

OPHA submission to CEPA Parliamentary Review
OPHA Environmental Health Workgroup
September, 2006

The Ontario Public Health Association

The Ontario Public Health Association (OPHA) is a volunteer, non-profit organization that does research, education and advocacy on issues related to community and public health throughout Ontario. The OPHA has been very active on environmental health issues in recent years thanks to the dedication of its Environmental Health Work Group. The majority of active members in this Work Group work full-time on environmental health issues for public health units in Ontario.

Relevance of CEPA to the Public Health Sector

The *Canadian Environmental Protection Act (CEPA)* is an integral part of the legislative framework protecting the health of Canadians and is therefore directly relevant to public health professionals and agencies at all levels of government. As a result, the OPHA participated in the 2004 Regional Workshop Series held by Environment Canada/Health Canada in preparation for the Parliamentary Committee Review of *CEPA* and has been monitoring the review process since that time. The contents of this submission are informed by the OPHA's past and present work on topics of environment and health, our membership's expertise, the OPHA membership in the Canadian Partnership for Child Health and the Environment (CPCHE), and our organizational mandate.

The public health sector has a mandate to protect the public's health including vulnerable populations such as children, who are uniquely vulnerable to harm from exposure to toxic substances¹. Public health also has a long-standing and broad responsibility for protecting health by addressing issues related to the environment and health.

Environmental exposures are increasingly being suspected of and linked to a wide range of negative developmental and health outcomes. In recent years, there have been growing concerns about environmental exposures and the impact on human health. For example, poor air quality is increasingly being linked to a range of negative health impacts. According to Health Canada, rates of asthma have quadrupled since the 1970s, with 12 per cent of Canadian

¹ See: Canadian Partnership for Child Health and the Environment (2005). *Child Health and the Environment – A Primer*, available at www.healthyenvironmentforkids.ca and Toronto Public Health (2005) *Environmental Threats to Children: Understanding the Risks, Enabling Prevention*, available at www.toronto.ca/health

children now suffering from asthma². Recent studies suggest that there is no safe level of human exposure to ground-level ozone (O₃) and particulate matter (PM) and negative health outcomes are associated with very low levels of exposure, even for healthy individuals. Long-term exposure to low levels of these pollutants may cumulatively contribute to greater overall damage than short-term exposure to high pollution levels, which is already known to impact significantly on human health. Smog can cause eye, nose or throat irritation, decreased lung function and can aggravate respiratory or cardiac disease, and, in some cases, even cause premature death³.

The health impacts related to some environmental contaminants such as lead, mercury and methylmercury and volatile organic compounds (VOCs) have also been well documented. Lead is especially hazardous to children's health. Medical and scientific evidence has shown that exposure to even very low levels of lead may have harmful effects on the intellectual and behavioural development of infants and young children⁴. Mercury and methylmercury affect the central nervous system, causing a number of serious disorders at high levels of exposure. The effects of low-level methylmercury exposure include neurological damage, reproductive system damage, behavioural problems and learning disabilities⁵. Certain VOCs can also harm human health. Common short-term health effects of VOC exposure include eye and lung irritation, headaches and nausea. Some compounds can cause longer-term effects, such as damage to the liver, kidneys and nervous system. Others, such as benzene can cause depression of the central nervous system and are carcinogenic to both animals and humans⁶. For other environmental contaminants, the health effects are only beginning to be clarified. Exposure to these contaminants may happen through a number of pathways, including air, soil, water, food and consumer products.

Research into the economic impacts of disease and disorders that are linked to exposure to toxic substances suggests that preventing exposure could bring about very significant savings in health care, human productivity and additional social costs. A 2006 study by the Ontario Medical Association estimated that two air pollutants - ground level ozone and fine particulate matter – will cause over 5,940 premature deaths, over 17,070 hospital admissions, up to 60,640 emergency room visits and over 29 million minor illness days in Ontario annually, which will cost the Province of Ontario almost \$1 billion

² Health Canada (1999) Measuring Up: A Health Surveillance Update on Canadian Children and Youth, available at http://www.hc-gc.ca/pphb-dgspsp/publicat/meas-haut_r_e.html

³ Pollution Probe (June 2002), The Smog Primer.

⁴ Health Canada: Lead and Cadmium (November 1998) available at http://www.hs-sc.gc.ca.ahc-asc/media/nr-cp/1998/1998_cadmium_e.html

⁵ Pollution Probe (June 2003) Mercury in the Environment – A Primer

⁶ Health Canada. CEPA Priority Substances Assessment Program. www.hc-sc.gc.ca/hecs-sesc/exsd/psap.htm in Pollution Probe (October 2005) Primer on Volatile Organic Compounds (VOCs) and www.hc-sc.gc.ca/hecs-sesc/exsd/pdf/benzene.pdf and www.ccohs.ca/oshanswers/chemicals/chem_profiles/benzene/health_ben.html

per year⁷. It is estimated that every year the United States spends \$54.9 billion USD on environmentally-induced disease in children. This figure includes \$9.2 billion for various neurobehavioural disorders (mental retardation, autism and cerebral palsy), \$43.4 billion for lead poisoning, \$0.3 billion for childhood cancer and \$2 billion for childhood asthma. Based on conservative assumptions and not including costs to families/caregivers or complications of these disorders later in life, these estimates are likely to be low⁸.

The current *CEPA* review offers opportunities to address the issues raised above and to close gaps in our regulatory system thus ensuring that Canadian's health and the environment are adequately protected. A strong and effective *CEPA* could also allow Canada to be a global leader with respect to protection of environment and human health.

This Submission

The OPHA recognizes and values the action that the federal government has undertaken in recent years on issues of human health and the environment. The implementation of *CEPA* 1999 was progressive with respect to the legislation of toxic substances through the categorization of the Domestic Substances List (DSL) for persistence, bioaccumulation and inherent toxicity. The *Pest Control Products Act*, [21] which recently received Royal Assent, explicitly recognizes and addresses the unique needs of vulnerable populations and puts into practice the precautionary principle by placing the onus of proof of safety on manufacturers rather than the onus of proof of harm on the government (manufacturers will be required to demonstrate acceptable risk levels for products before they can be brought on to the market).

Although these are important achievements, much more must be done in order to create and sustain physical environments that protect and promote human health. Much of what is in the *Canadian Environmental Protection Act* is relevant from a public health perspective and to the OPHA, however time and resource constraints prevent a comprehensive review. This submission will therefore focus on five key areas:

- 1) the focus of the *Act*;
- 2) the precautionary principle;
- 3) categorization and assessment;
- 4) virtual elimination; and
- 5) consumer products.

⁷ Ontario Medical Association (2005) The Illness Costs of Air Pollution: 2005 – 2006 Health and Economic Damage Estimates, available at http://www.oma.org/Health/smog/report/Smog_Boomers_Report.pdf

⁸ Landrigan PJ, Schechter CB, Lipton JM, Fahs MC, Schwartz J (2002) Environmental Pollutants and Disease in American Children: Estimates of Morbidity, Mortality and Costs for Lead Poisoning, Asthma, Cancer and Developmental Disabilities. *Environmental Health Perspectives* 110(7): 721-728, available at <http://ehp.niehs.nih.gov/docs/2002/110p721-728landrigan/abstract.html>

1. Primary Focus of CEPA

The OPHA strongly believes that the primary focus of CEPA must be to protect the environment and human health. The notion of sustainable development is an important and positive concept and should remain within the Act, however it is important that the wording of the Act reflect that environmental and health protection are not secondary to sustainable development, but rather requisites for it to be achieved. A truly effective CEPA would not only protect, but also promote the health of Canadians and of the environment.

2. Precautionary Principle

The CEPA review process offers a valuable opportunity to clarify the application of the precautionary principle to health protection and its relationship to existing risk assessment and risk management tools.

Proactive approaches to health protection increasingly incorporate the precautionary principle, which states that where there is the threat of harm, the absence of full scientific certainty should not be used to postpone decision-making. OPHA support for the application of precaution on issues of environment and health has been expressed in numerous organizational position papers and resolutions including, but not limited to:

- “Protecting our Food Supply: Public Health Implications of Food Biotechnology” (2001);
- “Non-Essential Use of Chemical Pesticides on Public and Private Lands” (2001);
- “Health Risks of Cellular Telephones: the Myth and the Reality” (2003),
- “Position Paper on Fish Consumption with respect to Methylmercury Content, by Pregnant Women, Women of Childbearing Age and Young Children” (2004),
- “Childhood lead exposure and housing sources: Does a problem exist in Ontario?” (2004); and
- “Balancing and Communicating Issues Related to Environmental Contaminants in Breastmilk” (2004)⁹.

As an emerging and evolving policy approach, the intent and purpose of this principle has been clearly articulated. However, clear, well-documented and commonly accepted frameworks for its application in public health decision-making are lacking. The commitment to the precautionary principle articulated in the current Act is important and offers a good starting point for an updated CEPA that can further integrate the concept of precaution into its philosophy, structure and implementation.

CEPA must also be clear that while economic and competitive interests are important, they are secondary to the protection of environmental and human health. The OPHA is concerned that under the current wording used in CEPA,

⁹ All available at www.opha.on.ca/advocacy/list.html

cost-effectiveness could be used to override the duty to protect the environment and human health. The OPHA does not support the use of “economic interests” in the application of the precautionary principle, a position that was outlined in our 2004 submission to the proposed Canada Health Protection Act¹⁰. Cost-effectiveness must be applied to measures taken to prevent harm to the health of the environment and of Canadians, but not used to decide whether or not action is taken at all.

CEPA should focus on preventing harm versus assessing and managing existing risk - this is an important distinction. Adoption of the precautionary principle means that potential risks must be identified and considered much earlier in the decision-making process - before the point at which risks exist and require assessment and management. Precaution should also be exercised consistently throughout the processes in place for controlling *CEPA*-toxic substances and the *Act* should provide the authority to actively use the precautionary principle regulate or, if necessary, ban substances that are known to be highly toxic.

The precautionary principle must apply to the assessment of safety of animate biotechnology products. *CEPA* is the only federal legislation that refers to environmental and health aspects of biotechnology. The OPHA’s 2001 position paper “Protecting our Food Supply: Public Health Implications of Food Biotechnology”¹¹ examines the benefits and threats of biotechnology as it relates to food and calls for the application of the precautionary principle in the development of policy, methodology, and protocol for the regulation of food biotechnology. There continues to be an ongoing lack of data to inform policy and decision-making and the impacts of genetically modified foods on the environment are strong and unpredictable. The OPHA also believes that the incorporation of the precautionary principle into the Canadian regulatory protocol for GM food may, in the long run, result in much greater savings (financial and in terms of human health) than any initial increased cost at the regulatory end. These are among the reasons that the application of precaution is critical with respect to the regulation of this relatively new, complex, controversial and rapidly growing science and industry. The precautionary principle should therefore be explicitly and clearly referenced in Part 6 of *CEPA*. Its application should require that proof of safety of animate products of biotechnology be affirmed prior to their introduction into the environment and food.

3. Categorization and Assessment

The production and use of chemicals has increased dramatically in recent decades. For the majority of substances however, this trajectory has not been accompanied by a systematic analysis of possible risks posed to human health

¹⁰ Available at www.opho.on.ca/advocacy

¹¹ Ontario Public Health Association (2001) Protecting our Food Supply: Public Health Implications of Food Biotechnology, available at www.opho.on.ca/advocacy/list.html

and to the environment. The reality that very few chemicals have been fully evaluated with respect to their effects on health is a pressing concern. The assessment of new chemicals that enter the market is critical, and paralleled by the need to assess the legacy of chemicals that have been introduced and used in the past.

The categorization of the Domestic Substances List (DSL) with respect to toxicity, persistence and potential for human exposure will be a significant accomplishment, however the ***categorization criteria in Section 73(1) of CEPA should be expanded to classify chemicals as inherently toxic and identified for further action if they are carcinogenic, act as neurodevelopmental or reproductive/developmental toxins or disrupt the endocrine system*** (these are particularly salient effects with respect to child health and development). Mandatory timelines and deadlines are important elements of strategies to accomplish goals. ***CEPA should include timelines for the assessment of categorized substances identified as priorities through the screening level risk assessment process.***

The processes of identifying substances for assessment and conducting risk assessment must include clear and explicit reference to the need to take vulnerable populations such as children, women of child-bearing age and aboriginal populations into account. The *Pest Control Products Act* is an example of legislation that specifically incorporates the use of additional safety factors in order to make risk assessments more protective of vulnerable populations. It has also included other measures designed to protect child health, for example, the aggregation of exposure from multiple sources and requirements to assess groups of substances that share common mechanisms of toxicity. This approach speaks to the reality of today's exposures and should be incorporated into a revised *CEPA*. This recommendation for special consideration of vulnerable populations echoes the position taken by the OPHA in its 2004 submission to the federal government regarding the proposed Canada Health Protection Act as well as in multiple position papers and resolutions on a range of environmental health issues¹².

The substance by substance approach to assessment and management that is currently used is time-consuming and costly. ***CEPA must expand its approach to include the assessment and management of groups or families of substances.***

Lastly, *CEPA* is a tool that has been used to address the issue of climate change. Technically, greenhouse gases are not directly toxic to human health when emitted but they fit the definition of *CEPA* toxic. As outlined in OPHA's 2004 position paper and resolution "Climate Change and Human Health,"¹³ global climate change is expected to impact the environment and therefore

¹² All available at www.oph.on.ca/advocacy

¹³ Available at www.oph.on.ca/advocacy

human health through, for example, increased frequency and magnitude of extreme weather events, decreased air quality, impaired crop growth and shifts in the range, seasonality and intensity of many insect-borne diseases. For these reasons, the OPHA agrees that the **greenhouse gases (carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs)) should be considered toxic and regulated so as to reduce emissions.**

4. Virtual Elimination

CEPA 1999 acknowledges the need to virtually eliminate the most persistent, bio-accumulative and toxic pollutants and to control and manage pollutants and wastes if their release into the environment is not preventable. Despite the fact that this concept is clearly articulated in the Act, the virtual elimination provisions are rarely applied and only one substance (hexachlorobutadiene) has been proposed for virtual elimination. As a result, even the most widely recognized persistent organic pollutants (POPs) as listed under the Stockholm Convention have not been added to Canada's list of substances scheduled for virtual elimination. The 1995 OPHA position paper "The Accelerated Phase-out of Persistent Toxic Substances" articulated the OPHA's commitment to address the environmental and human health risks posed by persistent, bioaccumulative toxic substances, a position that was again highlighted in the organization's 2004 position paper on balancing and communicating issues related to environmental contaminants in breast milk.

No timeline has been set out for any substances added to Canada's list of substances scheduled for virtual elimination, nor is there any requirement for virtual elimination plans to be made public – this reduces the chances that public pressure could speed up and/or guarantee that the process takes place. Given the fact that the hazards associated with many substances are widely acknowledged, this is not acceptable.

Virtual elimination must be recognized and used actively as a tool in the management of toxics and not be considered a last resort. **Barriers to the implementation of virtual elimination must be specifically addressed, including the elimination of the need to set a minimum "level of quantification" before a substance can be placed on the list. CEPA should also be amended so that the implementation of the virtual elimination of toxic substances is subject to deadlines.**

5. Consumer Products

There is an overall need to address gaps that exist with respect to the regulation of consumer products. The OPHA feels strongly that this need must be addressed and provided specific recommendations to this end in its 2004 submission to the proposed Canada Health Protection Act.

CEPA is a part of the regulatory framework in place for consumer products. It does not however, adequately address their environmental and health impacts of chemicals in consumer products such as lead, phthalates and so on. This weakness is not compensated for through the *Hazardous Products Act*, which was not designed to address the vast array and complexity of products on the market today but rather addresses primarily acute risks posed by only a limited number of highly toxic substances that are contained in and/or released from consumer products.

Regulations controlling or prohibiting use of *CEPA*-toxic substances in consumer products are weak under either *CEPA* or the *Hazardous Products Act*. As well, reliance on specific regulations, for example the regulation focused on lead in children's jewellery, are overly specific and do not speak to lead in other products such as adult costume jewellery or key chain fobs. This results in a regulatory system that is inconsistent and limits the degree to which consumers are protected.

Substances categorized as *CEPA*-toxic currently can be found in products that are both manufactured in and imported into Canada. For example, mercury is present in some household products including fluorescent lightbulbs and neon lights, thermometers, button-cell batteries, barometers, thermostats and electrical switches.

CEPA should be amended to include a provision that speaks to directly toxic substances and consumer products. Toxic substances should not be allowed in consumer products, particularly those marketed to and used by children. Where this is not feasible, the lifecycle of those products must be tightly controlled and monitored.

Another issue of concern relates to the legislative authority to remove products containing *CEPA*-toxic substances from store shelves. The *Hazardous Products Act* does not provide the authority to take dangerous consumer products it regulates off the shelves (this is possible for medical products, drugs and pesticides). In order to protect public health and safety, ***CEPA should expand the legislative authority of the Ministers of Health and Environment so as to enable them to reject and recall products that include substances that are toxic to health and/or the environment.*** The OPHA also suggests that preliminary consideration be given to the notion of labeling any products that contain substances that are known to be carcinogenic or toxic to human reproduction and development so as to notify the public of their presence of that substance(s) in a meaningful way. This could be done based on existing lists such as those under the State of California's Proposition 65 and the International Agency for Research on Cancer.

Conclusion

The review of the Canadian *Environmental Protection Act* represents an opportunity to strengthen a key piece of Canadian legislation. Rising professional and public awareness, knowledge and concern about relationships between environment and health points toward a need for a public health perspective to be among those that inform the 2006 review of the *CEPA*.

The OPHA strongly believes that the primary focus of *CEPA* must be to protect human health and the environment. The wording of the *Act* should reflect that environmental and health protection is not secondary to sustainable development, but rather requisites for achieving sustainability.

With respect to application of the precautionary principle, OPHA feels that the commitment to the precautionary principle articulated in the current *Act* is important and offers a clear starting point for an updated *CEPA* that can further integrate the concept of precaution into its philosophy, structure and implementation. Clear, well-documented and commonly accepted frameworks for its application in decision-making are needed.

With regards to categorization and assessment, the OPHA feels that categorization criteria in Section 73(1) of *CEPA* should be expanded to classify chemicals as inherently toxic and identify them for further action if they are carcinogenic, act as neurodevelopmental or reproductive/developmental toxins or disrupt the endocrine system. *CEPA* should include timelines for the assessment of categorized substances identified as priorities through the screening level risk assessment process. The processes of identifying substances conducting risk assessment must include clear and explicit reference to the need to take vulnerable populations such as children, women of child-bearing age and aboriginal populations into account. *CEPA* must expand its approach to include the assessment and management of groups or families of substances. Greenhouse gases should be considered toxic and regulated so as to reduce emissions.

With regard to virtual elimination, barriers to the implementation of virtual elimination must be specifically addressed, including the elimination of the need to set a minimum “level of quantification” before a substance can be placed on the list. *CEPA* should also be amended so that the implementation of the virtual elimination of toxic substances is subject to deadlines.

With respect to consumer products, *CEPA* should be amended to include a provision that speaks directly toxic substances and consumer products. Toxic substances should not be allowed in consumer products, particularly those marketed to and used by children. Where this is not feasible, the lifecycle of those products must be tightly controlled and monitored. *CEPA* should expand the legislative authority of the Ministers of Health and Environment so as to

enable them to reject and recall products that include substances that are toxic to health and/or the environment.