
- 10:45 Identify challenges and opportunities for tri-lateral cooperation, those:
- ◆ That are common to the three countries, or
  - ◆ Where countries could assist each other
  - ◆ Where CEC, as an international forum, could be useful in motivating action or raising the issue profile
- 11:30 Brainstorm potential collaborative actions
- 12:30 Lunch
- 13:45 Plenary report by facilitators on the challenges and opportunities identified by each group
- 14:00 Return to working groups
- 14:05 Choose 1 to 3 collaborative actions to develop for the action plan
- 14:30 Develop the collaborative actions with respect to:
- The expected results in terms of children's environmental health
  - Steps to be taken to undertake the work
  - Who is involved and how:
    - Who manages/steers the work? (e.g. task force, steering committee)
    - Who does the work? (e.g. consultant, governments)
    - Who administers/hosts the work? (e.g. CEC secretariat, lead country)
    - Who are the potential supporters? (e.g. stakeholders, users)
  - Funding
  - Timeframe
  - Stakeholder outreach and involvement
- (Break at the discretion of the facilitator)
- 16:30 Identify areas for future collaborative action
- 17:00 Adjourn



# Trilateral Workshop on Children's Health and the Environment in North America

Montreal, Quebec, Canada (27-28 November 2001)

## Working Group 1-C: Effects of Other Toxic Substances Including Pesticides

- 9:20 Introductions
- 9:30 Scoping the working group topic. For each country
- a) Are there certain groups of children that are affected more than others by toxic substances (including pesticides)?
  - b) What are the main sources and pathways of these substances in the environment
  - c) What is being done about controlling these substances: regulatory, voluntary, research, prevention, treatment and management, monitoring?
  - d) What are the next steps that could be taken reduce releases and exposures to these substances?
- Participants are to identify any country specific challenges and opportunities that flow from their answers
- 10:30 Break
- 10:45 Presentation on the work of the NAFTA Technical Working Group on Pesticides
- 11:00 How could the NAFTA Technical Working Group on Pesticides (TWGP) further contribute to protecting children's environmental health?
- 11:30 What are the opportunities for collaboration between the CEC and NAFTA TWGP with respect to children's environmental health?
- 12:30 Lunch
- 13:45 Plenary report by facilitators on the challenges and opportunities
- 14:00 Return to working groups
- 14:05 Presentation on how current Sound Management of Chemicals (SMOC) activities take children into consideration
- 14:20 What are the opportunities for further collaboration with the SMOC initiative to address children's environmental health?
- 15:30 Break
- 15:45 As time allows, develop the actions identified with respect to:
1. The expected results in terms of children's environmental health
  2. Steps to be taken to undertake the work
  3. Who is involved and how:
    - i) Who manages/steers the work? (e.g. task force, steering committee)
    - ii) Who does the work? (e.g. consultant, governments)
    - iii) Who administers/hosts the work? (e.g. CEC secretariat, lead country)
    - iv) Who are the potential supporters? (e.g. stakeholders, users)
  4. Funding
  5. Timeframe
  6. Stakeholder outreach and involvement
- 17:00 Adjourn



# Trilateral Workshop on Children's Health and the Environment in North America

Montreal, Quebec, Canada (27-28 November 2001)

## Working Group 2-A: Measuring Children's Environmental Health

- 9:00 Introductions
- 9:10 Scoping the working group topic. For each country:
- What is currently being done to measure children's environmental health?
  - Are there other sources of information that are relevant to measuring children's environmental health?
  - What are the most important needs with regard to information on children's environmental health and how could they be filled?
- Participants are to identify any country specific challenges and opportunities that flow from their answers
- 10:00 Identify challenges and opportunities for tri-lateral cooperation, those:
- ◆ That are common to the three countries,
  - ◆ Where countries could assist each other, or
  - ◆ Where CEC, as an international forum, could be useful in motivating action or raising the issue profile
- 10:30 Break
- 10:45 Brainstorm potential collaborative actions
- 11:15 Choose 1 to 3 collaborative actions to develop for the action plan
- 11:45 Develop the collaborative actions with respect to:
- The expected results in terms of children's environmental health
  - Steps to be taken to undertake the work
  - Who is involved and how:
    - Who manages/steers the work? (e.g. task force, steering committee)
    - Who does the work? (e.g. consultant, governments)
    - Who administers/hosts the work? (e.g. CEC secretariat, lead country)
    - Who are the potential supporters? (e.g. stakeholders, users)
  - Funding
  - Timeframe
  - Stakeholder outreach and involvement
- Break at the discretion of the facilitator
- 12:30 Lunch
- 13:45 Return to working group to resume development of the collaborative actions
- 15:45 Break
- 16:00 Closing plenary
- 17:00 Adjourn



# Trilateral Workshop on Children's Health and the Environment in North America

Montreal, Quebec, Canada (27-28 November 2001)

## Working Group 2-B: Exchanging Experiences on Risk Assessment, Economic Analysis and Decision Making

- 9:00 Introductions
- 9:10 Scoping the working group topic. For each country:
- What information and analysis is used to support decision making on children's environmental health?
  - How are risk assessment and economic analysis currently being used to make decisions about children's environmental health?
  - How could risk assessment and economic analysis be used more effectively to support decisions on children's environmental health?
- Participants are to identify any country specific challenges and opportunities that flow from their answers
- 10:00 Identify challenges and opportunities that are amenable to tri-lateral cooperation, those:
- ◆ That are common to the three countries
  - ◆ Where countries could assist each other, or
  - ◆ Where CEC, as an international forum, could be useful in motivating action or raising the issue profile
- 10:30 Break
- 10:45 Brainstorm potential collaborative actions
- 11:15 Choose 1 to 3 collaborative actions to develop for the action plan
- 11:45 Develop the collaborative actions with respect to:
- The expected results in terms of children's environmental health
  - Steps to be taken to undertake the work
  - Who is involved and how:
    - Who manages/steers the work? (e.g. task force, steering committee)
    - Who does the work? (e.g. consultant, governments)
    - Who administers/hosts the work? (e.g. CEC secretariat, lead country)
    - Who are the potential supporters? (e.g. stakeholders, users)
  - Funding
  - Timeframe
  - Stakeholder outreach and involvement
- 12:30 Lunch
- 13:45 Return to working group to resume development of the collaborative actions
- 15:45 Break
- 16:00 Closing plenary
- 17:00 Adjourn



# Trilateral Workshop on Children's Health and the Environment in North America

Montreal, Quebec, Canada (27-28 November 2001)

## Working Group 2-C: Cooperation on Longitudinal Cohort Studies

- 9:00 Introductions
- 9:10 Scoping the working group topic. For each country:
- a) Are there currently longitudinal studies carried out to measure children's health? Do they take into account environmental exposures?
  - b) What are the benefits of longitudinal cohort studies in measuring children's environmental health?
  - c) What is the current status of the longitudinal cohort study?
- Participants are to identify any country specific challenges and opportunities that flow from their answers
- 10:00 What would be the benefits of tri-lateral collaboration on existing or planned longitudinal cohort studies?
- 10:30 Break
- 10:45 What are the conditions that would have to be in place to foster tri-lateral collaboration on a longitudinal cohort study? How can these conditions be put in place?
- 11:15 Choose the key conditions that have to be met to foster tri-lateral cooperation.
- 11:45 What actions could be taken to meet the key conditions?
- 12:30 Lunch
- 13:45 Develop the actions to address the key conditions with respect to:
1. The expected results in terms of children's environmental health
  2. Steps to be taken to undertake the work
  3. Who is involved and how:
    - i) Who manages/steers the work? (e.g. task force, steering committee)
    - ii) Who does the work? (e.g. consultant, governments)
    - iii) Who administers/hosts the work? (e.g. CEC secretariat, lead country)
    - iv) Who are the potential supporters? (e.g. stakeholders, users)
  4. Funding
  5. Timeframe
  6. Stakeholder outreach and involvement
- 15:45 Break
- 16:00 Closing plenary
- 17:00 Adjourn



## Trilateral Workshop on Children's Health and the Environment in North America

### Simposio Trilateral sobre Salud Infantil y Medio Ambiente en América del Norte

27-28 November 2001 / 27 y 28 de noviembre de 2001  
Montreal, Quebec, Canada

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Dallas, 13 June 2000

COUNCIL RESOLUTION 00-10

**Children's Health and the Environment**

THE COUNCIL:

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;

ENDORISING 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;

HEREBY:

COMMITTS 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:
  - a) 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;
  - b) 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
  - c) 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:

- a) Develop a web page that would provide relevant information and links to other sources on children's health and the environment; and
  - b) 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:

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