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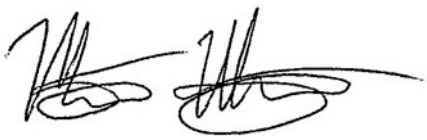
Director's Foreword

As the new Director of the Health Studies Program at University College, I am pleased to introduce *Volume XIV* of *Health Perspectives*, the undergraduate journal of the Health Studies Program at the University of Toronto – St. George. This journal has provided students in Health Studies with an opportunity to disseminate their work. In addition, the publication of the journal is completely student driven, with members of the Health Studies community learning about and participating in the peer-review, editorial, and publication processes that are required to make a high-quality academic outlet.

The eight papers that appear in this edition of the journal highlight the breadth and strength of our program. They all address pressing health-related issues impacting society, including papers that interrogate how the housing crisis impacts health and well-being, the role of vaccination in containing a pandemic, and how equity deserving populations access and use healthcare, to name only a few. Together, the papers demonstrate that the students in the Health Studies Program have received interdisciplinary training that enables them to critically engage with the social sciences, public health sciences, and critical theory in a way that will make them future leaders in a range of health-related fields. Given the quality of work, I suspect that for many of the authors in this journal, this is just the beginning, and we will be reading more of their papers in the years and decades to come.

I want to thank this year's co-editors-in-chief, Zarfishan Qureshi & Serena Thapar, for their tireless work putting this volume together. In addition, I would like to thank Senior Editors Deirdre Kelly-Adams and Shankeri Vijayakumar, Junior Editors Meerab Anwar and Fatima Jafri, Layout Editor Olivia Simmonds, and the following peer reviewers: Omnia Adam, Parwana Akbari, Julianna Hill, Amna Mekki, Helin Polat, Amrita Rampersaud, and William Wynne. Please enjoy *Volume XIV* of *Health Perspectives*.



Sincerely,

Michael J. Widener

Director | Health Studies Program

University of Toronto – St. George

A Note from the Editors

We are thrilled to bring you the latest edition of the Undergraduate Health Studies Journal, *Health Perspectives: Volume XIV*. Founded in 2009, *Health Perspectives* has provided opportunities for countless University of Toronto undergraduates to publish original work and for Health Studies students to gain first-hand experience in editing and publishing as members of the Editorial Staff. The Health Studies program's commitment to understanding and analyzing health through a multidisciplinary lens is reflected in *Health Perspectives*' annual publications.

As we continue to live through a pandemic, this academic year has been challenging for many students. Despite the ongoing adversity, health studies students have utilized this context to challenge health disparities and to critically analyze existing institutions. *Health Perspectives: Volume XIV* showcases the exemplary work of eight student authors. The uniqueness of each publication highlights the interdisciplinary training of health studies students, who critically engage with issues such as homelessness, racism, and substance use. To this year's authors, as well as those who submitted their work for consideration: thank you for sharing your knowledge with us and for contributing to a dialogue that fosters a holistic sense of health and well-being. Without your hard work, this volume would not have been possible.

We are incredibly grateful for the support of Dr. Michael J. Widener, the Health Studies Director, as well as the Health Studies Students' Union. To our dedicated and hardworking editorial staff: thank you for dedicating your time and energy, especially during such a challenging time, to make *Volume XIV* come to fruition. We would be unable to do this without you.

And finally, to our readers: we hope that *Health Perspectives: Volume XIV* provides you with another collection of innovative thinking and analyses regarding health from a holistic perspective. We hope you come away from this volume with a better understanding of the various factors contributing to health and the inequities that continue to shape health outcomes for specific populations. Beyond understanding, we hope that this volume inspires critical dialogue and promotes action as we work together to address systemic and structural factors for a healthier and more equitable community.

Yours in health,

Co-Editor-in-Chief | *Health Perspectives* 2022
ZARFISHAN QURESHI

Co-Editor-in-Chief | *Health Perspectives* 2022
SERENA THAPAR

Analysis of Nutritional Vulnerability Among the Homeless Youth in Toronto: The AAAQ Approach to the Solution

Yow Shiuan Tsai

The prevalence of food insecurity among homeless youths[1] is particularly high due to increased nutritional demands for growth (Dachner & Tarasuk, 2002). Food insecurity among homeless youths is an urgent issue to address as inadequate nutritional intake may lead to chronic malnutrition and other health consequences such as poor cognitive and physiological developments, increased infection risks, and depressions (Tarasuk et al., 2005). Furthermore, nutritional vulnerability has a significant impact on downstream healthcare expenditures, creating an unnecessary economic burden on the Canadian healthcare system (Ruiz et al., 2019). According to United Way (n.d), an emergency residence and referral agency serving homeless youth in Toronto, there are 1,500 to 2,000 youths who suffer from homelessness on any given night in Toronto; among them, more than 74% are identified as a member of minority groups, including Indigenous people, immigrants, refugees, asylum claimants, and LGBTQ2S+. Although efforts have been made by a myriad of charitable food programs to address urgent needs of food supplies, studies have found that these immediate supportive programs often fail to provide sufficient quantities of nutrient-rich food to meet an individual's standard dietary requirement (Gaetz et al., 2006; Morewitz, 2016). This paper will reframe the issue of nutritional vulnerability experienced by homeless youth in Toronto as a lack of availability, accessibility, acceptability, and quality (AAAQ) in the provisions of food programs. An AAAQ framework will be utilized to suggest means of providing better services.

Analysis of policy issue

Food insecurity and nutritional vulnerability are often framed as issues resulting from insufficient access to adequate, nutritional food. As a result, the proliferation of community-based emergency food programs such as soup kitchens and drop-in centres have been the dominant solutions to address food insecurity (Tarasuk et al., 2005; Li et al., 2009). However, Gaetz et al. (2006) and Morewitz 201, these programs are inefficient to address food insecurity. Since the 1996 World Food Summit, the term 'food security' has been defined as always having the physical and economic ability to access sufficient, safe, and nutritious food to fulfill dietary requirements and food preferences for a healthy life. This definition suggests that the issue of food insecurity extends beyond merely the availability of food supply;

[1]In this paper, homeless youths are defined as individuals between 13 to 24 years of age, lacking adequate housing.

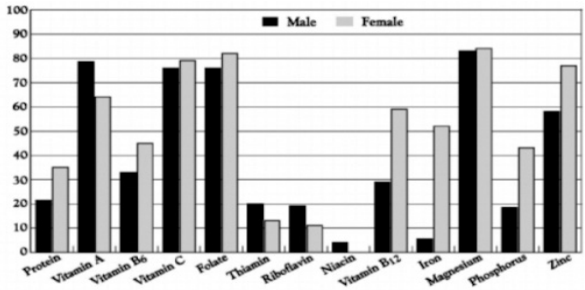
this notion is still relevant today as it is recognized by many global organizations.

Multiple studies have reported that although institutional charitable food programs are frequently used, they are not the primary food sources for most homeless youths (Gaetz et al., 2006; Li et al., 2009; Morewitz, 2016). In Morewitz's (2016) study, homeless youths have reported a significant amount of disappointment and frustration towards institutional charitable food programs for four reasons. Firstly, people who access these programs lack the freedom to make personal choices; they eat what is served. Secondly, the services are often operating on a limited, irregular, and inflexible schedule. Thirdly, the ambience is unpleasant, overly crowded and stigmatizing. Lastly, the quality and quantity of food is unpredictable. For these reasons, the use of institutional charitable food programs were considered by participants to be a last resort, rather than an enticing option (Morewitz, 2016).

A counterintuitive yet consistent finding is that most youths purchase their own food as their primary food acquisition strategy despite not having the ability to afford all food they need (Gaetz et al., 2006; Li et al., 2009; Morewitz, 2016). Their sources of income are mostly informal, unstable, and perhaps stigmatizing: for example, panhandling, engaging in the illegal economy, and stealing (Morewitz, 2016). Economic insecurity forces homeless youths to purchase food that is cheap and low in nutrient quality, such as pre-packaged and fast food (Morewitz, 2016).

Homeless youths' lack of adequate nutrition impacts their mental health, physical health, and behaviors (Tarasuk et al., 2005). In their study of nutritional vulnerability among homeless youth in Toronto, Tarasuk et al. (2005) found that 7% were underweight and 22% were overweight. In addition, they found that over half of the youth did not consume adequate folate, vitamin A, vitamin C, magnesium, and zinc (Figure 1). As shown in Figure 1, females have higher prevalence of vitamin B-12 and iron inadequacy, which are essential nutrients to form red blood cells for menstruation. Similarly, Li et al. (2009) assessed food intake patterns among homeless youth and the result was consistent with Tarasuk et al. (2005). Li et al. (2009) found that intake of all four food groups (vegetables and fruit, grain products, meat and alternatives, and milk and alternatives) were inadequate in both homeless females and males. Li et al. (2009) and Dachner et al. (2009) note that food from charitable food programs is generally healthier compared to food that the youths purchased. Nevertheless, youths eating in the charitable food program are still not obtaining quality food.

Figure 1. Estimated Prevalence of Inadequacy for Selected Nutrients Among Homeless Youths.



The figure suggests that both females and males struggle to consume an adequate intake of various nutrients, especially Vitamin C, vitamin A, vitamin C, magnesium, folate, and zinc. Females are more likely to have inadequate intake of iron and vitamin B12 (Tarasuk et al., 2005).

Significance of the issue

Of all individuals experiencing homelessness in Canada, youth represent the fastest growing group (United Way, n.d.). However, despite a rapid rise in youth homelessness, most of the research has focused on the adult population and there are not enough samples of the youths for analysis (Tarasuk et al., 2005). A focused study of younger populations is necessary because the barriers, experiences, causes, and developmental needs of youths are distinct from those of adults (United Way, n.d.). Homeless youths are particularly susceptible to nutritional vulnerability because they face employment and economic barriers due to their age; furthermore, their homeless status hinders them from receiving social benefits and participating in health surveys, which are often delivered to household units (United Way, n.d.).

Evaluation of current framing

In response to the financial crisis, structural changes introduced in the 1990s profoundly shaped policy responses to homelessness. In the 1980s, trade liberalization and deindustrialization led to severe economic recessions that hit both global and domestic financial markets. The Canadian government was urged to rein in the deficit by adjusting tax rates or public expenditures (Gaetz, 2010; Kneebone & White, 2009). Due to voters' resistance to raising taxes, cutbacks in spending on social programs became the main solution (Kneebone & White, 2009). There were three substantial structural changes: First, the federal-provincial funding system shifted from a cost-share program to a fixed per capita transfer, which meant that the responsibility to provide social services was passed to the provinces, thereby reducing provinces' incentives to spend on social assistance (Johnstone et al., 2017). Second, federal transfers to the provinces were reduced. In Ontario, barriers of eligibility for recipiency were increased and fundings for welfare was reduced by 21.6% (Gaetz et al., 2006; Finnie & Irvine, 2008). Finally, there was a political transformation to a neo-liberal regime (Gaetz, 2010) which typically promotes minimal government involvement and self-sustainable programs within the community; thus, interventions from the government are often short-term ad hoc provisions (Béland & Daigneault, 2015; Johnstone et al., 2017). This neoliberal ideological framework still accounts for much of the current political climate in Canada (Béland & Daigneault, 2015; Johnstone et al., 2017). However, it may hinder the development of significant policy changes, as it positions homelessness as an issue of individual shortcoming, rather than the result of a complex set of social problems (Johnstone et al., 2017). Furthermore, neoliberalism's pursuit of self-sustainability tends to favour a 'one size fit all' approach and overlook the complexity and heterogeneity of homelessness (Béland & Daigneault, 2015; Johnstone et al., 2017). This infusion of neoliberal values in practice is exemplified in the 2014 federal 'housing first' approach, which was

executed with an optimistic assumption that the program would eventually solve homelessness (Johnstone et al., 2017). Notably, while the 'housing first' mission was operating, funding for other crucial services was cut despite having been developed in response to the identified complex needs. The neoliberal ideology tends to pursue community-level self-sufficiency and favour short-term programs that often diverge from community needs (Johnstone et al., 2017). In both Canadian and Australian studies, scholars suggest that homelessness will remain an issue if the responding policies continue to be infused with neoliberal values (Johnstone et al., 2017; Stonehouse et al., 2021).

Proposal of a new framing

Addressing nutritional vulnerability among the homeless youths is not merely a moral responsibility; it also has implications on healthcare and social service expenditures. On average, homeless patients in Toronto cost $2559 more in admissions to hospital and $1058 more for psychiatric services compared to housed patients (Hwang et al., 2011). The cost of acute treatments and hospitalization for homeless patients is significantly higher because of frequent hospital admissions, readmissions, high mortality, and prolonged hospital stays (Hwang et al., 2011). The malnutrition status of homeless patients drives up costs because nutrition inadequacy can delay wound healing, hinder effects of drugs, and increase the risks of developing medical complications during hospitalization or after discharge (Ruiz et al., 2019). Accordingly, this paper reframes malnutrition among homeless youths in terms of the lack of AAAQ considerations in the provisions of food programs, which worsens the health of homeless youths and increases the economic burden.

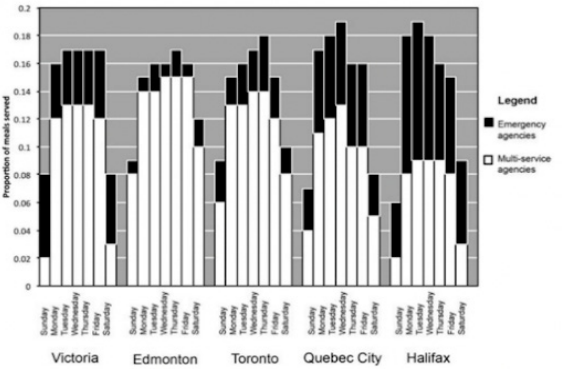
AAAQ Framework

The AAAQ framework can help to set a standard that ensures that charitable food programs reach their full potential in addressing food insecurity.

Availability: Food supplies at the charitable food programs should be available in sufficient quantities daily for dietary requirements. While there is no set quantity standard, charitable food programs should aim to comply with Canada's Food Guide, which suggests that, within a plate, half of the food should be fruits and vegetables, and the other two quarters should be carbohydrates and protein (The Government of Canada, 2021).

The lack of coordination between initiatives is a critical issue that impacts the availability of food supplies (Morewitz, 2016; Pettes et al., 2016). As visualized in Figure 2., services offered by food programs are unequally distributed throughout the week; the availability of food services is high in the middle of the week, but it drastically drops on the weekends (Pettes et al., 2016). Efforts in coordination, such as the formation of organizational partnerships, should be made to make the initiatives' operating hours complementary to each other. For instance, when food service is not available at one site, another nearby site should be available to provide such services.

Figure 2. Proportion of meals served throughout the week by emergency and multi-service agencies.



The figure suggests that in all five cities all agencies offer most meals during the middle of the week and the availability of the services drastically decline on the weekends. Source from Pettes et al. (2016).

Accessibility: Accessibility encompasses *non-discrimination accessibility, physical accessibility, information accessibility, and economic accessibility* (UN Committee on Economic, Social and Cultural Rights (CESCR), 2000). First, services should never discriminate; they should be accessible to all, especially to racialized populations. Second, services should be physically accessible, including for people living in suburban and rural areas. In addition, service sites should be perceived as safe to visit. Third, information should be accessible to all, and people should be adequately notified of changes to the services. Finally, services should be affordable. Potential interventions may include monitoring the number of service sites available within a given geographic area, conducting research that evaluates the accessibility of food services, and presenting information in multiple languages.

Acceptability: Given that most homeless youths in Toronto are members of minority groups, it is crucial to understand the complexity of power dynamics and approach the issue through an intersectionality lens to appropriately address their needs (United Way, n.d.). An intersectionality perspective is beneficial because it identifies the issues surrounding cultural sensitivity by highlighting how multiple social identities reinforce and intersect to exacerbate inequality (Hankivsky & Christoferssen, 2008). Such a perspective provides valuable insight as to how to respond to vulnerabilities, as well as to deliver non-stigmatizing, culturally appropriate services. Potential interventions may provide cultural competency training for staff, support a community-bonding environment, and create culturally inclusive menus in multicultural neighbourhoods. For example, Alex Community Food Centre in Calgary, Alberta partnered with the Aboriginal Friendship Centre to offer programs that serve Indigenous traditional meals. This program not only provides culturally appropriate food, but it also provides a meaningful cultural experience and allows for community bonding that promotes positive mental health (Community Food Centres Canada, 2018)

Quality: As outlined in the 1948 Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights (which Canada signed in 1976), access to food that satisfies dietary needs is a fundamental human right. Canada has the moral and legal obligation to respect and fulfill homeless youths' rights to access quality food. Therefore, the discriminatory notion 'beggars cannot be choosers' must be discarded. In this regard, Pettes et al. (2016) suggest that the lack of government funding plays a major role in perpetuating the pervasive acceptance of the 'beggars cannot be choosers' notion. Adequate funding should be allocated to food services agencies to obtain food other than surplus donations.

Evaluation of the new framing

The AAAQ framework has been widely adopted by health organizations worldwide to provide a fundamental healthcare standard. The benefit of the AAAQ framework is that it is specific, yet versatile, which allows interventions to be feasible in a variety of settings and at a range of levels (Homer et al., 2018). For instance, interventions can be as simple as presenting information in multiple languages at the community level,or as complex as making significant investments in health system reforms at the provincial or federal level.

Theoretically, the AAAQ framework is effective in addressing malnutrition among homeless youths. However, there are challenges to program policy and implementation.

The main challenge is to override the neoliberal ideology of profit-based, one-solution-for-all approaches and increase the political will to make changes. Neoliberalism presumes that the state's role is to facilitate free-market capitalism and liberal democracy that allows individuals to compete, prosper, and achieve self-sustainability (Béland & Daigneault, 2015; Stonehouse et al., 2021). Accordingly, the responsibility of social welfare falls outside the purview of the neoliberal state agenda (Johnstone et al., 2017; Stonehouse et al., 2021). This underlying ideology significantly interferes with the new framing, which demands political attention to strengthen and integrate the framework into provisions of food programs. To successfully transfer this issue onto the political agenda, it is important to highlight the economic implication caused by negligence of the issue, as well as the fact that short-term ad hoc solutions are insufficient, because homelessness and food insecurity are ongoing issues that are unlikely to achieve self-governance (Johnstone et al., 2017).

Another challenge to the integration of the AAAQ framework is the aggravation of the global food insecurity crisis due to COVID-19 pandemic. COVID-19 has introduced various public health measures, such as lockdowns, quarantines, and social distancing, that have disrupted the economy and food supplies, and led to increased global food insecurity (Smith & Wesselbaum, 2020). In this challenging time, most charitable institutions have had difficulties maintaining accessible and sufficient supplies of food (fundraisings and donations) and increased demand, (Chabot-Gaspé, 2020; City of Toronto, 2020). Conversely, COVID-19 also acts as a 'magnifying glass' that sheds light on the pre-existing inequality entrenched in the health system (Williams & Cooper, 2020). Despite

the various crises that COVID-19 has brought, there is growing optimism that pre-existing social issues that are highlighted during the pandemic will be confronted and addressed in the post-pandemic world, helping the world emerge stronger from the experience (Chabot-Gaspé, 2020; Stonehouse et al., 2021; Williams & Cooper, 2020

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One More Glass: Assessing Alcohol Related Harms using the Social Determinants of Health

Anuijan Chandran

Consumption of alcohol is often associated with relaxation or socializing with friends and family. However, excessive alcohol consumption can lead to many adverse health consequences, including cardiovascular diseases (i.e., heart disease, stroke), alcohol use disorder (AUD), mental illnesses (i.e., depression), and increased risk for chronic diseases and neurodegenerative disorders (i.e., dementia) (CDC, 2021). Furthermore, decades of research suggests that alcohol consumption presents a significant global burden, impacting countries' healthcare expenditure, population health and economy (Abat et al., 2019; Rehm et al., 2013; Chisholm et al., 2004).

A survey conducted by Statistics Canada (2021) , revealed that 21 million Canadians above the age of 15 had consumed alcohol within the last 30 days. Moreover, when comparing drinking behaviour to 2019, 24% of participants reported increased alcohol consumption, while 36% of participants reported heavy drinking behaviour (i.e., more than 5 drinks at least once a week within the last 30 days) (Statistics Canada, 2021). A study by Manthey et al.(2019), described similar trends globally since the 1990s. By 2030, it is anticipated that 50% of the legal population will consume alcohol, with over 23% of the population being heavy episodic drinkers (Manthey et al., 2019). This global trend is concerning, given the many harms associated with alcohol over-consumption.

When looking at the factors that impact alcohol consumption, social determinants of health (SDOH) should be acknowledged as prominent contributors. (Schmidt et al., 2010; Rajput et al., 2019). This paper will discuss education level and living and working conditions as factors that contribute to the increased risk of alcohol over-consumption and alcohol-related harms. It will also propose policy recommendations to address this growing problem, to promote better health outcomes amongst people in Canada.

Education and Alcohol-Related Consequences

Education is a fundamental SDOH and is associated with income, employment, health literacy, and many other dimensions that contribute to one's quality of life (Shankar et al., 2013). Crum et al. (1993) assessed alcohol abuse and dependence in relation to education. They found that participants who dropped out of high school were six times more likely to abuse alcohol or develop a dependence, compared to those who went to college (Crum et al., 2011). Furthermore, participants who dropped out of college were three times more likely to abuse alcohol compared to those who completed college (Crum et al., 2011). The increased prevalence of alcohol abuse amongst those with lower

educational attainment suggest they are at greater risk of experiencing adverse consequences associated with excessive alcohol consumption.

Educational attainment has been shown to be associated with other social factors, including race, ethnicity and income level. Structural racism has produced and sustained a fundamental gap in the educational attainment of racialized students compared to white students in Canada and the United States (Merolla & Jackson, 2019; Richler, 2012). For example, in 2017, more than 11% of Black Americans had not completed high school compared to 5.9% of their White counterparts (American Council on Education, 2022). Moreover, structural racism perpetuates intergenerational trauma, and limits social support impacting racialized populations' access to and quality of education (Williams, 1999; Patel et al., 2008). For example, residential segregation limiting racialized populations to specific neighbourhoods and schools limited employment opportunities and socioeconomic success (Williams, 1999). Similar experiences have been identified amongst Indigenous Canadians, where structural racism such as unequal access to education, racism, and violence were associated with lower social support (Richmond et al., 2011). This has been seen to directly impact the alcohol-related consequences experienced by racial minorities, (Gilman et al., 2008; Assari et al., 2016). The role of structural racism on alcohol-related consequences is not limited to education, but also impacts the job and post-graduation opportunities accessible to racialized populations (Assari et al., 2016).

Unequal wealth distribution also impacts education and therefore, alcohol-related harms. Globally, school enrollment and educational attainment is significantly greater amongst people who have higher socioeconomic status (SES) compared to those with lower SES (Filmer & Pritchett, 2004). The 2016 Canadian census reported that 20.8% of racialized populations are of low-income status compared to 12.2% of white people (OCASI, 2019).Collins (2016) has demonstrated that unequal wealth distribution leads to those of lower SES experiencing disproportionate adverse alcohol-related consequences including AUD, and mortality (Collins, 2016). Findings from a systematic review show that lower SES, often paired with lower educational attainment, perpetuated the risk of heavy episodic drinking and mortality amongst alcohol consumers (Probst et al., 2020).

Current efforts to eradicate racism within global education systems include UNESCO's new framework (UNESCO, 2020). They suggest addressing implicit bias, expanding curriculum, and training educators to reflect the diversity of the student body, to mitigate racism within the education system (UNESCO, 2020). Similarly, the Ministry of Education in Ontario plans to expand the mandatory Indigenous Education Curriculum in Ontario to highlight the experiences of Indigenous people and promote educational attainment amongst Indigenous populations while also acknowledging the impact of intergenerational trauma (Government of Ontario, 2021). However, these efforts fail to consider the upstream factors such as food access, housing stability and physical activity that perpetuate structural racism. Therefore, by increasing education on structural racism, the lack of financial and educational resources, opportunities and other

barriers impacting the access and quality of education available to racialized populations is not addressed.

Living and Working Conditions and Alcohol-Related Consequences

The conditions that people live and work in significantly impact their health, well-being, and quality of life (Raphael, 2016). Adverse working conditions, including hazardous physical environments , stressful demands, and lack of support from co-workers and supervisors have been shown to perpetuate heavy drinking behaviours amongst males and females (José et al., 2006). Similarly, adverse childhood experiences and family dysfunction are correlated with increased risk of heavy drinking, and reports of alcoholism (Dube et al., 2002). Moreover, trends in precarious work demonstrate increased representation of immigrant populations in involuntary part-time work (Hira-Friesen, 2017). Given the association between poor working conditions and alcohol consumption, this trend puts immigrant populations at greater risk for alcohol-related consequences.

Living and working conditions are often reflective of larger social, political, and economic factors including income inequality. Individuals of lower socioeconomic status, and those without generational wealth are more likely to experience precarious and intense working conditions (Marins et al., 2019). A recent study by Kim demonstrated that Indigenous Canadians have experienced increased health disparities such as increased mental health crises and food insecurity compared to their White counterparts given social, economic and political disadvantages perpetuated by decades of systemic discrimination (Kim, 2019). Working in such environments often perpetuates unhealthy drinking patterns and the use of alcohol as a coping mechanism(Marins et al., 2019). Similarly, wealth distribution significantly impacts living conditions such as food security and housing (Hargreaves et al., 2007). Food insecurity and housing instability are correlated with unhealthy drinking patterns and therefore, associated with adverse alcohol related consequences (Reitzel et al., 2020).

Power structures is a hierarchy that describes the distribution of authority in society. These structures are another example of a socio-political factor that impact living and working conditions and therefore affects alcohol-related consequences. In Canada, precarious work is more common amongst racialized populations, immigrants, and women compared to white and male populations (Premji et al., 2014). Given that precarious working conditions can adversely impact drinking behaviours, , the power structure that leads to marginalized communities working in these conditions is a contributing factor to this disparity (Marins et al., 2021).

Canada's House of Commons has recently released a report looking into the importance of standardizing work and implementing programs focused on reducing precarious work across Canada (May, 2019). However, this report fails to acknowledge how immigration policies and current discrimination in the job market may contribute to greater marginalized populations in precarious

jobs. Therefore, policies focused on addressing the root cause of unequal wealth distribution and power structures must be introduced.

Policy Solutions to Address Adverse Alcohol-related Consequences

By looking at social determinants of health like education and living and working conditions, it is evident that overarching structural factors such as wealth distribution and power structures significantly impact people's experiences of alcohol related harms. Therefore, policy-level changes that directly address transform these structural factors must be implemented. Firstly, structural racism and wealth inequality must be addressed through the allocation of resources focused on underserved communities. Evidence demonstrates that structural racism and income inequality's intersect and directly affect educational attainment. Therefore, allocating resources such as additional funding to enhance quality education, resources to utilize diverse teaching strategies, and building infrastructure can remove barriers to educational attainment in these communities.

Secondly, creating financial-aid and skill-building programs for adults in marginalized communities can promote educational attainment. Bringing education to communities where there is evidently low educational attainment will further eliminate barriers. Given that alcohol dependence and abuse is greater amongst those with lower educational attainment, such promotion can reduce alcohol dependence, abuse, and its related consequences (Crum et al., 2011). Promoting skill building opportunities can help prevent marginalized community members from working precarious jobs and reduce unhealthy drinking patterns.

Thirdly, the universal basic income program is a functional alternative that mitigates the harms caused by social power imbalances and economic inequality . This program has been piloted around the world including Spain, Namibia, Brazil, and Iran (Bernstien, 2021). In 2016, Ontario implemented its basic income pilot project in a few cities, suggesting that this program promotes better quality of life, reduces stress, and promotes housing stability, employment security and food security (Government of Ontario, 2021). Therefore, implementing this program to ensure those of lower income status can access financial support will promote better living and working conditions and therefore reduce alcohol-related consequences. Ultimately, the underlying causes of adverse alcohol-related consequences require immediate and effective policy level changes. By utilizing the three-prong approach described above, growing trends of alcohol-consumption and its adverse consequences can be mitigated.

Conclusion

Alcohol consumption has been shown to adversely impact individual health and wellbeing, while evidence also demonstrates that lower educational attainment correlates with alcohol abuse and dependence. Similarly, precarious working conditions and lack of food and housing security has been associated with unhealthy drinking patterns. These social disadvantages are perpetuated by systemic factors such as structural racism, and unequal wealth distribution. By creating and implementing resource allocation programs, equitable opportunities and the universal basic income program, these overarching factors

can be counteracted. By counteracting these factors, the adverse alcohol over-consumption and its related consequences can be mitigated.

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Women's Sexual Health in Correctional Facilities: A Multimodal Intervention

Christie Kwok

Stigma surrounding incarcerated populations, alongside a decentralization of carceral healthcare services offered, exacerbate the issue of inmate health inequities and, more prominently, gender-based health injustices in prisons. Notably, an emergent issue has been identified in Canadian discourse: there are insufficient healthcare programs for institutionalized women's sexual health. In Canada, women comprise 12% of the nation's incarcerated population (Ahmed et al., 2016). The imbalanced ratio of male-to-female inmates in Canada creates a scarcity of gender-specific healthcare services. Moreover, women are often imprisoned for less time than their male counterparts but have high recidivism rates (Martin et al., 2012; Ahmed et al., 2016). This may be because most Canadian women are incarcerated for drug-related activities (Martin et al., 2009). The shorter incarceration duration creates higher turnover rates in prisons, in which new women are frequently admitted as others leave (Ahmed et al., 2016). This "revolving door" scenario further perpetuates the problem of unmet healthcare needs for incarcerated women in Canada (Martin et al., 2012). Canadian women, particularly those belonging to intersectional and marginalized groups, are largely more susceptible to 1) incarceration and 2) gender-specific, prison-acquired maladies after incarceration. This paper will discuss the healthcare shortcomings of federal and provincial correctional facilities in these two areas, followed by a proposal for a multimodal intervention to address gender-based inequities in prisons.

1.2 Health Determinants and Incarceration Susceptibility

Certain social determinants such as race, ethnicity, and socioeconomic status have been shown to increase one's chances of being incarcerated (Martin et al., 2018). Racial and ethnic disparities in women's experiences in correctional facilities have been demonstrated by the disproportionate incarceration rate of certain minorities. In 2012, it was found that despite the Indigenous population only making up 3% of the Canadian population, this group accounts for 20% of those who are currently in custody (Martin et al., 2012). In addition to this, 91% of Indigenous women in Canadian prisons have previously experienced sexual assault (Pate, 2018). Incarcerated women often share traits of identity beyond race and ethnicity as well. For example, women in prisons often share similar characteristics such as being of childbearing age, poorly educated, and survivors of sexual abuse (Martin et al., 2012).

In summation, many of the women who are incarcerated belong to marginalized communities, who experience higher rates of contracting community-specific maladies even before they are incarcerated (Martin et al., 2018). Nonetheless, the current carceral healthcare systems in Canada fail to

accommodate such issues of intersectionality, instead exacerbating these health detriments further during incarceration (Martin et al., 2012).

1.3 Gender Specific Prison-Acquired Illnesses

Prison-acquired ailments among women differ drastically from those that are acquired by men as well. Incarcerated women experience tremendously high rates of cervical cancer, HIV- and STI-contraction, high-grade lesions in the squamous epithelium, and a staggering 80% increased risk of unplanned pregnancies (Ahmed et al., 2016; Besney et al., 2018). In 2018, researchers examined the correlation between carceral healthcare services in Ontario, Canada and the onset of cervical cancer in women (Kouyoumdjian et al., 2018). The researchers found that approximately 54% of the incarcerated women studied were overdue for their cervical cancer screenings and continued to be overdue three years later (Kouyoumdjian et al., 2018). Furthermore, there is a high prevalence of women who are sexually assaulted inside carceral facilities, heavily contributing to the high rates of unplanned pregnancies; HIV-, HPV-, and STI-contraction; and the onset of cervical cancer (Ahmed et al., 2016; Besney et al., 2018; Hutchison, 2020). Unfortunately, a large sum, if not all, of these prison-inflicted ailments are not properly addressed by carceral healthcare systems.

1.4 Current Agenda Setting in Canada

Notably, there was an attempt to alleviate the aforementioned issues in women prisons, by the Canadian Human Rights Commission (CHRC) in 2003 (Kilty, 2014). However, discourse generated by the CHRC was followed by *no* change in policy (Kilty, 2014). Instead, Correctional Services of Canada (CSC) responded by *re-emphasizing* the Corrections and Conditional Release Act (CCRA) (Kilty, 2014). One peer-reviewed interpretation of the CHRC and CSC's response indicated that "the penal system remains the arbitrator of what is normal and necessary for the management of rights and women in the system" (Kilty, 2014). Therefore, it is pivotal for the penal system to reassess and redefine policy agendas to alleviate gender-specific problems in prisons before actual change can occur.

1.5 Proposed Program: Peers, Surveillance, and Intermediary Sentencing

The proposed program will specifically address women's sexual health and prison safety in three main parts: through the use of peers, surveillance, and intermediary sentencing (PSI).

Community-support programs (CSPs) may produce favourable outcomes: it has been studied that women's trauma history influences offending and re-offending behaviours (Moloney et al., 2009). The PSI program will prioritize the implementation of community- and peer-led support to address the pre-dispositionality of sexual abuse-related trauma commonly experienced by incarcerated women. Communal peer-led support omits the presence of an 'authority figure' which can be beneficial for those who have trauma relating to unequal power dynamics. Such modules centralize its therapy on survivors helping each other, using their own personal experiences to self-reflect and guide others in their recovery. Thus, peer-led support, the first aspect of the PSI program, will aim

to lower recidivism rates, and thus prevent women from re-entering problematic carceral systems.

Second, the program will advocate for correctional officers to use body-worn cameras (BWCs), mandated for the purposes of curbing rates of in-prison sexual assault of women. While it is difficult to propose an intervention uprooting the systemic abuse of power prevalent in carceral sexual assault, BWCs will hold correctional officers and inmates more accountable for their actions. By reducing rates of sexual assault, BWCs will synonymously reduce rates of unplanned pregnancies; HIV-, HPV-, and STI-contraction; and cervical cancer among incarcerated women.

Third, since the majority of Canadian incarcerated women are sentenced due to drug-related activities, the CSC should introduce an intermediary stage of alternative sentences for low-level crimes. These alternative sentences would include mandating mental health counselling in response to drug-related crimes (i.e., counselling for substance abuse) or sentencing community service for other lower-level crimes. The introduction of intermediary correctional programs will help marginalized women avoid being incarcerated unnecessarily, for low-level crimes (Bartlett & Hollins, 2018). The intermediary stage will provide a mandated account for at-risk women to be provided with the help they need without being subjected to the "perils of prisons" (Bartlett & Hollins, 2018).

The PSI program will work 1) to help women avoid unnecessary and harmful incarceration; 2) implement barriers to limit cases of in-prison sexual assault; 3) provide networks for mutual support for the women who are sentenced to imprisonment.

1.6 A Look into Similar Programs: "Program Strategy for Women Offenders"

A 2004 program was ideated to address the absence of gender-specific support in Canadian prisons, called the "Program Strategy for Women Offenders" (PSWO) (Fortin, 2004). The PSWO built in-prison support systems to prepare women offenders to re-enter society (Fortin, 2004). While the program does not focus on the sexual health inequities of Canadian female inmates, the PSWO is led by woman-centred and trauma-informed approaches which parallel the core values of the PSI proposal as discussed in section 1.3.

The PSWO features two programs which target the peers and intermediary sentencing approach taken by the PSI program. First, the PSWO offers many variations of peer-led support groups in the prison setting, such as Survivors of Abuse and Trauma Programs (SATPs) which make use of community-based approaches for abuse recovery (Fortin, 2004). Furthermore, the PSWO features a Women Offender Substance Abuse Program (WOSAP) as part of their correction program plan (Fortin, 2004). The WOSAP focuses on teaching emotional regulation and cognitive functioning to control substance abuse (Fortin, 2004). The WOSAP methods are closely aligned with the mandated counselling proposed by the intermediary sentencing aspect of the PSI program.

Finally, the PSWO centres its correctional program goals to accommodate women-specific maladies, addressing racially-specific morbidities and comorbidities among those experiencing incarceration (Fortin, 2004). The program seeks to understand and alleviate these healthcare issues by acknowledging the intersectionality and burdens of disease experienced by historically marginalized

demographics. Thus, both programs, PSWO and PSI, share common themes in intervention activities and program principles.

2. Structural Intervention:

2.1 Aims and Expected Outcomes

The aim of the intervention is to target the currently lacking gender-specific sexual healthcare considerations in correctional facilities. Through the implementation of the PSI program, emergent sexual health issues of female inmates are addressed at the community-, institutional-, and policy-level.

First, the *policy* change introducing intermediary sentencing will redirect at-risk women, often from marginalized populations, to less punitive sentences for low-level crimes. Intermediary sentencing will prevent women from entering carceral systems unnecessarily, especially when other services are needed, i.e., drug-abuse counselling. Second, the institution-wide mandate of BWCs will act as barriers, protecting women from in-prison sexual assault. Third, the *community-approach* of peer-led support programs will aid female inmates in their recovery from sexual assault and lower risk of re-offending behaviours correlated with unresolved sexual trauma (i.e., create lower recidivism rates long-term). A detailed illustration of the expected outcomes is outlined in the program logic model (section 2.4).

2.2 Program Goal: SMART Objectives

The overarching purpose of the PSI intervention is to provide a comprehensive and intersectionality-centred program to address the adverse and health-harming experiences faced by women in the prison system. Specifically, the PSI intervention focuses on strategies to prevent the incarceration of women who commit low-level crimes and/or require other mental health services in lieu of punitive sentencing. The intervention additionally implements support networks and protection against in-prison sexual assault.

The objectives of the intervention process will be to ground activities through the use of intersectionality and burdens-of-disease frameworks, modelled after the principles taken by the PSWO, as discussed in section 1.4 (Fortin, 2004). The short-, medium-, and long-term outcome objectives of the PSI intervention are outlined in the program logic model in section 2.4.

The SMART objectives will be prioritized in the following manner. Over the next 10 years, the use of CSPs and BWCs will decrease female recidivism rates from 37% (Ontario Ministry of the Solicitor General, 2019) to 25% in Ontario. Furthermore, through the implementation of *intermediary sentencing*, female incarceration rates invoked by low-level offences (e.g., drug-related activities) will be reduced from 7% (Savage, 2019) to 2% in Ontario. In lieu of punitive sentencing, low-level crimes, like substance abuse, will be responded to with mandated counselling or community service when applicable by the next 10 years. Lastly, prevalence rates of in-prison sexual assault in will be decreased

from 70% (Dirks, 2004) to 55% within the next 10 years through the mandate of BWCs in Ontario.

2.3 Intervention Activities: Theory of Change

The PSI intervention is based on the theory of social support (TSS). TSS research, conducted in the context of inmate health, suggests that social support in private and public settings reduces rates of recidivism (Orrick et al., 2011). Notably, in support of TSS, other researchers have found that incarceration does not deter recidivism at all (Cullen et al., 2011). Thus, the intervention activities primarily focus on redirecting low-offending women to intermediary sentences and away from prisons, and delegating its resources to generate support for women to leave carceral systems as quickly as possible if admitted. This intervention will generate the expected changes through the research done on the effectiveness of TSS strategies. Specifically, reducing recidivism by means of providing social, community, and institutional support (Orrick et al., 2011). The program activities that must be completed, alongside corresponding outcomes, are mapped on the following section (see page 21).

3. Program Evaluation:

3.1 Key Evaluation Questions

Upon evaluation of the intervention, three questions must be explored. First: did recidivism rates decrease? Second: were female incarceration rates for low-level crimes effectively reduced? Third: was there an improvement regarding in-prison sexual assault incidences since program implementation?

3.2 Study Design

The intervention will be evaluated using an experimental study design over a one-year period. The PSI intervention will be applied to three of the five female correctional facilities in Ontario. The two unselected facilities will be used as a control group for data comparison to assess intervention effectiveness. The independent variables will be the presence versus absence of the PSI intervention modules; the dependent variables will be the prevalence rates of unnecessary female incarceration, female inmate recidivism, and in-prison sexual assault.

3.3 Participants

The experimental group will include three correctional facilities in Ontario: Vanier Centre for Women (Milton), Algoma Treatment and Remand Centre (Sault Ste. Marie), and Central East Correctional Centre (Lindsay). The control group will include Monteith Correctional Complex (Monteith) and Central North Correctional Centre (Penetanguishene).

3.4 Data Collection

The data collected will comprise of the annual rates of: 1) female incarceration for low-level crimes, 2) female inmate recidivism, and 3) in-prison sexual assault.

These three indicators directly respond to the three evaluation questions the study seeks to answer.

3.5 Analyzing Data to Assess Success

In data analysis, if just the one-year implementation of the PSI program can produce, at least, a statistically significant 2% to 4% reduction in all prevalence rates measured, the intervention will be deemed successful. If there can be significant reductions within just one year of intervention, the PSI's 10-year goal of reducing all three prevalence rates is proven to be a feasible task.

3.6 Future Implications of Findings

If the findings are affirmative, they will suggest a correlation between PSI interventions and reduced unnecessary incarcerations of women, lowered inmate recidivism, and decreased prevalence of in-prison sexual assault. Using these results, policymakers and CSC can aim to incorporate PSI intervention modules within carceral legislation. PSI implementation will ultimately curb: 1) unnecessary incarceration sentences of women, 2) recidivism rates for women who are sentenced, and 3) risks of in-prison sexual assault and disease contraction.

4. Intervention Assessment:

4.1 Strengths and Weaknesses

The PSI intervention excels in addressing the female inmate demographic by meeting their needs at various levels (i.e., community, institutional, policy). Furthermore, the recognition of the intersectional nature of incarcerated racialized women's experiences helps concentrate program activities to alleviate such burdens of disease and other comorbidities. The PSI intervention also largely delegates its resources to helping women avoid the penal system entirely, while placing in-prison resources to help them exit these facilities as quickly as possible.

However, the intervention does not provide methods for alleviating root problems of women's sexual abuse in prisons. Mandating surveillance can reduce the 80% of women who undergo unplanned pregnancies while incarcerated, and the high rates of cervical cancer, HIV- and STI-contractions, and high-grade lesions in the squamous epithelium (Ahmed et al., 2016; Besney et al., 2018). However, the PSI program does not address the root cause of gender-based violence against women and the systemic power abuse that is causing such high rates of in-prison sexual assualt.

4.2 Justification for Intervention

Avoiding carceral systems is highly beneficial for women: those who are incarcerated often have pre-prison experiences of sexual assault, alongside the corresponding higher rates of sexually transmitted illnesses. Due to the harmful nature that prisons have on women's sexual health, as was discussed in section 1.2, being admitted into such facilities will further exacerbate these health concerns for women. Thus, it is ideal for women to avoid carceral institutions as a whole; this can be achieved through the implementation of intermediary sentencing and the peer-support frameworks in the PSI program.

CSPs and BWCs support sexual abuse survivors and further enact barriers to reduce in-prison sexual assault. This is beneficial as female inmates will be

less susceptible to contracting prison-acquired ailments associated with assault, alleviating the burden of disease during and after incarceration. They will also be less likely to engage in re-offending behaviours associated with unresolved sexual abuse trauma, further protecting women from being forced to re-enter carceral healthcare systems.

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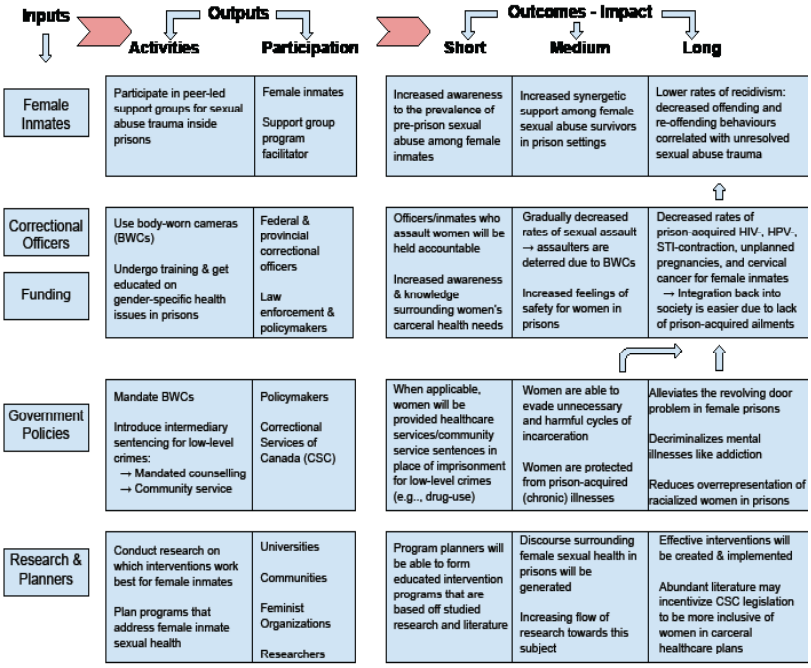
Figure 1: Program Logic Model



A Tale of the Clashing Crises and the Resulting Syndemic

Lucy Panko

The opioid crisis is not a new epidemic in Canada, however the more recent COVID-19 pandemic has preyed on its vulnerabilities, and the resulting combined toll on Canadians has been severe and in many instances deadly. According to the Canadian Centre on Substance Use and Addiction, the opioid crisis is a complex public health issue that affects a significant proportion of Canadians and their families (Government of Canada., n.d). In 2021, the United Nations Office on Drugs and Crime released its annual World Drug report, focusing on the latest global drug trends. Notably, Canada ranked fourth highest in drug-related deaths, with 179.8 deaths per million among persons aged 15-64 (World Drug Report, 2021). Despite opioid-related death rates falling for the first time in 25 years in 2018, they subsequently rose to record numbers in 2019 and are continuing to climb (Government of Canada, 2022a). This resurgence is not only complicated, but arguably worsened by the COVID-19 pandemic, with opioid overdose deaths reaching an all-time high in 2021, as COVID-19 persists (Gomes et al., 2021).

This paper will examine COVID-19's role in exacerbating the opioid crisis, and will demonstrate how certain social determinants of health make some individuals more susceptible to both crises. It will also explore how stigma towards opioid users impedes access to essential health services, contributing further to the deadly consequences of these overlapping crises. Lastly, it will offer research, practice and policy recommendations to address this ongoing issue.

The opioid crisis in Canada

In 1905 Sir William Osler, a renowned Canadian physician, deemed opium to be "God's own medicine", due to its miraculous pain-relieving properties and remarkable versatility (Batmanabane, 2014). While opium has a rich and complex recreational and therapeutic history, this paper will focus on Canada's present-day relationship with prescription and illicit opioids, and the factors that have contributed to the current overdose crisis.

Prescription opioids were introduced to the market in the 1950s with the creation of synthetic opioids such as oxycodone; in the late 1990s and early 2000s, doctors began embracing this class of drug and extending its application beyond the use of cancer and post-operative pain management, to the treatment of chronic pain through the prescription of fentanyl patches, hydromorphone, and OxyContin (Rosenblum et al., 2008). The over-prescription of opioids by physicians during this time is commonly presumed to have contributed to heightened incidences of opioid overdoses, as well as increased dependence on low-cost, unregulated illicit

opioids, primarily heroin (Strike and Watson, 2019, Nielson et al., 2019, Morin et al., 2017).

More recently, overdose deaths in Canada have increased due to the frequent contamination of illicit opioids with much more potent opioids like fentanyl. According to the Government of Canada (2021), given fentanyl's high potency, and how relatively cheap it is to manufacture, increased contamination and associated overdose deaths are occurring rapidly. The impurity of these drugs is resulting in a dramatic spike in opioid overdoses across the country, with the federal government deeming this issue to be one of Canada's most serious public health crises in recent history (Public Health Agency of Canada, 2020). Importantly, there is considerable evidence to suggest that adverse socioeconomic circumstances increase susceptibility to substance abuse and addiction (Buchanan et al., 2002; Morin et al., 2017, Strike & Watson, 2019).

COVID-19 in Canada

Another public health issue that is particularly relevant to the current times is the COVID-19 pandemic. According to the World Health Organization, COVID-19 is an infectious disease that results from the transmission of the SARS-CoV-2 virus. As of December 11th 2021, the total cases in Canada were 1,827,691 (Government of Canada, 2022a). While most individuals affected will experience mild to moderate respiratory symptoms without needing significant medical attention, some will become seriously ill, requiring medical treatment, and some of those affected will subsequently die. The current Canadian COVID-19 death toll is significant at 29, 900 people (Government of Canada, 2022a). While older people and those with underlying medical conditions are more likely to develop serious complications after contracting COVID-19, it is important to note that those with lower socio-economic status have also been shown to be more vulnerable to contracting the virus (Paremoer et al., 2021).

The Impact of COVID-19 on the opioid crisis in Canada

In the 1990s, medical anthropologist Merrill Singer coined the term "syndemic", to describe the phenomena of co-existing, intersecting diseases and environmental and social factors that drive and exacerbate the adverse impact of their interaction (Singer et al. 2017). The overlapping impact of the opioid crisis and the COVID-19 pandemic, or the current "syndemic", has been striking in Canada, in terms of the crises' ability to co-exist and even thrive off each other. Over the first six months of the COVID-19 pandemic, the weekly rate of opioid-related deaths increased 135% from 23 to 54 deaths with the most prominent increase among those younger than 35 years (Gomes et al., 2021).

Across Canada, the first wave of the pandemic resulted in a number of public health restrictions being enforced to mitigate the spread of COVID-19. These restrictions included physical distancing, which resulted in the transition of many health care services to a virtual format. The introduction of these mandated measures had negative implications for both prescription and illicit opioid users, with access to specialized pharmacies, outpatient clinics, and harm reduction

services, including supervised consumption sites and drug screening sites, being greatly reduced. (Gomes et al., 2021). Public health measures also resulted in increased isolation during mandated lockdowns, affecting opioid users' ability to access care and be supervised while using drugs (Friesen et al., 2021).

Tyndall & Dodd (2020) argue that substantial stigma and discrimation faced by opioid users within the healthcare system make them more vulnerable to the COVID-19 pandemic, as they are dissuaded from getting tested or seeking treatment for COVID-19. However, disclosure of opioid use is incredibly important, as usage at a high dose over a period of several months can complicate how COVID-19 manifests, compromising the immune system's function (Ataei et al., 2020). Furthermore, opiate users may misinterpret COVID-19 symptoms as opiate withdrawal, and manage this by increasing their opioid use and risk of overdose, which is one of the many reasons why accessible and non-stigmatizing COVID-19 testing is critical (Ataei et al., 2020).

The social determinants of health

According to the Government of Canada (2001), the social determinants of health are a particular set of social factors that contribute to health outcomes. They may relate to an individual's status in society, such as their income level, educational attainment, or employment status, or their social identity, such as their race, ethnicity, or gender. Discrimination, racism and historical trauma are all pertinent to social determinants of health, with historically-disadvataged groups such an Indigenous Peoples, Black Canadians, and members of the LGBTQ community often being the most marginalized and underserved (Government of Canada, 2022a).

People of colour, and those with less education and less employment security are more likely to experience stigma and criminal repercussions following drug use (Baciu et al., 2017). Bohler's (2021) report of community responses to the opioid crisis found that a 1% increase in unemployment was associated with a 3.6% increase in the opioid-related death rate and 7% increase in opioid-related emergency services usage in one study. In some cases, employment has been shown to be a protective factor in terms of its ability to improve remission of opioid use disorder. Employment was found to be predictive of treatment completion; an increase in months employed was positively correlated with post-treatment recovery six months following discharge (Bohler, 2021). Yet despite the extent to which employment acts as a protective barrier, there are significant factors that prevent people who use or have used opioids from engaging in the workforce. These include stigma and discrimination, having a criminal record, or having siginficant gaps in work history (Bohler, 2021).

Certain social factors also put individuals at increased risk of contracting COVID-19 (Rangel et al., 2020; Haley & Saitz, 2020). A U.S. study by Millet et al. (2020) examined the association between race, COVID-19 cases, and subsequent deaths, and concluded that COVID-19 had disproportionately affected the African American population. They found that while only 20% of U.S. counties are "disproportionately black" (greater than or equal to 13%), they account for nearly 52% of COVID-19 diagnoses and 58% of COVID-19 related

deaths across the U.S. (Millett et al., 2020). Similarly, Hawkins et al. 's (2020) study of the impact of COVID-19 on communities across the United States found that lower education and higher percentages of Black residents were correlated with higher rates of both COVID-19 cases and fatalities. In Canada, racial and ethnic minorities disproportionately occupy high-risk jobs, and this over-representation is also associated with adverse socioeconomic conditions, and higher rates of COVID-19 (Côté et al., 2021). According to Friesen et al. (2021), Ontario's rural and northern communities, BIPOC communities, as well as those experiencing poverty, homelessness, and/or incarceration have seen the largest relative increases in fatal overdoses during the COVD-19 pandemic.

Globally, socioeconomic status is also correlated with COVID-19 outcomes. A study on Santiago, a highly segregated Chilean city, found that those living in areas that housed primarily low income individuals did not reduce their social contacts during lockdowns as much as those living in more affluent municipalities, and also had less access to testing, with longer and more frequent delays (Mena et al., 2021). They ultimately found a strong association between socioeconomic status and mortality, with higher rates in young people living in low socio-economic status municipalities (Mena et al., 2021).

Recommendations

As discussed, the root causes of the opioid crisis are social in nature, and in combination with the COVID-19 pandemic, place certain individuals at increased risk of severe consequences. The final section of the paper will offer research, practice, and policy recommendations and associated ways to lessen the impact of the syndemic within Canada.

Research Recommendations

There are significant gaps in the public health and addiction literature especially with respect to patient-centred care. Further, much of the research stigmatizes people struggling with substance use issues, particularly opioid users, who are labeled as criminals, dangerous, or draining on the health care system. (Dollar, 2019). For instance, there have recently been advances in how marijuana users have been treated. Canada has experienced a recent legalization of marijuna which aside from recreational use, with marijuanna being recognized for relieving pain, especially for individuals living with chronic pain-related disorders or epilepsy. In the United States, however, some states have not legalized marijuana, and Black males have been found to be disproportionately punished under the law (Nunn, 2002). More research is needed focusing on the stigmatization of opioid drug use and how this affects users' susceptibility to COVID-19. In addition, the pharmaceutical industry's resistance to these topics, such as the lack of vaccine access in lower income countries is a critical issue that requires more research, which may have serious implications on the opioid epidemic and the resulting syndemic (CDC, 2021).

Practice Recommendations

There are a number of practice recommendations that are pertinent to the current syndemic. People who use illicit opioids are put in dangerous situations when they are expected to abide by COVID-19 precautions and use opioids alone, which puts them at a higher risk of overdosing without any help available. Conversely, they could put themselves at higher risk of contracting COVID-19 by using in a safer setting that with lower overdose risks, such as harm reduction clinics. LaBelle et al. (2018) found that telehealth addictions treatment successfully reduced barriers to opioid treatment by allowing patients to communicate over the phone with their physician and manage their substance use and mental health conditions virtually. This is an example of a practice that could be implemented during COVID-19, to reach patients who are socially isolated. Another recommendation to reduce overdose risks, while also keeping social contacts low, is to provide access to take-home naloxone kits (Katzman et al., 2020). Initiatives that ensure that these kits, as well as methadone maintenance and buprenorphine treatments can be delivered to opioid users who need support while in isolation, including but not limited to those with confirmed COVID-19 infections. To summarize: access to treatment and COVID-19 testing, as well as increased harm reduction practices are crucial to ensuring the well-being of the people who use opioids during the COVID-19 pandemic (Gomes et al., 2021).

Policy Recommendations

There are three main policy issues that are important to consider when addressing these co-occurring crises: social support structures, access to health care services and improved detection of the syndemic. With respect to social support structures, there needs to be a change in how people who use opioids are treated in the workplace, educational system, and broader community (Jalali et al., 2020). Policies in this area have the ability to address stigma and barriers that people who use opioids face. This could take many forms, such as coordinating with community-based allies to create partnerships between key community stakeholders, people who use opioids and their health care professionals. By educating the community, people who use opioids could then be hired or receive educational credits as a part of their service. Furthermore, increased social support could also take the form of paid sick leave to account for the precarious work status of many people who use opioids (Government of Canada, 2022b).

The aim of the second policy is to expand the accessibility of the health care services; one exampleof this is the effort to improve the distribution and use of naloxone as well as education surrounding opioid overdose prevention, and ultimately improve availability of treatment, through telehealth initiatives (LaBelle et al., 2018). Finally, policies need to be established to enable the detection of opioid overdose outbreaks and their correlation to the prevalence of COVID-19 in a given region. This would allow health care professionals and policy makers to modify the support being offered to people who use opioids on an on-going basis, intervene early with individuals who are at the highest risk of overdose and facilitate a more effective response.

Conclusion

The COVID-19 pandemic occurred in the midst of the on-going opioid crisis, resulting in a powerful syndemic. Not only have the two occurred simultaneously, but it can be argued that the opioid crisis has been exacerbated by the COVID-19 pandemic. Further research is needed to fully understand the impact of the COVID-19 pandemic on the opioid crisis, with continued public health surveillance to monitor the combined effects. Harm reduction practices, including the distribution of naloxone and delivery of opioid agonist treatment, and the continued support of safe injection sites, is necessary. COVID-19 testing and treatment must not discriminate against those who use drugs, and virtual or distance support for those in recovery should be increased. Finally, policies that support the expansion of accessible health care services, and discourage stigmatization of drug users must be implemented.

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The Conceptualization of Medical Brain Drain in the Context of Human Rights

Nicole Lorimer

Medical brain drain describes the emigration of skilled health workers from low and middle-income countries to high income countries. This phenomenon results in the unequal global distribution of health workers and a fundamental conflict of human rights. The migrating health worker has both the right to work in fair conditions and the right to free migration. The citizens of the country they emigrate from have the right to health. Thus, medical brain drain cannot be solved within a strictly human rights framework. Medical brain drain must be conceptualized as a symptom of larger global injustices to be properly addressed. Only then can sustainable solutions be offered.

Introduction

After the completion of medical training, many skilled doctors, nurses, and attendants residing in low-income countries choose to seek employment in higher-income countries. This migration is described as 'medical brain drain'. Medical brain drain has unevenly distributed the global force of health workers (World Health Organization, 2006). The United States has about 24 doctors for every 10,000 people while many African countries have 0.2 or fewer (World Health Organization, 2011). Health professionals are fleeing poor work environments, living conditions, and insecurity. However, affluent nations also work tirelessly to attract these skilled workers. They offer higher salaries, more resources, and job security (Mlambo & Adetiba, 2017). This combination of push and pull factors exacerbates medical brain drain. The health crisis created by this inequitable global distribution of health professionals is well documented, however, the issue in the context of human rights has rarely been considered. Human rights are "rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status". They include the right to work, the right to migrate freely, and the right to health (United Nations, 2021). Health professionals have a right to work in fair conditions and a right to migrate freely. Citizens of low and middle-income countries have a right to the highest attainable standard of health. The human rights of both migrating health worker and the residents of their source country are to be considered and respected equally. Therefore, medical brain drain creates a conflict of rights. To resolve this disagreement, it is

important to consider medical brain drain as a symptom of a broader system of global injustice rather than a human rights violation itself.

Worker's Rights

In all 48 Sub-Saharan African countries, there are a total of 169 medical schools. They graduate approximately 10,000 new physicians a year (Chen et al., 2012). These graduates are invaluable resources to their home country, constituting a $2.17 billion asset (Mills et al., 2011), however they emigrate to wealthier nations at alarmingly high rates. Most push factors can be found internally –a result of grossly underfunded and neglected health systems. After physicians receive their medical education, they are thrust into overwhelmed health facilities that are often ill-equipped and unsafe (Mlambo & Adetiba, 2017). Broken machinery and medical supply shortages compromise the quality of doctors' care and their compensation does not reflect the undertaking of this extra burden. Zambian doctors make an average of $24,000 USD a year and Kenyan doctors make just $6,000 USD. In New Jersey, a physician with equivalent credentials makes just over $215,000 USD (Ighobor, 2017). Moreover, health professionals often find themselves in dangerous and politically insecure situations. While attempting to care for the wounded during violent political demonstrations in Khartoum, Sudan, a doctor was deliberately shot and killed by security forces (BBC News, 2019). Working conditions in low-income countries are often dangerous and ill-suited to career development, growth, and satisfaction. Doctors rarely have the tools to meet the needs of their patients and their salaries cannot enable them to meet their personal needs. Therefore, they have every right to leave. Both the right to work in fair conditions and the right to free migration are enshrined in the Universal Declaration of Humans Rights in articles 23 and 13, respectively (United Nations, 1948). Any attempt to rectify medical brain drain while actively ignoring poor and dangerous working conditions would be encouraging the violation of worker's rights. Locally trained physicians are invaluable assets to struggling health systems, but forcing these physicians to remain in their home country infringes upon their right to work in fair conditions and their right to freely emigrate.

Citizen's Rights

When discussing the rights of health workers, there must also be discussion of those whom they care for –the citizens of their home countries. Health systems cannot operate without trained professionals to run them. Sub-Saharan Africa accounts for 24 percent of the global disease burden and yet has only 3 percent of the world's health workers (World Health Organization, 2006). Even though working conditions are poor, without doctors and other health professionals, health systems would completely collapse, leaving entire populations without care. Destination countries facilitate emigration by actively recruiting health workers. They entice workers with better working conditions, higher pay, and specialist training in donor funded clinics (O'Brien & Gostin, 2011). The recruitment of health professionals from countries with shortages

undermines affluent nation's pledge to respect and uphold millennium development goal (MDG) eight, a commitment outlined by the United Nations to create global partnerships for development. When workers from low-income countries leave to pursue employment elsewhere, local facilities end up extremely understaffed. As a result, personnel are forced to respond to concerns they have not been trained to deal with. For example, in Malawi, administrative workers were forced to perform the duties of nurses and midwives as they delivered and cared for newborn babies (Aitken & Kemp, 2003). Understaffing also lengthens wait times for physician visits which can discourage people from seeking medical care and force them to wait until their condition is dire. These circumstances increase the vulnerability of an already unhealthy population. Article 25 in the Universal Declaration of Human Rights guarantees the right to health (United Nations, 1948). When populations are left with inadequate access to health professionals to fulfill their most basic health needs, their right to health is infringed upon.

Why does a Rights Conflict Exist?

This complicated entanglement of rights cannot be solved by any single policy or action because the causes of medical brain drain are systemic. The weak health care systems in sub-Saharan Africa are why professionals leave and why citizens cannot access appropriate care. This poor state of health can be traced back to African countries' inability to invest in public infrastructure. In the 1980s and 1990s, the World Bank and International Monetary Fund (IMF) created structural adjustment programs that forced financially struggling countries to implement a set of sweeping economic reforms in order to receive loans (Shah, 2013). These reforms opened free trade, privatized and deregulated public sectors, and significantly reduced government spending (Shah, 2013). The goal of structural adjustment programs was to move countries away from a dependence on domestic markets and integrate them into dominant global markets and international trade (Oringer & Welch, 2014). The World Bank and IMF argued that if countries adhered to these reforms, economic growth was inevitable and consequently, so was health sector growth (Shah, 2013). However, these reforms required dramatic short-term decreases in social spending, leaving health systems extremely underfunded (Thomson et al., 2017). Most health services now relied on user fees and marked-up prescription prices to cover basic costs (PANOS, 1999). These changes disproportionately affected the poorest citizens (Thomson et al., 2017). A 50 percent decline in clinic attendance was reported a few weeks after the imposition of health service user fees in Ghana, Kenya, and Nigeria (PANOS, 1999). While African countries may have every intention to protect their populations from ill-health, unresolved debts hinder their ability to do so. These reforms did not exclusively affect the health sector, other public sectors in African countries were affected by similar cuts. The fragility of multiple systems within a

country creates an extreme vulnerability to political corruption and conflict. This feedback loop is continuous and burdensome.

Resolving These Conflicting Rights

The right to fair working conditions and the right to health are mainly responsibilities of the state (Ogilvie et al., 2007). When powerful financial institutions fail to allow the state to provide fair working conditions for their health professionals, worker's rights are violated. To reinstate this right, workers can exercise their individual right to free migration. When workers emigrate they leave behind already poor health systems, contributing to the violation of the citizen's right to health. The World Bank and IMF's 'short-term pain for long-term profit' agenda contributes to the poor health of millions because it refuses to see a healthy and educated population as a worthy economic investment. These institutions perpetuate the belief that good health is only necessary because it supports economic production. This is a fallacy. Good health can and should be an end in itself. The World Bank and IMF have created a global system of financial injustice that directly causes medical brain drain. Therefore, instead of conceptualizing medical brain drain as an issue that violates human rights, it must be considered as a symptom of broader global injustices. Medical brain drain itself is not a human rights violation. The system that *causes* medical brain drain is where the human rights violations lie.

To prevent medical brain drain, this system of injustice must be acknowledged and addressed. Any response must include funding for health systems and the relief of debt. These investments create a sustainable solution to medical brain drain because they address the root of the issue. It's also well known that investments in health promote economic growth (Bloom et al., 2004). In addition, affluent nations must discourage and work to dissolve recruitment agencies and tactics. This will protect citizens' right to health and reaffirm nations' commitment to the MDGs. The human rights violations that accompany medical brain drain are completely preventable. Abolishing the systems of global power that feed injustice is necessary to protect and secure human rights.

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Containing a Wildfire: The Indispensable Role of Vaccination in Pandemic Control

Ryu Won Kang

The alcohol rub cools the shoulder, the needle pricks through the skin, and a little dot of blood remains–pre-pandemic, this experience was more a routine than a top-of-mind concern. Today, vaccination is a public health measure individuals and societies have become acutely aware of, and constitutes one of the most aggressively discussed items on political and scientific agendas. Serving to decrease the severity of SARS-CoV-2 infections and reduce community transmission, the development of effective COVID-19 vaccines has become a collective goal agreed upon by researchers, politicians, and the public. As of January 12, 2022, there are 114 coronavirus vaccines undergoing human clinical trials, of which 47 have reached the final stages (Zimmer et al., 2022). While the development of vaccines has progressed with promise and at a rapid pace, the distribution of vaccines has been notoriously entangled with political and bureaucratic hurdles and difficulty to approach equitably. This paper aims to offer a brief examination of the global COVID-19 vaccination programme through a scientific, political, and social equity lens.

The molecular principles of vaccination

To understand the role of vaccination within the context of the global pandemic, it is first necessary to probe the nature of the pathogen and the reasons behind why the human species has become consistently disadvantaged in this immunological battle. Normally, intruders to the human body contain structures called pathogen-associated molecular patterns (PAMPs) which identify them as belonging to a broad class of intruder–like viruses. The innate immune system, one that acts rapidly and does not retain memory of past intruders, contains cells that recognize these PAMPs. Once recognized, a slew of signals are relayed in the cell, eventually causing the activation of various antiviral programs designed to eradicate the intruder from the body. This task can be accomplished through the production of proteins called type I and III interferons, as well as the recruitment of other cellular troopers (Blanco-Melo et al., 2022). In a study published in *Cell*, however, Dr. Daniel Blanco-Melo and colleagues showed that following SARS-CoV-2 infection, the levels of type I and III interferons in the body were much lower than is typically expected during an infection. On top of this crucial finding, these researchers found clear cellular indications of a prolonged pro-inflammatory state in cells infected with SARS-CoV-2 – a key driver of COVID-19 disease pathology (Blanco-Melo et al., 2022).

To prevent such adverse effects associated with SARS-CoV-2 infection, vaccines have been actively developed as tools to take advantage of an extraordinary aspect of the human immune system – memory. The first time an

individual is exposed to a pathogen, the immune system requires time to assemble its troops, including T and B cells, and requires satisfaction of stringent criteria to activate these fighters. The relatively weak response that ensues is termed a primary response. If and when the same pathogen intrudes a second time, the immune system launches a more potent memory response, which is far more likely to eradicate the pathogen. The key to the successful action of a vaccine is the induction of a primary response by the introduction of a safe form of the pathogen. The immune system is then well-positioned to launch a powerful memory response in the future, but the individual experiences no negative symptoms from the initial inoculation.

This vaccine "training" is often conducted with a key surface structure of the SARS-CoV-2 virus called the spike protein. If the immune system learns to recognize the spike protein introduced to the body by the vaccine, the individual will be better equipped to fight off the actual virus. Instead of simply supplying the spike protein to the body, however, most current vaccines adopt a different approach – supplying the DNA or RNA instruction manual needed for the body to create the spike protein by itself. Such "gene-based vaccines" deliver the instruction manual for the spike protein by way of a plasmid (a small, circular piece of DNA), RNA carried in lipids, or insertion of DNA into a common cold virus (Schmidt, 2020).

Inequity and politicization in the global vaccine distribution campaign

In reality, the knowledge of these established immunological principles is far from sufficient to ensure that vaccines will ultimately enter arms. The delivery of vaccines is limited not only by a host of complicating factors in the laboratory, but also by a myriad of socioeconomic barriers preventing an equitable distribution. With the required number of vaccines outnumbering the number the world can currently make by three times (BBC, 2021b), access to vaccines has become a high-stakes race between nations. As with many other medical interventions, high-income countries in Europe, North America, and parts of Asia received their doses first and have a distribution rate of 133 doses per 100 people, compared to 4 doses per 100 people in low-income countries (VOA, 2021). Concerningly, the World Health Organization reports that three-quarters of the total vaccinations administered in the world have occurred in the handful of countries comprising 60 percent of the world's GDP (Kupferschmidt, 2021).

Black individuals in the United States have experienced abysmally low vaccination rates that are juxtaposed with high death rates from COVID-19 for this group, in keeping with the country's history of medical discrimination against this group (Walker et al., 2021). Residential segregation, for instance, has led to consistently poorer access to quality health care for Black communities (Razai et al., 2021). In addition to the egregious medical experimentation conducted by Western healthcare systems on minority populations throughout history (Razai et al., 2021), this mistreatment has led some marginalized groups to hold understandable trepidations about the integrity of the global vaccine campaign. These sentiments contribute to a growing epidemic of vaccine hesitancy, which

threatens the ability of vaccines to establish herd immunity - a phenomenon that occurs when a sufficient number of individuals are immunized such that even those who are unable to receive immunization are nonetheless protected. Herd immunity simply cannot occur if the concerns underlying vaccine hesitancy, especially those voiced by minority groups, are not addressed.

Along with inequity and widespread public mistrust in health institutions, the vaccine rollout has also been plagued by rampant and unproductive disputes at the political level. This has resulted in a poorly managed and uncoordinated vaccine distribution programme – particularly in Canada, which during February of 2021 sported the title of lowest per capita vaccination rate among the Western G7 countries (BBC, 2021a). There additionally exists heated criticism over why the country cannot mass-produce its vaccines domestically. To address this issue, the Trudeau government committed to upgrading a National Research Council facility into one that could produce vaccines. However, a subsequent statement was released, disclosing that this facility would not actually produce any vaccines until near the end of 2021 and at the time of writing is still not yet ready for vaccine production (Tumilty, 2022).

Non-vaccine based interventions to supplement mitigation of case counts

A discussion of the array of logistical challenges accompanying the vaccine rollout merits a mention of other alternative methods of containing the virus. Such alternatives do not function as substitutes for vaccination, but as interventions or treatments working synergistically with vaccines to ultimately reduce case counts. One promising area of research is the use of monoclonal antibodies for therapeutic purposes. The spike protein on SARS-CoV-2 and its interaction with a human protein named ACE2 is a target not just for vaccine development but also for antibody-based treatment. Antibodies are structures generated during an immune response that bind to specific sites on harmful pathogens and neutralize them. Dr. Dora Pinto and colleagues have reasoned that if an antibody is found that can block the SARS-CoV-2 virus from interacting with ACE2, this could prevent the virus from proliferating and replicating (Whittaker and Daniel, 2020). Pinto et al. analyzed blood samples of individuals who had previously been infected with SARS-CoV, questioning whether any of the antibodies in these samples could also recognize and neutralize the related SARS-CoV-2 (Whittaker and Daniel, 2020). Indeed, four such antibodies were found, offering hope that these antibodies could offer protection from the virus in future clinical trials.

Another approach to controlling the virus is adopting crucial non-pharmaceutical interventions (NPIs), or community mitigation strategies. The Centers for Disease Control and Prevention states that these are among the best courses of action during a pandemic when vaccines are unavailable (CDC, 2020). Measures such as quarantining individuals and their contacts following suspected exposure to the virus, as well as vigilant community surveillance and contact tracing, are key to containing spread. Reflecting on the successes of several countries in Asia, such as South Korea, Japan, Singapore, and Taiwan, researchers have identified some common threads in these countries' early pandemic

management strategies – rapid testing, quarantining, and isolation of the infected (Pung et al., 2021). On the contrary, the United States faced extremely high case counts of COVID-19 following inadequate and tardy measures to isolate potentially infected individuals and conduct rigorous contact tracing (Lewis, 2021). Government-sanctioned business and public facility closures are another integral component of a nation's non-pharmaceutical intervention plan; however, policymakers have struggled to balance the immense economic costs of such drastic actions against the health-related benefits (Haushofer and Metcalf, 2020).

Successes, lessons learned, and future directions

Although SARS-CoV-2 vaccine development has been pervaded with inequity, as well as countless political and scientific hurdles, the extensive knowledge gained by scientists and policymakers alike has allowed countries to overcome challenges previously deemed insurmountable. In a remarkably short period, companies such as Pfizer-BioNTech have created vaccines with strikingly high efficacy and safety. A study published in the *New England Journal of Medicine*, for example, showed that Pfizer-BioNTech's BNT162b2 mRNA vaccine performed at a 95% efficacy rate at preventing COVID-19 (Pollack et al., 2020). Importantly, the researchers of this study assured that demographic variables such as ethnicity, sex, and age had no bearing on the efficacy of the vaccine (Pollack et al., 2020). Moreover, with the rapidly growing body of research on the inequity inherent in the current vaccine distribution, as well as social activism to proactively address this issue, there is reason to hope that a more equally accessible rollout will accompany future pandemics.

A disastrous public health threat, but simultaneously a valuable learning opportunity, the COVID-19 pandemic has spurred a global vaccine effort of monumental scale that promises the fastest possible return to the new normal. The SARS-CoV-2 virus has not only inflicted considerable health costs by inducing a highly pro-inflammatory state in human cells and an imbalance from normal levels of interferons, but has also profoundly disrupted the ways in which societies operate and individuals interact. However, gene-based vaccines have helped to significantly curb the spread of the virus and relied on fundamental immunological principles of memory to generate robust responses to the pathogen. Wealthy states have gained disproportionate access to the vaccine, and even within these nations, inequality was blatantly demonstrated by the low rates of vaccination among marginalized populations. Vaccine development and distribution, thus, continues to be a fundamentally multidisciplinary endeavour, accentuating the importance of close collaboration between scientists, policymakers, corporations, and the public.

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Using the 3I Framework to Assess the Impact of Housing as a Social Determinant of Health on Ontario's Health Care System

Dhara Chauhan

The University Health Network (UHN)'s emergency department records show that about 230 housing insecure individuals represent over 15,000 hospitalizations in the emergency department (University Health Network, 2021). Housing is a key social determinant of this health inequity. Housing insecure individuals are unable to afford necessities, much less transportation to primary care services and prescription medications to manage their health conditions (Ali, 2017). As a result, housing insecure individuals are forced to wait to access health care until they require emergency care. As such, housing insecurity reduces the performance of Ontario's health care system in the domains of equity and access to care (Schneider et al., 2021).

Ontario's health care system needs to consider the impact of housing on health care outcomes, such as emergency hospitalizations. Hospital discharge plans seldom account for the housing insecurity of patients and that housing insecurity is linked to poverty (Ali, 2017). Low income discharged patients struggle to follow post discharge treatment plans and manage their health conditions because they cannot afford adequate housing, prescription medication, healthy food, and transportation to primary care services (Ali, 2017). These socioeconomic barriers lead discharged patients to be re- hospitalized, increasing the burden on Ontario's emergency health care system (Ali, 2017).

Despite evidence of the impact of housing on Ontario's health care system, government and health care leaders continue to see housing insecurity as an issue located outside the realm of the health care system. The lack of collaboration between the housing and health care sectors limits Ontario's ability to address poor health outcomes stemming from housing insecurity. The innovation of social medicine housing demonstrates how models of care that address social inequities can help reduce health inequities. Provincial policies can be implemented to encourage collaboration between the housing and health care sectors to help reduce the burden on Ontario's health care systems and tackle Ontario's housing crisis through social medicine housing. The COVID-19 pandemic has highlighted the role of poor housing conditions in rampant disease transmission, leading to overwhelming numbers of hospitalization (Ghosh et al., 2021). The federal and Ontario governments have also pledged to fund various housing initiatives to boost Ontario's post-pandemic economic recovery (Canada Mortgage and Housing Corporation, 2020). As such, there is now both motive and funding to implement policies to bridge housing and health care in Ontario.

The 3I framework is an established tool of policy analysis that has previously been used in the context of marijuana legalization and pharmacogenomic testing in Canada (Sandhu et al., 2021; Bashir & Ungar, 2015). In Ontario, the UHN has recently announced the launch of Canada's first ever social medicine housing program (UHN, 2021). As such, policy development in social housing medicine is in its earliest stages. The 3I framework has not yet been applied to the context of integrating housing interventions into the Ontario health care system. The objective of this paper is to apply the 3I framework to explore how various institutions, ideas and interests influence this policy gap, as well as discuss policy action to encourage social medicine housing programs to incorporate social determinants of health into hospitals' model of care.

Description of the 3I Framework

The 3I framework is a policy analysis tool that explores the institutions, ideas, and interests (the 3Is) which shape a policy or political topic (Figure 1). According to this framework, the 3Is are the basis of all policies. Institution refers to existing and legacy policies, like the constitution, government structures, and policy networks which shape the development of new policies (Bashir et al., 2015; Gauvin, 2014). Ideas refers to the evidence and values of the policymakers, public, and stakeholders that shape the policy issue and its possible solutions (Bashir & Ungar, 2015; Gauvin, 2014). Interests refers to the different stakeholders who can shape policy or who will be affected, positively or negatively, by new policies (Deber, 2017; Bashir & Ungar, 2015; Gauvin, 2014). Interests can be classified as diffused or concentrated (Deber, 2017). Diffused interests refer to stakeholders who have some interest in the issue but are attentive to other issues as well, such as the general public (Deber, 2017). In contrast, concentrated interests refer to stakeholders who have a major stake in the issue and will be directly affected by it, such as patients in the context of health care policy (Deber, 2017). This analysis will uncover the factors and stakeholders that play a significant role in the creation and implementation of policies to bridge the gap between the housing and health care sector.

Using the 3I Framework

Institutions

In the 1990s, the federal government phased out funding for housing programs and passed down responsibilities of housing program administration and provision to the provinces and territories (Ramage et al., 2021). Shortly after, the Ontario government passed most of its responsibilities onto its municipalities (Ling, 2008). The Ontario Ministry of Municipal Affairs & Housing oversees the municipalities' housing programs (Financial Accountability Office of Ontario, 2021). The Ministry of Municipal Affairs and Housing also provides housing subsidies to low-income Ontarians, however, these subsidies fail to offset the high rents in the private market. As such, recipients continue to live in housing insecurity (FAO, 2021). The Ministry of Municipal Affairs and Housing is

struggling to allocate existing limited housing resources and funding due to high demand during the ongoing housing crisis (MacLeod et al., 2016). If the Ministry of Municipal Affairs and Housing partners with the Ministry of Health, the Ministry of Municipal Affairs and Housing can create new criteria, based on emergency services utilization, to help allocate the scarce resources to individuals identified to be in most need (MacLeod et al., 2016). The downloading of responsibility and phasing out of funding has led to the current housing crisis, however, measures and policies are being introduced to bridge this gap.

In 2017, the Federal government's National Housing Strategy pledged to renew funding for housing programs for the next decade (Canada Mortgage and Housing Corporation, 2018). During the pandemic, the National Housing Strategy launched the Rapid Housing Initiative (RHI) to meet the exacerbated housing need by providing funding for rapid construction of housing for housing insecure individuals (Canada Mortgage and Housing Corporation, 2021). In 2019, under Premier Ford the Ministry of Municipal Affairs and Housing passed the *More Homes, More Choice Act*, Bill 108, to increase the province's housing supply by reducing red tape around housing construction and selling unused government property to developers (Ministry of Municipal Affairs and Housing, 2019).

The *Canada Health Act* shapes housing insecure individuals' reliance on emergency health services. The Act provides Canadians with coverage for medically necessary services, defined as hospital and physician services, to reduce financial barriers to accessing care (Deber, 2017). However, housing insecure individuals heavily rely on emergency services because they do not require upfront payment for treatment or OHIP information which is difficult to obtain without a stable home address (Ali, 2017). The Ontario Ministry of Health allocates funding to hospitals to provide emergency medical services, thus, reductions in rehospitalizations will allow the Ministry of Health to redistribute funding to prevention and management of chronic illness (Deber, 2017).

Ideas

Conflicting neoliberal and human rights values shape this policy issue. It is common knowledge that Canada is amidst a housing crisis. The differing values of political parties in power at different levels of government are shaping responses to this crisis. At the provincial level, Ford's Progressive Conservative political party proposed Bill 108, in alignment with prominent neoliberal ideologies which stress the importance of the free-market and minimum state influence on economic and social issues. At the national level, the National Housing Strategy marks a deviation from neoliberal ideologies by framing housing as a basic human right (FAO, 2021). Similarly, Canadians have historically held the belief that access to medical care should be available to all who require care regardless of their ability to pay, which is the basis of the Canada Health Act (Martin et al., 2018). A human

rights approach is required to develop policies that provide equitable access to housing and primary health care services.

There is plenty of evidence that housing impacts health through numerous direct and indirect pathways (Toronto Public Health, 2016). In the context of the COVID-19 pandemic, people living in overcrowded households have a higher risk of contracting the virus due to difficulties self-isolating and social distancing (Ghosh et al., 2021). The pandemic has highlighted the detrimental effects of unaddressed social inequities on population health and health care systems.

There is also evidence to support that providing adequate housing is an effective health intervention. Research on social housing indicates that residents' rate and duration of emergency department hospitalization decreased significantly after one year of living in social housing units (Hinds et al., 2019; Hinds et al., 2018). Research also highlights the need for incorporated medical and social services in social housing to provide residents with resources and tools, like health services, counseling, and employment services, to further improve their own quality of life (Ramage et al., 2021). Despite this evidence, there is a lack of appropriate policy action because the current methods of studying social housing as a health intervention underestimate the effect of housing on health due to focusing on the effect of individual features of housing on specific health outcomes (Baker et al., 2017). Improved research methods that study the holistic impact of housing can encourage policy reform.

Interests

Policies can help promote partnerships between hospitals and municipalities to start social medicine housing projects. Hospitals have a diffused interest in policies bridging housing and health care because their prime focus is clinical care. Although hospitals would benefit from policy implementations addressing social inequities as that will reduce burdens on hospital resources during health crises, like pandemics (Ali, 2017). In return, hospitals will have to contribute assets and services to social housing interventions (Deber, 2017). However, specific stakeholders within hospitals, like the Gattuso Social Medicine Center at the University Health Network, have a concentrated interest in this policy issue because the Social Medicine Center was created to innovate interventions that integrate the social determinants of health into medicine (University Health Network, 2021). Municipalities have a diffused interest in this topic because their primary focus is solely housing. However, they will benefit from financial support from the province and hospitals to fund the construction and maintenance of social housing units, which they have struggled with since the downloading of housing responsibilities (Bulowski, 2020).

Other stakeholders will also be impacted by social medicine housing and associated policies. Low-income Ontarians will benefit from stable housing and integrated health care services improving their health and quality of life (Ramage et al., 2021). New policies will harm the interests of private developers who

are profiting from unaffordable housing prices. As low-income Ontarians enter social housing programs, the demand in the private market will decrease which will reduce the profit margins of private developers. Currently, private developers can easily outbid municipalities in land acquisition (Bulowski, 2020). As such, measures need to be taken to establish equitable access to land for municipalities (Bulowski, 2020). On the other hand, private developers will benefit from residents of social medicine housing returning to the private housing market with a higher socioeconomic position in the long term (Ramage et al., 2021). Research indicates that social housing integrated with health care and social services allow residents to pursue new employment or education opportunities helping them achieve financial security (Ramage et al., 2021). In terms of political interests, the implementation of new policies that support social medicine housing projects will strengthen the political platform of Ford's provincial party in the upcoming provincial election as housing was also a pertinent political issue during the 2021 Federal election (Stewart & Glover, 2021).

Discussion

Premier Ford's provincial government recently passed Bill 108 to increase the province's housing supply by reducing red tape around housing construction and selling unused government property to developers (MMAH, 2019). Bill 108 solely relies on the free market to address the housing crisis, but Ontario's most vulnerable will not be able to compete in the free market despite increased housing supply because of their low socioeconomic status (MacLeod et al., 2016). Low-income Ontarians are forced to turn to city-run social housing programs, which are struggling to construct and maintain social housing units as housing demand skyrockets across the province. According to Ramage et al. (2021), empowering social housing residents is key to ensuring that most residents can eventually move out of social housing and return to the private market, which will free up resources for other people in need of housing. To empower residents, access to primary health care and social services must be integrated into the social housing programs to reduce social inequities and promote socio-economic mobility (Ramage et al., 2021). Research indicates that social medicine housing programs can play a significant role in addressing health inequities.

The Gattuso Social Medicine Center at the UHN has partnered with the City of Toronto and United Way Greater Toronto to launch Canada's first ever social medicine housing project to integrate the various social determinants of health into hospital care design (UHN, 2021). The purpose of this new design is to reduce the rate of emergency hospitalizations among housing insecure individuals by directly targeting housing and other relevant social determinants of health (UHN, 2021). This initiative has been funded by the federal government's Rapid Housing Initiative program and the provincial government (UHN, 2021). The City of Toronto will be constructing modular housing on the UHN's property and leasing units to individuals identified to be in severe housing need during the hospital discharge procedure (UHN, 2021). This partnership between stakeholders with diffused interests in bridging health and housing (municipalities

and hospitals), will allow each stakeholder to focus on their area of expertise in the social medicine housing project. The Gattuso Social Medicine Center will provide access to primary care to residents while the City of Toronto and United Way Greater Toronto will offer the necessary social services (UHN, 2021). If this intervention succeeds in reducing hospitalization rates, it can provide policy makers with critical evidence to inform policies aimed at bridging the gap between housing and health care.

The UHN's social medicine housing project can help produce long lasting change in Ontario to address health inequities. The partnership between the UHN and the City of Toronto is crucial to ensuring the City has land on which to construct social housing. Historically, municipalities have struggled to acquire and keep land due to low funding and high competition from private developers (Bulowski, 2020). Partnerships with hospitals will allow cities to use hospital land assets and increase their purchasing power in land acquisition. The Province can further encourage social medicine housing projects across its jurisdiction through policy action. Ford's Bill 108 may be adapted to allocate the province's unused property to municipalities and hospitals to encourage partnerships between municipalities and hospitals for the creation of social medicine housing. This can improve the efficacy of Bill 108 in addressing the housing crisis in two ways: first, it provides equitable access to property for municipalities and hospitals that have limited resources to outbid private developers; second, it will help ensure a dedicated mechanism to provide vulnerable Ontarians with equitable access to housing. In addition, financial incentives can be offered to hospitals to encourage collaboration with cities and community partners to launch social medicine housing projects.

Ford's Progressive Conservative government might need to temporarily compromise its neoliberal values. The province may face some immediate short-term financial loss because it will not be able to sell all its unused property to the highest bidder, such as a private developer. However, the long-term benefits of social medicine housing align with the Progressive Conservative government's vision to strengthen the economy; social medicine housing projects will generate jobs in health care, housing, and construction, which will also aid in the post-pandemic recovery of Ontario's economy (MMAH, 2019). Moreover, social medicine housing residents will also have more money to invest in economies outside the housing market, which would contribute to strengthening Ontario's economy. The goal of post-pandemic economic recovery is shared with the federal government, which is currently offering funding for housing projects under the Rapid Housing Initiative. As such, the combination of allocated property from the province and existing federal RHI funding and policies provide the key resources to build social medicine housing without significantly burdening the provincial government.

Conclusion

Provincial policies can play a crucial role in encouraging the integration of housing and associated social determinants into Ontario's health care

system through social medicine housing. The 3I framework highlighted the interdependencies between various stakeholders and their respective agendas, allowing a discussion of policy reform that pertains to the interests of key stakeholders. Allocating land assets for such collaborations is a key example of using policy action to encourage social medicine housing. By doing so, the burden on Ontario's health care system is reduced and the most vulnerable Ontarians are ensured equitable access to housing and health care services. Policy action can be taken to increase equitable access to housing and health care services to improve the performance of Ontario's health care system (Schneider et al., 2021).

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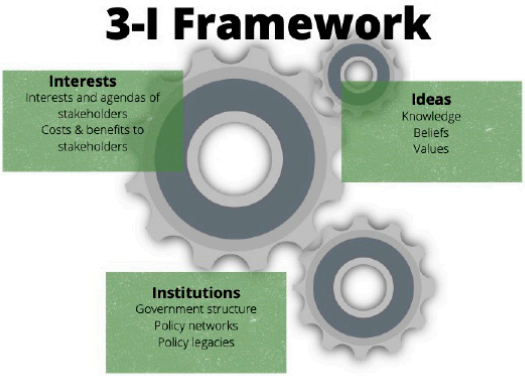
Figure 1: An illustration of the three components of the 3I framework. Adapted from Sandhu et al. 2021. https://doi.org/10.33137/utjph.v2i1.34726



Anti-Black Racism and the Development of Cognitive Diseases: A Mini-Scoping Review of the North American Literature

Nasma Ashraf

Studies across North America have reported that anti-Black discrimination, prejudice and bias can have a negative impact on the overall physical and mental health of Black individuals. This is exemplified by the statistic that Black men and women in the United States and Canada have a significantly higher likelihood of developing diseases such as hypertension, type-2 diabetes, cardiovascular disease and obesity than white individuals (Dryden & Nnorom, 2021, Basiu et al., 2017).

Within the literature on Black health outcomes, there has also been a focus on racial disparities surrounding cognitive diseases. In the United States, African Americans are twice as likely to develop age-related dementia than white individuals (Alzheimer's Association, 2021). The Black population in the United States is projected to grow by 12% by 2060, yet Black individuals are also more likely to live longer years of life with dementia (American Psychological Association, 2021).

However, there is a lack of literature pertaining to how anti-Black racism seeps through various aspects of an individual's life and combines to develop a higher likelihood of Black individuals developing cognitive impairments later on in life. Thus, this scoping review will analyse existing literature pertaining to the research question: *How does Anti-Black discrimination impact the potential for cognitive impairment among Black elderly (50+) individuals in North America?* Investigating the effect of anti-Black racism on cognitive decline can allow for researchers and policymakers to design interventions and policies that prevent further perpetuation of cognitive impairments amongst Black communities across North America.

Methods

This scoping review was completed from October to December 2021 using electronic databases from the University of Toronto libraries. It used literature that addressed how anti-Black racism can lead to cognitive impairment across North America. Arksey and O'Malley's framework (2005) for conducting scoping reviews was utilized.

Research Question

The research question that guided this scoping review was: *How does Anti-Black discrimination impact the potential for cognitive impairment among*

elderly (50+) individuals in North America? In addition to this research question, sub questions that this scoping review will address are: i) *Do historical policies such as racial segregation impact cognitive health outcomes for Black elderly individuals?, ii) What are the implications for policy, practice, and research?, and iii) Are there any existing gaps in the literature?*

This search strategy was framed using the PICO (Patient Population, Intervention of Issue or exposure, Comparison Intervention, Outcome of Interest) method. The population of interest in this scoping review includes individuals in North America who identify as Black and those who are over 50 years of age.

Search Strategy

The comprehensive literature search began by locating relevant databases through the University of Toronto Libraries website. The search included two main databases: MEDline and AGEline. The search strategy was constructed according to the following four concepts using subject headings: i) African continental ancestry group, ii) aged 50 and over, iii) studies that were conducted in North America (Canada, United States and Mexico), iv) studies that included cognitive diseases (e.g., Alzheimer's disease and Parkinson's disease), and v) racism in the form of discrimination, bias, and bigotry.

A secondary search was conducted to acquire grey literature from organizations that specialize in Black health outcomes and cognitive diseases. To elicit this search, there was a rephrasing of the question to the topic of: Anti-Black discrimination and cognitive impairment among Black elderly in North America. Three relevant literature pieces were obtained.

Study Selection

After the collection of data using the aforementioned databases, the results were scanned to see if the inclusion and exclusion criteria were met. The inclusion criteria developed to identify relevant articles were: (i) studies published in English between 1995 and 2021 (ii) qualitative and quantitative studies, iii) studies related to anti-Black discrimination, iv) elders 50+, v) studies in North America. Results of the studies must provide information on how anti-Black racism can affect cognitive health outcomes of Black elderly individuals. For the exclusion criteria, qualitative studies and review papers not published in English before the year 1995 and studies that were conducted outside of North America were excluded. After the first round of screening, 13 articles fit into the inclusion criteria. From the remaining 13 articles, there was a secondary screening that consisted of reading the full text of the articles. This resulted in nine articles being left that fit the inclusion criteria.

Results

Seven out of nine articles focused on how systemic racism impacts life occurrences and chances which contribute to sources of stress in Black individuals' life (Forrester et al., 2018, Zhang et al., 2016, Alzheimer's Association, 2021, American Psychological Association, 2021, Turner et al., 2017, Peterson et al., 2021, US Department of Health and Human Services, 2014). These studies highlighted three large determinants of cognitive health at a systemic level, which

were: i) socioeconomic status, ii) housing status, and iii) education level and quality.

Socioeconomic Status

Four out of nine articles (~44%) reported that socioeconomic status (SES) is a contributing factor to chronic stress amongst Black individuals, which overtime leads to cognitive impairment (Forrester et al., 2018, Zhang et al., 2016, Barnes et al., 2012, and US Department of Health and Human Services, 2014). One of the psychosocial factors mentioned was socioeconomic status, which can in turn affect the behaviour and choices one engages in (Forrester et al., 2018). These behaviours, such as eating low-nutrition foods or engaging in unhealthy coping mechanisms (i.e, substance abuse) to deal with financial stress can overtime manifest into chronic stress and development of diseases (Forrester et al., 2018). Chronic stress affects cognitive outcomes because it can lead to glucocorticoid secretion which activates the fight or flight mode in our bodies and leads to an eventual decrease in hippocampus volume (Forrester et al., 2018). This decrease in one's hippocampus volume leads to the progression of long-term memory loss (Forrester et al., 2018). In the United States, Black individuals have a higher likelihood of being financially insecure or below the poverty line than white individuals, which can therefore explain for the early onset of cognitive diseases amongst Black individuals compared to other racial groups in the United States (Hayward et al., 2000; Zsembik and Peek 2001).

A literature review conducted by Zhang et al. also further emphasized the impacts of SES on the quality of life and health outcomes for Black individuals (2016). Financial strain is usually long lasting and acts as a mediating factor in the development of high blood pressure, hypertension, and stroke (Zhang et al., 2016). Zhang et al. explores the research findings of Aggarwal et al. 2014 and colleagues which states that these chronic health conditions can lead to an early onset of cognitive diseases and decline (2016). An example of a financial stressor mentioned by Zhang et al. is the inadequate intake of nutrition and the experience of food insecurity, which is associated with early onsets of cognitive decline and dementia (2016). Zhang et al. also cites research which states that due to racial segregation and redlining in America, Black individuals are more likely to have lower levels of education, lower-paying jobs, and face job precarity in comparison to their white counterparts (2016). In consequence, there is a large income disparity between Black and white individuals in America (Zhang et al., 2016). This income disparity translates to Black individuals experiencing chronic financial stress and therefore showing early onsets of cognitive impairment compared to white individuals on average (Zhang et al., 2016; Shapiro, Meschede, and Sullivan 2010).

Housing status

Two out of nine articles (22%) mentioned how the quality of one's living arrangements is a stressor that impacts the mental health outcomes of individuals and is observed in the mental health outcomes of Black individuals (Forrester et al., 2018, American Psychological Association, 2021). A longitudinal study conducted by Forrester et al. explored how historical segregation laws played into

the lack of access to educational resources by Black individuals (2018). Results in this study indicated that segregation laws led to inadequate housing (such as having physical deficiencies and lack of working appliances) and poverty (due to inability for Black individuals to access mortgages) (Forrester et al., 2018). These inadequate housing conditions are associated with high blood pressure and high levels of cortisol (Forrester et al., 2018). These high cortisol patterns are associated with the experience of memory loss, which in the long-term results in an early onset of cognitive diseases such as Alzheimer's (Forrester et al., 2018). These results indicate that there have been long-standing repercussions of the racial segregation legalized by the Jim Crow laws. Which has led to income segregation in cities such as Detroit and Alabama, where there is a significant difference in access to resources such as affordable food retailers, green spaces, and communal spaces (Peterson et al., 2021). As a result of these lack of financial, cultural, and social resources, there is a collective stress endured by Black communities (Peterson et al., 2021).

Education

Six out of nine studies (~66%) reported that anti-Black racism within the education sector is a mediating factor for cognitive impairment (Forrester et al., 2018, Zhang et al., 2016, U.S. Department of Health and Human Services, 2014, Peterson et al., 2021 & Turner et al., 2017). A longitudinal study conducted by Peterson et al. (2021) collected data on the experience of life adversaries amongst white and Black individuals (2021). Results from this cohort study indicated that participants who attended an unsegregated school between grades one and six had the highest levels of cognitive functioning (Peterson et al., 2021). Additionally, results indicated that students who attended only segregated schools had significantly worse semantic memory than individuals who only attended non-segregated schools (Peterson et al., 2021). This difference can be attributed to the higher quality of education and resources allocated to individuals who went to non-segregated schools (Peterson et al., 2021). Segregated schools for Black individuals were not well taken care of and did not have equal access to resources the way that unsegregated schools did (Peterson et al., 2021). This inadequate funding could have had an impact on Black individuals' learning and cognition processes from an early age (Peterson et al., 2021).

Forrester et al. cited a similar longitudinal study which reported that African American individuals in the study who were at risk of cognitive impairment were born in 1953 (2018). Although formal school segregation ended before these participants started school, the social and environmental consequences of racial segregation was still present, which impacted the quality of education Black individuals received (Forrester et al., 2018, Wolkon et al., 1992).

Zhang et al. also cited studies that reported that Black individuals attended school significantly less than white individuals did (Zhang et al., 2016, Glymour and Manly, 2008). White students on average had around 50% more school day attendances than Black individuals (Zhang et al., 2016). This disparity in school attendance demonstrates that fundamental parts of the United States school curriculum were likely not introduced to Black students, which could

in school attendance demonstrates that fundamental parts of the United States school curriculum were likely not introduced to Black students, which could impede brain development (Zhang et al., 2016). Lastly, studies cited by Turner et al. and the U.S Department of Health and Human services stated that lower levels of education are correlated with high levels of stress due to the increased likelihood of falling into adult poverty (Turner et al., 2017 & U.S Department of Health and Human services, 2014). Consequently, this chronic stress can expose Black individuals to early onsets of cognitive impairments (Turner et al., 2017 & U.S Department of Health and Human services, 2014).

Discussion

This scoping review aimed to investigate how Anti-Black discrimination impacts the development of cognitive impairment among Black elderly (50+) individuals in North America. Nine studies were selected for this scoping review. All studies connected perceived feelings of stress to lower cognitive health outcomes, which were seen in memory loss or the development of cognitive diseases such as dementia in the long term (Forrester et al., 2018, Alzheimer's Association, 2021, American Psychological Association, 2021, Zhang et al., 2016, Barnes et al., 2012, Zahonde et al., 2017, Turner et al., 2017, Peterson et al., 2021, US Department of Health and Human Services, 2014).

Implications for Practice

Many cases of cognitive impairment observed amongst Black individuals stem from their exposure to anti-Black discrimination experienced in healthcare settings (Turner et al., 2017, Barnes et al., 2012, Zhang et al., 2016, American Psychological Association, 2021). This discrimination stems from a lack of culturally informed and holistic care, which results in Black individuals being reluctant to seek medical care or to get potential health issues examined by doctors (American Psychological Association, 2021). Opening local community health centers in Black neighbourhoods that are founded by Black physicians to serve Black community members can be a helpful outlet for Black individuals to seek trusted care. For example, in Toronto, Ontario there is a community health center named Taibu, located in an immigrant-populated neighborhood. Not only does this community healthcare center provide trustworthy healthcare services, but also considers a health promotion approach for the health of Black individuals, to improve health outcomes and life expectancy in Black and coloured populations (Taibu, 2021). The various programs also being offered for Black seniors can also help offset feelings of social isolation that are exacerbated when experiencing interpersonal racism and racism from healthcare providers (Zhang et al., 2016).

Conclusion

Anti-Black racism can impact cognitive impairment through socioeconomic status and education level and quality (Forrester et al., 2018, 2021, Zhang et al., 2016, Barnes et al., 2012, Zahonde et al., 2017, Turner et al., 2017, Peterson et al., 2021). Cognitive impairment rates are projected to increase with time, especially amongst the Black population, who are prone to earlier onsets of cognitive impairments (Langa et al., 2008). This is a public health issue due to cognitive impairment being associated with mortality (Langa et al., 2008). Thus,

further research is needed to investigate interventions that can be adopted to offset these rates of cognitive impairment.

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