



Engaging BC Nurses with Climate Change Issues

The Association of Nurses and Nurse Practitioners of BC (NNPBC) Position:

- NNPBC aligns with the Government of Canada's recommendation on championing "*intersectoral collaboration on monitoring and surveillance of climate change health outcomes, addressing root causes that limit preparedness (e.g. poverty), identification of vulnerable populations, reducing uncertainty through increased research on impacts, and educating the public and decision makers about potential disasters*"

(Government of Canada, 2017, p.11).
- NNPBC supports the need to address climate change at regional, provincial, and national levels.
- NNPBC is committed to raising a unified nursing voice on matters of climate change in the province.
- It is recognized that BC's Indigenous population has a unique and very close bond to these lands, for which reason they must be engaged at all levels of decision-making and care-planning when combating climate change in the province.
- Nurses have a moral obligation to uphold social justice and health equity in a manner that contributes to support the social structures needed to deal with an ever-challenging, complex environment.
- NNPBC supports the need to address gaps in knowledge related to climate change and human health through distribution of informational links and educational resources for current nursing students and practicing nurses in all healthcare settings on its website.

Background

"It is estimated that climate change is expected to cause approximately 250,000 additional deaths per year between 2030 and 2050; 38,000 due to heat exposure in elderly people, 48,000 due to diarrhea, 60,000 due to malaria, and 95,000 due to childhood undernutrition."

– (WHO, 2018)

According to the World Health Organization (WHO), there is no greater threat to human health in the 21st century than that caused by climate change (WHO, 2019). It is unfortunate and yet a difficult reality to accept that human activity in the form of burning of fossil fuels has been the largest contributor to changes in climate. Over the years, this has resulted in enormous quantities of carbon dioxide (CO₂) and other greenhouse gases (GHGs) released and trapped into the atmosphere. The accumulation of GHGs in turn contributes to the constant warming of the Earth, which causes permanent fluctuations in weather patterns that can negatively impact people and their environments on a global scale. Consequently, because the overall quality of air, water, food sources, and shelter are at risk of being compromised, there is an urgent international call for actions to be undertaken (Government of Canada, 2019; Public Health Agency of Canada, 2017; WHO, 2018).

The effects of climate change are already being felt across Canada with variations depending on the region where people live. In 2019 alone, Canadians faced extreme temperatures and weather events throughout the seasons. For example, Ontario and Quebec experienced severe flooding in the months of April and May which have resulted in a declaration of a state of emergency and the need for government assistance. Meanwhile on the West Coast, British Columbia (BC) had unusually warm weather during the months of May and June. Unfortunately, these weather pattern variations are only likely to worsen as flooding in the Atlantic region will be more common, Central Canada will fight intensifying heat waves, and forest fires will engulf areas of BC (Martin & Vold, 2019).



Health Canada highlighted several areas of national-level impacts and potentially negative health effects resulting from climate change. These include:

- Temperature-related morbidity & mortality
- Weather-related natural hazards such as population displacement
- Impaired air quality due to an increase in pollutants (i.e. allergens) and small particulate matter released from wildfires
- Higher likelihood of water-and food-borne contamination resulting in gastrointestinal disorders
- Vector-borne and zoonotic diseases caused by migrating pathogens

(Government of Canada, 2019)

Turning our eyes on BC, we are cautioned in relation to a plethora of climate-related effects that will impact our beautiful province. The West Coast is projected to experience:

- Higher temperatures
- Rising sea levels with an increased likelihood of coastal flooding
- Increased snow volume in winter
- Glacier retreat contributing to more severe spring floods
- Intense summer drought
- Increased forest fires

(Government of BC, n.d.; Government of Canada, 2018)

Consider for example the prevalence and intensity of wildfires in BC. Notably, BC's interior and northern residents face an increased risk of housing insecurity related to being displaced from their homes as a result of forced evacuation measures aimed at saving their lives during wildfires (Ostry, Ogborn, Bassil, Takaro, & Allen, 2010; Wiley, 2019). Equally, there is evidence to support the concern that people who are exposed to poor air quality may become more socially isolated as a result of staying indoors to try and protect themselves or may have to flee their homes to escape fire (Wiley, 2019). Both of these scenarios emphasize how much wildfires can threaten mental health and psychological wellbeing.

By the same token, wildfire smoke exposure has deleterious effects on health causing both morbidity and mortality related to impaired respiratory and cardiovascular functions that result from systemic inflammation and increased blood coagulability (Government of BC, n.d.; Reid et al., 2016). Thus, the increasing forest fire problem in BC in recent years is documented to have spiked primary care provider and emergency room visits due to a higher incidence of exacerbations of asthma and chronic obstructive pulmonary disorder (COPD) (Government of BC, n.d.; Martin & Vold, 2019; Reid et al., 2016).

Correspondingly, we are cautioned that BC's Indigenous population is at a particularly heightened risk from the detrimental effects of climate change. In part, this has to do with their deeply rooted spiritual and cultural attachment to the geographical land on which they reside, the community culture that interacts with the land and the lives that are built around land as a sense of place and history. Equally important to note is that BC Indigenous people not only face increased disparities in both socioeconomic and health status in comparison to the general population, but also that many Indigenous communities have limited access to safe drinking water and food sources, factors which will continue to be aggravated as a result of climate change



(Association of Registered Nurses of BC [ARNBC], 2016; Martin & Vold, 2019; Leffers, McDermott-Levy, Nicholas, & Sweeney, 2017; Ostry et al., 2010)

Although the information available thus far only begins to scratch the surface of this pernicious problem, we do know some of the ways climate change is influencing and will continue to influence the health of BC's residents. For example, prolonged exposure to hotter temperatures can cause life-threatening symptoms particularly in children, the elderly and lower-income individuals who have difficulty with temperature regulation during the summer months (Martin & Vold, 2019). Additionally, extreme temperatures will also contribute to higher incidence and prevalence of vector-borne infectious diseases, alongside an increased threat of contamination of food and water (Government of BC, n.d.).

With the aforementioned in mind, it becomes a moral responsibility that nurses are equipped with an appreciation for how interrelated climate change is with human health. As they become aware of the magnitude of this evolving problem, nurses will increasingly be able to use their expertise and critical thinking skills to act upon evidence-based interventions and recommendations, in order to play their distinctive part in improving individual and population health.

Recommendations for Practice

As the professional voice of nurses in BC and recognizing the crucial role our profession plays to climate change, NNPBC affirms the following:

Nurses are well positioned to contribute to a coordinated and comprehensive public and societal response to climate change. Regardless of their professional designation, all nurses are educated on a plethora of aspects that inform them of the complex ways in which environment intersects with human health. It is therefore necessary that nursing organizations support individual nurses to practice in a manner that integrates both ecological and social determinants of health.

Nursing education programs are a natural place to introduce new nurses to integrate environmental health topics. This will include developing *ecoliteracy*, which the Canadian Nurses Association (CNA) describes as "*an understanding of how individuals and communities provide environmental stewardship and guides nurses in making recommendations to reduce or prevent exposures to environmental hazards.*" Importantly, delivering nursing education through an ecoliteracy lens also "*enables nurses to consider environmental factors that may be contributing to poor health*" (CNA, 2017, p.5).

Nursing is well positioned to use its professional voice in a unified way to advocate for the reduction in the immense footprint that healthcare organizations leave on the environment. As change is enacted in response to climate effects, nurses must continue to practice through a social justice and health equity lens, particularly when caring for individuals who experience marginalization in our society.

Nurses have an important part to play in supporting two of the most important climate matters: adaptation, which is about "*responding to the effects of climate change*" and mitigation which is concerned with "*taking action to reduce climate change*" (CNA, 2017, p.1; International Council of Nurses [ICN], 2018).

Other means through which nurses can become involved with climate change matters include:

- Joining workplace health and safety committees to support operating choices (such as ventilation and temperature control systems) that lower GHG emissions,



- Critically analyzing and influencing how single-use items are used and disposed of, balancing the need to prevent infection transmission with minimizing environmental impact,
- Representing nursing on urban planning committees in their local communities,
- Engaging in policy dialogue on this issue by staying connected to their nursing association and any working groups that focus on aspects of this topic,
- Advocating for the implementation of environmentally-sustainable principles of *reduce, reuse, recycle, recover, & re-educate* in both their personal and professional lives

(CNA, 2008, 2009; ICN, 2018)

In addition, nurses must be encouraged to deepen their awareness of the barriers the Indigenous people face and their increased risk of experiencing vulnerability. It is key for nurses to engage in dialogue with Indigenous people and communities to learn from them and to create meaningful partnerships that allow individuals to thrive beyond the challenges they face. This will not only require a deepened awareness of cultural safety, but also of enacting cultural humility which is about *"being open to learning and comfortable starting with what we don't know [...] a life-long process of self-reflection and self-critique to understand personal biases and to develop and maintain mutually respectful partnerships based on mutual trust"* (First Nations Health Authority [FNHA], n.d.).

As multiple studies have confirmed, the evidence that BC's climate will worsen; our healthcare systems need to be prepared to face an increased demand on their services, especially when it comes to accessibility. This is a context in which nurses can be champions of change and can advocate for increasing primary care that encompasses caring for individuals in a holistic way, especially in a manner that is inclusive of mental health services. Further, nurses are encouraged to engage in professional development opportunities such as attending conferences and participating in rich interdisciplinary dialogue related to climate change in order to bring about collaboration between diverse groups who share the same goals (CNA, 2017; Wiley, 2019).

Although the road that lies ahead as we face climate change is a difficult one, it is imperative that nursing establishes intersectoral collaboration across governments, non-governmental agencies, and regional health authorities in order to be part of the solution. Collaboration is at the heart of the nursing profession and nurses can help lead the efforts to overcome silos and work towards creating and sustaining meaningful and strategic partnerships across all disciplines in this respect (Luka, 2016; Ostry et al., 2010)

Lastly, because it is vital to keep the momentum going, further research from a nursing perspective will be needed to understand how individuals who are more susceptible to the deleterious effects caused by climate change are affected and how they can best be supported within the healthcare system.

Conclusion

In keeping with global warming, BC's climate is changing at an accelerated rate and with it people's health is being impacted in unexpected ways. Nurses are called upon to educate themselves as to how to mitigate the health risks individuals will face in relation to these changes by actively participating in the dialogue and intervention pertaining to climate change at the bedside and beyond. With a coordinated effort on the part of the profession, nurses can gain the knowledge and skills necessary to enact health and social justice activities that empower those who experience vulnerability in our society and play an important role in responding to the inequitable impacts of climate change.



Critical Thinking Questions for Nurses

- 1) How can you as a nurse and resident of BC enact change within your workplace(s) and your community? Do you currently engage in environmentally sustainable activities at your work and/or home? If so, in what ways?
- 2) Which climate impacts in BC are you most concerned about?
- 3) How comfortable do you feel with the concept of Ecoliteracy and its relevance to your nursing practice?
- 4) How do you think a nursing professional association such as NNPBC can be most effective in representing nursing's climate change concerns in the wider policy context?

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