

Health is global

Four ways that global health shapes the practice of Canadian family physicians

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The interconnectedness of the 21st century has profoundly shaped our understanding of global health. From addressing the rapid transmission of infectious diseases to combating the emerging health effects of climate change, there is a range of circumstances, events, and decisions that transcend traditional borders to affect health all over the world.^{1,2} Events like the Ebola crisis of 2014—which initially threatened West Africa and then quickly advanced to become an international priority—or decisions like the United States' withdrawal from the Paris Climate Change Agreement, have consequences that extend beyond local borders to affect the rest of the world.^{3,4}

Global health is local health.⁵ Canadians are not immune to the effects of global phenomena. When patients present with symptoms in primary care settings, a successful diagnosis and treatment plan requires physicians to have a holistic understanding of the disease, including root causes. But the question persists—how exactly can a global event or circumstance affect the local practice of Canadian family physicians? In order to understand how global health issues can affect health on a local level, it is helpful to view these global phenomena through 1 of 4 distinct lenses: globalization, transnational risks, health equity, and neglected conditions.⁶ By viewing global health issues through one of these lenses, Canadian family physicians are able to understand how these issues affect Canadian health locally, giving physicians the knowledge needed to provide the best possible patient care (Figure 1).⁷

Globalization

The globalization lens explains patterns of health, health equity, and well-being within a global context, and how these patterns are shaped by global economic, social, cultural, environmental, or political factors.⁶ There is no doubt that technology, trade, and finance, reinforced by an increasing number of multilateral institutions, have increased the interconnectedness of people.⁸ Using the globalization lens, we can use 2 examples—the prevalence of medical tourism and the increasing dependence on global trade—to understand the local health effect of global health issues (Table 1).⁷

Medical tourism, a form of globalized for-profit health care, is becoming increasingly popular among Canadians, and the interconnectedness of our world has made this type of service more accessible.⁹ A Fraser Institute estimate suggests that more than 63 000 Canadians received

nonemergency medical treatment outside of Canada in 2016.¹⁰ Reasons for seeking treatment abroad include concerns about longer wait times at home (eg, for elective surgical procedures such as hip or knee replacements), lower costs for privately funded procedures (eg, cosmetic surgeries), and receiving enhanced care overseas (eg, postoperative care at luxurious resorts).⁹ With 18 Canada-based companies marketing medical services abroad, these services are now easier than ever to obtain.^{9,11} However, alternative treatment might come with the risks of compromised patient safety and lower quality of care.^{11,12} Family physicians can have evidence-informed discussions with their patients about the benefits and risks of medical tourism, and they can supplement any discontinuity in medical treatment by providing follow-up care after a procedure (including pain management), as well as treating any severe complications.¹³

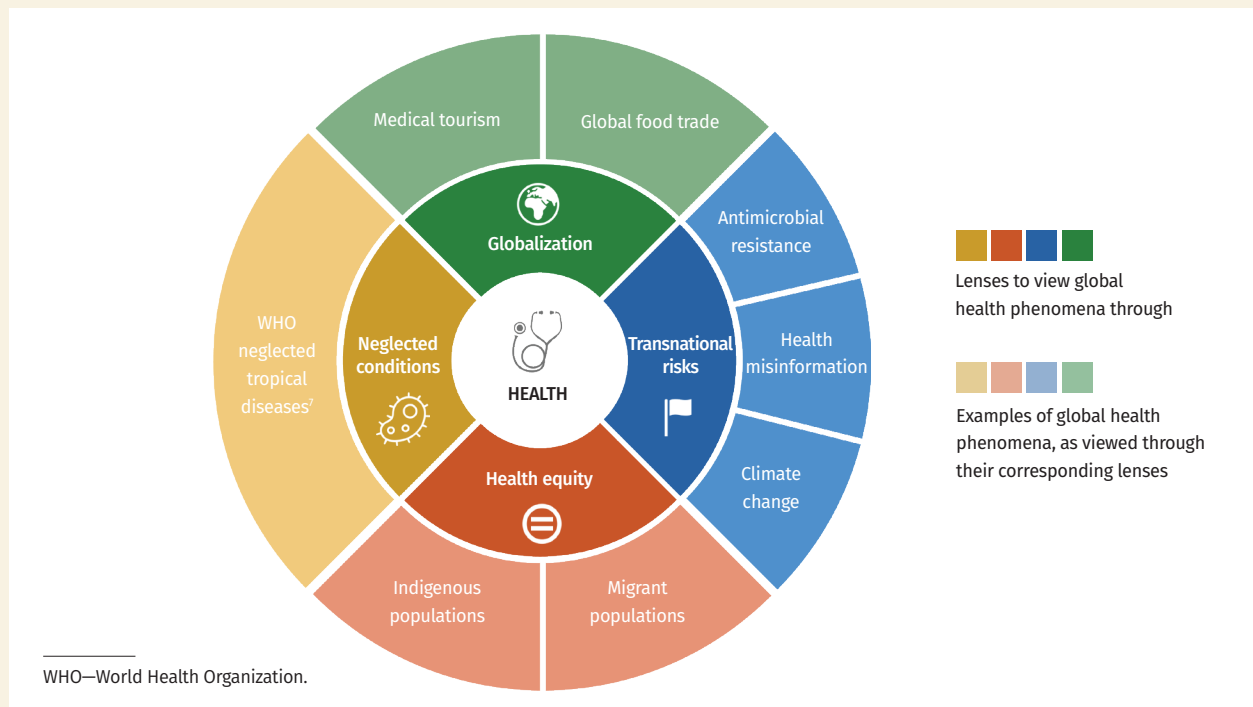
Additionally, greater incidence of liberalized trade in agricultural products is shown to affect local health. Variations in food handling practices and regulations can result in higher risk of contamination in fruits and vegetables.¹⁴ Every year, around 4 million Canadians are affected by food-borne illnesses resulting from bacteria, parasites, and viruses: examples include *Escherichia coli*, norovirus, and *Salmonella*.¹⁵ In the past 2 years (from 2018 to 2020), there have been 4 *E coli* outbreaks in Canada,¹⁶ all of which were linked to romaine lettuce that was grown in the United States. The most recent outbreak in December 2019 resulted in 28 cases of illness across 7 provinces.¹⁷ Typically, Canada's burden of gastroenteritis, usually caused by pathogens like *E coli*, sits at an estimated 35 million cases per year^{18,19}—enough for one case per Canadian. To prevent food-borne illnesses, family physicians can educate patients on food safety and advocate for health-promoting public policies (eg, policies on food safety regulations and international trade agreements).¹³

Transnational risks

Transnational risks are threats, opportunities, and determinants that transcend political boundaries to affect Canadians' health.⁶ To illustrate the local health effects of global health issues using the transnational risks lens, we can point to the threat of antimicrobial resistance (AMR), the widespread dissemination of health news misinformation, and the effects of climate change (Table 1).⁷

Antimicrobial resistance is accelerated by certain human practices, including overprescribing antibiotics.

Figure 1. Viewing global phenomena through 4 distinct lenses



In the primary care context, a 2017 analysis of administrative data showed that Ontario physicians were responsible for unnecessarily prescribing antibiotics to 46% of elderly patients with nonbacterial acute upper respiratory infection in 2012.²⁰ Mitigating the risks of AMR requires global cooperation, as resistance is not easily containable to a region. To prevent AMR due to overprescribing, family physicians can use the best available scientific evidence to prescribe antibiotics and educate patients on proper antibiotic use in order to protect patient health.¹³

Beyond the transnational risk presented by AMR, worldwide dissemination of health news misinformation owing to social media and traditional media is threatening Canadians' health. Conflicting "facts" on diseases, treatments, and lifestyle choices are shaping the health attitudes and behaviour of Canadians.²¹ For instance, the antivaccine movement has increased in popularity in recent years, partially attributed to American television celebrity Jenny McCarthy's misinformed advocacy about vaccines causing her son's autism.²² One survey on Canadians' vaccine knowledge and attitudes suggested that support for vaccines could be undermined by publicized adverse events,²³ while another survey showed that in 2015, 15% of parents believed naturopathy could replace vaccines.²⁴ To address health news misinformation, family physicians can share their expert knowledge on common problems in the community and address misconceptions through medical counseling.¹³

Along with health news misinformation and AMR, climate change is a transnational risk that affects Canadians' health. Environmental restructuring, including a greater incidence of extreme weather events, has both direct and indirect health effects.²⁵ For example, droughts are linked to an increased number of wildfires, leading to more physician visits for symptoms of respiratory illness.²⁶ Beyond the manifestation of physical health symptoms, eco-anxiety, also known as the chronic fear of environmental doom,²⁷ is afflicting today's generation quite rapidly. As advocates for their patients, family physicians can support the implementation of health-promoting public policies, including those aimed at the environment.¹³

Health equity

Health equity focuses on the gap in health outcomes among populations facing conditions of marginalization.⁶ There are many factors that place people in society's margins, including but not limited to poverty, race, religion, age, gender, sexual orientation, mental illness, physical disability, and comorbidities. In global health, there is a large effort to reach those who are most difficult to reach, and in the Canadian context, it is most often Canadian family physicians who provide this clinical care. To illustrate the local health effects of global health issues using the health equity lens, we can look to the disproportionate burden of disease among Indigenous populations, and the complex health needs of migrants (Table 1).⁷

Table 1. Four lenses of global health: Canadian health challenges and solutions for family physicians.

GLOBAL HEALTH LENS	GLOBAL HEALTH PHENOMENA EXAMPLE	LOCAL CONSEQUENCES OF GLOBAL PHENOMENA	HOW CAN CANADIAN FAMILY PHYSICIANS ADDRESS IT?
Globalization	Medical tourism	<ul style="list-style-type: none"> Often, there is a lower quality of care in treatment provided abroad Upon receiving treatment abroad, patients might return to local communities with complications 	<ul style="list-style-type: none"> Inform patients about benefits and risks of medical tourism through medical counseling, and supplement any discontinuity in medical treatment when patients return
	Global food trade	<ul style="list-style-type: none"> Contaminated produce with origins outside of the local community can appear in local grocery markets and restaurants Upon consuming contaminated produce, patients might present to local community clinics with symptoms of food-borne illness 	<ul style="list-style-type: none"> Understand mechanisms contributing to food-borne illnesses and better educate patients on food consumption safety
Transnational risk	AMR	<ul style="list-style-type: none"> AMR, caused by misuse of antibiotics, is not contained to one region, as resistant pathogens travel freely Patients might seek prescriptions from family physicians in the local community and their improper use facilitates AMR 	<ul style="list-style-type: none"> Use the best available scientific evidence to prescribe antibiotics and educate patients on proper use while protecting patient health and preventing AMR related to overprescribing
	Health misinformation	<ul style="list-style-type: none"> Social media and traditional media have made it easier to spread health misinformation across large geographic distances Patients might use health misconceptions spread by media to shape unhealthy behaviour (eg, antivaccination movements, certain diets) 	<ul style="list-style-type: none"> Share expert knowledge on common problems in the community and address misconceptions of health information through medical counseling
	Climate change and environmental restructuring	<ul style="list-style-type: none"> Environmental restructuring is caused by environment-damaging activities in a geographic area that has effects in other areas (eg, extreme weather events like floods and droughts) Patients might show symptoms of illness caused by the conditions of environmental restructuring (eg, respiratory illnesses caused by droughts and poor air quality, eco-anxiety) 	<ul style="list-style-type: none"> Support health-promoting public policies, especially those pertaining to the environment
Health equity	Indigenous populations	<ul style="list-style-type: none"> Indigenous populations around the world face disproportionately higher burden of disease (eg, obesity and alcohol use disorder) Patients in this population will seek care for these health issues from local physicians 	<ul style="list-style-type: none"> Advocate for health-promoting interventions in practice populations Reflect on global determinants of health and the way in which they are locally manifested as unique social, cultural, and economic circumstances facing each patient
	Migrant populations	<ul style="list-style-type: none"> Migrant populations have often been exposed to different microorganisms, living conditions, and migration trajectories, and have geographically influenced genetic predispositions that can shape disease patterns Patients in this population will seek care from local physicians at various stages in their lives 	<ul style="list-style-type: none"> Practice according to the unique needs of different populations, including migrants Stay informed about the global circumstances patients are emigrating and fleeing from
Neglected conditions	WHO's list of 20 neglected diseases ⁷	<ul style="list-style-type: none"> Canadians can bring neglected conditions to local communities through situations they might encounter while traveling (eg, dengue and rabies) Patients in this population will seek care from local physicians before their departure and upon their return 	<ul style="list-style-type: none"> Be aware of neglected diseases, inform patients about risks encountered while traveling, and be on the lookout for these conditions when patients return

AMR—antimicrobial resistance, WHO—World Health Organization.

Indigenous populations around the world experience discrimination and high burden of disease. Historical marginalization of Indigenous populations worldwide has had local manifestations in Canada, which has resulted in some of the worst inequities in our society. For example, obesity disproportionately affects Indigenous populations in Canada.²⁸ One study found that alcohol use and inadequate fruit and vegetable consumption were statistically significantly more common in Ontario's off-reserve First Nations populations than in non-Indigenous populations.²⁹ Targeted population-level interventions led by Indigenous peoples that reflect Indigenous cultures, values, and approaches can help address these disparities.²⁸ Family physicians can also advocate for health-promoting policies to help their patients live healthier lives beyond the clinical setting. Reflecting on global determinants of health, such as historical marginalization of Indigenous peoples, and the way they are locally manifested as unique social, cultural, and economic circumstances facing each patient will enhance clinical practice.¹³


Immigrants and refugees are another population with unique health equity needs. Compared with people born in Canada, migrants have often been exposed to different microorganisms, have different living conditions, and have geographically influenced genetic predispositions that can shape disease patterns. For example, tuberculosis disproportionately affects migrant populations in Canada. Out of 2.7 million immigrants arriving between 2000 and 2013, 1120 were found to have at least 1 hospital discharge related to tuberculosis.³⁰ Some findings suggest 65% of all active tuberculosis cases in Canada are found in individuals born outside of the country.³¹ If family physicians understand patient living history, then they can better recognize and treat conditions or diseases that are endemic abroad, thereby providing better patient care.

Neglected conditions

Neglected conditions are diseases that disproportionately affect populations who are excluded from markets and society.⁶ The World Health Organization has identified a list of 20 communicable diseases that prevail in tropical and subtropical environments in 149 countries around the world (Table 1).⁷ Although people in poverty, those in close contact with infectious vectors, and those without sanitation are the worst affected, Canadians can bring back diseases through travel. Dengue fever, 1 of the 20 diseases, affects approximately 200 to 300 Canadian travelers every year.³² Dengue is more prevalent in tropical regions, infecting around 400 million people annually.³² Canadians are susceptible to the virus because they are not a target population for distribution of the vaccine, as they do not live in an endemic area and are less likely to have been previously infected. Family physicians can prevent and treat neglected

diseases by informing their patients about travel risks, and by remaining on the lookout for these conditions when patients return.

Future directions

Canadian family physicians are in a unique position to address pressing global health challenges. Medical education has the opportunity to develop physician knowledge and change attitudes regarding various global health issues. Primary care research can systematically explore how physicians and other front-line health professionals are engaging with global health issues in their local health practices. Research in this domain can help create effective interventions for physicians to engage with global health and apply crucial lessons to their practice to ultimately safeguard the health of both Canadians and people around the world. 

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Competing interests

None declared

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