

NURSES AND ENVIRONMENTAL HEALTH

CNA POSITION

The environment is an important determinant of health and has a profound impact on why some people are healthy and others are not.¹ There is a role for every nurse to promote and support actions to optimize the health of the environment because of the link to human health.

The Canadian Nurses Association (CNA) *Code of Ethics for Registered Nurses* supports registered nurses' engagement in environmental health issues as part of their work for social justice. The code suggests that, as part of ethical practice, registered nurses may undertake the ethical endeavours of "supporting environmental preservation and restoration, and advocating for initiatives that reduce environmentally harmful practices in order to promote health and well-being [and] maintaining awareness of broader global health concerns such as . . . environmental pollution" (CNA, 2008a, pp. 20-21).

Canadians trust nurses² and value their expertise (EKOS, 2007). CNA believes that the public expects nurses to be aware of and know how to promote Canadians' health in the context of environmental health issues. This is accomplished through nurses' roles in clinical practice, education, research, administration and policy. Nurses are also in a strong position to advocate for those who are particularly vulnerable to health effects from the environment, as a result of "physical differences, behaviours, location and/or control over their environment" (Health Canada, 2011, para. 1).

The role of nurses in environmental health includes:

- ▶ Assessing and communicating risks of environmental hazards to individuals, families and communities

¹ This position statement does not address health-care work environments. For positions on this topic, please see the joint CNA/CFNU position statement: *Practice Environments: Maximizing Outcomes for Clients, Nurses and Organizations*, 2015.

² Unless otherwise stated, *nurse* or *nursing* refers to any member of a *regulated* nursing category, i.e., a registered nurse, licensed/registered practical nurse, registered psychiatric nurse or nurse practitioner. This definition reflects the current situation in Canada whereby nurses are deployed in a variety of collaborative arrangements to provide care.

- ▶ Educating patients, families and communities about environmental health and how to address key environmental health issues
- ▶ Showing leadership in personal practices that support and reduce harm to the environment
- ▶ Collaborating with interdisciplinary colleagues to identify and mitigate environmental health risks in practice environments
- ▶ Advocating for policies that protect health by preventing exposure to those hazards and promoting sustainability
- ▶ Producing nursing science, including interdisciplinary research, related to environmental health issues
- ▶ Promoting the development of natural and built environments that support health

Understanding and applying environmental health principles should be a part of every nurse's practice. CNA values the work that nurse leaders, educators and students are doing to integrate and bolster nursing knowledge and skills related to environmental health. We advocate for the further inclusion of concepts that support ecoliteracy in basic and continuing nursing education, strengthened (where necessary) and taught in both academic and workplace settings. Rather than being taught as a specialized area of practice, environmental health can be integrated into all areas of nursing practice.

Nurses are uniquely qualified to advise the public on how to protect themselves from and mitigate environmental exposures. They have the assessment skills to identify potential hazards, the scientific background to inform interventions that promote environmental health and the communication skills to clearly explain environmental exposures and risk reduction.

Nurses are valuable contributors as principal and co-investigators in interdisciplinary environmental health research. Their participation in nursing science related to environmental health supports all areas of nursing practice and ensures that nursing roles and perspectives are incorporated.

The health of the environment affects human health, and CNA values actions that prevent or reduce harm to the environment. CNA expects that, as nurses become more ecoliterate, they will increasingly focus on reducing the environmental impact of the health setting in which they work (and of their personal activities), and thus promote environmental health and sustainability.

CNA endorses the use of the *precautionary principle* as a fundamental tenet of practices that affect the environment. The effects of any future environmental health changes due to human impact are unpredictable, and the precautionary principle establishes that, "in the case of serious or irreversible threats to the health of humans or the ecosystem, acknowledged scientific uncertainty should not be used as a reason to postpone preventive measures" (Martuzzi & Tickner, 2004, p. 1).

Protecting human health and preventing disease and death must be the first priorities for environmental legislation and regulations. All levels of government in Canada have a responsibility to manage environmental hazards through various governance instruments. Nurses and nursing organizations must work with governments to improve environmental policy and to advocate for healthy public policies and health supporting environments.

CNA believes that intersectoral and interdisciplinary collaboration, within and outside the health system, are crucial to nurses' work in environmental health. It is also important for health-care professionals to consider environmental health impacts outside the clinical-care context and lead the focus on environmental health, since "we cannot have healthy people on a sick planet" (Health Care Without Harm, 2014, p. 2).

BACKGROUND

The World Health Organization (WHO) defines environmental health (2017) as

all the physical, chemical, and biological factors external to a person, and all the related factors impacting behaviours. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments. This definition excludes behaviour not related to environment, as well as behaviour related to the social and cultural environment, and genetics. (para. 1)

To supplement this definition, we should also see environmental health as influenced by the social determinants of health, including social and psychosocial factors in the environment, and cultural and genetic factors. The environment supports human health and survival, and humans and environmental health "co-benefit" from the interactions between people and the environment, such as engaging in physical activity outdoors (Coutts & Hahn, 2015, p. 9788). This expanded definition is useful to guide nurses to include environmental health in practice, since it includes determinants of health that nurses already routinely address (biological, social and psychosocial factors, including income inequity) and adds others they may not (physical and chemical factors). Addressing environmental health and promoting ecoliteracy within the nursing profession enhances work in which nurses are already engaged, rather than introducing a new specialty area, and guides areas of nursing intervention (assessing, correcting, controlling and preventing) that are part of theories and conceptual frameworks used by nurses.

Environmental factors and health effects

The connections between health and the environment, including air, water and food quality, are well known. However, the health effects from the environment are constantly changing. The recent understanding of the ways that multiple environmental factors influence health is essential for nurses to consider in their practice. For example, the average amount that individuals spend indoors is increasing, and indoor air quality may be considerably lower than it is outdoors, depending on the emissions from cooking

and building and from material products like plastics (El-Batrawy, 2013). Toxic substances in the environment (e.g., air, water and soil) are causes and hastening agents of diseases and conditions such as cancer, affected by poor outdoor air quality (resulting in increases in mortality and morbidity from both cardiovascular and respiratory diseases), chemicals (implicated as a cause of cancer, neurotoxicity, developmental setbacks, as well as reproductive, respiratory, cardiopulmonary, psychological, hepatic, urinary or among other systemic diseases.³ Nurses are in a unique position to advocate for the adoption of health practices (e.g., physical activity) and interventions (e.g., reducing unnecessary medical and non-pharmacological products) that benefit the environment. Recent research on the impact of releasing medication and antibiotics into the waste stream revealed increases in antibiotic-resistant organisms in aquatic wildlife and humans (Wigle, 2003).

Practice and policy implications

The effects of climate change on the environment and human health are significant to understand because of their implications in practice and policy. Climate change has affected the health of Canadians through soil and coastline erosion, ozone depletion, increases in seasonal temperatures, longer seasons for vector-borne diseases (e.g., West Nile virus and Lyme disease), increases in precipitation linked to the increased risk of water-borne diseases, and more intense weather events such as thunderstorms, floods and heat waves. Some of the health effects associated with these changes can include heat stress, water- and vector-borne diseases, mental health afflictions, cardiopulmonary-respiratory disorders and death (Public Health Agency of Canada, 2015).

The built environment

The natural world is only one aspect of the environment that influences human health. Recent understandings of the built environment and urbanization and its impacts on health should be considered and incorporated into planning and policies. Noise, traffic and light pollution are consequences of human-built environments that can be mitigated through advocacy and interdisciplinary collaboration. Incorporating public transportation, natural green spaces, areas for physical activity, quality housing and building materials, as well as effective water and waste-treatment systems support the health of individuals as communities grow (Thompson, Kent, & Lyons, 2014). Since outdoor environmental changes are linked with those that occur indoors, and populations in the developed world may spend up to 90 per cent of their time indoors, indoor workplaces can also be a source of exposure to environmental hazards, including chemical, gaseous, microbial, thermal, physical, moisture, pollution and indoor ozone (Fisk, 2015).

³ For more information on environmental toxins and related diseases and conditions, see the Canadian Environmental Health Atlas [website](#).

Advocacy and ecoliteracy

Nurses have a history of advocating for patients and for other issues of public policy such as sanitation, birth control, safe work environments, women's suffrage and women's rights, as well as for environmental health issues such as regulations to restrict pollution and tobacco use (CNA, 2013). Environmental health issues related to climate change that nurses are engaged in include advocating for clean air regulations, environmental social justice and addressing disparities in wealth among nations and vulnerable populations. Nurses also take action at work and in their personal lives by reducing greenhouse gas emissions and waste, using (and encouraging others to use) less toxic products, increasing the use of reusable and recyclable products, and moving away from consumerism toward understanding the impact of our resource use and waste production on global well-being.

Ecoliteracy in nursing education (basic and continuing) enables nurses to consider environmental factors that may be contributing to poor health and to know the health impact of environmental hazards. Ecoliteracy also promotes an understanding of how individuals and communities provide environmental stewardship and guides nurses in making recommendations to reduce or prevent exposures to environmental hazards and conducting research on environmental health issues.

Nursing research

Nursing research in environmental health focuses on identifying environmental exposures that pose a risk to human health as well as human activities that affect environmental health. This research also evaluates the effectiveness of nursing interventions to reduce the impact on human health and involves assessing which populations are most vulnerable to what exposures and which strategies are most effective in reducing those risks.

Vulnerable populations

WHO reports that, while diseases linked to the environment are a global burden, the heaviest impact is on vulnerable populations living in low- and middle-income countries. In all countries, these vulnerable populations — which include families living in poverty, women, children, elderly people and migrant workers — are more likely to be exposed to environmental hazards and to experience greater negative health effects from the same (Prüss-Ustün, Wolf, Corvalán, Bos, & Neira, 2016). In particular, fetuses, infants and children are at greater risk for health effects from environmental influences, because of their increased needs for oxygen and nutrients to support their development. Also, due to changes in industrialization waste, urbanization and pollution, and considering they do not have control over their environmental exposures (pre- or post-natal and in their younger years), children are more likely to be exposed to greater levels of chemicals, heavy metals and environmental threats (Miller, Marty, & Landrigan, 2016). Environmental changes, like climate change, are accelerating the effects of harmful environmental exposures for all populations. Canada's First Nations and Inuit have a particularly high

risk for (1) environmental effects related to poor housing and indoor air quality, (2) lack of adequate drinking water and sanitation systems, and (3) climate changes affecting permafrost and ocean ice, which affects food sources (Health Canada, 2014).

Environmental health principles and position statements

The *Canadian Environmental Protection Act* employs the precautionary principle and other environmental protection principles.⁴ Even where there is no scientific certainty of the harmful health effects of exposure, nurses can apply this principle to their work in supporting health for the environment and for individuals, families and communities. Although the precautionary principle was developed to protect the environment, it can also be used to guide health protection activities. Nurses can use the precautionary principle to support measures that reduce the risk of environmental hazards through advocacy, health promotion, education, public safety controls, and collaboration with sectors within and outside of health care that focus on health in industry, occupational safety and urban planning.

Nursing associations in Canada and the United States have outlined environmental health principles and position statements for nurses. The American Public Health Association (2015) released a position statement about health and climate change for public health nurses; the Canadian Occupational Health Nurses Association (2013) and Community Health Nurses of Canada (2011) have standards for occupational and community health nurses that address environmental health; CNA (2015) has an online nurse framework that incorporates the environment as a key assessment and metaparadigm in nursing practice; and the American Nurses Association (2007) has environmental health principles for nurses. The November 2015 UN Paris climate conference highlighted numerous collaborative actions that are urgently needed by multiple countries and sectors, which focus efforts to reduce harm to the environment for subsequent reductions in health effects for all.⁵

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Replaces: Nurses and Environmental Health (2009)

⁴ For more information on the health implications of the *Canadian Environmental Protection Act*, see the Health Canada [website](#).

⁵ For more information on the Paris Agreement, see the United Nations [Framework Convention on Climate Change](#).

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Also see:

Related CNA position statements:

Climate Change and Health (2017)

[Toward an Environmentally Responsible Canadian Activity in the Health-Care Sector](#) (joint position statement, 2009)

Related CNA online resource bank:

Nurses and Environmental Health

Related CNA publications:

[The Environment and Health: An Introduction for Nurses](#) (2008)

[The Role of Nurses in Greening the Health System](#) (2008)

[The Role of Nurses in Addressing Climate Change](#) (2008)

Related NurseONE.ca Knowledge Feature:

Environmental Sustainability

Related International Council of Nurses publications:

[Reducing Environmental and Lifestyle Related Health Risks](#) (2011)

[Health care Waste: Role of Nurses and Nursing](#) (2010)

[Nurses, Climate Change and Health](#) (2008)