| RESOLUTION 10 | The Prevention of Childhood Lead Poisoning In Canada Occurring From Exposure To Lead-Based Paint And Other Domestic Sources Of Lead |
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BE IT RESOLVED THAT the Canadian Nurses Association takes a strong leadership role in advocating for the development of a national strategy addressing the prevention of childhood lead poisoning occurring from exposure to residential sources.

**Background**

Lead is a serious environmental toxin with the capacity to interrupt children's normal brain growth and functioning. Since at least 1930 numerous case studies in American, Canadian and Australian literature have identified residential lead based paint as a major source of poisoning for young children;[1] and since at least 1990 evidence has shown that it is the lead dust from deteriorating paint in older homes and renovating activities that is the primary source of chronic exposure for young children today. [2] Socioeconomic factors such as poverty along with substandard housing combine to make this public health issue a disproportionate problem.[3]

Lead-based interior and exterior paint was manufactured and sold in Canada until at least 1991 although legislation fully banning lead additives in paints did not come into effect in Canada until 2005.[4] Recent findings from the Canada Health Measures Survey identify that immigrant populations and families living in older housing stock are at increased risk of lead exposure.[5] Preliminary findings from the *Canadian House Dust Study* [2] indicate that residential dwellings built prior to 1983 are more likely to contain lead in floor dust at levels associated with childhood lead poisoning. [2, 6] In Canada, lead poisoning is defined as a blood lead level greater than or equal to 10 micrograms per decilitre ( $\geq$10 μg/dL).

Findings from a 2008 Hamilton investigation[7] indicate that lead poisoning continues to affect Ontario children despite earlier efforts to eliminate major lead sources (i.e. leaded gasoline, domestic solder). The Hamilton study identified 12.5 per cent of children with blood lead levels $\geq$4 μg/dL, a level now associated with poorer school performance, negative behavioral effects such as attention-deficit/hyperactivity disorder and injury to renal and blood-forming systems and neuroendocrine and reproductive systems.[8, 9] A further 3 per cent of Hamilton children $\leq$2 years were identified with blood lead levels $\geq$10 μg/dL, [7] a level which surpasses Canada's current but outdated 'level of concern.'

Lead poisoning is a multi-faceted problem that crosses the boundaries of public health, housing and environment. The *Public Health Agency of Canada Act* [10] authorizes Health Canada to safeguard the health of Canadians. The *Department of Health Act* [11] equally obliges Health Canada to protect and monitor the physical, mental and social well-being of Canadians. Lead itself is recognized as a priority substance under Schedule 1, Toxic Substances of the *Canadian Environmental Protection Act* (1999) [12] which further requires Health Canada to manage health risks related to lead. [13] Responsibility for the investigation of housing falls within the mandate of Canada Mortgage and Housing Corporation.[14]

To date in Canada, little has been done to address historic sources of lead-based paint and childhood lead poisoning occurring from exposure to residential sources of lead. Canada's *National Lead Risk Reduction Strategy* (2002) addresses lead in consumer products only.[15] Today, children living in smelter communities are the only population routinely monitored; and, Québec is the only province requiring mandatory reporting of blood lead levels $\geq$ 10μg/dL identified through case finding.[16] There are still no regulations at the federal level to protect Canadian children from exposure to historic sources of lead paint found in older housing stock.[17]

Lead-based paint is a persistent environmental toxin and one requiring concerted and sustained effort to eliminate. Various measures such as lead-based paint abatement have been shown to be effective in preventing the occurrence of new cases. [18-20] The World Health Organization advises that lead-based paint remediation results in an even better return per dollar invested than immunization programs.[21]

This resolution recognizes lead as a serious developmental neurotoxin and regards early childhood lead exposure as an important but preventable root cause of later poor health outcome. This resolution is in keeping with the Canadian Nurses Association (CNA) endorsement of a broad systems approach [22] with its focus on the broad spectra of social, political, economic and environmental forces that shape health outcomes.

Submitted by the Registered Nurses' Association of Ontario (RNAO)

**Reference List**


1. Rabin R. Warnings unheeded: A history of child lead poisoning. *American Journal of Public Health* 1989;79:1668-74.
2. Gaitens JM, Dixon SL, Jacobs DE et al. Exposure of U.S. children to residential dust lead, 1999-2004: Housing and demographic factors. *Environmental Health Perspectives* 2009;117(3):461-7.
3. Richardson JW. *The cost of being poor: Poverty, lead poisoning, and policy implementation*. Westport, CT: Praeger; 2005.
4. Health Canada. Order Amending Schedule I to the Hazardous Products Act (Surface Coating Materials) SOR/2010-224 October 21, 2010. *Canada Gazette* 2010;144(23).
5. Bushnik T, Haines D, Levallois P, Van Oostdam J, Viau C. Lead and bisphenol A concentrations in the Canadian population. *Statistics Canada Health Reports* 2010 August 16;21(3).
6. Jacobs DE, Brown MJ, Baeder A et al. A systematic review of housing interventions and health: Introduction, methods, and summary findings. *Journal of Public Health Management Practice* 2010;16(5):S5-S10.
7. Smith L, Pinsent C, Kusiak R. Interim Report on Blood Lead Levels in North Hamilton, Ontario, 2008. Hamilton, ON: City of Hamilton Public Health Services; 2008.
8. CDC. Interpreting and managing blood lead levels < 10 µg/dL in children and reducing childhood lead exposure to lead: Recommendations of CDC's Advisory Committee on Childhood Lead Poisoning Prevention. *Morbidity and Mortality Weekly Report* 2007 November 2;56(RR-8).
9. Health Canada. Update of Evidence for Low-Level Effects of Lead and Blood Lead Intervention Levels and Strategies - Final Report of the Working Group. Ottawa: Health Canada; 2005.
10. Public Health Agency of Canada Act, 2006, c.5, Public Health Agency of Canada Act, (2006).
11. Department of Health Act, Health Canada, (1996).
12. Bill C-32: The Canadian Environmental Protection Act, Bill C-32: The Canadian Environmental Protection Act, (1999).
13. Tyshenko MG, Benidickson J, Turner MC et al. Regulatory and nonregulatory strategies for improving children's environmental health in Canada. *Journal of Toxicology & Environmental Health: Part B* 2007 January;10(1/2):143-56.
14. National Housing Act. 1985. Report No.: ( R.S., 1985, c. N -11 ). Department of Justice Canada.
15. Health Canada. Lead Risk Reduction Strategy. *Consumer Product Safety* 2002; Available at: URL: http://www.hc-sc.gc.ca/cps-spc/pubs/cons/lead-plomb/index-eng.php. Accessed April 11, 2011.
16. Plante R, Benedetti JL, Carrier G et al. Dèfinition nosologique d'une maladie à déclaration obligatoire ou d'une intoxiation et d'une exposition significative: Le plomb. Institut national de santé publique du Québec; 2003.
17. Spady DW. Governance instruments and child health: Informing Canadian policy: Final report to Health Canada's Health Policy Research Program. Ottawa, ON: Health Canada; 2006 Apr 10.
18. CDC. Strategic plan for the elimination of childhood lead poisoning. Atlanta: U.S. Centers for Disease Control and Prevention; 1991.
19. Nevin R, Jacobs DE. Windows of opportunity: Lead poisoning prevention, housing affordability, and energy conservation. *Housing Policy Debate* 2006;17(1):185-207.
20. Gould E. Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control. *Environmental Health Perspectives* 2009;117(7).
21. World Health Organization. Lead poisoning. 2008. Available at URL: http://www.who.int/water_sanitation_health/diseases/lead/en/ Accessed April 11, 2011.
22. Canadian Nurses Association. The environment and health: An introduction for nurses. Ottawa, Ontario: The Canadian Nurses Association; 2007.