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FOREWORD

As the Director of the Health Studies Program at University College, it is my pleasure to introduce the 2017 edition of *Health Perspectives*, the Health Studies Undergraduate Journal at the University of Toronto. This marks the eighth year that *Health Perspectives* has been in production – since 2009, Health Studies students have created an annual high quality, peer-reviewed journal that provides undergraduate students with the opportunity to have their academic work published.

This year's edition of *Health Perspectives* consists of six papers, all written, edited, and ultimately published by students. These papers focus on a wide range of health issues, both in Canadian and international contexts, and showcases our students' broad range of interests in approaching the study of health. The papers are united in their careful attention to cultural and structural factors in the production of health and wellness, and in the high quality of their scholarship. The Health Studies program focuses on developing a critical understanding of health: it is therefore exciting to me that all of the articles in this collection look beneath the surface for underlying, structural causes of ill health, with the ultimate goal of improving the health of individuals and populations around the world.

Since the inaugural edition of the journal, many Health Studies students have played important roles in keeping this student-run initiative alive and thriving. I want to thank Julia Cipriani, this year's Editor-in-Chief, as well as Julia Robson and Abigail Wiggin (Senior Editors), Elizabeth Loftus (Junior Editor), Kayla Trower (Layout Editor), and the Peer Review team. They have all been integral to the publication of this journal!

I sincerely hope you enjoy reading this edition of *Health Perspectives*,

SARAH WAKEFIELD

Director | Health Studies Program

University of Toronto

A NOTE FROM THE EDITOR

I am excited to present the 2017 edition of *Health Perspectives*, the Health Studies Undergraduate Journal. Since 2009, this student-driven initiative has showcased outstanding academic writing across various disciplines at the University of Toronto. A multifaceted approach to understanding and critically analyzing health is represented in this journal, and reflects the fundamental nature of the Health Studies program, which explores health across the social sciences, sciences and humanities.

This year's publication features six authors who focus on a wide array of health-related issues, ranging from antimicrobial resistance in developing countries to the unequal distribution of healthcare services in urban and rural communities. Though the content of each article is different, all authors challenge the conventional biomedical definition of health—namely, the absence or presence of disease—by demonstrating how social, cultural, economic and political factors shape health and well-being. To our authors, and to those who submitted their work for consideration: thank you for sharing your writing with *Health Perspectives* and for contributing to the discussion that supports a holistic sense of health and well-being.

I would also like to extend my sincerest thanks to Dr. Sarah Wakefield, the Health Studies Program Director, and to the Health Studies Students' Union, without whom this publication would not have been possible. To our diligent and thorough editorial staff, as well as our hard-working team of peer reviewers: thank you for dedicating your time and energy to making this year's publication a tremendous success.

And finally, to our readers: I hope that *Health Perspectives* encourages you to broaden your perspectives on how health should be viewed, as well as how health issues in the Canadian and global contexts can be addressed in order to promote a healthier world.

Yours in health,

JULIA CIPRIANI

Editor in Chief | *Health Perspectives* 2017

TRAGEDY IN THE CANADIAN COMMONS:

Examining a hybrid healthcare system through the lens of morality, equity, quality of care, and patient protection

Aceel C. Hawa

For many Canadians, the public healthcare system is an important part of our national identity. Yet with an ageing population and long wait times for many services, some wonder whether the system could be improved by creating a two-tier system with private care available to those who can afford to pay out-of-pocket. As many await a potentially precedent-making decision by the B.C. court system, this author argues that prohibiting the provision of private healthcare raises many fundamental legal, logistical, and moral issues.

Legal Challenge or Regulatory Status Quo? A Primer on Dr. Day's Crusade

Dr. Brian Day was – and remains – an outsize personality in the landscape of Canadian clinical medicine. A former President of the Canadian Medical Association and long-serving orthopaedic surgeon, he has been a staunch advocate of a private-public hybrid model of healthcare service delivery – one that allows patients to use personal funds to access timely and medically-necessary care (Mason, 2007) He founded a medical clinic known as the Cambie Surgeries Centre and an affiliated Vancouver Specialist Referral Clinic each of which provided these services largely unencumbered for a number of years.

However, after a complaint to the British Columbia Medical Services Commission (BCMSC), an audit was initiated into the finances of his parent company, Cambie Surgeries Corporation (CSC), finding that the CSC had violated fundamental tenets of the province's Medicare Protection Act, whose stated purpose was to serve as a bulwark in defense of a publicly managed healthcare system in which access to services was not contingent on an individual's means (Ministry of Health, 2012). Dr. Day's Cambie Surgeries Centre, which offers an assortment of surgical procedures ranging from orthopaedic, to eye and dental, appeared to embody in its operations many of the same principles of its

founder; namely a belief in a hybrid model of care delivery in which prospective patients would be able to privately receive certain medically-necessary services by paying fees (MacLeod, 2014). The BCMSC's audit found that, in addition to overbilling for these expedited services, many of the offerings being provided by the physicians at Cambie Surgeries Corporation would cumulatively exceed the dollar amount allocated to individuals for public healthcare services, as stipulated under the province's Medical Service Plan (MSP) billing arrangement (Ministry of Health, 2012)

In response to the audit, Dr. Day launched a constitutional challenge against the BCMSC, with CSC and some of its patients serving as the plaintiffs in the case. The suit has two disparate yet connected aims: to challenge the ban on private insurance for medically-necessary care and to challenge the ban on physicians operating in private and public health systems simultaneously (Flood & Archibald, 2001). This is important to flag because a nuanced understanding of this case required interrogation of both these concepts.

In the interim, the BCMSC levied an injunction on Dr. Day's clinics in order to prevent them from continuing their practices, a directive that has been swiftly ignored by the clinic while the case bounces around the B.C. Supreme Court (Sagan, 2012). Writing in the Globe and Mail, André Picard is quick to deflate the claims, that the case may transform the Canadian healthcare landscape if Dr. Day wins, as largely hyperbole (Picard, 2016). Regardless, it is without question that the case will be closely watched by the legal, medical, and political communities alike and that it may have important implications for granular patient and doctor decision-making around healthcare in the years to come.

Given this author's lack of legal training, it would be unproductive to weigh in on the specifics merits of this case. Rather, one can argue that for health policymakers interested in the normative debates in the space, it would be a better world in which the suit is struck down by the BC court system. To make this point, a variety of different arguments – from moral litigation and quality of care, to patient protection and rights balancing – will be used.

Clash of the Normative Titans: Personal Liberty and Collective Rights in Tension

If one examines the normative claims underpinning this case, the central tension becomes readily apparent. We are presented with a decision which, if taken in isolation, seems fairly clear-cut; one ought be allowed to use their

own financial means to ensure they receive medically-necessary care when a system fails to provide it exogenously under the status quo. To emphasize personal liberty in this way is a particularly effective rhetorical strategy, and it is no surprise that Peter Gall, the lawyer representing the aggrieved parties in the case, uses it to frame his analysis (Omand, 2016). Day himself doubles down on this, claiming that "[n]o one will ever convince me that in a free and democratic society it's in any way unethical, or immoral or unlawful [for] a citizen in a free country to spend their own after-tax dollars on their own health" (Sagan, 2012).

The point that he is missing is that the case for a public system doesn't in any way claim that these actions are unethical. In fact, it is much the opposite. A public system recognizes the market failures inherent to healthcare service delivery – that an individual acting independently in their own best interest would most certainly make the decision to use their own financial means when the system fails to provide care – and seeks to correct for this reality. This is, in fact, the primary purpose of government: to intervene and pose legitimate restrictions on personal autonomy so as to protect larger collective rights, like universality, security, and equity of healthcare access for minority groups (Tang, Eisenberg, & Meyer, 2004).

Therefore, in order to effectively adjudicate this case in favour of a public system, one must be convinced of two things: first, that there are times when individual liberties ought be curtailed in defense of a collective's rights and secondly, that the benefits of this corrective action outweigh the harms on said collective.

The former is largely a settled debate. Society levies reasonable restrictions on movement, speech, association, and privacy in order to defend larger societal aims like security, equality, or minority right all the time (Canadian Charter of Rights and Freedoms, 1982). The second question is therefore a far more interesting one – do we have a reason to believe that banning private provision of medically-necessary care produces a host of societal goods? This essay will outline a variety of different benefits of a public system which include moral goods pertaining to just and equitable distribution of resources in defense of society's most vulnerable and utilitarian goods pertaining to costs and quality of service provision.

Wait times, Poverty, and What Money Can't Buy: Moral Goods in the Public Sphere

The most significant claim advanced by Day and his adherents – and normatively reinforced by the 2005 Supreme Court ruling on a Quebec-related

case suggesting that private service was acceptable if a patient was faced with cases of excessive wait times (Spurgeon, 2005) – is that private care is faster and therefore better for more people. The crux of the analysis here suggests that government efforts to curb rising public healthcare costs through rationed or triaged treatment delivery cause inefficiencies in the system – manifested by longer wait times – which drive down quality of care for all involved. In this way, private healthcare helps employ latent or underutilized physician resources and therefore the market 'corrects' for the existing system's failures.

But the evidence suggests that these claims about wait times are a ruse. A study of the Australian healthcare system in the Australian Health Review shows that in regions where private insurance was introduced, wait times increased rather than decreased (Duckett, 2005). Another in the Journal of Health Politics, Policy and Law surveyed all OECD nations and found that systems with parallel private insurance for health care sapped resources from the public system without producing any meaningful reductions in wait times (Tuohy, Flood, & Stabile, 2004).

But even if these claims were true and private care significantly improved speed of service, there are two additional moral goods presented by a public system that may tip the balance. The first pertains to the distribution of said care; is it good or just that a purportedly more efficient or higher quality system of care is delivered exclusively to those able to afford it? Research suggests that the introduction of a two-tiered model of healthcare usually results in decreased quality of service provision to the poorest in society (Flood, 2015) – something that is unacceptable when dealing with an issue as essential as one's personal health.

But again, the rational utilitarians among us might bristle at anything that appears to be an inefficient allocation of societal resources. In response, the second argument in favour of the moral good presented by the public system is eloquently outlined by Harvard's Michael Sandel in What Money Can't Buy. There, he argues that the privatization and commodification sweeping across academia and policymaking is a modern conceit that threatens to upend the moral philosophy of the past – chiefly that there are simply some things that exist in a separate moral class that should preclude privatization (Sandel, 1998). Expanding on this, this essay believes we ought accept that certain areas are too sacrosanct to allow striated access: one should not be the beneficiary of demonstrably better or faster care simply by virtue of characteristics like inherited wealth for example. It is therefore a moral imperative rather than a policy-oriented one.

Patient Protection and Objections from the Gallery

When assessing the relative merits of a system of care it can often be easy to forget that there are very real, very human patients at the centre of it all, and that their decision-making processes are foundational to understanding what's at stake. For instance, the Cambie Surgeries case highlighted the practice of "extra billing", a system "whereby a physician charges his or her patients an additional fee or extra charge for services covered by the public plan" (Flood & Archibald, 2001, p. 826-827). This practice is common in a Canadian healthcare system that increasingly looks two-tiered and, as was identified in the BCMSC audit, can sometimes produce unnecessary costs borne by the patients. This is a doubly challenging reality because when dealing with something as fundamental as healthcare, there are often heightened risks of fraud and coercion in the space, and a vulnerable group exists that is easily taken advantage of (Sandel, 1998, p. 94). A victory for Day in this case will mean more private providers able to take advantage of the worried and uncertain – simultaneously decreasing faith in our public systems of health in a viciously self-reinforcing spiral.

Some level of nuance has emerged from those advocating the hybrid model, and it merits addressing more directly. Writing for the Canadian Constitution Foundation, Day (2014) more fulsomely explains his position as not mutually exclusive to the fundamental tenets of public healthcare, by citing Sir William Beveridge's "Social Insurance and Allied Services" – also known as the Beveridge Report – which served as an influential precursor to the founding of Britain's National Health Services:

> "The State, in organizing security, should not stifle incentive, opportunity, responsibility; in establishing a national minimum, it should leave room and encouragement for voluntary action by each individual to provide more than that minimum for himself and his family."

In essence, he believes that to ban any parallel private care overlays would be to border on legal textualism, and that the original intention of public healthcare was not necessarily to employ a legion of bureaucrats in defense of an ineffective system of care delivery for everyone, but to have a public healthcare base which still encouraged private elements in addition to it.

The problem here with this analysis is that it misses how oftentimes the two can be mutually exclusive; physician flight from public practice to more lucrative private practice has been shown to ensue in the wake of a more liberalized

market, in effect leading to understaffing of public care to the detriment of those unable to afford private care (Stabile, 2014). So to support a hybrid model is often to support a rebalancing of resources away from the public system (with a lower median income base of users) to a private system (Stabile, 2014) – an inherent inequality this essay cannot countenance.

Another argument against this essay's position – this time from Picard – suggests that Canada is to a large extent already in a hybrid healthcare model "with 70 per cent of care publicly funded and 30 per cent privately funded" (Sagan, 2012). Hospital services, for instance, are essentially entirely publically funded whereas the bulk of outpatient pharmaceutical costs are privately funded. But again, this is a smokescreen: simply because the status quo includes some provision of care under a private service model is not ipso facto an argument for expanding or legitimizing this delivery model. We should debate what ought be rather than what is.

To conclude, this essay has made an effort at covering what is an exceptionally challenging and complex topic in a relatively restricted space. A lot more could be developed on each of the points referenced. But nevertheless, from the perspective of equitable service delivery, quality of care, patient protection, and moral license, it is clear to this author that it would be a superior set of outcomes for Canada's polity if Cambie Surgeries Corporation v. British Columbia went to the defense.

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ACCESSIBILITY TO SAFE WATER:
Quenching the Thirst of Populations Who Need it the Most

Sanah Matadar

Accessibility to safe water highlights the current global water crisis, and the severe public health implications of inaccessible, safe drinking water. Moreover, it provides a comprehensive analysis of the public health failures in providing equitable access to safe water through water quality surveillance and water commodification. Finally it concludes that the improved access and availability of safe water can not only improve health but allow individuals to live, learn and work to their fullest potential.

Covering 71 percent of Earth and making up 70 percent of an average human body, water surrounds us all and is necessary for our survival (National Aeronautics and Space Administration [NASA], 2007). Regardless of whether it is used for drinking, cooking, sanitation, or hygiene purposes, humans do not only require water but they also require safe water. Unsafe and unclean water, be it contaminated by microorganisms or environmental toxins, can be fatal for users. With safe water playing such a crucial role in our existence, one would hope that all global citizens have sufficient access to it. Yet in 2015, it was estimated that 663 million people worldwide had limited access to safe drinking water (World Health Organization [WHO], 2016). In this paper I will argue that a lack of accessibility to safe water places greater health burdens on disadvantaged populations, serving as a public health injustice. Firstly, I will provide an overview of this issue within the context of public health. Then, I will describe the public health failures in providing equitable access to safe water, through water quality surveillance and water commodification. Finally, I will outline the situation regarding the issues of access to safe water for Aboriginal populations in Canada, and suggest strategies that could improve this issue.

Public health is concerned with maintaining the health of a population, by recognizing the existence of a problem that could impact health and creating strategies to limit the problem (Schneider, 2014). These strategies are designed to prevent negative health consequences (Schneider, 2014). Therefore, by

recognizing that the use of contaminated water has negative impacts on health, regional public health officials can come up with ways to improve the water supply and ensure that the community is aware of any danger. According to Schneider (2014), a major goal of public health is to limit the spread of infectious diseases in a population. Diseases have many means of transmission, one of which is through the contamination of fresh water by pathogenic microorganisms (Schneider, 2014). Examples of diseases that spread through contaminated water range from diarrhea, a major contributor to childhood mortality, to hepatitis A, polio, and cholera (WHO, 2016). Moreover, globally, an estimated 1.8 billion people drink from sources contaminated by faeces, providing an additional concern for disease transmission (WHO, 2016). These statistics emphasize that contaminated water leads to many preventable deaths. As such, the area of public health concerned with surveillance and monitoring water quality, is crucial in maintaining the health of a community. Unfortunately, not all communities are capable of treating this public health issue.

Both the WHO and the United Nations (UN) have acknowledged that inaccessible safe water is a public health concern. According to the WHO, an uncontaminated and safe water supply has a positive impact on a country's economic growth, which could help to mitigate the impacts of poverty (WHO, 2016). Access to safe water limits adverse health consequences, thus placing less strain on a country's health system, whilst also increasing successful education for children and the economic productivity of adults (The World Bank, n.d.). In addition, the UN has identified water as a key human right, wherein all global citizens have the right to "sufficient, continuous, safe, acceptable, physically accessible and affordable water." (WHO, 2016). In fact, one of the eight UN Millennium Development Goals (MDGs) was to halve the population of individuals without access to safe drinking water (WHO, 2016). The WHO and the UN were quick to acknowledge that they had reached this goal well before their 2015 deadline (WHO, 2016). Even so, while billions of people now have improved access to a safe drinking-water source, hundreds of millions. Moreover, these millions tend to be from the least developed countries in the world, where their health is already disadvantaged for reasons such as poverty, limited infrastructure, etc. (WHO, 2016). It could be argued that the changes the world has seen are commendable. Still, adequate improvements have not been made for those who need them the most.

In their case study of Zambia's efforts towards achieving the MDGs, Anyangwe, Mtonga and Chirwa (2006) assert that the prevailing health inequalities

and inequities seen in Sub-Saharan Africa make it difficult to improve the average citizen's health statuses. They found that, in efforts to achieve the MDGs, Zambia did see improvements in access to safe water; however, their improvements were far behind other regions of the world (Anyangwe, Mtonga, & Chirwa, 2006). Following the 2015 MDG deadline, inhabitants of Sub-Saharan Africa make up 4 out of 10 people globally who lack access to improved drinking water sources (The World Bank, n.d.). It should be acknowledged that these improved water sources are not always necessarily safe, but indeed safer (WHO, 2016). "Improved" could simply mean that a region has gone from using surface water to water from a piped supply system (WHO, 2016). Unfortunately, it is unknown how thoroughly the water in these pipes is treated (WHO, 2016). Thus, while the UN may have reached its target goal of improving water accessibility, there is still a long way to go before completely solving this public health issue.

International organizations, such as WHO and the UN, as well as many governments have acknowledged the importance of water safety. In fact, within Canada and the United States, there are guidelines and legislation in place to ensure that the public have access to safe water (Health Canada, 2007). That being said, the legislation and standards are not equally enforced across all communities. Furthermore, some communities require better filtering systems than others. The problem thus lies within the inequitable access of safe water across populations.

The way in which water safety is achieved speaks to the disparities between those who have access to safe water and those who do not. Water management includes treating the water supply, testing the quality and communicating any risks to the public (Maal-Bared, Bartlett & Bowie, 2008). Overall, this management is a form of surveillance, through tracking where in the water supply system contamination may be introduced as well as preventing contamination or fixing any issues that may arise. However, in developing countries, where these sophisticated water systems are not even in place, and individuals are relying on surface water- how can water safety be ensured? Consider the link between a dangerous water supply and diarrheal disease. According to Maal-Bared et al. (2008), 99.9 percent of deaths caused by diarrheal diseases, resulting from unsafe water, occur in developing countries. Unsafe water makes up a significantly greater proportion of deaths in developing countries compared to developed countries, as developed countries have systems in place to prevent major, fatal outbreaks. However, the developed world is not entirely immune to the dangers of water contamination.

Much of Canada has adopted the multi-barrier approach as the model of monitoring a water supply and managing its distribution, whilst ensuring its safety

and quality (Health Canada, 2002). This model recognizes that no individual approach, such as testing the source of water for contamination, can certainly guarantee the prevention of an outbreak. However, by using multiple barriers, the risk is reduced (Health Canada, 2002). According to Health Canada (2007), the water that most Canadians drink comes from aquifers, underground sources or surface water, such as lakes and rivers. These raw-water sources that serve large municipalities are some of the best in the world (Peterson & Torchia, 2008). Unfortunately, the same cannot be said for the raw-water sources of rural areas. Since rural areas are home to a significant proportion of Canada's agriculture, the water runoff in these areas can contain bacteria and contaminants, such as Escherichia coli (E. coli) (Peterson & Torchia, 2008). Additionally, while most of Canada's drinking water is provided through public water systems (that must meet provincial standards) and delivered by the municipality within which one lives, rural areas do not undergo the same treatment procedures (Health Canada, 2007; Peterson & Torchia, 2008). Moreover, Canadian cities are treating their prime raw-water to even higher standards than guidelines require (Peterson & Torchia, 2008). In contrast, if rural and remote-area inhabitants obtain their water from wells, they are personally responsible for its safety and quality (Health Canada, 2007). Thus, urban dwellers have easier access to cleaner and safer water than their rural and remote-area counterparts. To exacerbate the difference, according to the Canadian Institute for Health Information (CIHI) (2006), the health of Canadians living in rural areas is much more vulnerable.

Generally, Canadians who live in rural communities have poorer health habits, such as increased likelihood of smoking and subordinate nutrition, as well as an overall lower life expectancy (CIHI, 2006). Rural areas are also where most water contamination outbreaks in Canada occur (Maal-Bared et al., 2008). These Canadians are further disadvantaged by poorer socioeconomic factors, reporting lower incomes and are often less likely to pursue higher education (CIHI, 2006). Even if rural Canadians take precautions in avoiding possibly contaminated water by drinking bottled water, this often has significant financial implications. By spending money on bottled water, they are limiting the money available to purchase other necessities, such as healthier food or medication. While this situation is not as dire as the devastating health statuses seen in Sub-Saharan Africa, these rural Canadian citizens are faced with a similar fate in that they are already at a health disadvantage, which is then exacerbated by poor access to safe water.

According to Health Canada all individuals working with water management (in some capacity) should be knowledgeable on the topic and

continue their education in water quality (Health Canada, 2002). This makes sense when considering that the multi-barrier approach was created as a response to the E. coli outbreak in Walkerton, Ontario in May 2000. This event resulted in over a thousand locals hospitalized and 7 deaths resulting from an E.coli and Camplyobacter jejuni contamination of the water supply (Hrudey, Payment, Huck., & Hrudey, 2003). In the follow-up inquiry conducted by the provincial court, it was reported that the utilities manager and foreman responsible for the management of the town's water supply lacked the training and knowledge of disinfecting water, as well as an understanding of the health consequences of not doing their job sufficiently (Hrudey et al., 2003). While there were many contributing factors to the Walkerton tragedy, it serves as an excellent example of the importance of knowledge and training of those working with a water supply. However, questions arise of how realistic this is for rural citizens who may already have limited educational opportunities and the additional concerns surrounding the costs of a treatment plant. The government speaks of the multi-barrier approach as an imperative function, stating that all stakeholders (e.g. policy makers, utility managers, scientists etc.) must work cooperatively, "without losing sight of the ultimate goal: the protection of public health." (Health Canada, 2002). Still, they fail to mention the expense of this infrastructure and the human resources required to operate it properly. It is unlikely that a small town could afford this without help from surrounding municipalities or government funds. As such, the multi-barrier approach becomes more difficult to employ in rural areas, which creates a conflict, as these rural areas are the ones in need of better treatment techniques and access to safe water.

Another injustice that poorer populations face in accessing safe water is the commodification of water. Humans have essentially exploited water by using it as if there is an unlimited supply. The literature supports this idea, emphasizing that humans are facing a water crisis (Barlow, 2001). Presently, it seems that the marginalized are generally the ones struggling with water availability. However, it is estimated that by 2025, more than half of the world's population will face water shortages (Barlow, 2001; WHO, 2016). Simply put, the way in which water is used today is unsustainable. Barlow (2001) asserts that economic globalization is responsible for fast-forwarding this crisis. Privatization, which is a concept that falls under economic globalization, is one manner in which water is commodified and consequently limits the accessibility of safe water for those who need it the most.

Economic globalization has two major impacts on water sources. First,

the shift from agricultural uses for water to more industrial uses is using up the earth's water supply much faster (Barlow, 2001). Larger crops being grown for exportation purposes are reliant on the same supply of water that farmers need for their livelihood. Yet, these commercial crops are using the supply more rapidly and for private gain (Barlow, 2001). Secondly, this industrial boom has added to global pollution levels, which also impacts raw-water sources both underground and above ground (Barlow, 2001). In her critique of water commodification, Barlow fails to mention the climate change effects of the pollution created by large corporations and industries that are only interested in profit, which is an important point to consider as climate change further impacts water accessibility. For example, as a result of climate change, the world is seeing increasing changes in weather patterns (NASA, 2014). Consider the occurrence of droughts in regions of the world where individuals rely on collecting rainwater (i.e. rainwater harvesting) for their drinking water. The more these industries pollute, the more they are negatively contributing to climate change. In turn, this could create situations where people lose their only access to water.

With large corporations purchasing water sources such as dams or wells and profiting from them, water has in many ways become a private commodity (Barlow, 2001). In Barlow's (2001) words, "these companies do not view water as a social resource necessary for all life, but an economic resource to be managed by market forces like any other commodity" (Barlow, 2001). Like most companies, these businesses often value profit over social responsibility. Moreover, these transnational companies have a clever way of framing their viewpoint; they believe that by privatizing water and selling it, water use and thus waste, will go down and in turn ending the world's water crisis (Barlow, 2001). However, if water is privatized, the public has no rights to find out what treatments the source water undergoes (Barlow, 2001). Thus, the public may pay for their water, but they cannot ensure its safety beyond the word of the corporation or taking their own time to conduct independent testing. Where this becomes a source of frustration is that citizens are actually consuming it and growing the market as Americans who have access to safe tap water are still buying bottled water (Jaffee & Newman, 2012).

In the global south, water has become a valuable substance, sometimes referred to as a "blue gold" (Jeffee & Newman, 2012). To match this characterization, many low- and middle-income populations are not provided water by their regional governments (Jeffee & Newman, 2012). Each source of water these individuals can access provides some difficulty. For example, rainwater harvesting has become

harder due to droughts and increasing climate change. Communal faucets and surface-water are easily contaminated due to so many citizens using them and the lack of surrounding quality-control. Individuals may occasionally save up to purchase bottled water, but the costs are high (Jeffee & Newman, 2012). While far from ideal, it makes sense that the governments of these developing countries cannot afford to create new infrastructure, such as water-treatment facilities and management plants, as the fiscal and human resources are lacking. Nonetheless, we see similar problems with privatization impacting the marginalized and lower-income individuals within developed countries as well.

In the United States, the bottled water market worth more than $15 billion dollars, is said to speak to the values of modern consumers (Jaffee & Newman, 2012). Specifically, bottled water fits this modern and busy lifestyle, where people are more likely to eat out and also worry about the safety and purity of their water (Jaffee & Newman, 2012). What most consumers do not know is that many bottled water brands serve the exact same quality of the tap water they already have access to (Jaffee & Newman, 2012). A very interesting point brought up by Jaffee and Newman (2012) is that this increased usage of bottled water serves to also increase the distrust between citizens and their government; essentially, citizens do not believe that their government can take care of public health needs. I do not believe that a government would intentionally harm a community's water supply if they are aware of the adverse health consequences that may result as it has been established that an outbreak could lead to community-wide illness or death. However, despite the fact that the Canadian government is aware of the potential consequences of poor water management, as well as the importance of water accessibility, there are disadvantaged populations in the country who lack this basic need because of policy failures which do not place stringent guidelines on securing their water.

One of the most disadvantaged populations in Canada are the Aboriginal peoples living on reserves. In fact, this population group is so disenfranchised from a health perspective, that media, literature and Indigenous people themselves refer to their living conditions as "third-world" and a "crisis" (Wittenberg, Dan, Blackstock, & Day, 2015). Their education, housing, and income standards are starkly weaker than the rest of Canadians. From a social determinants of health perspective, this is a dire situation, as poorer socioeconomic status and lower income often lead to poorer health outcomes. These health problems are exacerbated by a lack of access to safe water (Wittenberg et al., 2015). According to Health Canada (2016), across 93 First Nations communities, there are 138 drinking water

advisories, not including those First Nations communities in British Columbia. This is happening three years after the federal government passed the Safe Water for First Nations Act, with the goal of providing First Nations communities with the quality of water enjoyed by other Canadians, and within the same year that the Liberal government devoted $2 billion of their budget to improving water systems for First Nations communities (Health Canada, 2014; Talaga, 2016).

For decades, many Aboriginal peoples have had no choice but to use bottled and boiled water (Levasseur & Marcoux, 2015). The problem does not end there as many Aboriginals lack adequate housing. This means that they do not have access to tap water therefore forcing them to purchase bottled water or use well water, which is often contaminated by pathogenic microorganisms, carcinogens, and toxins that lead to gastrointestinal diseases (Massaubi, 2016). Additionally, those who bathe using the poor-quality water are at higher risks of developing eczema and other skin conditions or infections (Massaubi, 2016; Talaga, 2016). Furthermore, when getting sick from this water, individuals are forced to miss school and work. If the water crisis continues, as it has for many years, generations of Aboriginal children are growing up with interruptions in their education, making it harder for them to find adequate jobs and escape the cycle of poverty.

When considering the Walkerton tragedy, the government and local public health officials learned from their mistakes. They acknowledged that the event could have been prevented and for future prevention, the multi-barrier approach was created. Importantly, there were people who were held liable for the events. In a blog post calling for attention to the First Nations water crisis, Massaubi (2016) writes, "Just imagine if 150,000 people in Toronto had no access to clean drinking water." The resulting outrage would likely lead to efforts in finding quick and efficient solutions. Why then, is there no outrage for the situation Aboriginal Canadians find themselves in? Additionally, who is to be held accountable for the failure to provide this population with the same access and quality of water as other Canadians? Many First Nations blame the government, saying that while they provide the funding, they do not oversee the successful completion of projects (Levasseur & Marcoux, 2015). Since Canada's government has the resources to improve this public health crisis, it is possible to provide this disadvantaged population with access to safe water. What appears to be missing is the public acknowledgment at a national level and holding the government accountable.

Public health should not be treated as a privilege. In fact, it should ensure a standard of living that benefits the health of all members of a community

(Schneider, 2014). The literature supports that the populations around the world that are most in need of better health outcomes have unsafe water acting against them. The approaches to providing access to safe water are available (e.g. the multi-barrier approach) and the acknowledgement that there is a gap in accessibility exists. It now becomes a matter of implementing these systems in the places that require them the most. Improved availability and access to safe water is something that can aid in improving health, directly by eliminating disease and death, and indirectly by allowing individuals to live, learn, and work. It is important that these deprived populations gain access to safe water, therefore fulfilling the role of public health.

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ANTIMICROBIAL RESISTANCE IN DEVELOPING COUNTRIES

Chika Nwaka

Despite a relative lack of media attention, antimicrobial resistance is an international and truly frightening problem. The factors that affect antimicrobial resistance, including the local social, political, and economic contexts, are multifaceted. As with other complex problems, only by understanding the underlying causes can we expect effective solutions.

Introduction

Today, antimicrobials are considered the backbone of modern medicine. They constitute a range of drugs that actively inhibit the proliferation of pathogens, including bacteria, viruses and fungi (Sosa, 2010). Not only are they used as a mechanism for prophylaxis, they also frequently lay the foundation for more complex medical procedures. For example, these drugs reduce the risk of infection associated with seemingly routine procedures such as Caesarian sections (Review on Antimicrobial Resistance, 2016). Antimicrobial resistance describes a natural process whereby microbes evolve to survive and proliferate in the presence of selection pressures (antimicrobial drugs), that would previously have killed or inhibited them (Sosa, 2010). The issue is that, primarily due to misuse, we are currently facing a rate of resistance that is exceeding the rate of drug development. According the Review on Antimicrobial Resistance (2016), 700,000 people per year succumb to resistant infections globally. The number of illnesses that now have no cure, but were once curable through the use of certain drugs, is rapidly increasing. For example, most strains of tuberculosis (TB) were effectively curable with the discovery of drugs such as isoniazid, however, it remerged alongside the HIV/AIDs epidemic in the 1980s (Shrivastaba, 2013). Today, according to the WHO, 480,000 people develop multi-drug resistant TB around the world every year (WHO, 2016). Therefore (AMR) is arguably the single biggest threat to the future of medical innovation, as it has the potential to undo the extensive amount of progress already made against infectious disease and illness.Furthermore, AMR is a global issue, plaguing developing and developed countries alike. As a

result, in the last half century, it has been propelled to the top of global health agendas.. However, situational differences that define the unequal development between developing and developed countries (i.e. GDP, GNP, urbanization levels, infrastructure etc.) mean that there cannot be one global fix-all solution. Hence, each region must employ strategies to tackle the driving forces behind accelerated AMR that are particular to their context. It can be argued that in developing countries, the driving forces behind accelerated AMR can be traced back to a central issue of poverty, as many people in poverty face poor sanitation infrastructure, diminished access to quality healthcare, medical malpractice, knowledge deficits and resource limitations. These factors make people more vulnerable to repeated infection, allowing microbes to gain exposure to available drugs and acquire resistance. Therefore, the issue of AMR in these areas will not be solved until the underlying issue of poverty is addressed.

Sanitation Infrastructure and AMR

The most efficient way to stall drug resistance is to prevent illness in the first place (Review on Antimicrobial Resistance, 2016). If environments and people become less susceptible to hosting infections, microbes have less opportunity to proliferate and evolve in the presence of drugs. This in turn stalls the rate of resistance. One of the most basic mechanisms a government can use to prevent illness in its jurisdiction is to both increase and ameliorate sanitation infrastructure. However, the crucial requirement is that they have the resources to do so. Investment in quality sanitation and sewage infrastructure is arguably a hallmark of economic development. For example, in the 19th century during a period of rapid urbanization, using its increased economic prosperity from the Industrial Revolution, much of the West witnessed a public health revolution in terms of governmental approaches to hygiene and sanitation (Konteh, 2009). Piped sewage systems, solid waste disposal facilities, flush latrines and access to piped water greatly reduced the burden of communicable disease in these regions (Aiello, Larson, & Sedlack, 2008). Today's developing countries are experiencing even higher rates of urbanization than in 19th century Europe and North America. However, unlike the urbanization that occurred during the Industrial Revolution, in many cases this urbanization is not being accompanied with increased industrialization or economic development (Konteh, 2009). Therefore, instead of industrialization driving economic development, industrialization driving urbanization, and urbanization putting pressure on the need to for adequate sanitation infrastructure as it did during the Industrial Revolution,

urban dwellers in less developed regions continue to deal with the ramifications of poor sanitation, namely in the form of communicable diseases (Cohen, 2004).

The "Double Burden of Disease" in Developing Countries

Diarrheal diseases, typhoid, cholera, malaria and respiratory infections are now virtually unheard of in developed countries that have gone through a so-called "epidemiological transition", but remain both leading causes of mortality and facilitators of AMR in developing regions (Cohen, 2004). Having gone through the epidemiological transition, the nature of illness that the majority of people in developed countries experience has shifted from infectious to chronic non-communicable diseases that are often associated with urbanization and lifestyle choices. Because developing countries are affected by some of the same processes (urbanization, lifestyle changes), chronic disease has similarly become a major issue in these regions (Lopez, Mathers, Ezzati, Jamison, & Murray, 2006). According to a study by Murray et al. (1997), the risk of an adult in a developing region dying of a chronic disease is higher than that in developed countries. This 'double burden' of both non-communicable and infectious disease in developing countries further exacerbates the issue of AMR, as people with non-communicable diseases may have weakened immune systems, and are therefore more vulnerable to repeated infections, increasing chances of eventual drug resistance (Lopez et al., 2006).

By the same token, poverty and its consequences, such as malnutrition, further hamper the immune response. This is especially true for the urban poor, as overcrowding in some residences allows infectious diseases to spread more rapidly (Konteh, 2009). And because the poorest are the least likely to gain access to adequate healthcare, due to economic and other constraints, these individuals become vulnerable to frequent, repeated infections (Sosa, 2010). In this way, the capacity to prevent the spread of disease and limit the potential for antimicrobial resistance inherently becomes an issue of economic development.

Increasing the Visibility of Health Issues in Low-income Countries

The first step to solving the problem of poor sanitation and hygiene (and in turn reduce the impact it has on antimicrobial resistance), is to increase its importance on the local and global scales. During the early stages of the Industrial Revolution, before the public health reform, the detrimental impact that poor sanitation had in urban centers was largely ignored (Konteh, 2009). Middle and upper class citizens migrated to the urban peripheries, where they avoided the health issues that the majority urban, working-class population faced (Konteh,

2009). There is a similar pattern of events occurring in developing countries: the rich, who are often better represented in government, can afford to leave unhealthy areas and purchase health promoting amenities. As a result of this dynamic, the sanitation issues that a voiceless majority face, may not be recognized as a government priority. Furthermore, when considering what the world's most pressing issues are today, one can recognize that they are largely a reflection of the priorities of countries that are most influential in the global economy. It is clear that a small group of the most developed countries have the power to shape the global agenda.

The epidemiological transition that occurred in developed countries also induced a shift in global priorities. McGranahan (2001) describe how the world's attention has shifted from issues on the "brown agenda", which deals with things like access to safe drinking water, nutrition and sanitation, to the "green agenda", which addresses climate change and other such issues. Even though a majority of countries continue to grapple with issues on the brown agenda, due to disparities in wealth and development, the priorities of high income countries are more visible than those of lower income. This establishes a system where it is easy to ignore issues facing the majority. Because issues on the brown agenda are associated with increased susceptibility to infection, this inadvertently increases opportunities for drug resistance.

To remedy this situation, the media must play a central part. As outlined by McComb & Shaw's Agenda Setting Theory, the media selects which issues are covered, which issues the public and policy influencers are exposed to, which issues are deemed important, and which issues the government considers most important (Oneka, 2016). Those issues deemed most important to the public will be the ones that governments prioritize. Although poverty and lack of resources to improve sanitation conditions are the key barriers that prevent change, due to a lack of attention, what little resources could be invested in improved sanitary infrastructure are likely going elsewhere. As mentioned above, economic growth is stunted by the effects of inadequate sanitation facilities. According to the Review on AMR (2019), a 50% increase in the number of people who have access to sanitation is correlated with a ten-year increase in average life expectancy. If the population is healthier, there is more productivity, which stimulates economic growth. Therefore, governments must come to realize that it is in their best interest to invest in such infrastructure. Increased media attention is a first step towards reinvigorating efforts to address this problem.

Healthcare and AMR

Anti microbial misuse may occur when treatment regimens are wrongly prescribed, are not of the correct dosage, not completed in their entirety, or inappropriately used to treat an ailment. When regimens are not completed in their entirety, the infection may remain active in the immune system. All it takes is for a single microbe to acquire resistance, potentially making the patient ill again. However, this time, the previously used antimicrobial will not be effective. Taking antimicrobials to treat ailments against which they are ineffective, exposes environmental microbes to the drug and may cause them to develop resistance. Through cycles of repeated infection and repeated misuse, AMR becomes more widespread.

In developing countries, poverty reduces the availability, accessibility, affordability and acceptability (quality) of healthcare (Raphael, Rioux, & Bryant 2010). The resulting conditions are conducive to antimicrobial misuse and increased resistance on both the micro and macro level. In terms of micro level constraints, as mentioned before, impoverished people are less likely to seek medical attention, even when it is warranted – which is usually a direct consequence of the lack of affordability. Prolonged infection increases the window in which the microbe can develop resistance. Interestingly, in such regions, evidence shows that even when medical fees are voided, patients choose to forego seeking treatment due to long waiting times and hours taken away from productivity and generating income (Sosa, 2010). This demonstrates how poverty reduces the ability to access health services, and how affordable healthcare does not eliminate the need to address other existing healthcare barriers. All of the above standards need to be met in order to provide people with the opportunity to achieve the highest attainable standard of health. This speaks to the structural barriers beyond people's control that limit access to health, and the vast impact that these have on other dimensions of their lives, such as their ability to work. When obtaining medical care is not an option, self-medication using antimicrobials is often perceived as solution to getting well while saving time and money (Sosa, 2010). In developing countries, this is facilitated by a lack of strict government monitoring on the import and distribution of antimicrobials, and their consequent widespread availability without prescription (Nweneka, Tapha-Sosseh, & Sosa, 2009).

Medical Malpractice and AMR

Moreover, many see this regulatory weakness as an opportunity to exploit the system: entrenched in the medical systems of many poor regions are

uncertified medical doctors and facilities, prescribing and distributing counterfeit, substandard or incorrect doses of antimicrobials (Nweneka et al., 2009). Even when prescriptions are obtained from certified medical professionals, patients often choose the least expensive rather than most effective treatments (Sosa, 2010). The Review on Antimicrobial Resistance estimates that globally, 500,000 regimens of antibiotics are taken annually to treat diarrheal illness, despite the fact that 70% of diarrheal symptoms are a consequence of viral infections, against which antibiotics are ineffective. Furthermore, even certified doctors and pharmacists are prescribing these medications incorrectly (Nweneka et al., 2009). Not only are antimicrobials frequently considered the default solution to any medical problem, patients may also only take as much of the prescribed medication as they can afford, or may stop taking the medication as soon as they are relieved of symptoms (Sosa, 2016). Due to the high demand for, and easy access to antimicrobials in less developed countries, pharmacists and doctors often feel forced to comply with a patient's request or lose out on business (Sosa, 2010). All of the above demonstrate how poverty acts as self-reinforcing factor in propagating the vicious cycle of misuse, illness and increased likelihood that microbes will acquire resistance.

Solutions to AMR: Education

Although an education deficit usually is not the main problem when it comes to the circulation of misinformation and drug misuse, in this instance, education about why and when to use antimicrobials is crucial. The purchase and unregulated use of antimicrobials needs to become less socially acceptable by explicitly underlining its ramifications to the general population through education campaigns. If we look to economics, it is clear that where there are resources, demand fuels supply. Therefore, by reducing the market demand for unregulated drugs, availability should tend to decrease as well. For this to occur, we must achieve widespread understanding around antimicrobial use. This will require community-based education initiatives grounded in health promotion. For example, a study conducted in Knox County in Tennessee showed an 11% decrease in antibiotic prescriptions after such an initiative took place (Perz et al., 2002). Although this occurred in an industrialized country, results can be mimicked in less developed countries by adapting the initiative to suit other contexts. Lower demand will also translate into less pressure on certified practitioners to provide such drugs, and less opportunity for unlicensed 'medical' personnel to take advantage of vulnerable groups. However, education cannot be one sided in targeting patients: practitioners, as authority figures, must also be taught to

disseminate correct information and be held accountable for doing so. Changing the way doctors are taught to prescribe medication could also transform our relationship with antimicrobials.

Solutions to AMR: Innovation

However, alongside education, we must develop other innovative solutions to limiting the misuse of antimicrobial drugs. Earlier, the issue of patient noncompliance was discussed, particularly in terms of how it is partly a result of lengthy antibiotic regimens. Evidence presented by Planta (2007) describes a "short-course high dose" antibiotic treatment schedule, that improved patient compliance. Achieving this would involve investment in drug toxicity screening technologies (Planta, 2007), as well as more accurate and efficient diagnostic technologies to ensure that antimicrobials are being prescribed only when there is evidence that they are necessary (Hart & Kariuki, 1998). Developed countries must come to realize that investing in such infrastructure is also benefitting them, as antimicrobial resistance is a borderless issue – once it occurs in one place it is indiscriminate in how far it spreads. Therefore, all countries should make a contribution to investing in technologies that stall the effects of AMR, even beyond national boundaries. These new diagnostic tools must also be accompanied by strict government regulation on the import, export and prescription of antimicrobials.

Solutions to AMR: Appropriate Public Policy

Before this can occur, appropriate public policy must be established. Over 50% purchased antimicrobials in the developing world are achieved without a prescription (Planta, 2007), and must be stopped if AMR is to be prevented. This will require cooperation between pharmacies and the government to enforce and monitor these regulations. If all stakeholders are in agreement in terms of prescription protocol, then there are no loopholes in accessing these medications, and local pharmacies will not have to fear a loss of business to unofficial drug distributors.

Quality assurance policies must also be put into place to address the use of counterfeit and substandard drugs (Sosa, 2010). The first step is to fortify the supply chain of antimicrobials by enforcing drug licensing protocol (Sosa, 2010). Information about licensed drug providers should be made readily accessible and available to the public as a secondary safety measure. Active monitoring of the situation is crucial to maintaining these policies. Efforts to do so can be supported by pharmaceutical companies, who can lend their own resources in the testing of

drugs that are in circulation (Planta, 2007). And again, developed countries should invest resources to help ensure that these regulations are upheld. Although a large part of the solution will rely on support from other economies, local governments must also to dedicate a greater proportion of their budgets to ensuring that these policies are enforced. The implementation of appropriate public policy will prolong the use we get out of currently available drugs, and in the long term will improve the health and wealth of populations. Once this is recognized by governments and acted upon, AMR will be contained.

Conclusion

Although AMR cannot be completely eradicated anywhere, poverty-related structural factors in developing countries, such as lack of adequate sanitation, poor healthcare infrastructure and medical malpractice, specifically perpetuate AMR and its ramifications. If not addressed, the burden of AMR in developing countries will extend beyond these regions, potentially leading to pandemics and other global health crises. So the key is to act now and to induce collaboration between all sectors and across borders. AMR cannot be fixed in isolation. A solution must involve collaboration between multiple segments of society, including the media, individuals, practitioners, pharmaceutical companies and governments. But a solution cannot be achieved without an understanding that poverty is a primary impetus for increased AMR in developing countries. If responsible parties do not come to realize the relationship between poverty and increased AMR, progress will be stalled. The first step is recognition, as an issue cannot be addressed until it is noticed.

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AGING WITHIN CANADIAN PRISONS:

A Scoping Review of the Psychological Health of Older Inmates

Sharon Tan

Aging within Canadian Prisons offers a dynamic review of the psychological impacts of correctional facilities on the health of inmates over the age of 50. Moreover, its scope includes the intersection of psychological health, gender, age and ethnicity to identify areas of research, practice and policy implications for Canada's prison system.

Abstract

Aging within correctional facilities is often overlooked although Canadian prison populations have drastically changed within the past decade. At the same time, psychological health has been declining amongst the inmates. To examine the current knowledge of psychological health within Canadian prisons, a scoping review was conducted. Eight articles met the inclusion criteria. Findings suggest implications for research, practice, and policy. Moreover, the results of this review demonstrate the intersection of psychological health, gender, age, and ethnicity. The psychological disorders associated with the simultaneous growth of Canadian prisons in size and age, as well as the premature release of unprepared older inmates are concerning. This study presents the psychological health of older offenders to be exacerbated in comparison to the general population.

Introduction

The number of psychological consequences increases with age. Psychological consequences include anxiety, depression, dementia, and other mental health disorders (Kakoullis, Le Mesurier, & Kingston, 2010, p. 693-694). These psychological effects can also lead to a higher suicide risk (Jones & Maynard, 2013). This health aspect becomes difficult to diagnose, as the process can be subjective to medical professionals in prisons. There are already high rates of mental disorders within prison, caused by stress and social isolation (Iftene, 2016). In particular, being in a confined space for a long period of time can induce further psychological issues (Lawson, 2014). According to the annual

report of the Office of Correctional Investigator (2011), which aims to bring the concerns of imprisonment to light, federal prisons house a high concentration of individuals with mental health conditions in Canada.

For the reasons that imprisonment is already known to cause particular physical and psychological effects, aging within prisons is an important issue in Canada. Since prisons are a place of punishment and isolation, there is often little empathy for the offenders (Brown, 2012, p. 385). Thus, the health of aging inmates has often been overlooked, as it happens within an institution that is not meant to be open to the public. One-in-five federally incarcerated offenders are over the age of 50. At the same time, the offender population has increased by 50% over the past decade, which was due to legislative mandates such as mandatory minimums, which emplaces a minimum sentence before the accused reaches trial. For example, the tough-on-crime political agenda has led to minimum sentences of one year for drug possession. This becomes a greater Canadian problem, as older inmates are being released without proper methods of reintegration (Office of Correctional Investigator, 2011).

Attitudes of ageism and stigma towards offenders has made it less desirable for extensive research to be done in this field. It becomes even less desirable to lead research and advocacy work when it deals with a group of people who are deemed "unsuitable" for civil society, which is essentially the function of correctional facilities. Despite these conflicts of interest, the aging of older adults within Canadian prisons is necessary to be studied, in order to better understand the aging process of a vulnerable population and for authorities to implement effective policy and societal reforms. Additionally, it has been a controversial topic and unethically handled in correctional facilities as shown through prolonged confinements and the use of restraint on older inmates (Iftene, 2016). This makes the objective of this paper more important to study.

The findings of this scoping review suggest the intersection of gender, ethnicity, and age as determinants and factors to the psychological health of older inmates. Gender and ethnic differences were indicators of poorer psychological health amongst prison inmates. The treatment of older inmates with psychological disorders was studied to better comprehend the effective implications needed. Moreover, this study examined how the structure and environment of prisons impact an older adult's time in prison, as well as their reintegration into society. Their physical and psychological experience within prison remains with them even after they leave the institution (Shantz & Frigon, 2009). Life after prison

can demonstrate what implications are needed to target the feelings and anxieties associated with transitioning into society for former older inmates.

Methods

A scoping review was conducted to assess the current information about older adults who age within Canadian prisons. To provide a detailed review, studies from the United States of America (USA), Australia, United Kingdom, and England have also been incorporated. These were used as evidence to support claims and theories about aging. Furthermore, the studies were used to contrast the current state of Canada's prison healthcare system to determine the implications that the nation needs to impose.

Stage 1: Identifying the research question

The research question of this paper was: "What are the psychological health implications of incarceration for older adults (50+), serving long sentences in prisons in Canada?" Although the age of 60 is generally used to describe older adults in the general population, this paper started with 50 because studies show that the stressors of prison life actually increase an individual's biological age by 10 to 15 years (Iftene, 2016). Further, an older inmate will face health problems similar to an individual of the general population who is 10 to 15 years older than them. Moreover, this was also the starting age used in most studies. Specifically, the population that was referred to, consisted of older adults who were serving a life sentence, older adults who were imprisoned in late life, and former prisoners. There were no specifications for the gender or ethnicity of the population being evaluated in order to better understand what current information is available.

Stage 2: Searching Relevant Studies

Studies that were used included peer-reviewed articles and reports published by the Canadian government. To broaden the scope of this study, a number of search terms for population, setting, and health outcomes were considered relevant to this study. This was to adhere with the interchangeable terms used in daily lives, media, and modern society (see Table 1). The databases used for this study include ProQuest, PubMed, Scopus, and Google Scholar. Grey literature was obtained from the Officer of Correctional Investigator Canada and Correctional Service Canada. However, they were only used as supporting evidence for Canadian facts and implications.

Stage 3: Selecting Studies

Based on the search strategy, there was a large number of relevant sources. In order to narrow down the selection, an inclusion and exclusion criteria was established (see Table 3). Studies referring to populations in Canada, USA, Australia, United Kingdom, and England were included. In addition, to accurately frame the societal effects of prisons on older adults, accounts from both the inmate and professionals working with inmates, were collected. The inclusion criteria for this study was the following: participants must be older than 50 years of age and are serving time, had served time or are working with ex-prisoners, the study must have been set in Canada, U.S., Australia, United Kingdom or England and after year 2000, and the study had the objective of assessing psychological health including anxiety, suicidal tendencies, depression, dementia, and psychosis. The studies that were excluded were: qualitative in nature, did not have participants over 50 years of age, were published in languages other than English before year 2000, and did not aim to discuss the psychological effects of incarceration. As a result of the established criteria, one study was selected from each ProQuest, Scopus and Google Scholar while five studies were selected from PubMed for a total of eight studies (see Table 2).

Stage 4: Extraction

To summarize the studies, a table was put together which describes each article's author, country of origin, study design, study characteristics, outcome measures, findings and conclusions (see Table 4).

Stage 5: Collating and summarizing results

Results were analyzed for similarities and differences. Findings were then organized into the following subcategories in relevance to the paper's research question and its greater implications i.e: types of studies, type of population, types of psychological effects, gender, ethnicity, and reintegration (see Table 4).

Types of studies

Of the eight studies, seven had an interview component with current older prisoners, former prisoners, or professionals working with former prisoners. While one study was purely a retrospective case record review, the study by O'Hara et al. also incorporated a cross-sectional survey (see Table 4). A majority of the studies used self-reports from older inmates to obtain data from interviews.

Three studies were conducted in England and the United Kingdom, one study was conducted in Australia, and two studies were conducted in each Canada and the U.S. respectively.

Type of population

A majority of the studies used the age of 50 to define the starting point of older inmates. In an Australia study, 76.7% of older adults were first time inmates (Baidawi & Trotter, 2016). In a Canadian study, 44% of 197 cases were first time offenders, 33.5% were lifers, and 12.2% were serving indeterminate sentences (Iftene, 2016). A study in the United Kingdom stated, 80% of older prisoners to be serving sentences longer than four years and 51% of prisoners to be serving a life imprisonment or imprisonment for public protection (Kingston, Le Mesurier, Yorston, Wardle & Heath, 2011). The similarities across the three countries describe the high rates of life imprisonment and the possibilities of aging within the prison system.

Types of psychological effects

There was a variety of psychological disorders discussed including anxiety, depression, dementia, personality disorders, and suicidal ideation. Moreover, 17.3% of the older prison population reported anxiety (Iftene, 2016). Five studies stated clinical depression to be the most common psychological disorder within the elderly prison population (Fazel, Hope, O'Donnell & Jacoby, 2001; Iftene, 2016; Kingston, Le Mesurier, Yorston, Wardle & Heath, 2011; Nowotny, Cepeda, James-Hawkins & Boardman, 2016; O'Hara et al., 2003). Unmet needs consisting of health condition, treatment, psychological distress, activities of daily living (ADLs), and company within prisons were connected to the symptoms of depression however, it was not confirmed to be a causal relationship (O'Hara et al., 2003). High levels of psychological distress were linked with the activities of daily life and/or a physical difficulty in accessing health care (Baidawi & Trotter, 2016). Other psychological effects included post-traumatic stress disorder and substance abuse or addiction, specifically with alcohol (Nowotny, Cepeda, James-Hawkins & Boardman, 2016; Shantz & Frigon, 2009). Only one study discussed dementia (Kingston, Le Mesurier, Yorston, Wardle & Heath, 2011). 30% of older inmates had a personality disorder (Fazel, Hope, O'Donnell & Jacoby, 2001). Suicidal tendencies or suicidal ideation (SI) were determined in two studies, to be higher amongst older inmates than community-living persons (Barry, Wakefield, Trestman, & Conwell, 2016; Iftene,

2016). Additionally, 30% of participants without current SI reported a suicide attempt (Barry, Wakefield, Trestman & Conwell, 2016).

Diagnosis and treatment of psychological disorders

Diagnosis for a psychological disorder, specifically suicidal ideation, within prisons was generally only assessed if an authority figure or another inmate made the suggestion (Barry, Wakefield, Trestman & Conwell, 2016). Addictions and other mental health problems were rarely diagnosed or treated (Shantz & Frigon, 2009).

Findings that presented treatment, or the lack of treatment of psychological disorders, were also noted in order to assess the implications needed. There were no studies that looked into the direct treatment of anxiety. Mental health care was not consistent throughout the studied prisons as some provided protective custody, while others only provided brief psychological sessions (Iftene, 2016). Segregation was also found to be a common response to mental illness and misbehaviour (Iftene, 2016). Moreover, 76.8% of men were treated with prescribed medication, with 11.7% being treated with antidepressants (Fazel, Hope, O'Donnell & Jacoby, 2001).

Gender

Two studies assessed gender differences in regards to imprisonment and psychological impacts. One study stated that there was an overrepresentation of females with psychological distress (Baidawi & Trotter, 2016). In addition, it noted that older female prisoners possessed more health conditions than their male counterparts (Baidawi & Trotter, 2016). A Canadian study described time in prison as a significant factor in the poor integration after release for aging women. Specifically, the intersection of age, sex, and declining mental and physical health, leads to low social capital, untreated illnesses, unemployment, and barriers to mental health services (Shantz & Frigon, 2009).

Ethnicity

The findings from Baidawi and Trotter (2016) specified an underrepresentation of Indigenous prisoners. Older black men were found to be overrepresented in all four classes of health developed in a case record review (Nowotny, Cepeda, James-Hawkins & Boardman, 2016). The classes were chronic

medical conditions, drug and alcohol-related diseases, impairments, and mental and behavioural health.

Reintegration

The aspects of returning back to society were involved in two studies. Pessimism was a significant factor and discouraged prisoners from reintegrating successfully (Nowotny, Cepeda, James-Hawkins & Boardman, 2016). The study conducted by Shantz and Frigon (2009) focused primarily on the aging of older women after prison. They defined reintegration to be a complex and ongoing process, as described by the former prisoners. Women were found to be untreated and unable to practice self-care after prison release. Moreover, women with addiction problems, who were seeking belonging, were at risk of encountering harmful settings such as bingo halls that promote addictive gambling behaviour. The number of meaningful social networks was also a predictor of successful integration. Isolation and untreated mental illnesses led to fear of the world and unemployment. It was found that former female prisoners faced barriers to accessing mental health services due to their gender, age, and socioeconomic status (Shantz & Frigon, 2009).

Discussion

The results from these studies have several implications in terms of research, practice, and policy. This portion will refer to the actions needed for the location of study, the sample group, the types of psychological effects, the required treatments, gender, ethnicity, and reintegration.

Implications for Research

While some of the studies were set in Canada, the prisons did not accurately reflect the Canadian diversity. Certain populations, such as Indigenous elders within prisons, are not being studied despite Indigenous inmates representing 24.4% of the current prison population, whereas they only account for 4.3% of Canadian population. Moreover, 35.5% of Indigenous women represent the population of incarcerated women (Sapers & Office of Correctional Investigator, 2015). Differences in gender and ethnicity were only accounted in three studies (Baidawi & Trotter, 2016; Nowotny, Cepeda, James-Hawkins & Boardman, 2016; Shantz & Frigon, 2009).

Indigenous prisoners are more likely to be assigned longer prison sentences (Sapers & Office of Correctional Investigator, 2015). Therefore, Indigenous people have a greater likelihood of aging in prison. Canadian statistics present a dilemma regarding older adults who are already subjected to imprisonment due to the intersection of age, race, and gender. The attitudes and conditions that relate to being disadvantaged socioeconomically in society follow Indigenous individuals into prison (Sodhi-Berry, Knuiman, Alan, Morgan, & Preen, 2015).

No studies discussed the mental health of older lesbian, gay, bisexual, and transgender (LGBT) adults. Recent international issues have ignited a concern for the safety and mental health of non-binary persons. This is necessary as LGBT individuals continually face challenges concerning the disclosure of their identity. Moreover, older LGBT adults have higher rates of anxiety, depression, and substance abuse disorders (Yarns, Abrams, Meeks, Sewell, 2016). Therefore, further research on the intersection of age, gender, and ethnicity is necessary to reflect the changing dynamics within Canadian prisons.

Additionally, cultural influences in regards to older inmates should be considered during research. For example, Correctional Service Canada (2011) indicates the need for culturally appropriate methods, that take into account the spiritual needs of Indigenous communities. Treatments that were discussed in the selected studies did not suggest the need for subjectivity, and recognition of cultural concepts that would reflect the older inmate's beliefs and values. Since psychological disorders impact cognition and other processes of the mind, it is necessary to have research on the effectiveness of culture-specific treatments.

Further research on dementia, a prominent cognitive disorder amongst older adults, is required as well. This is especially crucial as older inmates are already placed in a vulnerable and isolating environment. Research should look into ways to predict early signs of dementia, in order to protect the individual, other inmates, and correctional staff. Other recommendations for research include sample groups that are proportionate to the current prison population. There should also be another concrete and systematic measure for Canadian researchers to determine the severity of psychological disorders. For instance, there is the Geriatric Depression Scale (GDS-15), which was used in the studies located in England (O'Hara et al., 2003).

Implications for Practice

Shantz and Frigon (2009) suggest ageist attitudes label older female prisoners as passive and weak. This image makes older female prisoners more susceptible to victimization, humour, and pity. Moreover, the stress and anxiety associated with constantly presenting oneself as competent and equal could trigger further psychological problems. After release, reintegration carries on these psychological issues, especially amongst a population that is already vulnerable and stigmatized. In practice, there should be more services, both within and outside the prison, to prevent mental decline. An earlier study suggested that the architectural design of prisons and environment were not made to regulate an aging population hence, it is established as an inaccessible facility (Nowotny, Cepeda, James-Hawkins & Boardman, 2016). Since an intimidating and inaccessible area increases the level of anxiety and psychological distress, more correctional staff, with training in ethics, morality, and hospitality should be hired. It is important that these officers do not appear frightening, as it could lead to more fear amongst older inmates. Caregivers should also be provided to these individuals, which would increase the presence of non-offenders that would also adhere to the physical and psychological needs of older inmates.

Furthermore, there needs to be changes in the physical structure of prisons to accommodate for the possible frailty of older inmates. Psychological distress among older prisoners is linked with their ability to perform ADLs, physical health issues, and physical access to health care (Baidawi & Trotter, 2016). The setting and function of the prison disregards the aging needs of individuals as it is meant to be a correctional facility. An age-friendly space, which can be defined by the versatility of the area for people of all sorts of age and mobility, can be established by having programming in areas that reduce the amount of extensive physical activity, such as walking. For example, programs for older adults would be in areas closer to their cells and would be less labour intensive. In addition, living conditions could be improved through the use of hospital beds, which would improve sleeping and getting up, as sleeping deprivation is one of the factors that influences declining mental health (Iftene, 2016).

The treatment of psychological disorders is complex. As shown in a majority of the studies, the most common forms of treatment were either prescribed medication or segregation. This is also connected to how mental disorders are diagnosed, if they are. Due to the lack of psychological professionals and a limit of five minutes per session, psychiatrists may prefer to prescribe

medication as a "quick fix" (Iftene, 2016). However, the high rate of substance abuse foreshadows the possibility of greater bodily decline due to the effects of polypharmacy (Maher, Hanlon & Hajjar, 2013). To address this issue, more psychologists are needed in order to provide counselling and to predict potential suicide attempts. Other essential medical professionals include staff with experience in palliative care and gerontology that would better understand the aging process. This could also lead to greater research for aging within prisons. However, it is important to keep in mind that a majority of older inmates feel depressed due to unmet needs, which include company (O'Hara et al., 2003). In addition to having more medical professionals, it is crucial to provide more family visitations, entertainment acts, and visits from non-offenders as a way to reduce social isolation from their community.

Lastly, practice should once again reflect the cultural practices and beliefs of communities, such as with older Indigenous inmates. This includes maintaining the sacredness of healing lodges in minimum security (Correctional Service Canada, 2011).

Implications for Policy

For the reason that correctional facilities satisfy goals on the political agenda of crime, policy implications may be difficult to establish. In the 38th Annual Report by the Office of Correctional Investigator, it mentioned the "National Older Offender Strategy" (Office of Correctional Investigator, 2011). However, the Older Offender Division in the Correctional Service Canada Headquarters abandoned this initiative within the past decade. Although not much is known about this situation, the recommendations are listed on the website. These recommendations include a more appropriate range of physical fitness programming tailored to older offenders, more staff with a background in palliative care and gerontology, accessible living arrangements, a geriatric release component, enhanced post-release supports, and "release by exception" for terminally ill offenders (Office of Correctional Investigator, 2011).

In particular, a policy should target older inmates who are about to be released. As mentioned in the Shantz and Frigon (2009) article, people who are granted release are often not self-sufficient and do not possess the necessary skills to be reintegrated into society. Years of imprisonment have labeled the lives and statuses of older adults making it more difficult for them to connect socially. Current programming is targeted at young offenders who learn skills in

preparation to enter the workforce once they are released. The reintegration of older inmates should focus on preparing for a "good death." This is achievable if they are reconnected with their families and friends and are provided enough funding and finance management skills to sustain the final years of their lives. Similar, to the Canadian Pension Plan, a policy can be in place to have offenders contribute to a financial plan while they are working jobs in prison. However, the limitation to this policy is that it is only applicable to certain inmates due to the increase of physical impairments over time.

Another policy that could be implemented, in addition to the National Older Offender Strategy, is to prioritize former prisoners when it comes to receiving care. For example, this could be included in the guidelines of the Community Care Access Centre (CCAC).

The policy recommendations from the National Older Offender Strategy were in line with the practice implications listed above. However, based on how the initiative was abandoned and no significant changes were made within prisons, this is an issue that requires more awareness and advocacy by the public. A suggestion that could be made is to have this group collaborate with the National Senior Strategy, which also advocates for the rights of older members of society (National Senior Strategy, 2015). In addition, an expansion of the Office of Correctional Investigator and Older Offender Division could allow more individuals to take part in this initiative. Currently, this is not a topic on the political agenda or recent political platforms and therefore, the public has to take this into their own hands in order to see social change.

Conclusion

Overall, this paper analyzed eight studies that pertained to the psychological effects of long time imprisonment for older offenders. Many relevant articles were found and thus an inclusion criterion was established to determine which papers were the most useful for the purpose of this study. The selected articles were relevant to Canada in multiple ways, despite having a different country of origin. They were able to discuss the current situation of aging within prisons, factors that influenced psychological disorders, and findings that broaden the scope of the issue. For example, the studies suggest psychological effects of prison to include depression, anxiety, dementia, personality disorders, suicidal ideation, and substance use dependence disorder. Depression was the most common throughout all relevant studies. In addition, this paper highlights

the issues that impact the prevalence of psychological disorders including gender, ethnicity, and age.

Moreover, the results of the studies were analyzed in order to make research, practice, and policy implications for Canada. Further research is necessary to reflect the gender and ethnicity of the current Canadian prison population. This includes Indigenous women and member of the LGBT community. In addition, further research is necessary to understand the cultural influences on older inmates. Dementia is also a topic that was understudied despite having a high prevalence rate amongst aging individuals. In terms of practice, an increase in friendly and well-intentioned correctional officers, medical professionals with a background in palliative care and gerontology, and social workers are needed. More visits from non-offenders and family members are also encouraged to establish a sense of belonging and company. These implications for practice should respect the beliefs of distinct cultures, including Indigenous people. Policy implications include the revival of the National Older Offender Strategy, a prison pension plan, and priority for CCAC.

Appendices

Table 1: Search terms for literature on aging of older adults in prisons

Population	older adult OR older OR senior OR elder OR aging OR ageing OR aging prisoner OR older prisoner OR older inmate
Setting	prison OR correctional facility OR imprisonment OR correctional health care
Health Outcome	psychological health OR psychological distress OR mental health OR mental disorder OR mental illness OR psychiatric disorder

Table 2: Selected articles for scoping review based on search terms

Database	Keywords	Number of articles found	Selected articles based on criteria
ProQuest	Older prisoner, mental health,	103, 767	1
PubMed	Older adults, older prisoner, psychological distress, mental health, aging, prison	697	5
Scopus	Aging, psychological health, prison	35	1
Google Scholar	Aging, prison, psychological health	62, 700	1

Table 3: Inclusion and exclusion criteria for selecting studies

Inclusion Criteria	1. Participants must be older adults (50 years or older) and serving time, had served time, or are working with ex-prisoners 2. Studies were set in Canada, U.S., Australia, United Kingdom and England and written in English after year 2000 3. Study's main objective was to evaluate the psychological health (anxiety, suicidal tendencies, depression, dementia, psychosis) of prisoners
Exclusion Criteria	Exclusion Criteria 1. Participants were not over 50 years old or did not include a sample group 2. Qualitative studies that were not published in English before year 2000 3. Studies that did not deal with psychological effects of prisons

Table 4: Extraction table with summaries of each selected study, Baidawi & Trotter (2016)

Baidawi & Trotter (2016) Australia Interviews	Purpose: To investigate the relationship between psychological distress among older prisoners and their physical health status, functional health status, level of health care utilization, and experiences of health care and the built environment in prison Sample: 173 cases	-Kessler Psychological Distress (K10) Scale -10-item measure of nonspecific psychological distress (mood, nervousness, fatigue, hopelessness) with 5 as all the time -Barthel Index to measure person's level of independence and ADLs -Self-reports of clinic visitations, accessibility difficulties	-Overrepresentation of females and underrepresentation of Indigenous prisoners -76.7% of older adults were first time inmates -Older prisoners had a lower score for K10 scale -Older female prisoners had more health conditions than older male prisoners and younger sample group -Older inmates had higher K10 scores if they had a physical health issue and/ or physical difficulty accessing health care

Table 4 con't: Extraction table with summaries of each selected study, Barry, Wakefield, Trestman & Conwell (2016)

Barry, Wakefield, Trestman & Conwell (2016) United States Interviews	Purpose: To determine the current prevalence of and factors associated with active suicidal ideation (ASI) and passive suicidal ideation (PSI) in older prisoners. Sample: 124 cases	-Geriatric Suicide Ideation Scale -Prisoner statements such as thoughts to kill oneself (active) and wishing for one's own death (passive) -9-item Physician Health Questionnaire (PHQ-9) to predict major depressive episode (MDE). DSM-IV criteria was applied. -Reviews of medical charts	Those with ASI had higher odds of meeting criteria for MDE and reporting a suicide attempt -22% of older prisoners had current suicidal ideation (SI), which are higher than community-living persons -30% of participants without current SI had reported a suicide attempt -Suicide risk was only assessed if an authority figure or other inmate reported them to be potentially suicidal

Table 4 con't: Extraction table with summaries of each selected study, Fazel, Hope, O'Donnell & Jacoby (2001)

Fazel, Hope, O'Donnell & Jacoby (2001) United Kingdom Semi-structured interviews	Purpose: To determine the prevalence of psychiatric morbidity in elderly sentenced prisoners Sample: 203 cases from 15 prisons	-GMSE -Structured Clinical Interview for DSM-IV Axis II personality disorders (SCID-II), which critically evaluates personality disorders	-Mean age was 65.5 -31.5% had a psychiatric illness. Most common was clinical depression (29.6%) 11.7% of older adults diagnosed with depressive disorders were being treated with antidepressants. 40% had a history of depression in their medical records. -76.8% of men were taking prescribed medication -30% had personality disorder. Of these, 11.3% had a history of substance misuse.

Table 4 con't: Extraction table with summaries of each selected study, Iftene, A. (2016)

Iftene, A. (2016) Canada Interviews	Purpose: To determine the general quality of life of incarcerated older offenders in order to understand the limits of their rights Sample: 197 cases	-Multiple choice questions for demographics -Self-reports of difficulties with ADLs, accessibility, perceived health status, mental problems -Stories	-44% were serving time for the first time -33.5% were serving life sentences and 12.2% were serving indeterminate sentences -60% of inmates had a mental illness in maximum security -Mental health care was not consistent throughout the studied prisons. Some were provided protective custody while others were provided 3 psychological sessions. Sessions were generally 5 minutes in duration. -24.4% of depression, 17.3% of anxiety, 11.2% of other (including intellectual disabilities), 20.9% of suicidal thoughts -Segregation was the most common response to mental illness and to discipline -Factors of declining mental health: sleep deprivation, lack of exercise, prison environment, frequent segregation, stigma of mental illness

Table 4 con't: Extraction table with summaries of each selected study, Kingston, Le Mesurier, Yorston, Wardle & Heath (2011)

Kingston, Le Mesurier, Yorston, Wardle & Heath (2011) United Kingdom Interviews	Purpose: To determine the prevalence of psychiatric disorders, including dementia, in older prisoners and to see whether detection and treatment rates have improved over the past decade Sample: 237 cases with 121 individuals who agreed to participate	-Geriatric Mental State Examination (GMSE) to diagnose older adults with a mental illness -Mini-Mental State Examination (MMSE) -The Short-Form 12 (SF-12) to measure health-related quality of life -Self-reports of health problems and access to health services	-80% of prisoners were serving sentences longer than 4 years, 51% serving life or imprisonment for public protection -49.6% of older prisoners had a psychiatric illness, diagnosed by GMSE. Most common diagnosis was depression (83%). -Depression was highest amongst violent offenders. Sexual offenders were less likely to be diagnosed as depressed. -Prisoners over the age of 65 were significantly more likely to be depressed (75% as compared to 50.5%) -Only 18% of inmates diagnosed as depressed were prescribed appropriate medication -Only two cases of dementia. Suggested an issue of dementia recognition in the prison population

Table 4 con't: Extraction table with summaries of each selected study, O'Hara et al. (2003)

O'Hara et al. (2003) England Cross-sectional survey and interviews	Purpose: To examine unmet health and social care needs among older men entering prisons and their links with depressive symptoms Sample: 100 cases	-Geriatric Depression Scale (GDS-15) with a Cronbach alpha score of 0.85 suggesting good internal consistency with a cut-off of 5. -Camberwell Assessment of Need (CANFOR-S) measured unmet needs	-55% of older adults depicted clinical depressive symptoms (above 5 on the GDS-15) -Unmet needs (health condition, treatment, psychological distress, daytime activities, benefits, food, physical health, finance, company) were linked with symptoms of depression. However, a causal relationship between unmet needs and depressive symptoms was not confirmed.

Table 4 con't: Extraction table with summaries of each selected study, Nowotny, Cepeda, James-Hawkins & Boardman (2016)

Nowotny, Cepeda, James-Hawkins & Boardman (2016) United States Retrospective case record review	Purpose: To examine patterns of multimorbidity among elderly male inmates across four domains of health (chronic medical conditions, drug and alcohol-related diseases, impairments, and mental and behavioural health) to understand the complex health care needs Sample: 1160 cases	-Health items followed dichotomous variables of yes/no, never/ever -Self-reports of medical conditions, self-harm -Substance Use Scale to see if prisoners met DSM-IV traits -Incarceration was measured by number of past incarcerations and number of years to serve now	-Classes that separated individuals based on health were Class 1 (healthy), Class 2 (substance users with behavioural problems, Class 3 (chronic unhealthy with impairments and violence/injury, and Class 4 (very unhealthy in all health domains) -Class 3 and Class 4 consisted of mostly older men -54.9% of inmates have poor health -1/3 reported an aid for daily living due to a physical impairment. This increased the risk of victimization and death. -Class 3 had poor health related to aging -1/3 of Class 4 had mental and behavioural problems -Class 4 - More than 1/2 had depression, 1/3 suffered from PTSD, 3/4 had substance use dependence disorder -Community reintegration was deemed more complicated due to pessimism -Black were overrepresented in all four subgroups -Prison environments stated as inaccessible and unaccommodating

Table 4 con't: Extraction table with summaries of each selected study, Shantz & Frigon (2009)

Shantz & Frigon (2009) Canada Interviews of female ex-prisoners (Frigon) and social workers (Shantz)	Purpose: To examine the aging of older women after prison Sample: 25 cases (Frigon); 5 cases (Shantz)	-Self-reports of before, during, and after imprisonment -Thematic analysis -Use of strain theory (linkages between negative treatment and stress) and deviant coping mechanisms were used to measure challenges	-Reintegration was seen as complex and ongoing because of intersection of age, gender, and health -Prisons inflict premature aging -Prisons have neither addressed women's concerns or enabled women to practice self-care -Mental health problems were rarely diagnosed and treated. This includes addictions. -Women with addictions seeking belonging and safe spaces may encounter harmful settings, such as gambling at bingo halls -Low social capital (social networks) and isolation may lead to problematic coping methods - Mental illnesses and isolation can lead to fear of the world. This is reflective of the problems they faced in prisons too. -Lack of access to mental health services due to gender, age, and socioeconomic status -Difficulty finding employment because of discrimination and untreated illnesses

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BARRIERS FACED BY NGOS IN IMPLEMENTING ALTERNATIVES TO UNSAFE ABORTIONS IN BANGLADESH

Zarin Tasnim

Stigma and other socio-cultural constraints make obtaining "controversial" services (such as abortions, sexual health counselling, etc.) problematic from an individual patient's point of view, but the sort of barriers an institution is privy to remain unknown. Thus, because the topic of abortion is relatively controversial in Bangladesh, this study provides insight to develop an understanding of the barriers faced by NGOs (non-governmental organizations) that provides alternatives to unsafe abortions. Through in-depth semi-structured focus group discussions with six organizations, it was found that NGOs are providing Menstrual Regulation services (a legal alternative to abortion) in all geographically accessible areas. Although community resistance was not a barrier faced by the majority of the NGOs, stigma among service-providers due to moral or religious reasons, funding, certain policies, and lack of equipment or staff were some of the barriers that the NGOs faced. Each NGO had a unique method of combatting the issues, but all of them emphasized the need for counselling and raising awareness along with promotion of sexual health to ensure well-rounded, comprehensive service to the population of Bangladesh.

BACKGROUND

Maternal mortality claims the life of approximately 303,000 women annually (Alkema et al., 2016), 47,000 of which are abortion related deaths (Benson, Andersen, & Samandari, 2011). Worldwide over half of the abortions that happen annually are unsafe (21.6 million), which lead to complications that require medical attention among 8 million women (Gipson, Becker, Mishtal, & Norris, 2011). Although Bangladesh has made considerable progress and nearly achieved the Millennium Development Goal #5, maternal and child health still remain an issue in the country with a Maternal Mortality Ratio of 176 (Alkema et al., 2016). In Bangladesh, abortion is illegal by the penal code of 1860 with the exception of saving the life of the mother or child (Benson et al., 2011). However, Bangladesh has a unique system involving substituting abortion for Menstrual Regulation (MR). MR has the purpose of establishing non-pregnancy

after a missed period by removing the uterine lining through either surgery or medication for women at risk of pregnancy, whether or not she is actually pregnant (Marlow, Biswas, Griffin, & Menzel, 2016). MR was introduced to Bangladesh in 1974, and has been exempted from the penal code of 1860, and has subsequently become part of the national family program in 1979 (Hossain, Maddow-Zimet, Singh, & Remez, 2012). MR is allowed to be performed by physicians up to 12 weeks of pregnancy, and 10 weeks by nurses or paramedics[1], and can be administered by medication using misoprostol and mifopristine, or by manual vacuum aspiration (Alam et al., 2013). However, despite there being support from the government on the procedure of MR, women are still pursuing unsafe abortions. Results from a study done by the Guttmacher Institute indicate that there were 653,000 MRs and 647,000 induced abortions (or 18.3 and 18.2 per 1000 women of reproductive age) in 2010 (Vlassoff, Hossain, Maddow-Zimet, Singh, & Bhuiyan, 2012). Furthermore, 231,000 women were treated in facilities for complications resulting from induced abortions while health professionals estimated that 60% of women with complications did not receive care (Vlassoff et al., 2012), demonstrating that although MR is available and accessible, clandestine abortions are still widespread, leading to unnecessary deaths and increased morbidity (Fredrick, 2007).

Globally, there are many socio-cultural constraints that make achieving safe abortions problematic from a patient's point of view (Smith, 2013; Aniteye, O'Brien, & Mayhew, 2016). In Bangladesh, this includes the role of socio-cultural norms, which make abortion a cultural taboo in a mainly patriarchal society where women have limited rights (Walton, Brown, & Schbley, 2012). Specifically, these include age (older women were more likely to get safer abortions because of knowledge and understanding of the risks associated with unsafe methods) and education levels (higher educated women are more likely to get safe abortion services) (Huda, Ahmed, Ford, & Johnston, 2015). Furthermore, often, women just are not aware about the services available to them, or after a negative encounter they do not want to avail those services again – thus resorting to unsafe methods (Hossain et al., 2012).

1 Previously, physicians could only provide MR up to 10 weeks, while nurses or paramedics could provide care up to 8 weeks (Yasmin et. al., 2015). However, through the recent advocacy successes of one of the participating NGOs, that duration has been extended to 12 and 10 weeks for doctors and nurses/paramedics respectively.

Moreover, it is often the case that even after managing to gather courage and approach an institution for availing safe services, as much as 26% of women are turned away (Vlassoff et al., 2012). Service providers feel uncomfortable to serve certain populations for a variety of reasons, usually a combination of age and marital status. Women were rejected because they were too young, did not have any children yet, were unmarried or did not have their husband's consent (Hossain et al., 2012). Sometimes the medical facility did not have enough resources in terms of staff and equipment, as was the case for 1 in 3 of the medical facilities in the study done by DaVanzo & Rahman (2014), and about 12% of MR clients (78,000 women) were treated for complications despite availing the proper procedures – which may have been a result of inadequate training and unsterilized equipment (DaVanzo & Rahman, 2014).

Bangladesh's population is heavily reliant on NGOs for a wide-range of services (Ahmad, 2000), and according to the NGO Affairs Bureau of Bangladesh, there are over 2450 NGOs operating in Bangladesh (2016). NGOs provide 28% of MR services, and have several comprehensive packages that both provide direct MR services and also work to promote preventative methods in sexual health all over Bangladesh (Vlassoff et al., 2012). Cultural stigma, religion, financial limitations all played a role in unsafe abortions from the patient's perspective (Payne et al., 2013) – but the sort of socio-cultural barriers NGOs are privy to remains yet to be understood. Thus, there is a gap in knowledge about the barriers faced by NGOs providing safe MR services when they try to implement their programs. The unique perspective of the NGOs who provide such services will be helpful because of their unbiased opinion of patients (Martens, 2002). Often patients do not receive services from government facilities or physicians because of stigma or lack of equipment (Payne et al., 2013; DaVanzo & Rahman, 2014), but this study will examine if NGOs are there to provide services for those who are underserved. Moreover, because the topic is relatively controversial in Bangladesh, this study will provide insight for other controversial topics, such as sexual education, in similar conservative societies.

PURPOSE

The purpose of this study is to develop an understanding of the barriers faced by NGOs that provide alternatives to unsafe abortions. Furthermore, it will compare the implemented solutions across different NGOs to see if they had similar barriers and what alternative solutions they used to overcome these barriers. Moreover, it will analyze the reach of the NGOs by seeing what their

coverage is, both geographic and population-wise to visible minorities or of those in varied socio-economic status. It will also explore how they raise awareness for their services and how they reach-out to the populations, since several women stated they did not know about safe abortion services at all, leading to higher rates of mortality and morbidity. Finally, it will ask the NGOs if their programs have any sort of political advocacy component to promote sexual health and prevention techniques of unwanted pregnancies, or if they are doing anything to promote macro-level changes including policy reforms and community oriented solutions.

Hypothesis: Based on the stigma faced by patients, it is expected that the NGOs will face a high level of resistance from the communities since it is an issue that is considered taboo in the Bangladeshi community (Ahmed et al., 2006).

DESIGN & METHODOLOGY

Study design: Key Informant Focus Group

Criteria: The NGOs must provide services relating to providing alternatives for unsafe abortions. This can range from medical services, advocacy/educational sessions on access to such services, preventative measures/medicine, or any other relevant means.

Participant Recruitment: Based on information available online, contact information for 4 NGOs who provide safe abortions services were found. These include Marie Stopes Bangladesh, Bangladesh Association for Prevention of Septic Abortion (BAPSA), Ipas and Reproductive Health Services Training and Education Program (RHSTEP). To recruit participants, the first step upon arrival to Bangladesh was to set an initial appointment with these organizations for a preliminary introduction about their services, explain the objectives of the study and to set a date in the following week for the in-depth interview.

Furthermore, during the preliminary interview, a chain referral system from the network of the organizations was used to gain 2 more participating organizations, Bangladesh Association of Youth Advocates, and a Service Provider that wished to remain anonymous.

Focus Group Discussions: Within each organization, an in-depth focus group discussion was used with members of different departments. The average number of participants was 3-4, depending on the size of the organization. Data was collected by note-taking methods using a laptop and recording device.

After recording, the information was transcribed, and the original recordings were deleted to maintain confidentiality. The names of the individuals were not included and were replaced by pseudonyms before the recording commenced.

RESULTS

ORGANIZATION	FUNCTION	BARRIERS	SOLUTION
BAPSA – Bangladesh Association for Prevention of Septic Abortion	**Clinical services,** including MR, Post- Abortion Care, Ante-Natal Care, Post- natal care, Family Planning, HIV/AIDS management, counseling, community services, reproductive health care, child health care, treatment against common illnesses and communicable disease, violence against women program **Training Counselling Research Advocacy**	*Finance* - Donor dependent - Shifting status of Bangladesh from low to middle income country leading to reduced financial aid - Resource constraint - No funds from government *Stigma* - Not for NGO, but for clients - Noakhali example[2] *Time* - Beyond 12 weeks, cannot perform MR, clients are rejected and pursue unsafe abortions - Calculating 12 weeks is a problem *Prior complications:* - This is due to unawareness or wrongful administration of medication - Drugs administered at the wrong time or in the wrong dosage, come with further complications	*Finance* -Had received help from the government once before, may be a possibility once again -Looking for alternative donor/ funding agencies - Introduce a higher service charge *Stigma* -Pilot program depicted success rate *In general:* They have awareness programs and community workshops to explain the services available, and if they had the resources would scale up current programs for improving access in hard to reach areas

2 In the Noakhali division of Bangladesh, residents of a relatively conservative community were strongly opposed to allowing BAPSA to perform their services when BAPSA first introduced themselves to the community. However, BAPSA reported that after seeing their success in neighbouring communities, the community members reached out to BAPSA to request their varied services.

Results con't...

BAYA – Bangladesh Assembly of Youth Advocates	Work with service providers to decrease stigma through campaigning in schools, colleges, slums, etc. through conducting **workshops Advocacy**	*Government centers* -Need husband's name for the forms! If the service provider chooses to, they can add a random name on the form so the individual receives treatment *Wrong dosage* -Uneducated women cannot read the labels on the pills, leads to wrong dosage and complications *Religion/moral ethics* -Doctors reluctant to provide services *Stigma* -Doctors have stigma, thereby often patients do not get treatment -Promotion barriers -Preconceived notions of *Knowledge translation* -Availing information to keep NGO workers up to date with the most current information	Many of the issues brought up by BAYA related to the problems faced by the participants since their organization centered around workshops and advocacy for the participants. In order to improve patient education levels, they suggested introducing sexual education curriculums. In general, in the future, they would like to do the same project on a bigger scale.
SERVICE PROVIDER (one service provider wished to remain anonymous)	**Clinical MR services, counselling, training for health professionals**	Timing - Cannot provide services beyond 12 weeks *Equipment and staff* - Shortage of equipment and staff members -proper sterilization of equipment - lack of trained staff *Stigma* - From service providers due to religion/ethics	*Staff* - Staff members refer to other service provider if they do not feel comfortable -Explain to colleagues who are hesitant to provide services by stating that if they do not help the patient, she will try unsafe methods and return with further complications or die, which is a compelling moral reason to help

Results con't...

RHSTEP – Reproductive Health Services Training and Education Program	**Clinical services** – includes MR, primary health care service, among several others **Training** **Counselling** **Research** **Advocacy** **School curriculum development**	*Stigma* - resistance from specific population - school curriculum problem: teachers themselves aren't taught, and hence cannot properly teach students; also opposed *Dominance, stakeholders* - males aren't supportive of females -other family members, stigmatized *Funding* -Bangladesh becoming middle income country, financial aid shifting elsewhere *Time* - Females cannot come before 2pm, which is when several service providers close *Religion* -It is hard to change behavior, but it is not impossible	*Stigma* - Convinced communities using results from other communities - Discusses need for education to prevent stigma - Discussed solidarity mentality towards the topic of abortion stemming from the War of Independence 1971, where rape was used as a tool by the Pakistani army leading to unwanted pregnancies (and increased mortality and morbidity) from across the nation *Time* -This is a policy issue, and needs advocacy to be changed

Results con't...

MARIE STOPES	**Clinical services** – focuses on primary health care service, but provides several other services as well **Counselling** **Training** **Research** **Advocacy**	*Market analysis and changing market dynamics* - Lack of capacity to understand changing market demands - Several of their issues were based on business strategies *Financial Self-sustainability* - Still dependent on funding institutions; 30% of their services are fully subsidized for ultra-poor populations, thus will always be somewhat dependent on funds. *Stigma among service providers* - Doctors hesitant to provide service due to ethical/religious reasons	*Market analysis* -Developing an integrated approach to the field as an inclusive, sustainable business that involves companies in the private sector, the NGO and communities. *Stigma* -Introduction of workshops to combat stigma among service providers *Financial Self-sustainability* -Would like to introduce tiered pricing, where pricing will depend on the income of the client to some extent

Results con't...

IPAS	**Advocacy Training,** develop training curriculum **Research Collaboration** with the government to improve policies, government capacity for post-abortion care and family planning	*Service provider stigma* - Doctors reluctant to provide services *Stigma* - Local leaders/ communities - Various stake-holders *Ownership of the MR program* - Ownership between local branches of governance in Bangladesh causes issues in resources, reports of 2/3rds of MR facilities not providing services *Funding* - Current program is ending, need more sources of funding -Funding for research; in the midst of budget cuts, one of the first things to be cut is research and community research, issues that directly impact IPAS's purpose.	*Service provider stigma* -IPAS VCAT toolkit workshop to transform attitudes on abortion for healthcare provider - Reports of high success rates - Combat stigma by training nurses/mid-level providers who are more open than doctors in several instances *Stigma* -Various methods to destigmatize issues in community, including interactive street theaters, involving local leaders, and maintaining open communication In general, IPAS focuses on advocacy and research, and has several success stories about their advocacy programs. Their projects include successfully extending the MR time- frame to 12 weeks from the previous 10, and allowing nurses to provide clinical MR services, which was not previously allowed.

Discussion

Bangladesh has a relatively advanced MR system for a conservative Islamic-majority country. Although there are several barriers from the cliental perspective that do hinder the service providers from fully operating, there are not as many barriers as expected from the NGOs perspectives, as according to the NGOs. However, each NGO had their own barriers as was found from the study. Several of these were recurring barriers that were faced by the NGOs, but they all had slightly different ways of tackling them.

1. Stigma

   This affected not just the clientele, but also service providers. Often, service providers would not feel comfortable with providing MR services due to religious or ethical reasons, and had turned away patients for this reason.

   The majority of the NGOs dealt with it through some form of training, but IPAS's VCAT program is the unique one that is designed specifically to deal with stigma.

2. Finance/funding for the organizations

   Several NGOs face imminent issues with funding for their programs, as is the nature of NGO work. As Bangladesh is becoming a middle income country, donor focus is shifting to countries that are more in need, and this is an issue for several of the NGOs.

   Some NGOs are opting for ways to become sustainable through increased service charges, while others are looking for alternate donors.

3. Awareness about NGO services

   One of the reasons why the rates for such prevalent unsafe abortions despite safe services being available is that women are just not aware about their services. It further harms them if they face a bad experience when they try to seek services and they opt for a clandestine abortion, or if they try to administer drugs on their own – thus resulting in unnecessary further complications.

> All of the NGOs have counseling services for the individuals they serve, and most have community level education and awareness programs on preventative methods.

Other barriers that were specific to NGOs include market analysis, knowledge translation, improperly trained staff or unsterile equipment, resource constraint, access barriers and certain promotional barriers. Furthermore, several NGOs suggested more initiative to be taken on by the government of Bangladesh to promote sexual health classes for adolescents and to raise awareness.

Interestingly, the level of stigma to the NGOs from the community was not as high as expected, and instead the majority of the NGOs stated they are met with appreciation from the communities. One of the partnering organizations, RHSTEP, attributes its inception to the War of Independence of 1971 fought between Bangladesh and Pakistan, where the Pakistani army used rape as a military weapon against over 200,000 Bangladeshi women (Jahan, 2014). The NGO stated:

> "The ones [rape victims] who died were saved. But the ones who lived, many of them went crazy, many tried to get an abortion and died, and there were many such scenarios. So at that time the ministry played a very big role, the Ministry of Health secretary and a few others decided they wanted to take a step to help these women. Some were dying when trying to give birth, others became disabled, some had children who were disabled – so you can't just kill these women – so they decided to take a step, that those who are in early pregnancy, how can we save them." – RHSTEP

This led to the government's goal of improving the total maternal mortality rate by strengthening existing maternal and child health wards at the hospital, and increasing trained service providers (through RHSTEP's training program). As a result, the NGO reported that the rates of mortality and morbidity continued to decrease, leading to high success rates in Bangladesh. Understanding Bangladesh's success in reducing deaths from unsafe abortion is necessary if similar changes are to be made in other fields. As demonstrated by the NGOs, a combination of social, technical, economic and political efforts is required to make sustainable changes. Thus, appreciating the socio-cultural reasoning behind a health intervention is crucial if any health intervention is to be addressed from a holistic approach.

Conclusion

To tackle the problem of unsafe abortions happening in Bangladesh, NGOs are not only providing Menstrual Regulation (MR) services in all geographically accessible areas, but are also focusing on counseling services and raising awareness. Stigma among service-providers is an issue that is faced by several of the NGOs, who facilitate workshops to transform attitudes and values in providing MR. Despite barriers faced due to funding, certain policies, or lack of equipment or staff, the NGOs provide well- rounded, comprehensive service to the population of Bangladesh.

Future studies should focus on the possibilities of introducing MR to other countries where unsafe abortions still cause high mortality or morbidity, or where abortion may be illegal and/or stigmatized. Furthermore, studies should look at raising awareness about developing the sex-education curriculum in Bangladesh to promote better sexual health and safer practices, thereby preventing unnecessary deaths due to unsafe abortions in the first place.

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UNEQUAL DISTRIBUTIONS:
Recommendations for Bridging the Gap between Urban and Rural Community Healthcare Availability and Accessibility

Adam Wynne

Providing high quality healthcare in rural and remote areas has proven to be a challenge in Canada and many other countries. In particular, a lack of healthcare services and personnel in certain areas can exacerbate health disparities. This timely article explores important strategies that are being used to recruit and retain healthcare workers where they are needed most.

Unequal distributions of healthcare services and workers between rural and urban areas are an increasingly serious issue in many countries. In Canada, our healthcare system recognizes "access to health as a fundamental human right" (MacLeod, Browne, & Leipert, 1998, p. 73). However, geographic location often dictates individuals' health determinants, access to healthcare, and status. Over 95% of Canada is classified as rural, and is home to approximately 30% of the population (Buchan, et al., 2013, p. 834). Despite this, only 10% of clinicians practice in rural areas. (MacKinnon & Moffitt, 2014, p. 163). The current policy debates over what constitutes rural, remote, isolated, or northern has become purely semantics, while whole communities are left without adequate healthcare services. Government healthcare agencies must implement more desirable and innovative incentives and programs in order to recruit and retain healthcare professionals in these underserved communities. Compulsory service programs result in immediate availability of healthcare services to a community, but at the expense of clinician and patient well-being. Post-secondary institutions can greatly facilitate student-driven interest in rural medicine through both admission strategies and curriculum placements. Lastly, financial incentives and complementary support systems motivate qualified healthcare workers to move to and work in underserved communities. These motivating factors are ultimately limited by their short and long term applications, as well as community actions.

COMPULSORY SERVICE PROGRAMS: AN ASSET TO RURAL COMMUNITIES?

As an increasing number of long-term, unfilled vacancies become the norm in underserved communities. Canadian and global government healthcare agencies have examined the value and potential offered by compulsory service programs. These programs allow government health agencies to "direct or augment health services to geographical areas that are not well serviced and in communities that are not favoured by market forces and health worker preferences" (Frehywot, Mullan, Payne, & Ross, 2010, p. 368). However, compulsory service programs drastically limit clinicians' "opportunity for private or nongovernmental practice" Frehywot, et al., 2010, p. 365) and require that they work in the public sector. Many of these programs offer limited incentives and often necessitate service in a non-urban setting as a condition of gaining full medical practicing licenses (Frehywot, et al., 2010, pp. 365-366). Despite their apparent similarities , these programs should not be confused with mandatory placements that provide initial exposure to and training in rural medicine during medical school.

In international contexts, approximately 70 countries have used compulsory service programs to provide healthcare services for underserved areas (Frehywot et al., 2010, p. 364). Several of these programs have been successful, such as the system implemented in Laos in 2012. This program "stipulates that all graduates in medicine, nursing, midwifery, pharmacy, and dentistry and all postgraduates in family medicine must complete three years of service as a health worker in a rural area before they can receive their licenses" (Buchan, et al., 2013, p. 835). The program combines mandatory service in underserved communities with incentives that encourage new medical graduates to provide a high quality of care and to remain working the community after their three year term is complete (Buchan, et al., 2013, p. 835; Keuffel, Jaskiewicz, Paphassarang, & Tulenko, 2013). However in many countries, clinicians found working in these settings "detrimental in terms of both professional development and also psychological well-being" (Rowe, Campbell, & Hargrave, 2014, p. 66), especially if the working site was assigned against clinicians' requests and lacked incentives. Partnership and mutual respect between government health agencies and individual healthcare professionals are vital for the success of these programs. In South Africa, compulsory service programs ultimately failed and were disbanded after doctors fought against mandatory one year rural placements due to "the lack

of information about conditions of service [… and]] fears over a perceived lack of medical supervision, infrastructure, and personal safety" (Baleta, 1998, p. 44). Canada has previously considered using compulsory service programs, but these programs were considered too controversial due to their use of forced working environments and ultimately were not enacted (Simoens, 2004, p. 109). When communication and compromise between governments and healthcare workers does not occur, there is increased stress on clinicians, resulting in "unwillingness to continue in their assigned posts [which] negatively impacts continuity of care" (Frehywot, et al., 2010, p. 367) over the long-term. Standards of patient care should not be sacrificed in exchange for short-term retention of healthcare workers. Instead, programs should be developed and utilized that promote voluntary or incentive-driven employment in underserved communities.

THE ROLE OF EDUCATION: PREPARING STUDENT FOR RURAL MEDICINE

Post-secondary institutions offering medical programs have the potential to facilitate interest in rural medicine both during school and post-graduation. In Canada, the University of Northern British Columbia (UNBC) was the first university to create a medical program specializing in rural medicine and is now the country's leading research institute in the field. UNBC offers the Northern Collaborative Baccalaureate Nursing Program (NCBNP) (University of Northern British Columbia, 2014; Zimmer, et al., 2014, p. 164), a program initially "created in direct response to community action" (Snadden, 2009, p. 967) and demands for better healthcare accessibility and services for underserved communities in British Columbia. The NCBNP is centralized at UNBC's campus in Prince George, the largest community in Northern British Columbia, and contains program components spread across three outlying campuses in the smaller regional communities of Fort St. John, Quesnel, and Terrace (Zimmer, et al., 2014, p. 164). The program aims to attract students raised in rural areas and utilizes an integrative curriculum. This teaching style "emphasizes early and extensive clinical experience in a rural setting" (Curran & Rourke, 2004, p. 268) which subsequently increases awareness of and participation in rural medicine. Focusing admission and recruitment strategies on students raised in rural areas is important, as students who come from rural communities and who are immersed in rural medicine as part of their education are more likely to live and establish practices outside of urban areas after their graduation (Snadden, 2009, p. 967; Curran & Rourke, 2004, p. 268; Zimmer, et al., 2014, p. 162). This ultimately

contributes to increasing accessibility, availability, continuity, and quality of health services in these communities.

Rural areas are still underrepresented in the Canadian medical student body. Currently only 6% of domestic students come from such communities, despite approximately 30% of Canada's total population being classified as rural (Viscomi, Larkins, & Gupta, 2013, p. 15). Australia has a similar geographic size and urban-to-rural population ratio to Canada. However Australian universities have recruited 25% of domestic medical students from rural areas (Viscomi, Larkins, & Gupta, 2013, p. 15). This disparity between rural and urban students should be highlighted as a concern for Canada, as there are over 100 medical programs offered at post-secondary institutions across the country (Canadian Nurses Association, 2014). Increasing enrolment and representation of students originating in rural areas has the potential to ultimately make distribution of healthcare services and workers more regionally balanced.

The unequal distribution of healthcare is especially visible in First Nations, Métis, and Inuit communities. Many of these communities are small, located in difficult-to-access areas, and are distant from larger settlements containing better healthcare facilities (Richmond & Ross, 2008, p. 1427; Ellsworth & O'Keeffe, 2013, p. 938). These geographic determinants have contributed to community residents' increased risk of both chronic and infectious diseases, poorer overall health status, and barriers to accessing healthcare (Lavoie & Gervais, 2012, p. 390; Richmond & Ross, 2008, p. 1427; Hodgins, 1997, p. 142; Anonson, Desjarlais, Nixon, Whiteman, & Bird, 2008, p. 274). Canadian educational institutions have the potential to increase healthcare availability in these communities by increasing the enrolment and representation of Indigenous individuals in their medical programs. The creation of a "healthy representative workforce would have a profound positive impact on Aboriginal health" (Anonson et al., 2008, p. 274) in Canada. However, existing systemic barriers relating to Indigenous status and higher education, such as discrimination and lower economic status, still pose significant barriers to the creation of such a workforce (Anonson, et al., 2008).

In the United States, the 'Imi Ho'ōla' program in Honolulu, Hawaii (Ambrose, et al., 2012, p. 19) was developed to encourage enrolment and representation of Indigenous students by increasing the availability of resources for economically disadvantaged individuals and those identifying as Native Hawaiian or Pacific Islander (Ambrose, et al., 2012, p. 19; Lee, Lee, & Carpenter, 2014, p. 66). Similarly, in Canada, the government of Saskatchewan,

in partnership with provincial post-secondary institutions, prioritizes medical program applications based on Indigenous and Northern status (Anonson et al., 2008. 276). This prioritization system is intended to increase representation of individuals who identify as Indigenous, as well as create student- driven interest in rural and northern medicine. Despite this, many healthcare professionals still remain culturally isolated from both their patients and students. Students from the Nunavut Arctic College and Labrador-Grenfell Regional Integrated Health Authority identified that the "curriculum placed too much emphasis on Southern models of pedagogy" (Møller, 2012, p. 877) and lacked integration of the dominant regional languages. The students and professors also identified that "cultural relevance emerged as an important theme in the design, development, and delivery of curriculum for Aboriginal learners" (Curran, Solberg, LeFort, Fleet, & Hollett, 2008, p. 16) in post-secondary institutions. Overall, educational institutions have the potential to increase representation of students originating in Indigenous and other underserved communities. This would subsequently increase student interest in working in these fields post-graduation and in increased availability, accessibility, and quality of healthcare for the residents of these communities.

THE ROLE OF FINANCIAL INCENTIVES AND SALARY BONUSES

Globally, a driving factor in the recruitment and retention of healthcare workers in underserved communities is the availability of financial incentives and salary bonuses. These incentives are government-funded and granted to healthcare workers in exchange for working in their region's underserved areas. Several different systems of financial incentives are common, including "service-requiring scholarships, educational loans with service requirements, service- option educational loans, loan repayment programs, and direct financial incentives" (Bärnighausen & Bloom, 2009). A recent study conducted in Northwestern Ontario determined that 91.6% of nurses supported "higher wages, bonuses, isolation pay, or tax-free salary" (Minore, Boone, & Hill, 2004, p. 159) in exchange for working set terms in remote areas. In Canada, all provincial and territorial governments currently offer financial incentives to attract and retain healthcare workers in underserved areas. In recent years, many of these incentive programs have been extended to cover tuition fees for individuals pursuing medical education. In the Yukon, the Health and Social Services Agency and the Registered Nurses Association offer up to $35,,000 per year to individuals who are continuing in specialist medical education (Fletcher, 2002,

p. 15). The territory additionally offers two $10,,000 bursaries awarded yearly to Yukon residents enrolled in nursing programs, as well as $3,,000 - $6,000 annual retention bonuses to clinicians who continue to work in underserved communities (Fletcher, 2002, p. 15). In Ontario, the Ministry of Health and Long-Term Care has begun to offer tuition loan forgiveness (CanLearn, 2014; Ontario Medical Association, 2014) for recent graduates who begin work in underserved communities. However, financial incentives and bonuses in Ontario are still predominately focused on already qualified individuals. Ontarian programs that offer financial incentives in exchange for working in underserved areas include the Underserviced Area Program, the Northern Health Program, and HealthForceOntario Northern and Rural Recruitment and Retention Initiative (Ontario Ministry of Health and Long-Term Care, 2013).

Internationally, many countries have also identified that financial incentives are a fundamental part of combatting the unequal distribution of healthcare workers. However, less developed countries with lower wages and economic instability are at greater risk of losing more of their healthcare workforce. Many healthcare professionals opt to migrate to countries "offering attractions such as better salaries and training opportunities" (Willis- Shattuck, et al., 2008, p. 248) and leave residents with limited healthcare services and support. Ultimately, financial incentives and salary bonuses generate short-term interest in working in underserved areas (Yang, 2003). For maximum effectiveness, these financially based programs must be accompanied by complementary incentives that extend outside of the payroll, as well as through encouraging healthcare workers' extra-clinical interest in rural medicine and communities.

COMPLEMENTARY SUPPORT SYSTEMS & NON-MONETARY INCENTIVES:

The availability of professional and personal support systems that are not strictly monetary in nature is crucial to reducing the unequal distribution of healthcare workers. Professional support systems include the presence of back-up in decision making and caregiving, the availability of locums to assist with duty relief, and the separation of work from private life. Incentives that extend into healthcare workers' personal lives are predominantly in the form of familial support, which includes spousal employment, subsidized housing, and future opportunities for their children.

In many underserved communities, there is often only a single healthcare worker who must be "prepared to function in … facilities where patient care often requires expanded decision-making and where there is limited back-up available" (Zimmer, et al., 2014, p. 164). This results in healthcare workers becoming "expert generalists … [in a] multispecialist practice" (MacKinnon & Moffitt, 2014, p. 164) due to clinical demands for an extremely diverse skillset. This increased demand coupled with little to no back-up increases stress for the healthcare worker, contributing to high turnover and vacancy rates, and deterring prospective clinicians (Minore et al., 2004). To create a relief system of clinicians for underserved communities, regional medical authorities can adapt the clinical rotations of students offered by post-secondary institutions to underserved areas. A proposed relief system for Northwestern Ontario consists of nurses participating in a "routine [schedule] to provide short-term relief [to other nurses and] the nurses would be drawn from small industrial towns in the region" (Minore, et al., 2004, p. 150), subsequently ensuring awareness and interest in the communities' healthcare. In addition to increased stress from a lack of peer support, many healthcare workers are faced with "obscuring [of] the boundaries between their personal and private lives" (MacKinnon & Moffitt, 2014, p. 164) in small communities. Clinicians become permanently on-call and are perceived as being as available for consultations both inside and outside of the clinical setting, garnering few true breaks. This ultimately demonstrates the need for expanded locum availability that provides opportunities for both clinical back-up in decision- making and caregiving, as well as relief outside of working hours.

The state of healthcare workers' personal lives is of great importance. When attempting to recruit and retain individuals for long-term service in a rural area, strong community networks that are inclusive and stimulating to newcomers are imperative. In Alberta, the Rural Physician Spousal Network identified as early as 1999 that "physicians were coming into the community, and if the spouse and family were not content, they were leaving after a short while" (Mackay, 2003, p. 473). The Network helps to bridge the gap between urban life and the "peculiar demands of small town living" (Mackay, 2003, p. 473) by providing healthcare workers with assistance in the professional setting, while simultaneously creating programs to support their spouses and children. This inclusivity helps reduce turnover and vacancy rates by making the healthcare worker a member of the community and not simply a tool used in emergencies. The government of the Northwest Territories has created a system that combines financial incentives with personal support outside of the clinical setting. Physicians working in the

Northwest Territories receive a $5,,000 recruitment bonus that is repaid annual as a retention bonus and a $12,,000 bonus for remaining on-call, as well as full health and dental coverage, a pension plan that adds 15% to their base salary, maternity leave, and 4 weeks of vacation per year (Sibbald, 2000, p. 873). This combination of benefits and incentives for healthcare workers' professional and personal lives creates environments that maximize job satisfaction and retention, while minimizing turnover rates and vacancies. However, many underserviced areas have much more limited support for healthcare workers.

Internationally, several other countries have created additional support systems for clinicians and their families with potential applications to Canadian contexts. In Hungary, the unequal distribution in some areas is "so severe that the security and sustainability of medical services is threatened" (Girasek, Eke, & Szócska, 2010, p. 14). As a response, the Hungarian government offers significantly subsidized housing in combination with salary bonuses in the hope of attracting clinicians (Girasek et al, 2010). This could potentially be applied to areas Canada with limited or expensive housing options. Australia and several other nations have identified that "social factors including employment and educational opportunities for other family members" (Buykx, Humphreys, Wakerman, & Pashen, 2010, p. 103) are directly relevant to clinician retention and could be applied to Canadian situations.

CONCLUSION

The unequal distribution of healthcare services and workers between urban and rural communities is a serious issue presently faced by many countries. Through examining compulsory service programs, financial incentives and salary bonuses, complementary support systems, and the role that post-secondary education and curriculum plays, it is possible to determine potential solutions to bridge the gap between urban and rural areas. Health authorities around the world have begun to implement programs that utilize these methods in regional contexts. Canada has significant need for high-quality rural medical care. The implementation of financial incentives has helped on this front, but there is significant potential for the development of more inclusive and holistic approaches to this issue.

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