

# Developing Nursing Geography: Ecologizing the Spaces and Places of Community Health Nursing in Canada

Alysha T. Jones<sup>1,3</sup>, RN, MSc, MScN (c) & Jacqueline Avanthay Strus<sup>2,3</sup>, RN, MScN., PhD (c)

<sup>1</sup>School of Nursing, University of Northern British Columbia, British Columbia, Canada

<sup>2</sup>School of Nursing and Health Sciences, Université de Saint-Boniface, Manitoba, Canada

<sup>3</sup>Canadian Association of Nurses for the Environment/Association canadienne des infirmiers et infirmières pour l'environnement

**Cite as:** Jones, A., & Avanthay Strus, J. Developing nursing geography with an ecological lens. *Witness: The Canadian Journal of Critical Nursing Discourse*, 4(2), pp 31-41.

<https://doi.org/10.25071/2291-5796.135>

## Abstract

In this paper, we propose community health nursing as a promising context for ecologically inclusive and place-sensitive nursing practice. With a strong grounding in social justice and health equity, we believe that community health nurses in Canada have the power to create a differential space of nursing research and practice for environmental justice and planetary health, thereby challenging harmful anthropocentric and biomedical models of health, healthcare, and nursing. To support this argument, we theorize an 'environmental nursing geography', which contains Henri Lefebvre's ideas about the production of social space. Lefebvre's spatial dialectics provides tools to ecologize space and place and further the efforts of community health nurses to support the health of all people and the planet through justice and equity.

**Key Words:** Community Health Nursing, Nursing Geography, Environmental Justice, Planetary Health

## Introduction

Community health nurses (CHNs) across Canada work in diverse spaces and places to provide health care to diverse people across the lifespan. In this article, *community health nursing* refers to the complete range of nurses working in Canadian communities: in public health, primary care, family practice, and home health (Community Health Nurses of Canada, 2019). At the core, the goal of community health nursing, whether in the home, a school, on the street, or in a clinic, is to enhance health equity and uphold social justice—a practice that harkens back to nurse trailblazers like Bernice Redmon, Canada's first Black public health nurse (Arnold &

Boggs, 2022). Despite the centrality of justice and equity, there is a gap between theory and practice in community health nursing that often leaves these ideals under-actualized (Cohen & Marshall, 2017).

One of the most critical gaps in Canadian community health nursing, we posit, is a fulsome acknowledgment of the links between health, social justice, and the greater natural environment. Community health nursing and nursing education and practice overall in Canada have largely neglected the environmental (or ecological) context of health and its equity dimensions. While there are notable exceptions (e.g., Morin et al., 2022), environmental health and equity remain at the margins (Hanley & Jakubec, 2019). Yet, the

health inequities CHNs are called on to help ameliorate are inextricably linked to geography, space, place, and land (Waldron, 2018). So-called ‘wicked,’ seemingly unsolvable environmental problems like pollution, biodiversity loss, and the climate crisis impact human health – but those impacts are not felt equally across populations. Environmental and climate crises interweave with structural determinants of health like race, class, and gender, further harming already overburdened populations (Roberts et al., 2022). For example, children are particularly vulnerable to pesticides and pollution (Leffers, 2022). First Nations children living with poverty rates of 50% are even more vulnerable to these environmental harms (Brittain & Blackstock, 2015). Given nursing’s social justice mandate and the environmental harms occurring across Canada (e.g., Waldron, 2018), environmental health inequities and injustices are worthy of sustained attention by nurses in Canada and CHNs.

In this discussion paper, we explore a critical take on ‘nursing geography’ to bring ecological considerations and environmental justice (EJ) into nursing, emphasizing community health nursing in Canada. We focus on the Canadian context to limit the scope of this exploratory paper while acknowledging the global relevance of ideas contained herein. According to sociologist Dr. Robert Bullard (2021), *environmental justice* means everyone, no matter race, class, or gender, has the right to a healthy environment and equal protection from environmental harm. The sense of *ecological* used in this paper includes the interconnectedness of animals, plants, fungi, microorganisms, weather, elements, humans, and more that make up our natural living world (Begon et al., 2014) and does not refer to human-only relationships with immediate social surroundings. The latter, referring to human-only relationships, is the sense that ecological often has when used in nursing. *Nursing geography*, alternately *geography* or *geographies of nursing*, are terms employed primarily by health geographer Gavin Andrews (2002, 2016, 2017) and Canadian nursing scholars to a limited extent (e.g., Bender et al., 2007). There is a second and complementary dimension to our intention in this paper: to create a ‘differential space’ to the

exclusionary anthropocentrism that permeates nursing and geographical ideas within nursing. *Differential*, or *counter-spaces*, are the alternatives to dominant socio-cultural spaces and are spaces within which all life is valued—not just human life (Lefebvre, 1974/2013).

To set up this discussion, we provide a brief overview of modern Western culture’s dualism and anthropocentrism, which has permeated nursing practice and ideologies, contributing to the exploitation of people, land, and the natural world. *Land* refers to an ecological foundation structure including air, water, and soil, as well as the microbial, plant, fungal, and animal biodiversity growing within and upon it (Leopold, 1949; Tuck & Yang, 2012). As a counterpoint, we then discuss strands of ecological thinking within nursing and the growth of EJ and planetary health scholarship in the nursing profession. The transdisciplinary field of *planetary health* focuses on human impacts to Earth’s natural systems *qua* human health and all life on Earth, from bacteria to vast ecosystems (Planetary Health Alliance, 2022). Next, we turn to nursing geography and conceptions of place and space, the latter focusing on Henri Lefebvre’s (1974/2013) “production of space”. Finally, we examine the notion of ecologizing place and space in community health nursing to begin to develop a unique nursing geography with an ecological lens for EJ and planetary health.

### **Background: An Anthropocentric Worldview and Nursing’s Ecological Threads**

Modern western nursing has evolved within a dualistic and anthropocentric worldview tempered by capitalism, colonialism, racism, and neoliberal biomedicine (Dillard-Wright et al., 2020; Foth & Holmes, 2017; McGibbon et al., 2014). This worldview is thousands of years in the making. Previously mythos-based and archetypal, the dominant worldview of Western societies and peoples now holds a dualistic vision of human beings as no longer participatory and embedded in nature but above and apart from it (Cashford, 2012). Extractive, racial capitalism and settler colonialism are part of this move away from belonging to nature to domination over nature—and people considered ‘others’ and

inferior (Moore, 2016). In colonial-capitalist economies, notes Moore (2016), ‘nature’ is considered a source of disposable, cheap materials. Likewise, Black, Indigenous, and other racialized people as well as women and other marginalized groups, have been collapsed into this inferior category of nature (Sibley, 1995), justifying exclusion, oppression, and exploitation. The socio-ecological domination ethos of capitalism and colonialism has undermined the health of people and the natural world, inflaming health inequities (Marya & Patel, 2021) in Canada and globally.

For a discipline centred on health and health equity, the social injustices inherent in this dominant worldview are of serious concern to nurses and CHNs. Understanding the root causes of human health inequities, the focus of the social *qua* structural determinants of health (SDH) framework, is necessary for a discipline committed to social justice. But so too is seeing and revealing the link between domination over people *and* nature as a cause for attention and as a cause for environmental injustices which harm health. Anthropocentrism has been a significant driver here, justifying an anti-ecological society that ultimately undermines individual, community, and planetary health (Washington et al., 2021; Redvers et al., 2022). *Anthropocentrism* means “human-centred” and is an ethic that values humans above all other beings. Within this pervasive worldview, other-than-human beings are first and foremost “means to human ends” (Kopnina et al., 2018, p. 109).

Anthropocentrism combined with capitalism causes great environmental harm in health care, for example, in the form of toxic medical waste. The status quo Canadian health system rationalizes vast amounts of waste as best practice in infection control and economics - with nurses as participants, although perhaps CHNs less so - but at an enormous cost to ecosystems, animals, plants, and the land in the form of toxic pollution and extraction resulting in habitat loss, poisoning, disease, and death (Borowy, 2020; Myers & Frumkin, 2020). Ultimately, this comes at a cost to humans for these same reasons: toxic pollution and medical waste impact human health (World Health Organization, 2018). In the Garden Hill and Wasagamack First Nations in Northern Manitoba, medical (and other) waste is an environmental health justice

issue. Chronic government underfunding in waste management results in burning and dumping leading to alarmingly high levels of heavy metals in soil and E. coli in water impacting community members’ health (Oyegunle & Thompson, 2018). There is no question many nurses in Canada and elsewhere globally, charged with promoting health, are contending with the cognitive dissonance of participating in anti-ecological and harmfully anthropocentric health and social systems.

Modern western nursing is embedded in a dualistic and anthropocentric worldview. Yet ecologically minded and environmentally sensitive nursing has a small and firm decades-long foundation in theory and practice (e.g., Avery, 1996; Kleffel, 1996). Upon this foundation, there is now a growing nursing literature mostly emerging from the United States (US) centring on ecological and environmental considerations. In the US, a kind of ‘environmental nursing geography’ is developing in the direction of EJ praxis using community-based participatory methodologies, mapping, and geographical information systems (Amiri & Zhao, 2019; Brickle & Agnew-Evans, 2017; Cantu et al., 2016). Nurses’ advocacy and writing about climate change and health are gaining momentum with an emphasis on climate justice (Kalogirou et al., 2021; Nicholas et al., 2020). In addition, planetary health is gaining strength in American nursing scholarship (LeClair & Potter, 2022; Kurth, 2017). Promisingly, planetary health is beginning to make its way into Canadian scholarship (Astle, 2021). Planetary health offers an ecocentric view challenging the harmful anthropocentrism that dominates and alienates ecological considerations in nursing. Along with EJ, we include planetary health as a vital addition to ‘ecologizing’ community health nursing with a geographical frame. We do so only preliminarily given the limits of this paper. Increasingly, planetary health is framed as contingent upon justice and equity for both humans and the other-than-human world (LeClair, Luebkle & Oakley, 2021).

### **Nursing Geography**

In a fundamental sense, geography is a dialogue about human relationships with the land (de Leeuw, 2018). Geography is an encompassing discipline because spatial

relationships and relationships to place - both hallmarks of geography—feature in most fields of study, research, and practice (Parvis, 2002); and, indeed, in all human life. The discipline is typically divided into two main branches—physical and human. *Physical geography* is concerned with the dynamic processes (such as climate patterns and change) that shape Earth's biophysical systems and is examined by natural sciences, such as biology (Mayhew, 2015). *Human geography* focuses on the dynamic processes shaping people's lives and their interactions with space and place (Castree et al., 2013). Human geography contains additional subdisciplines, including health geography, a subfield associated with nursing.

Andrews (2016, 2017) notes that more than ever, geography theories are valuable lenses for nurses to understand their changing practice settings and determine future agendas. Andrews has written extensively about nursing geography, outlining how a geographical lens reveals the socio-spatial realities of nursing work. Nurse scholars, primarily situated in community health nursing, have employed geographical concepts for at least 30 years. Beginning in the 1990s with the work of Liaschenko (1994, 2003; Liaschenko et al., 2011), nurse scholars have explicitly engaged with geographical concepts and analysis (e.g., Bender et al., 2007; Campbell et al., 2020; Carolan et al., 2006; Solberg & Way, 2007). Many more nursing scholars have written about place and space implicitly. For example, CHN scholars have written about health and homelessness in Canadian street nursing (Crowe, 2019). Others have written about the unique challenges of rural and remote community health nursing in Canada's north (MacLeod et al., 2019).

In line with the tradition of health geography, nursing scholars using geographical lenses have focused on space and place as exclusively socio-cultural (de Leeuw, 2018) and have overlooked the land as a micro- and macroscale space and place of health and care. To elucidate this point, the next two sections will focus on the core geographical concepts of place and space. The aim of this next section is not only to identify gaps but also to find openings for the inclusion of the land and EJ in community health nursing discourse and practice. Here we seek an integrative geographical frame for nursing,

more in line with the field of environmental geography, which is an integration of human (health) and physical geography, a kind of “disciplinary middle ground” (Castree et al., 2009, p.2) with a socio-cultural *and* environmental focus. An integrative focus is ideal for this historical moment of intersecting socio-ecological health crises, such as climate change.

### **Place in Community Health Nursing**

In geographical terms, *place* is an organizing principle of identity, culture, community, and health (Bender et al., 2007). As such, the places we live and work matter immensely for health and wellness. Place-effects on health are related to individual factors, such as health behaviours, in combination with the physical, social, environmental, and cultural features of a community (Macintyre et al., 2002). Here, *community* refers to a group of people with diverse characteristics linked by social connections in a location (MacQueen et al., 2001). The places we inhabit daily often determine our access to resources and basic needs, such as the quality of food and drinking water, the availability of safe, green neighbourhoods, and our connection to health services and social support networks (Raphael et al., 2020). De Leeuw (2018) argues that place and geography are critical to Indigenous peoples' health (including First Nation, Métis, and Inuit) insofar that geography is a stand-alone determinant of health and should not be collapsed into the SDH framework.

Geographies of nursing have focused on human-manufactured and institutional places, such as homes and hospitals, in the everyday work of nurses (Andrews, 2002). Liaschenko (2003; Liaschenko et al., 2011) has written explicitly about the geographical concept of place in nursing, particularly the shift from hospital care to home and community care; places for death and dying; and the impact of place dynamics on nursing identity. Each place described is conceived socioculturally while excluding the land. Carolan et al. (2006) describe four categories of place found in nursing literature: place as home, place as healing, place as embodiment, and place related to workplace, power, and gender. In Carolan's work, place is the social and built environment. Similarly, Bender et al. (2007) discuss community health nursing as

occurring in exclusively anthropocentric places conceived of as sociocultural phenomena. In the work of these scholars, the land and ecosystems are not included as the larger home, context for attachment, or environment of health and everyday nursing care.

Caring science scholars Roxberg et al. (2020) call for a more multidimensional understanding of place for health. As a multidimensional determinant of health, place is more than socially defined or constructed. Any place is also made up of a web of other-than-human organisms upon whom humans depend for life. While conceived as a geographical location with profound social meaning, place is also a ‘place on Earth’ and an other-than-human community. Places are ecologies—unique locations on Earth with biological diversity and recycling systems, like the carbon cycle, that create breathable, liveable conditions. Or not. The living earth systems on which we depend for life are perhaps the ultimate determinants of human health. Human health and social systems are tightly coupled with ecosystems (Parkes et al., 2020). The anthropogenic degradation of the places we live is especially vital for health care providers, with a focus here on CHNs, to learn about and understand. Consider, for example, the harm to peoples’ cardiorespiratory and mental health, built infrastructure, and other-than-human forested ecosystems that CHNs may see when working in places affected by climate disasters like wildfire. Climate-induced wildfires in Canada are predicted to worsen along with potential harm to the health of communities (Flannigan, n.d.). The wide-ranging health impacts of environmental degradation and climate change are rooted in geographic places – like Lytton and Fort McMurray, both severely impacted by wildfire - constituted by social relations, emotional attachment, ecosystems, and their life-supporting processes. Andrews (2002) calls for nursing geography that is place-sensitive, which from our view, extends beyond the social and built environment to necessarily integrate ecology and the land. With climate change impacts set to worsen, CHNs responsive to the social and environmental health needs and risks of uniquely vulnerable Canadian urban, rural, and remote communities, are needed more than ever.

### **Lefebvre’s Production of Space in Community Health Nursing**

In this section, we explore Henri Lefebvre’s (1974/2013) ideas about ‘space’ as a geographic concept, and its production in the context of modern western culture and community health nursing. Space, like place, is physical. It is an area humans move through and within that holds meaning for us as actors (Mayhew, 2015). In another sense, space is social and narrative, produced by culture and language. As such space is not an empty container but rather something humans continually and actively (re)produce (Conley, 2012). Situated in Marxism, Lefebvre (1974/2013) conceives of space as a “construct of power, embodying social relations of production and consumption within the political economy of Western capitalism” (Paradis et al., 2019, p.40).

According to Lefebvre (1974/2013), the modern Western cultural production of space is a reductive and mental process, alienated from the body and land. Space is an abstract entity produced by economic, societal, and political practices and discourses which instrumentalize human bodies and the natural world. Consequently, nature and land are perceived as things to be transformed through human labour and relegated to the background of a more important unfolding human drama:

Even the powerful myth of nature is being transformed into a mere fiction, a negative utopia, nature is now seen as a raw material out of which the productive forces of a variety of social systems have forged their particular spaces (2013, p. 31).

Lefebvre’s three-part dialectic reveals the production of space in community health nursing as heavily influenced by anthropocentrism and the hegemony of biomedical health care. Lefebvre (1974/2013) articulates three ‘moments’ (Paradis et al., 2019) in the production of space—conceived space, lived space, and perceived space. Within each moment related to space CHNs operate, producing and being produced by discourses, bodily actions, and health and nursing care systems that exclude or do not consider the greater ecology of health. *Conceived space* is a product of cognitive-rational thought intended to order human

social life through science, mathematics, and planning (Paradis et al., 2019). It is a space of experts, official knowledge, and practices of social and political power (hegemony). Conceived space produces the social practices of highly anthropocentric, disembodied Western biomedical health and nursing care alienated from the land. Paradis et al. (2019) note that conceived space is produced by so-called knowledge experts with epistemological authority over representations of reality” (p. 4).

The second moment—*lived space*—is embodied and subjective, created by the everyday on-the-ground experiences of human beings and expressed in art and literature (Paradis et al., 2019). This is the space of ‘felt experience’ of CHNs and their patients. Lived space encompasses the felt and embodied experience of, for example, attachment to place as a social *and* ecological phenomenon. The lived space of many Western and westernized peoples, CHNs and patients included, is of separation and alienation from nature as conditioned by the conceived space of dualism and anthropocentrism. However, lived space can also be where the felt sense of belonging to nature, of breathing oxygen that plants produce, is experienced. This felt sense can be integrated into everyday community health nursing practice by encouraging patients to spend time in nature as a restorative practice for health.

Lastly, *perceived space* consists of material ‘spatial practices’ which range from microscale interpersonal relations, such as a CHN’s work in a patient’s home or on the street, to the macroscale of governmental actions, such as funding choices which erode, for example, the community-public health nursing role down to the task of doing immunizations (Kirk, 2020). Spatial practices are socially produced and culturally situated, expressing the values and beliefs of individuals, dominant groups, institutions, and socio-political systems (Paradis et al., 2019). Perceived space “serves as a tool of thought and action; that in addition to being a means of production, it is also a means of control, and hence of domination, of power” (Lefebvre, 1974/2013, p. 26). While spatial practices can lead to conformity and predictability, they can also lead to subversion and transformation (Paradis et al., 2019).

Space in community health nursing is (re)produced by the interaction of the conceived space of biomedical health care, capitalism, and anthropocentrism; the lived embodied experience of nurses and patients; and the spatial practices of nurses and patients as they negotiate relations in diverse community contexts. The lived space—a physical and felt experience—of CHNs may include a felt sense of dissonance and the need to challenge injustices which accompany unjust socio-economic and political systems—such as the activist work of street nurse Cathy Crowe (2019). CHNs in Canada (and around the world) are resourceful and determined to provide care to people in need and find ways to do so, thereby challenging dominant conceived and perceived spaces of reductionist, biomedical health care. Given this legacy of subverting and transforming space to include social justice, CHNs are well-suited to bring their power to the crises at hand and assist in creating a differential space that includes EJ and planetary health.

## **Nursing Geography with an Ecological Lens**

### ***Environmental Justice***

Human lives do not unfold against the flattened backdrop of ‘the environment’ or strictly social spaces, but are enmeshed within a living world of ecosystems, weather, and seasons coupled with human social worlds and their dominance hierarchies. Likewise, human health does not occur in alienation from the natural world but is dangerously impacted by extreme heat, flooding, and pollution of water, air, and soil. Inquiry into the production of space (Lefebvre, 1974/2013) and the ecological nature of place can build a critical consciousness for CHNs to create needed differential spaces to counter an anti-ecological culture in health care and health systems. CHNs can produce differential spaces to challenge the anthropocentric biomedical hegemony that exerts itself from the conceived and perceived spaces of culture and official knowledge (Lefebvre, 1974/2013). CHNs have a legacy of creating differential space in the interest of health justice (Cohen, 2010), and CHNs involvement in the EJ movement in the US is a good example of this spatial resistance and reproduction. A group of committed American nurses including CHNs—notably the work of Azita Amiri (Amiri & Zhao,

2019), Jessica LeClair (LeClair, Watts & Zahner, 2021), and the Alliance of Nurses for Healthy Environments [AHNE] (Kerr et al., 2022)—are producing a robust differential space for EJ in nursing on the whole. It is beyond the scope of this paper to provide a more comprehensive exploration of their work. The reader is directed to explore AHNE's first-of-its-kind Environmental Health Nurse Fellowship, initiated in 2019, as a differential space for nurses and CHNs to collaborate with diverse communities for environmental health and justice.

The strong thread of social justice in the nursing profession in Canada (van Daalen-Smith, 2019) provides a solid foundation for Canadian nurses to engage in EJ and begin to collaborate with affected communities to ameliorate harm. As noted above, American nurses are gaining success and strength in this practice area and are excellent guides for nurses in Canada who wish to integrate EJ into their professional practice. CHNs, and nurses in general, have several key roles and promising potential to engage effectively in EJ. From community-based participatory research, mapping, and public health education initiatives, from political advocacy to nursing curriculum design, CHNs are asked to prioritize the concerns of those affected and act with cultural humility when engaging with communities for EJ (Kerr et al., 2022). CHNs and their employers and professional organizations in Canada must work together to design environmental health and EJ assessment tools and reporting structures on behalf of the most vulnerable patients, who range from infants receiving their first vaccines to street-entrenched youth; seniors receiving end-of-life care at home; and Indigenous peoples accessing essential health services in remote coastal communities, for instance. This work is growing as evidenced by the authors' recent conference presentation (Community Health Nurses of Canada) on climate change and health equity.

### ***Planetary Health***

Missing from EJ discourse, however, is a more in-depth discussion of ecocentrism that would help to unsettle the foundations of anthropocentrism and geographical ideas in nursing. Whereas initial conceptualizations of planetary health have had a distinctly anthropocentric flavour, i.e., “protecting nature

to protect ourselves” (Myers & Frumkin, 2020), newer thinking inspired by Indigenous thinkers (Redvers et al., 2022) emphasizes human beings as one strand in a much larger web of life. Ecocentrism is an ethic that upholds the intrinsic value of the natural world for a sustainable future (Washington et al., 2021). In nursing, a tradition promoting ecocentrism (Kleffel, 1996; Anderko et al., 2014) and kincentrism (Leclair, 2021) already exists albeit in muted tones; arguably, a tradition that struggles to withstand the pressures of modern biomedical health care. The perceived space produced by social structures and the design of the systems (conceived space) influence the day-to-day practices of nurses and CHNs, leading them to push ecocentrism and kincentrism to the margins. Nonetheless, these ideas are seeded as evidenced by a recent planetary health webinar by the Canadian Association of Schools of Nursing. It is a good time for planetary health to be nurtured further in Canadian nursing scholarship and in creative, subversive, transformative, and life-affirming nursing practices.

### **Conclusion**

In this paper, we have posited a differential space to the ecological exclusion that permeates nursing and geographical ideas within community health nursing in Canada. Using an ecologized nursing geography lens, or perhaps what could be called an ‘environmental nursing geography’, along with EJ and planetary health can further the efforts of CHNs to support health through justice and equity. In their everyday work, CHNs can challenge the systematic exclusion of the land from health and produce spaces that include discourses about human relationships with the planet and its ecosystems. CHNs can explicitly talk about and practice as if place is integral to health, both socially and ecologically. The details of this integrative, ecologically informed CHN practice are still to be worked out through a program of research and theoretical exploration. But by doing so, CHNs are creating life-serving differential spaces and a radical reimagining of what nursing is and can be. Our spatial reproduction is a creative resistance (Dillard-Wright, 2022) to dangerously anthropocentric and anti-ecological health care. Attention to human

beings' connection to nature and equity dimensions of that connection are burgeoning avenues for a profession often reduced to tasks, stereotypes, and the hospital.

Note: The authors declare no conflicts of interest nor receipt of funding related to the work associated with this manuscript. Ethical permission is not required for this discussion paper.

## References

- Amiri, A., & Zhao, S. (2019). Working with an environmental justice community: Nurse observation, assessment, and intervention. *Nursing Forum*, 54, 270-279. <https://doi.org/jdhn>
- Anderko, L., Chalupka, S. M., & Anderko, C. (2014). Climate change: An ecocentric values-based caring approach. *International Journal of Human Caring*, 18(2), 33-37. <https://doi.org/jdhp>
- Andrews, G. J. (2002). Towards a more place-sensitive nursing research: An invitation to medical and health geography. *Nursing Inquiry*, 9(4), 221-238. <https://doi.org/dsb7qn>
- Andrews, G. J. (2016). Geographical thinking in nursing inquiry, part one: Locations, contents, meanings. *Nursing Philosophy*, 17(4), 262-281. <https://doi.org/f9cwvm>
- Andrews, G. J. (2017). Geographical thinking in nursing inquiry, part two: Performance, possibility, and non-representational theory. *Nursing Philosophy*, 18(2). <https://doi.org/f9tcpk>
- Arnold, E. & Boggs, K. (2022). *Interpersonal relationships: Professional communication skills for nurses*. (8<sup>th</sup> edition) Elsevier.
- Astle, B. (2021). Planetary health in nursing: A transdisciplinary equity-centred approach. *Creative Nursing*, 27(4), 237-241. <https://doi.org/jdhq>
- Begon, M., Howarth, R. W., & Townsend C. R. (2014). *Essentials of ecology* (4th ed.). John Wiley & Sons.
- Bender, A., Clune, L., & Guruge, S. (2007). Considering place in community health nursing. *The Canadian Journal of Nursing Research*, 39(3), 20-35. <https://cjr.archive.mcgill.ca/article/view/2067/2061>
- Borowy, I. (2020). Medical waste: The dark side of healthcare. *Historica, Ciencias, Saude-Maguinhos*, 27(1), 231-251. <https://www.redalyc.org/journal/3861/386164741012/html/>
- Bullard, R. (2021). *About environmental justice*. <https://drrobertbullard.com>
- Brickle, M. B., & Evans-Agnew, R. (2017). Photovoice and youth empowerment in environmental justice research: A pilot examining woodsmoke pollution in a Pacific Northwest community. *Journal of Community Health Nursing*, 34(2), 89-101. <https://doi.org/ggcbbc>
- Brittain, M. & Blackstock, C., (2015). *First Nations Childs Poverty: A Literature Review and Analysis*. First Nations Children's Action Research and Education Service. <https://fncaringsociety.com/publications/first-nations-child-poverty-literature-review-and-analysis-2015>
- Campbell, K. A., MacKinnon, K., Dobbins, M., Jack, S. M., & British Columbia Healthy Connections Project (2020). Nurse-family partnership and geography: An intersectional perspective. *Global Qualitative Nursing Research*, 7. <https://doi.org/jdhr>
- Cantu, A. G., Graham, M. A., Millard, A. V., Flores, I., Mugleston, M. K., Reyes, I. Y., & Carbajal. E. C. (2016). Environmental justice and community-based participatory research in Texas borderland colonias. *Public Health Nurse*, 33(1), 65-72. <https://doi.org/gk5pwf>
- Carolan, M., Andrews, G. J., & Hodnett, E. (2006). Writing place: A comparison of nursing research and health geography. *Nursing Inquiry*, 13, 203-219. <https://doi.org/df2bqx>
- Cashford, J. (2012). *Gaia: Story of origin to universe story*. The Gaia Foundation.

- Castree, N., Demeritt, D., & Liverman, D. (2009). Introduction: Making sense of environmental geography. *A companion to environmental geography* (pp. 1-15). John Wiley and Sons.
- Castree, N., Kitchin, R., & Rogers, A. (2013). Human geography. *A Dictionary of Human Geography*. Oxford University Press.
- Cohen B. (2010). From witness to social justice advocate. *The Canadian Nurse*, 106(7), 48.
- Cohen, B. E., & Marshall, S. G. (2017). Does public health advocacy seek to redress health inequities? A scoping review. *Health & Social Care in the Community*, 25(2), 309–328. <https://doi.org/f9zk4v>
- Community Health Nurses of Canada. (2019). *2019 Canadian Community Health Nursing Professional Practice Model & Standards of Practice* <https://www.chnc.ca/en/standards-of-practice>
- Conley V. (2012). *Spatial ecologies: Urban sites, state, and world-space in French cultural theory* (pp. 11-28). Oxford University Press. <https://doi.org/jdhs>
- Crowe, C. (2019). *A knapsack full of dreams: Memoirs of a street nurse*. Friesen Press.
- de Leeuw, S. (2018). Activating place: Geography as a determinant of Indigenous peoples' health and well being. In M. Greenwood, S. de Leeuw, & N. M. Lindsay (Eds.), *Determinants of Indigenous peoples' health: Beyond the social* (2nd ed.) (pp. 187-203). Canadian Scholars.
- Dillard-Wright, J., Walsh, J. H., & Brown, B. B. (2020). We have never been nurses: Nursing in the Anthropocene, undoing the Capitalocene. *Advances in Nursing Science*, 43(2), 132–146. <https://doi.org/jdht>
- Dillard-Wright, J. (2022). A radical imagination for nursing: Generative insurrection, creative resistance. *Nursing Philosophy*, 23(1), e12371. <https://doi.org/jdhv>
- Flannigan, M. (n.d.). *Fire and climate change*. <https://sites.ualberta.ca/~flanniga/climatechange.html>
- Foth, T., & Holmes, D. (2017). Neoliberalism and the government of nursing through competency-based education. *Nursing Inquiry*, 24(2). <https://doi.org/jdhx>
- Hanley, F., & Jakubec, S. L. (2019). Beyond the slogans: Understanding the ecological consciousness of nurses to advance ecological knowledge and practice. *Creative Nursing*, 25(3), 232–240. <https://doi.org/jdhz>
- Kalogirou, M. R., Olson, J., & Davidson, S. (2020). Nursing's metaparadigm, climate change and planetary health. *Nursing Inquiry*, 27(3). <https://doi.org/jdh2>
- Kerr, R., Cook, C., Chaney, N. J., Sotor, M., & Huffling, K. (2022). Nurses heal environmental injustice through community partnerships. *Environmental Justice*, 15(2), 90-97. <https://doi.org/jdh3>
- Kirk, M. E. (2020). When it is no longer your call: Managing the eroding public health nurse role. [Unpublished dissertation]. <http://hdl.handle.net/1828/11785>
- Kleffel, D. (1996). Environmental paradigms: Moving toward an ecocentric perspective. *Advances in Nursing Science*, 18(4), 1-10. <https://doi.org/jm63>
- Kurth, A. E. (2017). Planetary health and the role of nursing: A call to action. *Journal of Nursing Scholarship*, 49(6), 598–605. <https://doi.org/gfvg7k>
- LeClair J. (2021). Building kincentric awareness in planetary health education: A rapid evidence review. *Creative Nursing*, 27(4), 231–236. <https://doi.org/10.1891/cn-2021-0009>
- LeClair, J., Luebke, J., & Oakley, L. D. (2021). Critical environmental justice nursing for planetary health: A guiding framework. *ANS. Advances in Nursing Science*. <https://doi.org/jdh6>
- LeClair, J., Watts, T., & Zahner, S. (2021). Nursing strategies for environmental justice: A scoping review. *Public health nursing*, 38(2), 296–308. <https://doi.org/jdh7>
- LeClair, J., & Potter, T. (2022). Planetary health nursing. *The American Journal*

- of Nursing*, 122(4), 47–52.  
<https://doi.org/jm65>
- Lefebvre, H. (2013). *The production of space*. Blackwell Publishing. (Original work published in 1974).
- Leffers, J. (2022) Climate change and health of our children: Our borrowed future. *Journal of Pediatric Health Care* 35(1), 12-19.
- Liaschenko, J. (1994). The moral geography of home care. *Advances in Nursing Science*, 17(2), 16-26.  
<https://doi.org/ggcn5d>
- Liaschenko, J. (2003). At home with illness: Moral understandings and moral geographies. *Ethica*, 15(2), 71-82.
- Liaschenko, J., Peden-McAlpine, C., & Andrews, G. (2011). Institutional geographies in dying: Nurses' actions and observations on dying spaces inside and outside intensive care units. *Health and Place*, 17, 814-82.  
<https://doi.org/bw7bb6>
- Macintyre, S., Ellaway, A., & Cummins, S. (2002). Place effects on health: How can we conceptualise, operationalise, and measure them? *Social Science & Medicine*, 55(1), 125–139.  
<https://doi.org/c3qkjd>
- MacLeod, M.L.P., Kulig, J. C., & Stewart, N. J. (2019). Lessons from 20 years of research on nursing practice in rural and remote Canada. *Canadian Nurse*.  
<https://www2.unbc.ca/sites/default/files/sections/rural-nursing/en/lessonsfromtwentyyears-ofresearchcna2019.pdf>
- MacQueen, K. M., McLellan, E., Metzger, D. S., Kegeles, S., Strauss, R. P., Scotti, R, Blanchard, L., Trotter, R. T. (2001). What is community? An evidence-based definition for participatory public health. *Am J Public Health*, 91(12), 1929-38.  
<https://doi.org/ddgk32>
- Marya, R., & Patel, R. (2021). *Inflamed: Deep medicine and the anatomy of injustice*. Farrar, Straus & Giroux.
- Mayhew, S. (2015). Physical geography. In *A Dictionary of Geography*. Oxford University Press.
- McGibbon, E., Mulaudzi, F. M., Didham, P., Barton, S., & Sochan, A. (2014). Toward decolonizing nursing: The colonization of nursing and strategies for increasing the counter-narrative. *Nursing Inquiry*, 21(3), 179–191.  
<https://doi.org/f6qptg>
- Moore, J. (2016). *Nature/society and the violence of real abstraction*.  
<https://jasonwmoore.wordpress.com/2016/10/04/naturesociety-the-violence-of-real-abstraction/>
- Morin, J., Cohen, B., Harder, N., & Thompson, S. (2022). Nurse educators' perceptions of eco-literacy in undergraduate nursing education. *Quality Advancement in Nursing Education*, 8(1).  
<https://doi.org/jdjb>
- Myers, S., & Frumkin, H. (2020). *Planetary health: Protecting nature to protect ourselves*. Island Press.
- Nicholas, P. K., Breakey, S., Tagliareni, M. E., Simmonds, K., & Sabo, K. K. (2021). Climate change and population health: Incorporating stages of nursing's political development. *Nursing Outlook*, 69(1), 65–73.  
<https://doi.org/jdjc>
- Paradis, E., Liew., Leslie, M., (2019). *Embodied spatial practices and power to care*. In N. Boero & K. Mason (Eds.), *Handbook of the Sociology of the Body*. Oxford University Press.
- Parkes, M. W., Poland, B., Allison, S., Cole, D. C., Culbert, I., Gislason, M. K., Hancock, T., Howard, C., Papadopoulos, A., & Waheed, F. (2020). Preparing for the future of public health: Ecological determinants of health and the call for an eco-social approach to public health education. *Canadian Journal of Public Health*, 111(1), 60-64. <https://doi.org/jdjf>
- Parvis, L. F. (2002). The significance of geography in environmental health, or what can geography do for the environmental health profession. *Journal of Environmental Health*, 64(6), 42.  
<https://www.jstor.org/stable/44528208>
- Planetary Health Alliance. (2022). *Planetary health*.  
<https://www.planetaryhealthalliance.org/planetary-health>
- Raphael, D., Bryant, T., Mikkonen, J., & Raphael, A. (2020). *Social determinants of health: The Canadian*

- facts* (2nd ed.). Canadian Scholars Press.  
<http://www.thecanadianfacts.org/>
- Redvers, N., Celidwen, Y., Schultz, C., Horn, O., Githaiga, C., Vera, M., Perdrisat, M., Mad Plume, L., Kobei, D., Kain, M. C., Poelina, A., Rojas, J. N., & Blondin, B. (2022). The determinants of planetary health: An Indigenous consensus perspective. *The Lancet. Planetary health*, 6(2), e156–e163.  
<https://doi.org/gpftdf>
- Roberts, J. D., Dickinson, K. L., Hendricks, M. D., & Jennings, V. (2022). "I can't breathe": Examining the legacy of American racism on determinants of health and the ongoing pursuit of environmental justice. *Current Environmental Health Reports*, 9(2), 211–227. <https://doi.org/jdjg>
- Roxberg, Å., Tryselius, K., Gren, M., Lindahl, B., Werkander Harstäde, C., Silverglow, A., Nolbeck, K., James, F., Carlsson, I. M., Olausson, S., Nordin, S., & Wijk, H. (2020). Space and place for health and care. *International Journal of Qualitative Studies on Health and Well-being*, 15(sup1). <https://doi.org/gh8b8r>
- Sibley, D. (1995). *Geographies of exclusion: Society and difference in the West*. Routledge.
- Solberg, S. M., & Way, C. (2007). The importance of geography and health in nursing research. *Canadian Journal of Nursing Research*, 39(3), 13-18.  
<https://cjr.archive.mcgill.ca/article/download/2066/2060/0>
- Van Daalen-Smith, C. (2019). The necessity of social justice nursing. (Editorial) *Witness: The Canadian Journal of Critical Nursing Discourse*, 1(2), 1.  
<https://doi.org/jdjh>
- Waldron, I. (2018). *There's something in the water*. Fernwood.
- Washington, H., Piccolo, J., Gomez-Baggethun, E., Kopnina, H., Alberro, H. (2021). The trouble with anthropocentric hubris, with examples from conservation. *Conservation*, 1(4), 285-298.  
<https://doi.org/jdji>
- World Health Organization. (2018, February 2018). *Health-care waste*. <https://www.who.int/news-room/fact-sheets/detail/health-care-waste>