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SYMPOSIUM: RURAL BIOETHICS

Health Disparities for Canada's Remote and Northern Residents: Can COVID-19 Help Level the Field?

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Abstract This paper reviews major structural drivers of place-based health disparities in the context of Canada, an industrialized nation with a strong public health system. Likelihood that the COVID-19 pandemic will facilitate rejuvenation of Canada's northern and remote areas through remote working, advances in online teaching and learning, and the increased use of telemedicine are also examined. The paper concludes by identifying some common themes to address healthcare disparities for northern and remote Canadian residents.

Keywords Place · Healthcare · Canada · COVID-19 · Health disparities · Remote · Northern

Introduction

This paper is intended as a critical commentary on place-based health disparities and assertions that the COVID-19 pandemic will somehow mitigate some of these disparities. It is written by a social work academic who grew up, lived and worked for many years in rural, northern Canadian communities, and who now resides in a small southern city that serves as a regional hub for numerous rural areas. I come to this discussion with an enduring interest in the role of place in professional healthcare practice—and in the ways that place is structured in professional health discourses. This commentary has a specific Canadian focus. With a longstanding commitment to a universal healthcare model, Canadians tend to share a strong ethical commitment to equitable healthcare access for all Canadians (Racine 2020). Place-based health disparities run counter to this Canadian narrative. And although place-based health disparities in Canada have many unique characteristics, there are significant commonalities with other high—and middle—income countries. Thus, the issues discussed and the arguments presented in this paper may resonate for health ethicists in other countries.

Also, while I have taught ethics to healthcare practitioners, I am not an "ethicist" per se—my knowledge of ethics is heavily practice focused and influenced by three orientations. First, I am aware of and resistant to the inherent "urbancentrism" in ethics, including, or perhaps especially, bioethics, and the concomitant deficit perspective that dominates discussions of rural ethics (Simpson and McDonald 2017). Consistently comparing rural to urban and viewing rural as "lacking," "less than," or "disadvantaged" is a trap that both rural detractors and rural advocates often fall into. Second, I echo Crowden's (2016) calls for an "ethics of place" within bioethics. Like him, I view issues of place as a critical but under theorized aspect of bioethics. And finally, I see the need to redress the dominance of micro level bioethical issues by bringing in a stronger orientation to macro-level health ethics analyses (Daniels, Kennedy, and Kawachi 2002).

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At almost ten million square kilometres, Canada is the second largest country in the world. It is comprised of ten provinces and three northern territories, the southern border of each province being the northern border of the United States. The Canadian constitution has given the provinces a degree of political power unmatched among sub-state units in other high income countries. The division of federal government/provincial government powers gives the provinces decision-making over a broad range of areas, including health, education, and social welfare.

With a population density of approximately four people per square kilometre, Canada is one of the most sparsely populated countries in the world. But its population distribution is extremely uneven. Over eighty-one percent of the population is urban and about eight of every ten individuals resides within one hundred kilometres of Canada's southern border. In the vast land mass that comprises its three northern territories, population density is less than five people for every one hundred square kilometres (.046 per km^2). This population disparity is also racialized. Those living in the urban centres of the south are much more likely to be of European settler descent while those living in the northern or remote areas of Canada are much more likely to be Indigenous Canadians (Statistics Canada 2016). Constitutionally, Canada recognizes three major groups of Indigenous peoples: First Nations, Métis, and Inuit. As revealed by Canada's Truth and Reconciliation Commission, colonization and culture add layers of complexity in health disparities (Truth and Reconciliation Commission of Canada 2015). First and foremost among these—and having significant ethical implications—are the jurisdictional disputes between various levels of government that place many Indigenous Canadians in healthcare limbo (Long et al, 2019). Perhaps the starkest example is the case of Jordan River Anderson, born in 1999 with multiple disabilities. While he was eligible for release from hospital in 2001, federal-provincial disputes over payment for his care delayed this release and Jordan died in hospital at five years old with the disputes still unresolved.[1]

[1] In 2007, Canada's House of Commons passed Jordan's Principle in memory of Jordan River Anderson. The principle requires that First Nations children receive the products, services, and supports they need, when they need them. Payment would be worked out later (Wekerle, Bennett, and Fuchs 2009).

In Canada, two primary, and interrelated, structural drivers of healthcare disparities are relevant: first, disparities of access to healthcare services for those living in northern and remote areas of the country, and second, the increasing demise of northern and remote communities and the implications of this for healthcare services to residents of these areas. While it is too soon to know what impacts the COVID-19 pandemic might have on these structural drivers, several trends bear closer scrutiny in terms of their implications for reducing healthcare disparities for residents of Canada's northern and remote areas.

Access to Medical Services

Despite having one of the best public health systems in the world, Canada is a country of extreme disparity in health services. It's major and most specialized medical services are located within its most highly populated "centres"—which are not "central" at all. Greater Toronto, Canada's most populated metropolitan area, offers access to wide array of medical services, including hospitals, care facilities, specialized clinics, and treatment centres. But the region is situated between zero and 150 kilometres from the country's southern border. On the country's west coast of British Columbia, Greater Vancouver, Canada's second most populated region offers a similarly wide array of services, hospitals, care facilities, specialized clinics, and treatment centres. This region is situated between zero and seventy-five kilometres from the country's southern border. The extreme southern location of these services renders them largely inaccessible to the residents living in Canada's northern and remote areas.

To address this geographic disparity, regional hubs offer a range of specialists and specialized services. For example, the city of Prince George, British Columbia, with approximately 75,000 residents, is located just over 550 kilometres north of the Canada/United States border. The city serves as a regional hub for much of the northern half of the province, offering a hospital, care facilities, some specialized clinics, and treatment centres. However, given the province's mountainous terrain, access from northern British Columbia communities is extremely limited; furthermore, Prince George offers none of the highly specialized services of Greater Vancouver. The

situation is not much better in the northern portions of Canada's other provinces. The province of Manitoba's northern portion is comprised primarily of lakes. With few highways, access to and from larger centres is "fly in, fly out."

Educational programmes for Health and Allied Health care practitioners demonstrate a similarly skewed pattern. Of Canada's ninety-seven universities, only twelve are located in central, northern, or remote locations. Of those twelve, few offer Medical or Allied Health programmes. The consequence is that the vast majority of Medical and Allied Health practitioners are trained in Canada's southern, urban centres where they learn urban and metropolitan models of and approaches to practice and leave with limited understanding of, or skills for, practice in smaller or more remote settings. Indeed, northern and rural settings are often portrayed as "challenging," "lacking," and "undesirable" (Roberts et al. 2021). It is no surprise, therefore, that few graduates choose to relocate from the urban, southern settings in which they have been trained, to more northern or remote settings. If they do choose to practice in such settings, they quickly find that they are lacking the knowledge and skills they need and must re-orient and learn on the job. The unfamiliar nature of this practice leads many to leave these settings within a year or two.

These challenges of recruitment and retention lead to the third issue impacting disparity of access—namely availability of medical personnel. It is widely known that the simple act of creating "positions" for healthcare services, does not result in personnel that fill those positions. Indeed, northern and remote communities can wait months and even years to fill vacant positions, and when they do, the individual hired may remain in the position less time than it was previously vacant (Cosgrave 2020). In addition, these positions typically cover large catchment areas which can make travel at certain times of the year impossible. Thus while a child living in a northern or remote setting may, in theory, be "entitled" to regular occupational or physical therapy or speech services, access to such services is another matter entirely.

A major initiative to address geographical disparities in access to health services has been advances in telehealth using various forms of telecommunications technology, from telephones (landline or mobile); to home, office, or hospital-based videoconferencing (Agarwal et al. 2020; Evans, Medina, and Dwyer 2018). In general, telemedicine (in this paper the term is used interchangeably with telehealth) reflects what Lovo, et al. (2022), refer to as virtual health technologies to deliver health services.[2] It enables individuals in smaller, rural ,or remote settings to connect with healthcare providers and specialists in larger, urban settings and enables healthcare providers and health specialists to provide a range of services to rural and remote settings.

While telemedicine has been used for many years for people living in northern or remote areas of Canada, the COVID-19 pandemic "mainstreamed" its use in larger centres as well (Rush et al. 2021). This "mainstreaming" of a previously limited approach to healthcare has resulted in much closer examination of its potential; its strengths, as well as its limitations and drawbacks (Arnold and Kerridge 2020). Three aspects are worth noting.

First, while telemedicine may have helped reduce disparities for residents in northern and remote areas, it appears to disproportionately benefit well-connected, technologically savvy residents; residents who have and understand internet access (Rush et al, 2021). Large areas of northern and remote Canada have limited or no internet access, and many residents lack the knowledge, skills, hardware, or software to use the internet (Leaman and Chung-Tiam-Fook 2020). Though the landscape is constantly changing, a recent Canadian report noted that "[W]hile most Canadian communities do have Internet coverage, in many rural communities, the available speeds are so low that they only allow for a limited number of uses" (Ruimy 2018, 12). This same report suggests reaching target speeds in Canada's rural areas will take anywhere from ten to fifteen years.

Second, there is a notable lack of training for healthcare practitioners on telemedicine. This is not surprising given that, prior to the pandemic, this approach was largely used by and with those living in northern and remote settings consequently knowledge and skills to enhance its use has not been part of most urban biased medical or allied health curriculums (Malliaras, et al. 2021; Pourmand, et al. 2021). For example, in a recent study of allied health clinicians,

[2] The use of telerobotics could be considered a form of virtual health technology however its use is very limited in Canada at this point.

primarily physical therapists, only 21 per cent agreed they had been trained to provide telehealth services to people with musculoskeletal conditions (Malliaras et al. 2021).

Third, telemedicine may not be an effective substitute for hands on healthcare treatments, despite innovative interdisciplinary approaches that connect urban healthcare providers with health practitioners in rural and remote localities (Lovo et al. 2022). Some health services, such as physical or occupational therapy, may simply require direct patient contact (Malliaras et al. 2021).

The Demise of Northern and Remote Communities

A related issue for northern and remote localities concerns their increasing demise. In Canada, two interconnected issues are evident in this regard: economics and demographics. In the past thirty years, the economics of northern and remote localities have significantly shifted. Canada has always been known as a country of raw resources (the "hewers of wood and drawers of water"). Forestry, oil and gas extraction, and mining have always been significant drivers of Canada's northern and remote economies and in the wake of World War II, many of Canadas northern communities were built and settled around these industries (Halseth and Sullivan 2002).

A more recent trend is for those who work in these industries to reside in camps during weeks when they are working, and on their days off, to fly "home" to distant communities in the southern parts of the country. Some employers identify this as a perk of employment, either advertising wages that support this lifestyle or offering to pay the costs of employee flights to and from "anywhere" in the country during days off. This shift from full-time lives in communities close to employment, to life in camps during work time and urban, southern centres during days off has significant consequences for the workers as well as the dynamics of northern and remote localities—especially health-related services (Deacon, Papineau, and Lemanes 2017).

This, however, is only one trend in Canada's increasing urbanization. Indeed, from 1960 until today, the percentage of Canada's urban population has steadily increased, and as noted above, 81 percent of Canada's population now resides in urban settings. This trend is being driven by younger Canadians moving to larger centres and by changes in the Canadian economy.

> The modern Canadian economy is an urban one, driven by services, manufacturing, construction and finance. Less than 10 per cent of our GDP now comes from traditionally rural-based sectors such as mining and agriculture. We are not hewers of wood and drawers of water. We are baristas and barristers. (Gilmore 2018, ¶6)

For young people that do remain, wages in remote areas of Canada are up to 30 per cent lower than in urban centres, and unemployment rates increase the farther communities are from cities (Gadsby and Samson 2016). Thus, northern and remote areas are increasingly comprised of aging populations, fewer health and social services, fewer businesses and industries, and decreasing revenues. Many northern and remote communities in Canada have lost basic ambulance service. And in 2018, Greyhound Buses announced the end of its services in Western Canada. For those living in larger centres with access to extensive transit systems, taxis and airports, the news might have been met with a shrug. But for those in northern and remote towns, the news was devastating. "The cancellation of milk-running Greyhounds … seemed an emphatic event that cut small-town Canada loose from a country hurtling toward an urban, cosmopolitan future" (Hutchins 2022, ¶9). For those living in northern and remote areas, the Greyhound Bus was their transit, their taxi, and their airport. It was used to attend doctors' appointments, visit family members in hospitals, and access a host of services in larger centres.

The bioethical implications of an increasingly urban population concentrated in Canada's southernmost centres are clear. Northern and remote localities loss of basic healthcare services, increased unemployment and poverty, lack of internet access, lack of economic opportunity, and lack of transportation options all equate to increasing place-based health disparities that disproportionately impact older, poorer, and Indigenous peoples. Yet those living in these areas are likely to face increasing indifference—or even blame—from healthcare providers that aren't educated about, and thus don't understand, the structural drivers of these disparities.

COVID-19 and the Potential Reduction of Health Disparities for Remote and/or Northern Residents?

It is too soon to predict what impacts, if any, the COVID-19 pandemic will have on health disparities for Canada's remote and northern communities, but several key trends are worth considering. The first of these is changes in residency due to urban flight away from congested cities and towards areas that offer more open space. The arguments go something like this: As people have experienced the drawbacks of dense cities and crowded theatres, concerts, and restaurants, they are increasingly drawn to quieter and more open spaces. The ability to work remotely is leading to a desire to live remotely, and this will rejuvenate remote communities. This trend will be magnified by high housing prices in Canada's metropolitan areas and the greater affordability of housing in remote locations. As noted by Fisher, Schwartzman, and Weissenbach (2020).

> American history is a story of movement toward cities. But a shock to the system can reverse that trend: During the Great Depression of the 1930s, as factories shuttered, many people left cities to be closer to cheaper housing, work and relatives.

While this is an interesting argument, early trends do not lend credence. First, in the 2020's, working remotely requires strong internet, something that many of Canada's northern and remote communities lack. Second, the number of Canadians able to work completely independently from others is very small. The vast majority of jobs are still place-based, either in the service or construction industry (i.e. grocery clerk or heavy equipment operator) or in factories or warehouses. And third, most people, while perhaps wanting access to more greenspace, still want to be close to the services and amenities of an urban centre. Thus, what movement is occurring appears to be from Canada's largest metropolitan centres (Greater Toronto, ON or Greater Vancouver, BC) to smaller cities (Peterborough, ON or Kelowna, BC) or from the densely crowded cores to the suburbs or exurbs. In 2022, the small city of Kelowna, British Columbia, with a population of just over 222, 000 and 127 kilometres from the country's southern border, was identified as Canada's fastest growing urban area, followed by Chilliwack, BC, an exurb of Vancouver (Michaels 2022).

A second consequence of the pandemic that may reduce health disparities in Canada's remote and northern areas is access to post-secondary education. The pandemic changed the nature of education across every post-secondary institution in Canada, forcing the provision of online teaching and learning, even by those who had long resisted. Moreover, secondary school graduates are more aware than ever of the skills needed for online learning. It seems reasonable to assume the online teaching and learning trend will continue post-pandemic, opening up new accessibility for young people living in northern and remote areas. This in turn may be a significant driver of change. It has long been understood that when young people leave their home communities to attend post-secondary education, they rarely return (Cosgrave 2020). However, if this trend is to have any momentum, access to the internet is a fundamental requirement—and to date, as noted above, broadband access is poorest (or sometimes non-existent) in Canada's remote and northern areas.

The final pandemic trend that may impact health-related disparities for those in northern and remote communities is the increase in telemedicine. Just as the COVID-19 pandemic forced the acceleration of online learning, so too did the pandemic accelerate the use of telemedicine, including consultation and treatment, among both urban and remote health service users in Canada (Chu et al. 2021). With this increased use has come increased scrutiny of both its benefits and drawbacks (Arnold and Kerridge 2020; Bele et al. 2021), along with comparisons of use and satisfaction between urban and rural/remote users (Rush et al. 2021). Prior to the pandemic, telemedicine was used in Canada primarily for the delivery of healthcare to Canada's remote locations and other localities where access to health services was limited (Agarwal et al. 2020). The "mainstreaming" of telemedicine that occurred as a result of the pandemic, suggests that, like online teaching and learning, telemedicine is likely to remain and become a more common approach to healthcare provision. However, it is not clear that a simple increase in use will address the growing health disparities impacting those in Northern and remote parts of Canada. As noted above, to be effective, telemedicine requires well-connected, technologically

savvy users; users who have and understand internet access (Rush at al. 2021). And, given that large areas of northern and remote Canada have limited or no internet access, many health service users lack the knowledge and skills—or the tools—to use the internet. Also as noted above, communities, organizations, and healthcare providers require capacity-building (Gagnon et al. 2006; Malliaras et al. 2021). As Arnold and Kerridge (2020, Section 3 ¶8) note: "Optimal telehealth requires optimal hardware, infrastructure, stable connectivity of sufficient bandwidth, training of providers, and facilitation usually by another healthcare professional at the patient end of the encounter." This suggests that post-pandemic trends of increased use of telemedicine, far from addressing health disparities for residents in Northern and remote localities, may in fact exacerbate them.

Summary and Conclusion

Place-based healthcare disparities are widely known and are perhaps the single most pressing bioethical issue for healthcare in Canada, especially given that those who are poorer, older, and Indigenous are disproportionately impacted by these disparities simply because they are more likely to be living in northern and remote localities. While there are ongoing efforts to address these disparities, particularly in terms of health workforce recruitment and retention, many structural challenges are highly entrenched (Malatzky, et al. 2020; Gillespie, Cosgrave, and Malatzky 2022).

The main—and highly interrelated—challenges discussed in this paper encompass issues of access to healthcare for residents living in remote and northern areas, and the increasing economic and demographic unsustainability of these areas. Other industrialized nations may face similar, and equally entrenched, healthcare disparities, and for similar reasons.

It is too soon to know to how the structural changes wrought by the COVID-19 pandemic may impact these issues of access and unsustainability, but there may be cause for hope. First, the pandemic may result in increased access to and use of online medical and allied health programmes by young people in these areas, perhaps negating the trend for young people to move to urban areas for post-secondary opportunities. Second, the increasing use of telemedicine may offer more support to northern and remote residents, as well as healthcare providers in these areas.

For these solutions to gain traction however, medical and allied health programmes must redress the urban biases in their curriculums—paying more attention to the knowledge and skills that practitioners require for practice in remote and northern settings and enhancing the telemedicine skills of all practitioners. Furthermore, it is essential that issues of broadband access are effectively addressed. Without attending to both of these, health disparities for Canada's remote and northern residents are likely to endure, and, perhaps become even more entrenched.

Declarations

Conflicts of Interest The author declares no conflict of interest.

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