

Commission for Environmental Cooperation of North America



**Summary of the Joint Meeting of the Joint Public Advisory
Committee (JPAC) and the Expert Advisory Board on Children's
Health and the Environment in North America**

**March 7th, 2002
Mexico City, DF México**

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SUMMARY OF THE JOINT MEETING OF THE JOINT PUBLIC ADVISORY COMMITTEE (JPAC) AND THE EXPERT ADVISORY BOARD ON CHILDREN'S HEALTH AND THE ENVIRONMENT IN NORTH AMERICA

Mexico City, March 7, 2002

Introduction

The Commission for Environmental Cooperation (CEC) organized a public meeting in Mexico City on the 7th of March, 2002 as a forum for exchanging ideas and obtaining stakeholder input into the Draft Cooperative Agenda on Children's Health and the Environment in North America.

Close to one hundred people from non-governmental groups, academia and government, from Canada, Mexico and the United States, attended the meeting. The list of participants is attached as Annex A. The Draft Cooperative Agenda was circulated in advance to provide background for the meeting (available from the CEC).

This document summarizes the discussions held on the various options presented in the draft and additional topics raised by participants.

This document presents:

1. Presentation from the co-chairs of the meeting, Mr. Jon Plaut and Dr. Irena Buka;
2. Updates on national children's health programs in Canada, the United States and Mexico;
3. A global update on children's health and the environment;
4. An overview of the Commission for Environmental Cooperation's project on children's health and the environment;
5. Discussion of the Draft Cooperative Agenda on Children's Health and the Environment in North America;
6. Open discussion of children's environmental health issues of priority concern in North America.

The CEC wishes to thank all participants, including the members of the Expert Advisory Board on Children's Health and the Environment in North America and the Joint Public Advisory Committee (JPAC), for their comments and suggestions on the Draft Cooperative Agenda on Children's Health and the Environment in North America.

1. Presentation from the Co-chairs of the meeting, Mr. Jon Plaut and Dr. Irena Buka

Mr. Jon Plaut welcomed participants, and then the members of the Expert Advisory Board and the Joint Public Advisory Committee were introduced. Mr. Plaut discussed the responsibilities of JPAC and mentioned that the function of this 15 member voluntary board is to provide advice to Council (the three ministers of the Environment) on any matter within the scope of the North American Agreement on Environmental Cooperation and perform any other functions that Council may direct. Mr. Plaut noted that within JPAC there is a small working group on children's environmental health.

Dr. Buka requested a minute of silence in memory of Dr. Miguel Montoya Cabrera, a member of the Expert Board from Mexico, who passed away in December.

The members of the Expert Advisory Board and the trilateral Children's Environmental Health (CEH) Team, which includes government officials from both environment and health departments, were introduced and the agenda was reviewed.

Dr. Buka made a presentation entitled "Why Especially Children". She emphasized that children need to be

protected from physical biological, psychosocial, socioeconomic and chemical environmental hazards. She emphasized that children may be exposed preconceptually to chemical pollutants by exposures of the ova and sperm in the parents. Children may be exposed through the prenatal period and after birth. The exposures that occur before birth may be particularly toxic to the developing child leading to neurodevelopmental problems, congenital abnormalities, cancers and asthma. Some exposures in early childhood may be associated with disease in later life. She stressed that we need to protect children throughout all these stages of development by providing safe air for them to breathe, safe food and water for them to eat and drink and a safe environment for them to play in. Making this investment in the health of our children is an investment in our decisions-makers and procreators of the coming generation.

2. National Updates on Children's Health and the Environment.

2.1. Canada – Dr. Tony Myres, Health Canada, Julie Charbonneau, Environment Canada

This presentation reviewed the general state of children's health in Canada. The health status of Canadian children is good, judging by traditional measures of public health status, e.g. infant mortality rate, and life expectancy. However, there are also worrying trends regarding asthma and respiratory diseases, childhood cancer, neuro behavioral and developmental effects and low birth weight and birth defects. The Canadian Environmental Protection Act (CEPA) is the key legislative tool by which Canada manages and control toxic substance from entering the environment and affecting human and ecosystems health. Other legislation such as the Hazardous Products Act and the Food and Drugs Act contain specific provisions for the protection for children's health. Momentum has been building in Canada to further protect children's health from environmental threats. The Government of Canada has made a commitment to develop environmental standards that reflect children's particular vulnerabilities. Development of a domestic strategy to address children's environmental health issues has been initiated. Current activities include the development of a research strategy to advance the knowledge on CEH issues and the strengthening the voluntary sectors capacity to address children's environmental health issues. The CEC activities provide a good opportunity to avoid duplication of efforts and build on the experience and expertise of others. At the recent Health and Environment Ministers of the Americas (HEMA) meeting, the message came through loud and clear that a greater emphasis on children's health is a priority in North America. Activities for children's health in Canada include workshops on priorities and research, risk management, and outreach programs.

2.2. Mexico – Leonora Rojas Bracho, Secretaria de Salud

In Mexico, about 30 percent of children do not reach the age of five years due mostly to gastro-intestinal and respiratory infections. Malnutrition is also very high. The drinking water coverage in Mexico has increased but still remains at 86 percent. In industrialized, highly populated areas where there is good coverage, there is associated chemical contamination of the water, which needs to be addressed. Because 17 percent of the population use biomass to cook, women of childbearing age and their children are exposed to very high particle and carbon monoxide levels indoors. Micro-industries also contribute to poor air quality. The mining industry has resulted in pollution leading to health problems, and because the public is being educated on these issues they are demanding results. Lead as a problem still continues due to mining and low temperature furnaces in the ceramics industry. Pesticides are an issue, and additional data are needed to improve the register of intoxications, both chronic and acute. Initiatives for children's health in Mexico include the Programa de Acción en Salud Ambiental (PRASA) 2001-2006, which is the working program of the General Directorate of Environmental Health, from the Ministry of Health of Mexico. It is a national initiative to increase protection of the health of the population from exposures. The National Workshop on Children's Environmental Health, held in June 2001 with support from the CEC, looked at risks to children and why they are important, and culminated with a joint statement by the Secretary of Health and the Secretary of Semarnat (environment). Finally, the Workshop on Health and Sustainable Growth, which

took place on March 6th, 2002, will result in a document that justifies the inclusion of health as one of the three pillars for sustainable development and will include references to children.

2.2. The United States of America – Ramona Trovato, US Environmental Protection Agency

Ms. Trovato noted that one of the messages from the HEMA meeting, directed to the World Summit on Sustainable Development (WSSD) to be held in Johannesburg, was to make children a high priority for sustainable development. A second message was to develop a set of indicators of environmental health, beginning with children, and in particular to concentrate on the issues surrounding water. In the United States, children's health initiatives include: the National Agenda on Children's Environmental Health, measures to take children into consideration in risk assessments, setting of standards, providing communication and outreach, and increasing the investment in science. In 1997 the President signed an Executive Order to consider children in the development of regulations and protect them if they are vulnerable. It also directed the development of a Task Force with four priorities: asthma (to be addressed by the Asthma Strategy), developmental disorders (to be addressed by the Lead Strategy as well as the longitudinal cohort study), childhood cancer, and unintentional injuries. In 2000, Congress passed the Children's Health Act of 2000, initiating the National Longitudinal Cohort Study on Children, now called the National Children Study (currently in the planning stages). In 2000 the EPA published a Children's Health Research Strategy, which is presently being implemented. New initiatives focus on environmentally healthy schools and adequate nutrition for rural children. EPA is developing an organophosphate cumulative risk assessment, the first of its kind, looking at all 31 of the organophosphates registered for use in the US. In the past four years, twelve Children's Research Centers have been established. The EPA is also collaborating with the American Academy of Pediatrics to teach pediatric residents about children's environmental health, and with physicians through the Pediatric Environmental Health Specialty Units, now numbering ten in the United States, one in Canada and one in Mexico.

Discussion

Mr. Jon Plaut summarized the following issues with respect to national children's environmental health approaches:

- The theme of public education and outreach is an important one;
- Insufficient funding may be a problem;
- New programs are needed to develop more data on children's environmental health;
- Children are an increasingly smaller proportion of the populations of Canada and the US, and thus may be becoming less of a public policy focus;
- More public support is needed;
- There is a need to ensure environmentally healthy schools; and
- Education for pediatricians and nurses on environmental issues is needed.

Participants voiced their concerns about persistent organic pollutants in Mexico that may be arising from incomplete combustion and incineration of hazardous wastes and PCBs in medical equipment. There was a suggestion for the development of an inventory on environmental indicators for Mexico. The socio-economic issue of the children's labor force was also raised. For example, it was mentioned that children clean up crude oil spills without adequate protection. The final suggestion was that the Secretariat of Health work to increase funding for epidemiological studies and include further the issue of children's health in the mandate of the Public Education Division.

One of the participants commented that there was an over reliance on risk assessment, and there was no mention of the precautionary approach for the future. This participant also voiced his concerns about the efforts on asthma in the US and the administration's new control scheme for power plants which is supposed to do less than the

Clean Air Act would do if it were allowed to be implemented. He inquired as to what will be done with the data from the Voluntary Children's Evaluation Program for Chemicals.

Participants were concerned about the community around the Penoles Plant in Mexico. In 1999, over 80 percent of the children from the area that had been evaluated had $> 10 \mu\text{g/dL}$ of lead in their blood. Also in this area there are a high number of birth defects and high risk pregnancies. Participants felt that there is a lack of communication among environmental officials, health officials, and educators in this area. The magnitude of the problem is too big for the local government, and it was proposed that to facilitate the solution of this problem all levels of government and the Penoles Plant must take responsibility.

Responding to the public comments, Ramona Trovato pointed out that the EPA is working with the states on asthma and have developed the Diesel Study aimed at reducing the number of asthma cases. The EPA believes that they do incorporate the precautionary approach in their risk assessments, and the new regulations for power plants under the Clear Skies Program place stricter standards for sulphur dioxide and nitrogen dioxide emissions than the Clean Air Act.

Dr. Tony Myres pointed out that the Precautionary Principle as defined at the Earth Summit (Rio, 1992) is a tool of risk management and cannot be a substitute for risk assessment. The new Canadian Environmental Protection Act (2000) incorporates this principle. However, "precautionary approaches", e.g., use of uncertainty factors, are used in the risk assessment phase. Leonora Rojas Bracho stated that within the Mexican Environmental Health program they have developed environmental strategies to solve specific problems, e.g. eliminate medical use of mercury and assess the potential effects of the use of phthalates, address problems with occupational health and child labor. Trying to solve long standing inherited problems with only partial measures and studies has not been sufficient to close the Penoles case and satisfy the population, or to protect the population from the risks to metal exposure that may have been left from the closing of the plant.

3. A Global Update on Children's Health and the Environment - Karen Hopfl-Harris, Physicians for Social Responsibility

This presentation summarized statistics for children's health globally. Ms. Hopfl-Harris mentioned that of the monies that are being invested in the major illnesses and diseases, the majority is being used for treatment, not for prevention. To deal with the many health problems, communication between governments, non-governmental organizations, interested parties, and industries must improve. There must be commitment, structure for carrying out actions and actions themselves. The G8 Environment Ministerial Meeting in Italy highlighted the special vulnerability of children. It listed many of the most prevalent environmental threats and it highlighted poverty as a confounding factor. There will be the World Summit on Children in May of 2002, as well as the World Summit on Sustainable Development that will include a focus on children. One goal of the World Summit in 1992 was to have universal access to safe drinking water and sanitation. The UN has issued a report that looked at the gains and unfinished business related to achievement of this goal. Gains include 860 million additional people that obtained access to improved water supplies over the past decade, however this leaves some 1.1 billion who still lack access. Although access to water has increased, contamination has also increased. 747 million additional people utilized improved sanitation facilities; however 2.4 billion still lack access. To fully protect children, Ms. Hopfl-Harris stressed the need for national political and financial commitments, risk assessments that take children's vulnerabilities into account, further funding for research, a standardized or comparable set of environmental indicators, more monitoring data, and professional training and capacity building.

Dr Luis Galvao, Coordinator of Environmental Health for the Pan American Health Organization (PAHO), noted that his organization is part of the WHO Task Force for the Protection of Children's Environmental Health, and will work with WHO to implement the children's environmental health agenda in the America's region. He noted

the comprehensive work of the CEC, and indicated PAHO's intention to give their support to the CEC's initiative on children's environmental health.

4. An Overview of the CEC's Project on Children's Health and the Environment – Erica Phipps, Program Manager

The CEC was created under the North American Agreement on Environmental Cooperation to facilitate cooperation among the three countries to protect their shared environment. The children's health program is a subsection of the larger Pollutants and Health Program. In 1999 the CEC Council announced a new initiative on children's environmental health and called upon the CEC to explore opportunities in this area. In May of 2001 there was a successful symposium on Children's Environmental Health in North America in Toronto, Canada. From this symposium, areas of common concern began to emerge and in June of the same year Council issued Council Resolution 00-10, setting the framework for the initiative. This resolution stressed the importance of integrating children's health issues into the existing work areas of the CEC, including the Sound Management of Chemicals (SMOC) and Air Quality programs, and placed a high emphasis on public education, outreach, and access to information. It called for the formation of the Expert Advisory Board as well as the development of the Trilateral Cooperative Agenda for actions over the medium and longer term. The trilateral CEH Team includes government officials from both environment and health departments. In November of 2001, the CEC convened a trilateral workshop where the situation and needs on children's environmental health were discussed and potential project ideas were developed. Building on the outcomes of this workshop, the CEH Team developed the Draft Cooperative Agenda on Children's Health in North America. In developing the Cooperative Agenda, the CEH Team focused on the initial priorities set by Council, topics of common concern in the three countries, projects that could be linked with existing CEC program work, and areas in which there would be added value from working trilaterally.

Discussion:

One of the participants inquired as to whether trilateral concern was a required criterion for selecting projects. Ms. Phipps responded that generally, activities chosen are of concern to the three countries, but there are certain cases where if there is a problem in one country and relevant experience in the other countries, that this experience can be channeled to assist in addressing the problem.

Dr. Carlos Santos Burgoa, of the department of Health in Mexico, commented on the importance of this meeting, in that JPAC and the Expert Advisory Board have direct access to the government secretaries/ministers and thus are in a position to pass on information of importance.

5. Discussion of the Draft Cooperative Agenda on Children's Environmental Health in North America

In this session, each of the six elements of the Draft Cooperative Agenda was briefly presented by a member of the CEH Team. The floor was then opened for public comment.

5.1 Effects of Other Toxic Chemicals Including Pesticides – presented by Dr. Carlos Santos Burgoa, Secretaria de Salud and Erica Phipps, CEC

Integrating CEH into the Sound Management of Chemicals (SMOC) Program [ongoing]. The CEC's SMOC program is a highly successful program. A recent SMOC workshop discussed the CEH program and agreed that children's health should be a priority within all newly developed North American Regional Action Plans (NARAPs), including the NARAP on Environmental Monitoring and Assessment.

Taking Stock Special Feature Report on Toxics and Children's Environmental Health [ongoing]. As part of the annual *Taking Stock* report series on the sources and management of toxic pollutants in North America, Council has called for a special report on the links between toxics and children's health making use of pollutant release and transfer register (PRTR) data. This report is under development, with a target release date of Fall 2002.

Discussion:

One of the participants commented on the use of toxicity tests as the next logical step. These tests have a broad application in environmental toxicity and could help us solve the problem of finding isolated substances in the environment for testing. The participant also noted that the recording of polluting substances is very important, and that Mexico will soon start maintaining a register of pollutants from the industrial sector. This will provide an opportunity to do more regional management.

Another participant asked Carlos Santos Burgoa if under the SMOC project, they have taken into consideration lead.

Participants voiced their concerns about obsolete stocks of pesticides in Mexico. When technologies changed, the stocks of organophosphates remained. There is no comprehensive survey. The United Nations Food and Agriculture Organization (FAO) did a survey, but only around Torreon. Participants noted that the FAO found many tonnes of pesticides in that area alone. They noted that the issue of obsolete pesticides is not addressed in the draft agenda, but suggested that it is an important source of exposure since there are often no owners and no controls.

A participant commented that Mexico has a special issue with migrant workers and their families. Another comment arose suggesting that organic aromatic compounds be addressed in the agenda, especially in the area where there are oil industries. There was also a concern raised about the effects of exposure to Malathion in Salamanca.

A question arose as to whether there can be a comprehensive inventory of carbon dioxide emissions included in the PRTR.

Regarding the question about tests used for monitoring, Carlos Santos Burgoa asked that this information be given to him so he may submit it as a suggestion to SMOC. With respect to other metals, the SMOC program focuses on substances after they have gone through the substances selection process and once it has been decided that tri-national action is warranted. With respect to pesticides, a request will go to JPAC to raise the issue of what can be done with obsolete stocks. The NAFTA Technical Working Group on Pesticides will work with the CEC to further this work and to avoid duplicating efforts. As for the aromatic hydrocarbons, this was discussed with the SMOC and will be noted with JPAC and the Expert Advisory Board so that they can consider advising Council on how to deal with these chemicals. Although they are not persistent chemicals, they may cause long term effects in children. With respect to Malathion, the department of environmental health is working to develop a strategy for a legal proceeding involving the company. Unfortunately these types of proceedings take a long time.

Jon Plaut commented that the CEC is not a super-national organization that tells countries what to do. Its function is coordination and facilitation of activities and communication. The CEC can coordinate programs and set new policies when the three ministers agree to move forward. When DDT Task Force was formed, there was a coming together of public health and environment. There was initial fear from the health side that malaria would increase, but this initiative has resulted in a terrific outcome, lessening DDT use without an increase in malaria.

Carlos Santos Burgoa added that there was strong opposition from the health sector at the time of implementation of the DDT NARAP. Mexico committed to 80 percent reduction by 2002, and actually achieved 100 percent

compliance of not using DDT and stopped DDT production by 2000, two years ahead of schedule. When there was a scourge of malaria in 1999, instead of using DDT, there were efforts to work at the community level to take non-chemical measures such as hygiene and medical treatment combined with the use of some other pesticides. A pilot study will be done to see if a similar program can be implemented in Central America.

As a final question before lunch, a participant asked for copies of the presentations. Erica noted that the presentations would be posted on the CEC website at www.cec.org and that hard copies could be obtained upon request from the CEC Secretariat.

5.2 Asthma and Other Respiratory Diseases – presented by Julie Charbonneau, Environment Canada

Assessing the Impact of Diesel Exhaust at Congested Border Crossings [ongoing]. This project is assessing the impact of diesel exhaust and other particulates on the severity of asthma, allergies, and respiratory health among susceptible and healthy children or other sensitive subpopulations residing along congested NAFTA trade corridors.

Working with Pilot Communities on Asthma Prevention [under consideration]. This project would 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.

Developing a Framework for Asthma Surveillance [under consideration]. This project would work to improve asthma surveillance systems to enhance the understanding of asthma in North America.

Discussion:

Regarding the diesel study, a participant wondered if the objectives would translate to rail, as this study could support a shift towards that mode of transport. Erica Phipps offered to refer the comment to Paul Miller, Air Quality program manager at the CEC.

Bruce Lanphear shared the outcomes of the Expert Advisory Board's discussion on this topic during their meeting the previous day. He noted that the Board was supportive of the diesel exhaust project, but felt that this may be only one high risk group among many that are impacted by pollutants. The Board wants to encourage regulatory action on other pollutants, e.g., particulates, environmental tobacco smoke. For asthma surveillance, the Board would like to encourage the use of the National Health and Nutrition Examination Study (NHANES) as a model for asthma surveillance, and to expand on this to look at blood lead levels and exposures to other toxicants. Some members of the Board wanted to look at providing support/methods for communities to advocate for regulatory action.

A participant asked whether there is a common definition of asthma that is used for surveillance and has this been used for development of the methodology for asthma surveillance? She recommended a database of the pollutants themselves, particularly in the areas where asthma is high. Julie Charbonneau responded by noting that Canada is collecting data on criteria air pollutants to obtain this type of information. Another participant noted that Canadian data is fairly good regarding air monitoring, but this depends on where monitoring stations are, and particulate matter is not being monitored in most areas. She suggested the development of a common methodology to be able to compare the air pollutant data among the three countries. Erica Phipps noted that the CEC Council last year passed a resolution calling upon the Secretariat and the three countries to work together to compile comparable inventories of criteria air contaminants.

5.3 Lead Poisoning and Other Effects of Lead Exposure – presented by Tony Myres, Health Canada

Assisting Cottage Industries to Reduce/Eliminate the Use of Lead [planned]. This project will work to reduce lead exposures by addressing sources of lead arising from small-scale industries (e.g., ceramics) that use lead in their processes and/or products.

Gather and Exchange Data on Blood Lead Levels [under consideration]. This project would work to gather and share national surveillance data for blood lead levels in children to evaluate progress in decreasing lead exposure.

Discussion:

Patricia Pares Delgado, Secretaria de Salud, noted that within the Directorate General of Environmental Health in Mexico there is a project to reduce the use of low temperature kilns, substituting them with gasoline fired kilns. They also have a program on non-lead glazes and are proposing an epidemiological study of populations highly exposed to lead as well as to the general population.

A participant commented on the foundries and lead smelters, noting that throughout Mexico there are small operations, e.g. lead battery recycling, for which very few data are available. A study on lead in blood of mothers and in mother's milk in these areas had shocking results. Children of the families of ceramic shops, working on decorating ceramics and glazing of ceramics are being exposed to lead. These are small sources, not as notorious as Torreon, but they are located throughout country.

Participants commented again on Torreon, mentioning "the black mound", which is the waste from the Penoles factory. It was noted that it was claimed to be harmless, but they would like someone to inspect the area. It is not just the contamination, but it is also a physical hazard. It was suggested that there be bio-monitoring of babies with high levels of lead. They would also like more testing on pregnant women. Another participant noted that in Torreon, they take samples in the area, but the findings are not made public. More communication with the authorities is needed. Leonora Rojas Bracho responded by saying that they are now reestablishing contact with people with information in Torreon. There are efforts to develop the risk communication program, including assessing the needs for dissemination of information to the public. Many isolated studies have been done, but the results have not been looked at systematically to help in decision-making to solve the problem.

A participant supported an earlier comment about including issues of breast milk contamination for lead. This needs to be part of public health monitoring. She feels comfortable with the projects on lead as proposed in the draft agenda, but wants to see more in the preamble about lead in products, in particular products that are specifically designed for children.

5.4 Risk Assessment and Economic Valuation – presented by Gary Kimmel, US EPA

There has been a lot of activity in these areas but as disciplines, these areas are quite new. The CEC can work in facilitating the exchange of information in these fields and throughout the broader community. Because these fields are evolving, we will begin to look at how we can deal with complex mixtures, as well as new technologies.

Trilateral Workshop on Risk Assessment [under consideration]. This project will facilitate a common understanding, identify mechanisms for incorporating existing data and identify areas where governments can benefit from sharing expertise and methodologies.

Increasing the Supply of Trained Risk Assessors [under consideration]. This project would explore means to increase people trained in risk assessment. It would entail identifying what the skill needs are, and developing ways

to increase the supply of these experts. This may be done by sharing of personnel among the governments, but could also involve university programs and programs for physicians and nurses. This is an area where partnerships with outside groups are needed.

Integration of Risk Assessment and Economic Valuation [under consideration]. This project would work to improve understanding of specific valuation of children's health and disseminate the findings.

Discussion:

A participant asked if the proposed workshop and the activities to increase the number of trained risk assessors will specifically focus on risk assessments that specifically take children into account. Gary Kimmel confirmed that this is the intention.

A participant noted that although they were very supportive of this section of the draft agenda, they felt that some things are missing. She cautioned against over reliance on risk assessment and suggested that the workshop should include the precautionary principle in the discussion. She recommended that the type of criteria that need to be used to implement the precautionary principle be looked at and recommended a discussion on this. In terms of economic valuation, to do justice to the issue, she suggested looking at new models with fuller costs accounting. For the workshop we need a combination of policy makers, risk assessors, and the public in order to have a fruitful dialogue.

A participant who was involved in pesticide cancellations noted that there are different assumptions that go into the risk assessment process for different countries. Risk assessment and risk management need to be discussed together. He noted that we have different burdens, and different ways of defining acceptable risk. He suggested the harmonization of approaches in the three countries including others beyond just risk assessors.

Laura Durazo, member of JPAC, noted that this is still a new initiative for the CEC and that it is a multi-factorial topic including issues of nutrition, air, toxics, water. She suggested that we bring together all players to the table, and that we ask the Expert Advisory Board to consider seriously the field of risk assessment. She felt that some of the government officials who should be answering the questions raised today should be here but are not. She stressed that the focus of the CEC should be not to solve the national problems in each country, but the problems we have in common.

One participant pointed out that there is great emphasis on valuing childhood mortality and very little on the broad range of childhood morbidity.

Michael Shannon reported that the Expert Advisory Board reviewed this and noted three issues. The risk assessment process must be science based but also it must examine the appropriate science and appropriate data. The second point is that the process be open and transparent, and understood by all. Thirdly, when data are not available during the risk assessment process, the precautionary principle should be followed and conservative measures put in place to protect children.

5.5 Strengthening the Knowledge Base for Long Term Solutions – presented by Julie Charbonneau, Environment Canada

It is important to be able to measure children's environmental health for two reasons. First, scientific information is needed to design management strategies and policies that are protective of children, and second, scientific information is needed to assess the effectiveness of risk management strategies, once they have been implemented.

Facilitate Collaboration on Longitudinal Cohort Studies [planned]. This project will facilitate collaboration among the 3 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.

A Framework for North American Indicators of Children's Environmental Health [planned]. This project will 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.

Report on the Economic Impacts of Children's Environment Related Illnesses [under consideration]. This project would provide decision-makers and the public with information on the economic implications of not taking action to address children's environmental health problems.

Discussion:

Participants were generally supportive of these initiatives. With respect to the indicators project, it was suggested to have one or two clear goals with targets and timelines, and from there develop the indicators to measure progress toward those goals. One participant mentioned that an outcome of the HEMA meeting was that children's environmental health indicators are needed. The HEMA meeting also discussed the need to look at the ethical issues related to children's environmental health. Participants supported the idea of including a discussion of ethics in the CEC initiative. It was suggested that the CEC look at the Communique from HEMA with a view to building on those outcomes and commitments.

In terms of the longitudinal cohort study, one participant noted that it will be a long time before the data and results are available. Julie Charbonneau pointed out that there could be results available right after pregnancy and that this information could be compiled, analyzed and disseminated in the near term. Another participant pointed out the goal should be for an overall health tracking program, and that the work of the U.S. Centers for Disease Control and Prevention (CDC) bio-monitoring program should be used as a basis.

One participant expressed concern that the project on economic impacts will only look at health care costs, and will not address the impact of childhood asthma, loss of parents' work time, etc. He would like to have more information on the proposed extent of this project.

Bruce Lanphear noted that we need to use biomarkers for surveillance and the development of indicators of the impact of environment on children's health. The CDC's Report Card, which comes from NHANES, is an example. Biomarkers are available for asthma, lead poisoning monitoring and for other kinds of pollutants. In combination with epidemiologic studies, they provide us a better understanding of risk factors, how these contribute to health outcomes, and where there are differences in the three countries. There are a lot of ongoing cohort studies in all three countries. Dr Lanphear suggested that the CEC might act as a clearinghouse for this information, so that we don't have to wait for the results from the National Children Study. He called upon the US to include a cohort from Mexico in their study, noting that from a research perspective it would be useful to have data from populations more recently exposed to DDT and other types of contaminants.

Leonora Rojas Bracho mentioned the CEC's NARAP on Monitoring and Assessment. It started out as only environment, but now includes health endpoints as well. Within the CEH Team there are ongoing discussions on how to better integrate with the work of SMOC, and particularly in this area.

5.6 Public Information, Outreach and Education – presented by Erica Phipps, CEC

Members of the public (parents, care givers, educators, etc.) have key roles to play in improving children's environmental health. Awareness, knowledge and access to information are essential for informed action. There is an opportunity to build on existing networks and collaborate with key intermediaries to improve information access, provision and exchange.

Partner in the Production of Global Video on Children's Environmental Health [ongoing]. This WHO-led project, which will result in several documentaries and video clips, aims to increase public awareness of environmental threats to children's health and preventive strategies.

Working with Health Professionals [under consideration]. This project would work to improve the ability of health professionals to provide information and advice on children's environmental health issues and improve the flow of information among health professionals in the three countries. Activities would include a training session for medical professionals on environmental health and management strategies, and translation and distribution of a newsletter for health care professionals, both of which would build on the work of the International Joint Commission's Health Professionals Task Force and other partners.

Communicating CEH Issues and Concerns [ongoing]. Using existing channels, such as the CEC's quarterly newsletter "Trio", the aim is to inform the interested public and stakeholder groups in North America about children's environmental health issues, with focus on existing work areas of the CEC.

Discussion:

The participants generally supported these initiatives but had a number of suggestions for improving the dissemination of the videos. One participant noted that it was unlikely that in all circumstances the video will be viewed in its entirety, and recommended breaking it into clips so it can be tailored and targeted to different audiences. Participants supported the idea of having actors to serve as spokespersons and developing public service announcements, and pointed out the importance of having children's impressions and ideas on these issues. One participant pointed out the importance of teens as a target group.

Another participant noted the importance of working with state and local decision makers to get this information out. He also wanted to make sure that JPAC is aware of California Senate bill 1044 and Senate Bill 111, brought up in response to NAFTA chapter 11. This bill will require the state to look at all their environmental laws to see if it is worthwhile to continue in the face of the threat of Chapter 11.

Jon Plaut responded that the JPAC will be discussing Chapter 11 during the JPAC session the following day.

A participant pointed out the importance of working with universities, faculties of medicine, etc., and noted that environmental health is not yet a high profile subject in universities. Another pointed out the importance of including children's environmental health on licensing and accreditation exams.

Irena Buka pointed out that the Board had a long discussion on professional training, and intends to get involved in this area. For example, the Board will look at ways to define a Pediatric Environmental Health curriculum.

A representative from the Mexico/US Foundation for Science commented that her group is working with the government of Mexico to prepare a clearinghouse of information on environmental health along the northern border of Mexico. This will be the first step in the development of the Environmental Border Network. Another aim is to train clinical toxicologists on the Mexican side of the border who will work in a hospital in Texas. They also want to design a binational project with Ciudad Juarez on risk communication, involving the EPA and the University of Texas in El Paso.

A representative of the Coalition of the Rio Bravo Basin, a network of over 70 organizations, asked how their organization can participate in the CEC initiative, to help transmit the knowledge and information from this meeting as well as the videos. They work in environmental education with children and would like to help get this information out to the public.

One participant recommended that there be national funding for the Pediatric Environmental Health Specialty Units (PEHSUs), noting that one clinic in Canada is not enough and that the network must be expanded.

There were some questions of concern for the Mexican officials. One was that society in general does not have the data of the environment or health officials. The officials should make their information available to everyone (perhaps via a web page). Also the information does not go beyond Mexico City; it needs to be further disseminated. Finally there is concern that only 1-2 schools teach toxicology. At the university level, toxicology is practically non-existent.

A participant noted that for activity 6.3 on communicating children's environmental health issues, child/human rights groups should be added as one of the target groups.

Another participant noted concerns about the drug abuse situation, and suggested that if the CEC is convening pediatricians the scope should be broadened to also talk about drug abuse in children.

Kue Young, member of the Expert Advisory Board, pointed out that all three countries have multi-cultural societies and significant indigenous populations, and suggested looking at the interactions among physical, social, and cultural factors.

Bea Roppe, member of the Expert Advisory Board, suggested including the education of public health advocates, given their role as 'front line' workers.

Michael Shannon, Board member, noted that in the last five years, 12 pediatric environmental health research units have been created, and 12 clinical units. Three pediatric environmental health fellowships have been created in the US, and the curriculum, training, and goals are being defined with the aim of having formal and complete training in all medical aspects of pediatric environmental health.

Ramona Trovato noted that at the EPA, they are working with five youth groups; the Girl Scouts and Boy Scouts, Future Farmers of America, the 4-H and a tribal group. These programs involve 15 million children in total.

Erica Phipps, CEC program manager, pointed out that the video is being produced as short clips and in different segments, and that the CEC will take into consideration the useful suggestions that have been made on targeting and dissemination. She welcomed the offers made by a number of participants to make use of existing networks, and asked them to please send contact information to her.

One final comment by a participant was on health, nutrition and the environment. She felt there is a gap in the draft cooperative agenda with respect to allergies and other degenerative diseases, and on the important role of nutrition. These topics should be added to the agenda.

Jon Plaut, JPAC, recalled a number of public meetings that JPAC had convened, and noted that this children's environmental health meeting has been one of the most successful meetings in terms of gathering public input. This is attributable to the involvement of the Expert Advisory Board and because of the excellent participation of members of the public. There has been an enormous amount of input, which will help to expand this program. He expressed his congratulations and thanks to all.

Responding to a question about how the JPAC and Expert Advisory Board are going to advise the Council, Irena Buka said that each Board would meet separately and draft their advice. The Expert Advisory Board intends to work with CEH Team on the next steps in revising the cooperative agenda based on the input that has been received. Jon Plaut noted that the advice that JPAC will provide will be general in nature.

Irena Buka concluded the meeting by noting that we have three very different countries, with children growing up in different environments, but that they all share environmental threats to their health. There are many opportunities for collaboration and our energy and expertise will help us move ahead. She summarized key themes that emerged:

- Bio-monitoring and health surveillance, and the need to increase comparability of data;
- We must continue with science and research;
- We need to take action even before science is complete including remediation action, and precautionary action;
- We need education and outreach at all levels, starting with children, up to training of pediatric environmental health specialties;
- We need to work on capacity building; and
- We must continue working together in forums like this.

Dr. Buka thanked all of the participants for their time and involvement, and for the very successful meeting.

Annex A: List of Participants