Canadian government discourses on the overdose death crisis: limitations of a bio-evidenced approach

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Abstract

Purpose – *Critical analyses of health policies and practices may appear to lack practicality during unprecedented times that demand immediate solutions. This paper aims to use critical social science theories to help improve essential service delivery during a public health crisis.*

Design/methodology/approach – *This study is based on qualitative content analysis of government and scholarly sources between 2008 and 2021 to identify strengths and gaps underlying the Canadian Federal Government's evidence-based solutions to the opioid death crisis. Key questions examined are: What constitutes best-evidence practices underlying the Canadian Drugs and Substances Strategy?, Is biomedical evidence the only legitimate framework to substantiate feasible interventions? and Because the opioid death crisis affects disproportionately vulnerable populations, what is the potential merit of considering diverse knowledges and practices as valid forms of intervention despite lacking biomedical evidence bases?*

Findings – *While overdose reversing drugs, drug replacement approaches, biologically focused harm reduction options and pharmacological regulatory and surveillance initiatives help reduce premature opioid-related morbidity and mortality across provinces, this study's findings demonstrate that these individualizing, biomedical magic bullets are temporary solutions, not comprehensive plans to solve a societal problem. This study's theoretically informed analysis shows that the Canadian Federal Government responses detract attention from issues of social justice, social inequities and the biomedical dominance of health care as broader forces of the opioid death crisis. To address these analytical omissions, broader evidence-based solutions must build upon meaningful intraventions, the insiders' perspectives or voices of the afflicted communities alongside meaningful interventions – going beyond distal, clinical-based and proximal, home-based interventions.*

Originality/value – *By highlighting the biomedical and social embeddings of the opioid death crisis, this study underscores structural conditions rather than individuals' physical bodies as the catalysts for change. A deeper theoretical understanding of why certain issues exists, as they do and how they occur, can provide the basis for prediction of their (re)occurrence and for informing meaningful intervention efforts.*

Keywords *Biomedical evidence critique, Canada, Drug poisoning crisis, Government responses, Opioids, Overdose death crisis, Public health, Social theory*

Paper type *Research paper*

Introduction

Canada has been both a laggard and a leader in drug policy, among the first to prohibit (1923) and then legalize (2018) cannabis (Fischer *et al.*, 2020). In 1978 the province of British Columbia (BC) introduced the Heroin Treatment Act allowing the involuntary detainment of individuals misusing opioids but then Canada became a leader in studying the therapeutic utility of heroin assisted treatment and the use of hallucinogens in treating post-traumatic stress syndrome (PTSD) and treatment-resistant depression (Bruno and Csiernik, 2018). As communities across North America grapple with increasing rates of

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opioid overdoses and fatalities, the Canadian Government has attempted to take a coordinated approach to address this national crisis.

In Canada, 19,355 citizens died from opioid overdoses between January 2016 and September 2020 with another 22,240 hospitalized from opioid poisoning (Government of Canada, 2021). A substantive policy change occurred in 2017, when the National Anti-Drug Strategy (NADS), which had relied heavily on enforcement action, was replaced with the Canadian Drugs and Substances Strategy (CDSS) (Government of Canada, Department of Justice, 2018). The latter supported the earlier four pillar model in the addiction field, integrating prevention and harm reduction with treatment and enforcement (MacPherson and Rowley, 2001). The stated focus of this new initiative was a public health approach to substance misuse, underscoring a "collaborative," "compassionate" and "evidence-based" approach to drug policy (Government of Canada, 2018). The CDSS recognized how power and inequity are socially embedded and reproduced, contributing to the Canadian overdose death crisis necessitating not only initiatives for reducing the supply of illegal drugs but also a focus on health and social service interventions (Government of Canada, 2019).

While an evidence-based approach emerged, it still relies primarily on biomedical magic bullets. Magic bullets refer to biochemical cures intended to target a disease as a biological dysfunction (Becker *et al.*, 2014: 221–222; Kleinman, 1988, p. 109). Biomedicine depends heavily on biological magic bullets like pharmaceuticals and vaccines to "shoot" and "kill" organic agents such as bacteria and viruses causing diseases. This focus on finding a biological cure, often omits multiple factors that may impact on disease causation and effective treatment (Lock and Nguyen, 2018). This becomes a greater concern when there are other than purely biological factors to consider as root causes (Dasgupta *et al.*, 2018).

Kleinman's longstanding critique of medicalization raises important questions regarding the dominance of biomedicine in mainstream society as life problems are increasingly brought under its care. Medicalization of not only drug misuse, but also obesity, aging, child abuse or mental health conditions, leads many to search for their genetic roots, to assess other individual risk factors and to pursue biological-specific magic bullets for complex biopsychosocial problems, thus obfuscating the political and economic problems that influence these behaviors (Kleinman, 1995). Rather than being a purely biological phenomenon, addiction is also an issue of race, gender, poverty, social location and its intersections hence, a form of social suffering, entailing structurally imposed distress driven by broader social factors beyond individual control (Farmer *et al.*, 2014; Kleinman *et al.*, 1997).

Historically, Canadian policy has exclusively used an individualistic causal explanation linked to biological predispositions to explain individuals' addiction to psychoactive drugs. Without question addiction has distinct biological and psychological components, but there are also pronounced social and structural factors that frame the process. Diverse drug using experiences require diverse responses to individual needs; needs that may or may not coincide with the expectations of predominantly biomedical-public health protocols that Canadian policy promotes and where government funding is substantially directed.

Overall, Canadian public health policy lacks an open discussion of the overdose death crisis in the context of post-colonialism in which issues of racism, intergenerational trauma and structural violence continue to exclude many vulnerable populations from accessing critical resources like adequate food, clean water, housing, employment and education. This omission has led to higher morbidity and mortality rates among marginalized groups (Dell *et al.*, 2012; Farmer, 2004; Farmer *et al.*, 2019). Structural violence extends general definitions of violence beyond physical, emotional and psychological harms, leading to severe injuries and loss of life as highlighted in Canada by the systematic oppression of Indigenous Peoples. Lacking access to fundamental resources itself constitutes a form of

violence. While structural violence has been foregrounded in scholarly analyses, it overlaps with the concept of social determinants of health (SDOH), the structural conditions in which people grow, live, work and age. Inequalities in these conditions lead to inequalities in health (Dell *et al.*, 2012).

In current substance treatment, the main biological approaches include antidotes such as naloxone and opioid substitutes, primarily methadone and Suboxone. Accompanying these are limited institutionalized harm reduction interventions that focus only on the imminent crisis, by discursively supporting needle exchange programs and supervised consumption sites (SCS) to prevent immediate opioid-related harms. However, this unidimensional medicalized priority excludes counseling initiatives that delve into underlying psychological and social factors as well as structural issues premised upon the SDOH (Hedrich and Hartnoll, 2021).

While the overdose death crisis can impact all segments of the population, its effects are not evenly distributed (Government of Canada, 2021). Despite limited data, existing research demonstrates that vulnerable populations including the homeless, those struggling with mental health issues and at-risk populations including prison inmates, many of whom belong to lower socio-economic strata, are disproportionately affected by the overdose death crisis (Lavalley *et al.*, 2018; Webster *et al.*, 2020). However, the greatest proportionate impact has been on Canada's Indigenous population (First Nations Health Authority, 2017; Government of Alberta, 2017), with the highest overdose deaths disproportionately occurring among youth in First Nations communities (Belzak and Halverson, 2018; Dorman *et al.*, 2018).

First Nations residents are five times more likely to experience an opioid-related overdose event and three times more likely to die from opioid-related causes than non-First Nations residents. Northern Indigenous communities experience higher opioid-related challenges because of inadequate access to health and addiction treatment services (Dorman *et al.*, 2018; Marsh *et al.*, 2015). Historical and persistent traumas related to colonization, residential school experiences, poverty, child apprehension and involvement in child welfare systems (Lavalley *et al.*, 2018), gender-based determinants including family violence and demands of single-parenthood (Dell *et al.*, 2012), as well as violence against Indigenous girls and women (National Inquiry into Missing and Murdered Indigenous Women and Girls (Canada), 2019) continue to challenge Indigenous communities across Canada. Additionally, over-policing and higher rates of incarceration of Indigenous and other racialized populations represent socio-structural drivers of health inequities that contribute to overdose deaths among vulnerable groups (Jongbloed *et al.*, 2017; Lavalley *et al.*, 2018).

In understanding how social determinants can predispose individuals to opioid use and why many Canadians live in chronic pain, are anthropologists' accounts of somatization in which individuals in many cultures use personally meaningful and culturally acceptable bodily idioms like pains and aches to communicate personal distress instead of using psychological affect like sadness, hopelessness or depression, to describe their mental health. Presenting their symptoms in a somatized rather than a psychologized language may mitigate the stigma often associated with mental illness (Kleinman, 1988; Nichter, 1981). In this regard, opioid use can become a form of self-medication for personal distress that is mediated through expressed physical rather than psychological symptoms. Even within medical communities, it has been recognized that patients who use pain medication beyond two to three months for their injuries, are more likely to be suffering from depression, related psychosocial distress or underlying trauma (Helmerhorst *et al.*, 2017). Thus, life events rather than inherently biological factors can compel individuals to opioid use, just like many opioid dependents who in the face of a current environment of restrictive access to prescription opioids, must resort to diverted drugs as self-described harm reduction to prevent overdoses (Bardwell *et al.*, 2021a). Nonetheless, the increasing presence of illicitly produced fentanyl and related analogues has exacerbated opioid overdose deaths (Bardwell *et al.*, 2021b). Considering these broader socio-structural underpinnings affirms

the importance of a more comprehensive policy framework that approaches the opioid death crisis as a societal issue, supporting meaningful intraventions alongside interventions, comprised of diverse knowledges and practices for removing structural barriers to quality care.

Critical analyses of health policies and interventions are often met with skepticism as they appear to lack practicality during trying times that demand immediate solutions (Farmer *et al.*, 2014; Watson *et al.*, 2020). A deeper theoretical understanding of why certain issues exist and how they occur, can provide the basis for prediction of their reoccurrence, while also informing meaningful intervention efforts. In attempting to understand why opioid overdoses and fatalities have continued to escalate despite increased public health initiatives we delineated three broad questions:

Q1. what constitutes best-evidence practices underlying the CDSS?

Q2. Is biomedical evidence the only legitimate framework to substantiate feasible interventions?

because the overdose death crisis disproportionately affects vulnerable populations:

Q3. what is the potential merit of considering diverse knowledges and practices as valid forms of intervention despite lacking biomedical evidence bases?

Methodology

Data collection involved textual data analysis from secondary research undertaken between 2018 and 2021 using two sources:

1. federal government drug policies retrieved from the Government of Canada's Health Canada website; and
2. peer-reviewed articles drawn from six scholarly databases: Google Scholar, Science Direct, ProQuest, PubMed and Sociological Abstracts using the keywords opioids, opioid misuse, overdose death crisis/epidemic, opioid treatment interventions and drug policy. The initial search focused on opioid-related themes from 2008 to 2018, leading to 389 peer-reviewed articles. A purposive sample of 20 articles per year was selected according to the scope of the problems arising within the decade, 51.4% of the total sample (20 articles $\times$ 10 yrs.= 200/389) for in-depth reading by the authors to determine which issues we would engage in for a critical thematic analysis. The literature review was updated by consulting additional academic and media sources during the writing process.

After completing the content analysis of government and scholarly sources using *Nvivo*, the findings were situated within social science theorizing drawn from various disciplines including anthropology, health studies, history, social work and sociology to illuminate a key argument: the Canadian Federal Government's evidence-based solutions to the overdose death crisis focus on the epidemic as a personal rather than a societal issue. Data analysis was framed upon feasible solutions that build upon meaningful intraventions (Vander Laenen, 2011), by considering the insiders' perspectives or the voices of the afflicted communities alongside meaningful interventions. The latter require not only a greater coordination between medical and social services but also structural interventions going beyond distal, clinical-based and proximal, home-based interventions (Farmer *et al.*, 2019). As part of this analysis, issues of social justice, social inequities and the biomedical dominance of health care were foregrounded as major lacuna in Canadian drug policy.

Table 1 summarizes the scope of the problems arising in the readings, the proposed government solutions and our critical thematic analysis, which are developed in the findings and discussion sections.

Table 1 Analytic process summary

Scope of the problem	*Government proposed solutions*	*Critical thematic analysis*
Canadian Drug Policies	Canadian Drugs and Substances Strategy vs National Anti-Drug Strategy	Bio-evidenced approach
Evidence-based Responses to Overdose Death Crisis	Antidotes e.g., Narcan; Opioid Replacement Approaches, e.g. methadone, Suboxone, diacetylmorphine	Magic bullets as biochemical solutions targeting individual physical bodies vs. structural conditions
Public Health vs. Drug Enforcement	Harm Reduction e.g., Needle Exchange; Opioid Prevention Sites (OPS); Safe Injection/Consumption Sites (SIS/SCS)	Governmentality and bureaucratization; Self-responsibilization
Regulation and Surveillance	Health Sector Payment Transparency Act; Strengthening Quality and Accountability for Patients Act; National Surveillance System; Drug checking; Opioid prescription guidelines	Loopholes in prescription monitoring; Limited real-time data interfacing between physicians and pharmacists; Pharmaceutical deceptiveness
Disproportionate Overdose Death Rates among Vulnerable Populations	Desocialized policy discussions approaching drug addiction as a personal vs societal problem	Socio-structural embedding of overdose death crisis, e.g. *Pharmaceuticalization* of society; Structural violence; Neoliberal focus on individual responsibility for health care;
Meaningful Drug Interventions	Biomedical evidence as the only acceptable standard to evaluate health outcomes	Relevance of i*nterventions/ intraventions*; Distal/proximal interventions; Decentering Western epistemologies; Multiple ways of knowing and doing

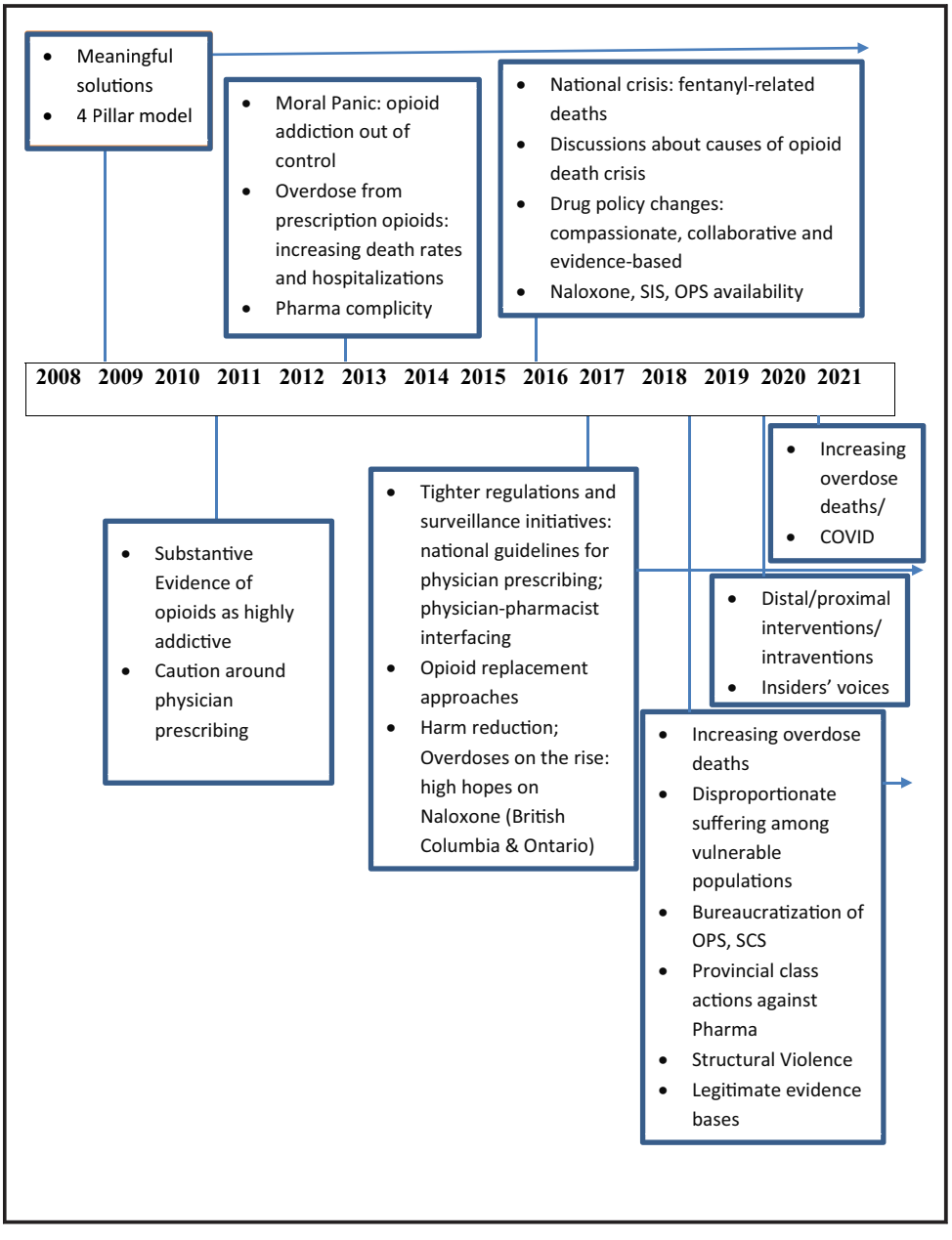
Figure 1 chronicles government, academic and media discourses regarding the overdose death crisis in Canada from 2008 to 2021, which informed our critical content analysis. Although the opioid epidemic was only declared as a public health emergency in 2016 (Taha *et al.*, 2019), we reviewed prior literature to examine its deeper roots like prescription drug misuse, the incidence of Canadians living with chronic pain and changing policy discourses

Our critical content analysis aligns with a qualitative methodological approach that explores power in social practices by understanding, uncovering and endeavoring to transform conditions of inequity (Short, 2016). Quantitative content analysis is valid to systematize large quantifiable data from statistical analysis and controlled experiments; however, it remains limited in capturing deeper meanings of broader socio-cultural developments and thematic relationships.

Findings

The election of a federal Liberal government in October 2015 intersected with the spike of opioid overdose deaths across Canada. As observed by sociologists, moral panic, the overwhelming and widespread fear of perceived threats among entire communities regardless of whether those threats are real or not (Cohen, 1972), usually prompts legislative changes (Goode, 2012). The newly elected federal government affirmed its commitment to a national drug policy entailing support of the four pillars model with a more concerted effort to support harm reduction interventions, leading to the replacement of the NADS with the CDSS. Shifting the policy focus to a public health rather than an enforcement approach to problematic substance use, mirrored pressures from research, health care, advocacy and community stakeholders for wider availability of naloxone to reverse overdoses, opioid treatment programs and supervised injection sites (SIS), which evolved into SCS (Hyshka *et al.*, 2017). Additionally, tighter regulatory and surveillance initiatives

Figure 1 Chronology of government, academic and media discourses



were to be instituted to prevent drug over-prescription and diversion, as well as to address the adulteration of substances with more potent and toxic drugs. While each had distinct strengths and gaps within the four pillars of intervention (Taha *et al.*, 2019), we argue that they all had one commonality: an individualizing biomedical focus as the most acceptable evidence-based approach to drug policy.

Naloxone (Narcan)

Naloxone, an opioid antagonist, was approved for wider Canadian use in 2016, as it had previously only been accessible by prescription, deterring high-risk populations like

incarcerated or newly released inmates' access. This opioid overdose antidote was initially available in injectable form, making it challenging for lay persons to administer. Currently, both injectable and nasal spray forms are available for free without a prescription at pharmacies and harm reduction outlets by request (Government of Canada, 2021).

Initial limited access through pharmacies and sparse awareness campaigns to promote Narcan use led to inadequate supplies in homes where overdoses occurred (Antoniou *et al.*, 2021; Cressman *et al.*, 2017). Many families were unaware their children were opioid dependent when they overdosed and died and thus, not only were they unaware of Narcan but would not have thought to obtain any from a pharmacy (Dunham, 2017; Meissner, 2019). Without ready access to naloxone in broader settings, the goal of overdose prevention is diminished. Additionally, most people who administer Narcan are unaware that its half-life is far shorter than other opioids and thus, one dose may only temporarily reverse respiratory depression and an individual may still overdose hours later (Csiernik, 2019). A single dose of naloxone often will not reverse the effects of highly potent opioids like fentanyl leading to hospitalization or death. Multiple overdoses experienced by the same individual during a single or subsequent days in which naloxone is repeatedly used can still lead to death either because naloxone became unavailable or their body has become tolerant to the effects (Bueckert, 2019).

Opioid agonist therapy

A second individual-focused pharmacological approach to address opioid overdoses was simple biological drug substitution which has morphed into opioid agonist therapy (OAT). The original option was methadone, with Suboxone, a combination of naloxone and buprenorphine added as a safer alternative in 2016 in Canada. With OAT, individuals remain physically dependent upon an opioid, though this addiction is now socially sanctioned. Overdose risk persists if the individual uses greater amounts of another opioid in looking to achieve a sense of euphoria that the drug substitute does not provide or if other psychoactive drugs, primarily benzodiazepines, are taken simultaneously to produce euphoria. In contrast, we posit that a superior option would be a comprehensive treatment regimen including counseling to address underlying psychosocial issues along with the SDOH that contributed to the initial substance misuse. The use of psychotherapy with OAT has been demonstrated to increase treatment retention and positive service user outcomes (Eren *et al.*, 2021; Meyer *et al.*, 2021).

Despite being officially approved for hospital use since 2016 to counter severe withdrawal symptoms and cravings from opioids, prescription heroin remains relatively unused in Canada as an opioid treatment option. Its effectiveness has been demonstrated in many international and Canadian studies. Despite evidence of prescription heroin as a viable treatment option, its limited availability is not related to the question of its evidence-based efficacy but rather to its reputation as a potent, highly pleasure-inducing illicit substance. Critical studies have called for greater recognition of the perception of pleasure a drug produces in drug policy as integrated drug use because neither all drug use causes adverse consequences nor physical or psychological dependence (Duff, 2015). Equally forgotten in the debate regarding heroin viability as a biological drug substitution option, is that its original prohibition in Canada was based on racism not pharmacological principles (Csiernik *et al.*, 2017). Thus, the perceived harmfulness of a drug is not necessarily determined by scientific standards but by political persuasiveness. History provides many examples of how drugs including cannabis, cocaine and heroin were lauded as "miraculous" and later decried as "poisonous" depending on the prevailing social and political climate (Goode, 2012).

Unquestionably, biomedical magic bullets like Narcan, methadone and Suboxone reflect the current Canadian Federal Government's privileging of biochemical solutions to combat opioid overdoses and deaths rather than addressing the structural conditions that

predispose individuals to opioid use, particularly among vulnerable populations that are disproportionately affected by the epidemic. While these interventions are well-meaning and much needed to reduce premature deaths, they produce unintended consequences given their ongoing emphasis on the opioid epidemic as an individual rather than societal issue.

Supervised injection/consumption sites

In 2011, the Canadian Supreme Court ruled against the Conservative federal government indicating that SIS, were an essential health service (Small, 2012). However, the initial Bill C-2's stringent conditions made implementation of new SIS virtually impossible. As part of the CDSS, the new Liberal federal government introduced Bill C-37 in 2017. This replaced the previous 26 conditions for SIS development with five new ones:

1. demonstration of the need for the SIS;
2. demonstration of appropriate consultation with the community;
3. presentation of evidence on whether the site will impact community-based crime;
4. demonstration that regulatory systems are in place; and
5. provision of evidence that appropriate resources are in place.

In response to insufficient SIS because of Bill C-2 blocking their creation, pop-up sites began emerging (Kerr *et al.*, 2017). Pop-ups were established by volunteers and activists, including drug users themselves, to provide shelter for individuals to safely inject, thus decreasing the risks for overdoses. These community-driven responses offered unsanctioned and low-threshold services without judgment to compensate for limited SIS development nation-wide eventually evolving into Opioid Prevention Sites (OPS) (Kerr *et al.*, 2017; Watson *et al.*, 2020).

Harm reduction policy development and implementation within provinces and territories has been dominated by rhetorical support rather than by actual commitment to internationally recognized harm reduction principles (Hyshka *et al.*, 2017). In Canada's largest province, Ontario, the election of a Progressive Conservative government led to halting all pending SIS applications (Dyck, 2018). Initially, the Ontario government was unsupportive of SIS but after community pressures accentuated escalating opioid overdoses and fatalities, it announced in 2018 that instead of developing new SIS, it would authorize Opioid Prevention and Treatment facilities (Perkel, 2019). Its rationale was to incentivize opioid users to seek abstinence-based treatment rather than merely using the facilities for drug consumption, thus avoiding promotion of continued illicit drug use (Perkel, 2019). This illustrates how a provincial policy approach further narrowed the options arising from the original bio-evidenced objective underlying the CDSS (Government of Canada, 2016).

Critical studies demonstrate that once institutionalized and bureaucratized, harm reduction interventions can become diverted from their initial, well-intentioned attributes, into becoming mechanisms of surveillance and control to produce highly responsibilized, self-governing subjects, unintentionally evolving into organizations with a social control function (Bourgois, 2000; Ning, 2005; Watson *et al.*, 2020). One example of governmentality in harm reduction interventions was the suspension of VANDU's unsanctioned inhalation facility, a peer-driven drug user organization in Vancouver's Eastside which helped reduce crack and methamphetamine users' illicit smoking, pipe sharing and violence. It was closed after years of successful operation to establish an OPS. Transitioning into a more bureaucratized organization resulted in decreased use by those in need leading to increased violence, arrests and blood-borne infections (Jozaghi *et al.*, 2016). Likewise, increased police surveillance within and outside of the physical spaces surrounding OPS arose under the reasoning of public order, leading to additional challenges for individuals to access

the facilities (Scher, 2020). These restrictions compounded by mandatory social distancing measures related to COVID-19, contributed to the upsurge of opioid fatalities in Canada (Norton and Kerr, 2020).

Regulatory and surveillance initiatives

As part of the Canadian Government responses to the overdose death crisis, increased regulatory and surveillance initiatives were instituted to address physician over-prescriptions, pharmacies' dispensing of opioids, drug checking services for drug adulteration and pharmaceutical marketing and advertising of opioids to consumers and physicians along with enhanced border controls.

In both media (Crowe, 2018; Dunham, 2017; Weeks and Howlet, 2015) and scholarly analyses of the causes of the overdose death crisis (Helmerhorst *et al.*, 2017; Taha *et al.*, 2019; Webster *et al.*, 2020), two major themes arise: physician over-prescribing and pharmaceutical deceptiveness. Purdue Pharma is often cited as the organization setting off the negative chain reaction which led to the current overdose death crisis, dating back to 1996 when it introduced OxyContin. Soon, this miracle drug was touted as the most effective pain manager, backed by supposedly scientific evidence and aggressively marketed to physicians across North America (Crowe, 2018). By the early 2000s, media sources uncovered an overwhelming dependency and addiction to OxyContin, leading governments in both the USA and Canada to prohibit it (Crowe, 2018; Weeks and Howlet, 2015). In the USA, class actions were launched against Purdue Pharma, which was found guilty of overstated claims of efficacy and safety and for its aggressive marketing with physicians leading to large amounts of opioids being diverted and misused (Crowe, 2018; Fischer *et al.*, 2014).

In Canada, Purdue Pharma dissociated from its American-based parent company, by claiming to have undertaken a completely different path even though it substantially funded a local physician to conduct research and publish peer-reviewed resources to demonstrate OxyContin's efficacy to Canadian physicians in addition to providing monetary and other incentives for other physicians to prescribe it (Bavli, 2020). Unlike Purdue Pharma in the USA, which was charged in 2006 and paid millions in fines (Helmerhorst, *et al.*, 2017), no similar punishment occurred in Canada, with Purdue Pharma Canada continuing to produce two alternatives to OxyContin, Hydromorph Contin and fentanyl, both of which are publicly funded and are respectively 3 and 65 times more potent than their predecessor (Csiernik, 2019; Weeks and Howlet, 2015). Notwithstanding, in September 2018, the BC government launched a class action against Purdue Pharma for triggering the current opioid epidemic and consequently, expects the company to be accountable for the costs of treatment. In late 2019, Ontario, Newfoundland and Labrador and Alberta joined the BC government in the class action against not only Purdue Pharma, but also other pharmaceutical companies involved in the production and distribution of opioids in these provinces (Graveland, 2019).

The Canadian Federal Government ultimately recognized that increased physician prescriptions and aggressive marketing of pharmaceutical companies were associated with increases in opioid morbidity and mortality. Resultantly, Canada followed World Health Organization recommendations to establish enforceable guidelines for medical personnel to prescribe opioids only in cases supported by scientific evidence and to be dispensed in the lowest possible dose and for the shortest possible duration (Belzak and Halverson, 2018). The Canadian Medical Association has specifically instructed physicians to avoid opioid prescriptions for non-chronic, long-term, non-cancer related pain and, if prescribed, they were to follow the "start slow and go slow" approach (Vashishtha *et al.*, 2017). This example of a targeted response to an actual causal factor illustrates the utility of government initiatives but also further reinforces that the emphasis here, as with the other evidence-based policy changes, has only focused on one dimension of drug addiction and even

here, only on the legal supply side of the biological component. Reductions in medical opioid prescriptions have lowered the mortality and morbidity among some groups of users but this does not address increasing fatalities resulting from toxic drug exposures to potent illicit opioids which permeate the emergent supply gaps left by decreased availability of medical opioids (Fischer *et al.*, 2019; Taha *et al.*, 2019).

In addition, laws including the Health Sector Payment Transparency Act (2017) and the Strengthening Quality and Accountability for Patients Act (2017) have been passed which prohibit any financial relationships between pharmaceutical companies, physicians and advocacy groups. Further, a National Surveillance System for opioid-related harm indicators such as emergency hospitalizations, treatment and overdose deaths in addition to electronic prescription monitoring systems for opioids have led to a 10% decrease in opioid legal prescriptions (Canadian Interprofessional Health Collaborative, 2018). Despite these concerted efforts, overdose rates and fatalities continue to rise in Canada and have even escalated during the COVID-19 pandemic (Government of Canada, 2021). Furthermore, loopholes persist in prescription monitoring as there has been limited real-time data interfacing between physicians and pharmacists (Lachance and Frey, 2019; Wilton *et al.*, 2021).

Studies demonstrate that substantial prescription opioids are still being diverted for non-medical use through sharing with family, double doctoring, prescription fraud and forgery, underground markets, thefts and robberies and Internet purchases (Bardwell *et al.*, 2021a; Bardwell *et al.*, 2021b; Wilton *et al.*, 2021). In attempting to curtail illegal fentanyl from reaching the streets and adulterating other drugs, the Canadian Federal Government implemented tighter border controls as well as drug checking services where users are given self-administered strips and drug sample analysis to determine if their drugs are adulterated (Green *et al.*, 2020). The limits of these drug checking technologies include insufficient sensitivity for tracing compound levels, poor differentiation of closely related compounds, untimely results and/or inability to quickly adapt to changes in the illicit drug supply (Green *et al.*, 2020). Because drug checking tools are only accessible to drug users within institutional settings, this process continues to miss users who generally consume drugs alone, especially those who are homeless, live under precarious conditions or have become suspicious of the more bureaucratized OPS (Gomes *et al.*, 2018). Further, given the urgency of their drug dependency many drug users opt to risk overdosing rather than undergoing severe withdrawal symptoms even if they suspect their drugs to be contaminated (Bourgois and Schonberg, 2009; Carrol *et al.*, 2017; Fischer *et al.*, 2019). The public health initiative of drug checking, irrespective of how well-intentioned, remains an individualizing approach that is not wholly successful in meeting the immediate or structural needs of substance misusers. Despite the combined medical, legal and bureaucratized harm reduction efforts instituted under the CDSS, the opioid epidemic remains intact and fatal overdoses have increased at an even higher rate prior to and even more so during the COVID-19 pandemic in Canada.

Discussion

The overdose death crisis and the government responses to it have been strongly shaped by the pharmaceuticalization of society, the process by which social, behavioral or bodily conditions are treated or deemed in need of treatment with medical drugs by health professionals (Busfield, 2015) and by drug users themselves as part of a broader neoliberal movement that engages self-responsibilized, progressive citizens to protect and preserve life. Previously, these life responsibilities belonged to the state and other collective institutions (Faulkner-Gurstein, 2017). In a neoliberalized drug policy like the CDSS, the individualizing, biomedical magic bullets become prioritized as pragmatic interventions even within its discourse of harm reduction to mask the structural roots of social suffering. While the focus of this evidence-based approach is targeted solely upon the individual

unquestioningly, the increased use of medicines in many countries has led to unintended adverse consequences like the overuse of antibiotics leading to anti-drug resistant superbugs (Farmer *et al.*, 2014) and the overprescribing of opioids by physicians lacking sufficient training to respond to substantial patient pain complaints (Taha *et al.*, 2019). As the current public health crisis has dramatically unveiled, the misuse of opioids creates unintended negative consequences of dependence, addiction, overdose poisonings and deaths disproportionately based on social rather than biological factors. Thus, theoretical perspectives like *somatization*, pharmaceuticalization of society and SDOH highlight the importance of biopsychosocial and not only biomedical evidence bases to help service providers gain essential culturally-appropriate competence to respond to the pain and substance use needs of diverse individuals because an estimated 15%–29% of Canadians live with chronic pain (Taha *et al.*, 2019).

Pharmaceuticalization of society parallels the medicalization of currently pressing biopsychosocial problems like depression, anxiety and PTSD, whereby medical professionals and pharmaceutical companies target these conditions solely as diseases that can be cured by medical intervention alone (Becker *et al.*, 2014). This over-reliance and often exclusive focus on biomedical magic bullets, aligns with the tendency of biomedical professions to find ways to annihilate organic agents that are commonly thought to be the main causes of ill health as a biological issue (Lock and Nguyen, 2018). By approaching opioid addiction solely as a disease caused by biological factors, the search for biomedical magic bullets like methadone and Suboxone, becomes the default biochemical response for medical and public health experts to target individual physiologies. Consideration of underlying issues and deeper social roots of drug misuse become ignored as it seems easier to fix a broken body than address an unjust system. Following this unidimensional treatment rationale, individuals who manage to successfully undertake medically approved opioid substitutes, are deemed ready to reintegrate into mainstream society, leading productive post-addiction lives. This expectation that individuals will independently adjust to society without further need of social supports obscures the fact that a neoliberal ideology, entrenched in the fabric of industrialized society, may have provided the impetus for opioid addictions to arise under the guise of individual responsibility for health care. Under this ideology, if individuals are held solely responsible for their own health-care needs and actions, it is only reasonable for many individuals to take matters to their own hands, by using opioids to self-medicate painful circumstances or to prevent overdoses, as exemplified by grassroots activists' demands for pharmaceutical-grade opioids in secure dispensing vending machines (Fischer *et al.*, 2019).

Under the guise of risk minimization and self-responsibilization, biomedical magic bullets are construed as beneficial to individuals' health and community safety becoming "technologies of normalization" (Foucault, 1980: 144). As "technologies" they constitute disciplinary practices that render individuals more productive, useful and docile by "normalizing" individuals in a way that avoids endangering the wider society through self-care. This process of normalization transforms drug misusers from "diseased", "deviant criminals" into healthy, productive "patients" (Bourgois, 2000). However, the overlapping neoliberal actions between the CDSS and grassroots activists to endorse biomedical magic bullets to achieve optimal health, shows that responsibilization can simultaneously articulate disciplinary and social rights' functions (Faulkner-Gurstein, 2017).

Despite ample evidence that socio-structural factors contribute to opioid-related harms and fatalities in Canada, the federal government responses continue to lack coordination between health and social services even though in its official discourse, the government recognized that social determinants underlie the overdose crisis. Working in the context of global mental health, Kirmayer and Pedersen (2014) argue that universalizing criteria usually proceed from the West to the rest of the world. This standpoint typically ignores socio-culturally relevant and community-responsive approaches encompassing local

people's illness explanations and resources like Indigenous healing practices, which could be integrated to provide a continuum of meaningful care. In the context of Canada's health-care system, a similar cultural bias exists whereby universal standards derived from biomedical evidence bases become the gold standard and the most pervasive forces for medical and public health professions to establish the efficacy and safety of clinical interventions to address population health, excluding other possibly feasible local practices that lack scientific evidence. Particularly, complementary and alternative medical modalities and indigenous forms of knowledge have been systematically excluded from mainstream health-care delivery because of insufficient biomedical evidence (Barry, 2006; Dean, 2004; Villanueva-Russell, 2005).

In contrast, emerging social science literature (Brosnan, 2016; Ning, 2018) has considered the relevance of multiple ways of knowing to evaluate diverse therapeutic outcomes. This analytical approach broadens the meaning of evidence allowing bioscience and traditional knowledge to co-exist and become integrated in the production of scientific evidence. This epistemological framework creates a space where evidence-informed approaches to drug policy can be embedded in decolonizing approaches, allowing cultural models of health care to become part of public health interventions.

Canada's colonial history of knowledge production in the health field is well documented with knowledge taken from Indigenous communities without consideration of its cultural significance or meaning outside of Western worldviews (Dell *et al.*, 2012; Marsh *et al.*, 2015). Similar unequal power relations have been observed between researchers and individuals from drug-using communities, whereby insights have been drawn from drug users without any direct benefit to their health or well-being (Jozaghi and Yake, 2020; Jozaghi *et al.*, 2018). As most health research is grounded in an individualistic, Western approach, this perpetuates the legacy of colonialism by denying the validity of insiders' own personal or cultural understandings of health. Further, because of historical overemphasis on biomedical explanations of health in mainstream society, the strengths of Indigenous perspectives of health and medicine have been either overlooked or only superficially documented. Locating insiders' perspectives within the cultural logic of their lived experiences is instrumental because some perspectives of health and healing like Indigenous understandings revolve around holistic concepts of unity and balance across biological, psychological, social and spiritual aspects of life and not simply the absence of disease, contrary to Western biomedicine (Dell *et al.*, 2012).

Considering these broader socio-structural embeddings of the overdose death crisis, affirms the importance of meaningful *intraventions* and *intervention*s, supporting Farmer *et al.*'s (2019) approach of distal (clinical-based) and proximal (home-based) interventions as more effective means for removing structural barriers to quality care for chronic health conditions. Similarly, a frank discussion regarding the current overdose death crisis cannot occur without considering social factors like poverty, unemployment, low wages, pharmaceuticalization of society, along with the history of genocide and intergenerational trauma among indigenous communities. These discussions remain largely absent in medical, public health and public policy circles, where discussions of substance misuse are desocialized; viewed as personal and psychological problems without consideration of the social context.

To address these analytical omissions, *intraventions* and *interventions* need to be added to distal and proximal approaches. The distinction between *intraventions* and *interventions* emphasizes the need to consider both dimensions as mutually constitutive. Experts often propose *interventions* without *intraventions;* the voices of the impacted communities including individual sufferers, their peers and families to fully understand their real needs and what they deem as meaningful solutions. Thus far, *intraventions* remain limited, as it is assumed that only biomedical and public health experts hold legitimate evidence bases to demonstrate effective and safe drug prevention and treatment interventions. As the

Canadian Federal Government responses discussed earlier indicate, they prioritize individualizing, biomedical approaches that are applied to reduce opioid morbidity and mortality, yet the individuals who are supposed to be the recipients of these interventions are rarely included in their design and implementation. While government policy discursively endorses harm reduction, it also fails to affirm some of its key principles that entail destigmatizing people who use drugs and involving them in policy-making (Hyshka *et al.*, 2017). Without considering drug users as equity-deserving citizens and capable collaborators with experiential expertise, contravenes the "evidence-based," "compassionate" and "collaborative" public health orientation of Canada's newest drug strategy.

Conclusion

This theoretical analysis of the deeper social roots of the opioid epidemic in Canada has illustrated that its government responses to the overdose death crisis has had a strong reliance on biomedical magic bullets. These initiatives have merely acted as temporary solutions to the rising opioid overdoses and mortality without providing a comprehensive plan to solve this far-ranging societal problem. By highlighting the social webs of the overdose death crisis through the theoretical lens of pharmaceuticalization of society and the biomedicalization of evidence that omits consideration of structural violence underlying the disproportionate suffering of vulnerable populations, we ask readers to move beyond accepting the predominant government responses to the overdose death crisis as an individual issue. The Canadian Government's evidence-based solutions have ignored issues of social justice, social inequities and the disproportionate dominance of biomedical health care, which are broader forces underlying the overdose death crisis and far more substantive issues than the drugs themselves.

Although our critical analysis appears to lack practicality during an emergency that demands immediate solutions, a deeper theoretical understanding of why certain issues exist and how they occur, provides the very practical basis for predicting their reoccurrence and for informing meaningful intervention efforts. In a forthcoming article, we examine decriminalization of psychoactive substances as a feasible intravention by responding to many activists' calls for systemic reforms guided by a collaborative process involving drug users as equally valid experts in meaningful change. Ultimately, we argue that a truly evidence-informed drug policy must include an expanded framework beyond single biomedical standards, thus encompassing multiple ways of knowing and doing rooted in multidisciplinary research collaboration among academic, clinical, policy, practice and community sectors including the lived experiences of individuals targeted for interventions.

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