The Political Economy of the Overdose Crisis in Western Canada: An Exploratory Case Study

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ABSTRACT

Background: Canada is in the throes of a drug/substance overdose crisis causing unprecedented numbers of overdose and death. Responses to the crisis have been largely reactive and/or medical in nature, highlighting the need for better understanding of its underlying structural determinants. The crisis has emerged in an era of neoliberal capitalism which has deepened health and social inequities and brought changes to the organization of work leading to increased precarity. Such broader economic influences have been identified as among important determinants of substance use and related harms in other contexts. Scant research evidence exists investigating structural determinants in the Western Canadian context and no studies have explored potential links among these confluent dynamics.

Methodology: The study used a qualitative case study methodology to explore the contextual influences on the overdose crisis in Western Canada. A contextual synthesis and analysis combined different sources of data to better understand economic influences of the crisis in four sites of study (Saskatoon, SK; Fort McMurray, AB; Kelowna, BC; and Nanaimo, BC). The study drew on three sources of data: publicly available crisis-related data and reports from federal, provincial, and First Nations bodies, 45 interviews with 51 key informants from the sites, and publicly available economic data from Statistics Canada. Within-site and across-site analyses were completed to understand both local and broader economic influences of the crisis. Crystallization, a multidimensional enhancement of triangulation, and member checking were used to build trustworthiness of this research.

Findings: Patterns of deaths in the overdose crisis in Western Canada reveal an inequitable distribution of harms where working-aged men, First Nations people, and those working in blue-collar and service industries are overrepresented in overdose deaths. Thematic analysis of key informant interviews in each site reveals socioeconomic pressures, the illicit drug trade and prescription opioids and pain management as economic influences on overdose deaths within and across sites. Increased precarity due to employment changes inherent to neoliberalization is explored as a potential link to increased substance use for particular populations, reflected in the patterns of death amid the overdose crisis. Observations on data sources and limitations for exploring contextual dynamics of the crisis are noted throughout.

Conclusion: The overdose crisis in Western Canada is evolving within neoliberal capitalist structures that may be creating risk of substance use and related harms for particular populations. Pathways between those structures and risk appear to be numerous, economically driven, and unevenly distributed among different groups. Data limitations and the nature of exploratory study restrict conclusions about the structural drivers of the crisis, yet certain trends are evident. This study provides emerging insight on the economic influences of crisis-related harms in a Western Canadian context, offering a theoretical framework and suggested hypotheses for ongoing inquiry and suggestive of upstream intervention.

CO-AUTHORSHIP

This dissertation contains three separate manuscripts all completed and written by Mr. James Michael Dixon in collaboration with his supervisor, Dr. Lori Hanson from the Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan and dissertation advisory committee members: Drs. Sylvia Abonyi (Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan), Colleen Dell (Department of Sociology, College of Arts and Science, University of Saskatchewan), Barbara Fornssler (School of Public Health, College of Medicine, University of Saskatchewan) and Charles Smith (Department of Political Studies, St. Thomas Moore College, University of Saskatchewan). At the time of this writing, no manuscript has been published. Mr. Dixon intends to pursue publishing after the submission of this dissertation.

CH. 4, p. 52: "UNDERSTANDING THE CONTOURS"

Mr. James Michael Dixon conceptualized and designed the study, conducted data collection and management, interpreted the data and prepared and revised the manuscript. Dr. Lori Hanson contributed to the study conceptualization and design, data management and interpretation, and review and revision of the manuscript. Drs. Colleen Dell and Charles Smith contributed to the review and revision of the manuscript.

CH. 5, p. 71: "THE 'HIGH COST' OF LIVING"

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CH. 6, p. 101: "BUSINESS AS USUAL"

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I had no idea what I was getting myself into when I started my graduate studies in 2015. What followed was a challenging and invigorating journey – academically, professionally, personally – and I am more than happy to acknowledge the many different people who have helped me to confidently lift myself up or take falls with support and (sometimes) grace. May this acknowledgement serve only as a formality as I aim to continue showing my gratitude to those listed beyond the pages of this dissertation.

Appropriately, I would like to start by thanking the folks who have made this dissertation a reality: my academic "family". In 2015, Dr. Lori Hanson reached out to me after I applied to grad school, offering to supervise me throughout this new journey. Excited and inspired, that offer launched a new path ahead in which I have only looked back a thousand times (hey, it's been hard). Lori, thank you for believing in me then and still doing so now. I am grateful to have had you in my corner and for your insights and wisdom throughout my grad studies. As the last six years have gone by and I have become significantly less scared of you, it has become clear to me that I made the right choice to pursue my studies under your guidance and housed in the Department of Community Health and Epidemiology. Thank you for keeping me motivated, believing in me, and helping me find my voice.

Seated with Lori around the war table that is my doctorate are my committee members (listed alphabetically to avoid ranking): Drs. Sylvia Abonyi, Colleen Dell, Barb Fornssler and Charles Smith. Right from the humble beginnings of my committee development, I have always been thrilled about and grateful for this membership. I offer sincere gratitude to each of you. Sylvia, though you were a late joiner, your presence has very much been felt in the time since. Thank you for being a calm and compassionate presence, whether in the classroom, a meeting or elsewhere, and for sharing your brilliance with me (and so many other students – CH&E is lucky to have you!) along the way. Colleen, you have shared endless opportunities with me right from the start: research and teaching jobs, conferences, publications, speaking opportunities, and more. I have gained so much from working with you and your team, even extending beyond my CV to include amazing new friends and even roommates. Thank you for being so generous; no doubt, I am a better researcher (and human being) because of it. To principal investigator, boss, colleague, committee member, co-teacher and friend, Barb, I hope this list of some of the roles you occupy in my life gives you pause to realize the many hats you wear *and* the many people who are served

because you wear them well (a community and student advocacy *fashionista,* even might need its own new hat?). It has been a pleasure to stand beside you in this fight against the "war on drugs" and I look forward to continuing this battle in the classroom (or on Zoom, I guess), the community, Saskatchewan, and beyond (shall we boldly go where no one has gone before?). And last, Charles: thank you for helping me navigate the world of political economy, for offering resources and insights that have challenged me and expanded my academic brain, and for your enthusiasm for this work throughout my studies. Learning from you has been to my benefit and I hope it shows in this work.

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Outside of the formal academic environment, yet equally, if not more influential, has been my experience working in the field of substance use, addictions, and harm reduction. I was schooled in this work primarily through my employment at the community-based organization formerly known as AIDS Saskatoon (now Prairie Harm Reduction). To former colleagues and friends, thank you for the transformative experience of working in harm reduction. My learnings have extended far beyond harm reduction as a practice to reduce drug-related harms to include the importance of relationship, humanity and respect in all that we, as human beings, do. The world has a lot to learn from harm reduction and I am happy to continue sharing this knowledge. The

world also has a lot to learn from people with lived and living experience of substance use and addictions, and their families. I have been privileged to hear the many stories and experiences from so many people of all walks of life, and it is through these that my passion has grown, resonant in my drive to change the world to be more equitable, kind and conscious. I would like to extend such heartfelt gratitude to Brandi Abele, advisor on my doctoral research: thank you for finding space for me in your life, and for our long chats about how to change the world. You are the fiercest and most loyal mother, friend and advocate. This world could use more folks with your brain, heart, strength and resilience.

If it is not clear yet, this doctoral journey has indeed been a personal one so I would be remiss to not acknowledge the people who have walked beside me throughout: my chosen and biological families. To Jenn and Diana: I have walked this path with each of you by my side and I by yours. Thank you for being the best friends that I wish everyone could have. To the countless other friends, students, community members, and colleagues, your support has meant everything. To my parents, sister and her family, and my web of grandparents, aunts and uncles, and cousins, whether here with us or already moved on, I thank you for the unwavering support and the seemingly unending life lessons which present themselves. I have and continue to struggle with finding balance in my life when I have one foot planted in my familial and rural roots in Yellow Grass, Saskatchewan and the other in my present and future as a queer first-generation researcher in the booming metropolis of Saskatoon. In a world characterized by division, I often feel challenged in finding peace between two worlds that sometimes feel galaxies apart. And yet I also feel empowered, like a bridge occupying a unique space between the two, unable to be beholden to only one. Finding (or attempting to find) that delicate balance has allowed me to find comfort in the "grey space" between two black and white worlds, and no doubt has been highly influential in my navigation of the murky grey fields of substance use and political economy research. I would not have "ended up" here had I not started there.

Last, I want to thank myself. James, this has been no easy task. You survived it and you have the scars. Do not hide them. As you have done before and will do again, use them. Fuel your resolve. Believe in and trust yourself and what you can do. You are walking (yes, walking – not crawling – okay, maybe limping a bit) out of your grad studies with more drive, more ability, and more self-awareness. Even some confidence! Who knew that was in there? Keep going. But also take a vacation.

Oh, I also want to thank the College of Medicine and the Social Sciences and Humanities Research Council of Canada for funding this work.

DEDICATION

To Daisy

I'm flying to the moon again
Dreaming about marzipan
Taking all my medicine to take my thoughts away
I'm getting on that aeroplane
Leaving my old man again
I hope that I come back one day
To tell you that I really changed

Lana Del Rey, Heroin

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LIST OF ABBREVIATIONS

BCCDC	British Columbia Centre for Disease Control
BCCSU	British Columbia Centre on Substance Use
CA	Census Agglomeration
CAPUD	Canadian Association of People who Use Drugs
CCENDU	Canadian Community Epidemiology Network on Drug Use
CCSA	Canadian Centre on Substance Use and Addiction
CDSA	*Controlled Drugs and Substances Act*
CIHI	Canadian Institute for Health Information
CMA	Census Metropolitan Area
CRISM	Canadian Research Initiative in Substance Misuse
CSA	Contextual Synthesis and Analysis
CSD	Census Sub-Division
CSDH	Commission on the Social Determinants of Health
CTGG	*Closing the Gap in a Generation: Health Equity though Action on the Social Determinants of Health*
FDA	Food and Drug Administration
FNHA	First Nations Health Authority
GDP	Gross Domestic Product
HSDA	Health Services Delivery Areas
MSTH	Moms Stop the Harm
REB	Research Ethics Board
SDOH	Social Determinants of Health
WHO	World Health Organization

GLOSSARY

Apparent opioid-related death	A death caused by intoxication/toxicity (poisoning) resulting from substance use, where one or more of the substances is an opioid, regardless of how it was obtained (e.g. illegally or through personal prescription). Other substances many be involved (source: Government of Canada, 2021d)
Crisis-related harms	A term referring to harms, including overdose, death or substance use disorder, that may result from the use of drugs/substances during the overdose crisis.
Drug-related harms	A general term referring to harms that may result from the use of drugs/substances. Drug-related harms include overdose, death, substance use disorder; other harms may include transmission of HIV, hepatitis C or other blood-borne infections due to shared drug equipment use, abscess or other physical harms due to improper drug equipment, etc.
Flexibilization	The increasing of management abilities to deploy labour freely, including working arrangements that are temporary, part-time, seasonal, contract or otherwise precarious (source: Albo, 2010)
Illicit drug overdose death	Overdose deaths due to street drugs (controlled and illegal drugs: heroin, cocaine, MDMA, methamphetamine, illicit fentanyl, etc.), medications not prescribed to the decedent but obtained/purchased on the street, from unknown sources or where origin of drug is not known, or combinations of the above with prescribed medications (source: British Columbia Coroners Service, 2018; 2021a)
Illicit drug toxicity death	See “illicit drug overdose death”
Opioid crisis/ epidemic	A term used to describe the increase in opioid-related harms such as opioid use disorder, overdose and death due to increased prescribing and consuming of prescription opioids, and considered to be a catalyst of the overdose crisis (source: Author)
Overdose crisis	A term used to describe the increase in drug-related harms such as overdose and death due to increased availability of illicit fentanyl and its analogues in the illicit drug market (source: Author)
Precarious work	Work that is characterized by at least one of the following elements: temporariness of employment, disempowerment and less bargaining power of workers, worker vulnerability and powerlessness to unfair treatment, insufficient wages, limited entitlement to workplace rights and

	social security benefits (adapted by the author from Julià et al., 2017; Fong, 2018)
Prescription opioid misuse	The use of a prescription opioid in a way or dose other than prescribed (adapted by the author from National Institute on Drug Abuse, 2021a)
Substance-related harms	See “drug-related harms”
Substance abuse	Refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs, though the term is stigmatizing towards people who use drugs and is no longer used by most stakeholders (adapted by the author from National Institute for Drug Abuse, 2021b)
Temporary work	Employment that has a predetermined end date or ends as soon as a project is completed. Includes seasonal, term, contract, casual or temporary agency work (adapted by the author from Statistics Canada, 2019b)

1. INTRODUCTION & BACKGROUND

1.1 A Tale of Two Crises

To situate this dissertation, I first introduce two – what may appear to be unrelated – events: the emergence of neoliberal political economy laying the foundation for the financial crisis of 2008, and the transformation of the prescription opioid epidemic into the illicit fentanyl-fuelled overdose crisis. In this section, I describe each of these before introducing my research project and its purpose, objectives, and guiding research questions. I then present the outline of this dissertation before concluding the chapter.

1.2 *Closing the Gap,* Structural Drivers of Health, and Neoliberalism

In 2008, the World Health Organization (WHO) and the Commission on Social Determinants of Health (CSDH) released its landmark report, *Closing the gap in a generation: Health equity through action on the social determinants of health* (CTGG). The CSDH (2008) concluded "the poor health of the poor, the social gradient in health within countries, and the marked health inequities between countries are caused by the unequal distribution of power, income, goods, and services" (p. 1). This unequal distribution is driven by structural determinants of health including "poor social policies and programmes, unfair economic arrangements, and bad politics" (p. 1) and constitutes the social determinants of health that ultimately influence the health and well-being of individuals, communities, and populations.

Lauded for its immense contributions such as increased legitimacy of study of social determinants of health and health inequities, the global scale in which these are discussed, and the role of public health in influencing individual and public health, the report is not without critique (Birn, 2009). Sir Michael Marmot (2005), Chair of the CSDH, has described the social determinants of health as the "causes of the causes" of health inequities; however, in listing upstream factors of influence on health inequity, the CTGG report fails to name the political and economic forces responsible for the ongoing inequities within and across countries (Birn, 2009). In other words, the "*causes* of the causes of the causes" remain unchecked (Birn, 2009, p. 172) and the failure of the CSDH to consider the role of structural determinants means the *Closing the gap* report falls short in its naming of the drivers of inequity in the first place (Birn, 2009).

The CTGG report was released during one of the worst global economic recessions of the last century. The Global Financial Crisis and subsequent Great Recession of 2008 had been the worst since the Great Depression of the 1930s; however, it was recently usurped by the COVID-19 pandemic and global economic shutdown. In *Global slump: The economics and politics of crisis and resistance,* David McNally describes the global economic forces and the politics underpinning them that led to the financial crisis and recession. McNally (2011) identifies neoliberalism as the ideology that guided North American political and economic decisions as early as 1979 ostensibly to stimulate economic growth and prosperity in North America and Europe after the oil crisis of the 1970s. He recounts how it was successfully adopted as the underlying political and economic theory shifting North American and global economies for nearly three decades and how it was ultimately responsible for the crash of the global economy in 2008.

One simple definition of neoliberalism is the "set of policies that seek to reinforce a 'free' market, private property, and capitalist social relations" (Albo, 2010, p. 4). McNally and other scholars have described one of the many legacies of neoliberalism as the creation of unprecedented socioeconomic inequities within and between populations (Harvey, 2005; McNally, 2011; Navarro, 2000; Ottersen et al., 2014). The inequities are reflected in a social gradient of health where those with a lower socioeconomic position have worse health (Bambra, 2012; Bambra, 2016; Schrecker, 2016). These are the same inequalities highlighted in the CTGG report, and the economic and political decisions underpinning neoliberal decision-making are those at which Birn aimed her critique of the CSDH report**.**

An additional feature of neoliberalism worth highlighting is its dynamic and mutative nature, particularly in the aftermath of economic crisis (McNally, 2011; Peck, Theodore & Brenner, 2013). Though neoliberal policy played an instrumental role in creating the conditions for the 2008 financial crisis, neoliberalism continued to dominate economic and political decision-making following the crisis it helped to create, albeit in a "mutated" way. Post-2008, the rationale underpinning neoliberal decision-making changed – shifting from one of a drive for economic growth to one of debt reduction and economic recovery following the extraordinary government bailouts and unprecedented national public debts incurred by governments (McNally, 2011; Peck, Theodore & Brenner, 2013). The strategies employed in the process of neoliberalization have also shifted post-2008 (Peck, Theodore & Brenner, 2013), with structural changes identified in Canada such as austerity measures and reduced spending in social and health services and transformations

in the working arrangements of the labour market (Ruckert & Labonté, 2014). Ruckert and Labonté (2014) identify increased precarious working arrangements contributing to health inequity in Canada post-2008, a trend Albo (2010) refers to as "flexibilization" of employment that is a common feature in the process of neoliberalization.[1] Trends in employment arrangements are thus reflective of the economic structures shaping the conditions within which we work, play and live, and may hold clues on economic shifts that have emerged in Canada amid the mutated neoliberal capitalist economy since 2008 and the implications of this shift on individual and population health.

1.3 The Overdose Crisis: From OxyContin to Illicit Fentanyl

In the year prior to the CSDH's release of the historical CTGG report, another (seemingly) unrelated milestone had taken place: in May 2007 in the US, Big Pharma powerhouse Purdue Pharma pleaded guilty to misbranding the opioid painkiller drug OxyContin for misleading physicians and patients about its addictive properties and potential to be misused, while the company's top three chief executives pleaded guilty to misdemeanor charges for their role in the misbranding (Meier, 2007). As a result, over $600-million worth of penalties were levied at the company and its executives (Meier, 2007). OxyContin was approved by the Food and Drug Administration in the US in 1995 (and in Canada in 1996) and, due to its branding, was considered a "wonder drug" for addressing chronic pain; consequently, the opioid painkiller saw a significant jump in numbers of prescriptions issued and consumption (Van Zee, 2009). As consumption increased, so did misuse: opioid addictions and deaths attributed to the drug increased in the US (Van Zee, 2009) and, though less documented, similar trends are visible in Canada (Lexchin & Kohler, 2011; Donovan, 2009). Further, there are socioeconomic links between those affected by OxyContin and by the overdose crisis: Case and Deaton (2015, 2017) describe the recent and important trend where working-age, non-Hispanic white males are overrepresented in "deaths of despair" in the US, attributing this surge to the crisis and other mental health challenges. Krueger (2016) found that nearly half of working-aged men in the US not in the labour force are commonly taking prescription painkillers. Similarly, Carpenter et al. (2017) found that increases in both

[1] For this dissertation, my focus is on the neoliberalized process of flexibilization; however, I note other neoliberalization processes including deregulation and privatization also underly the crisis. Future study of the influences of these on the crisis is warranted as future "links" of study and are described in more detail in section 2.4.3.

prescription opioid use and opioid use disorders are concentrated in working-age white males with lower educational attainment in the US. Eventually, these trends in the US culminated in lawsuits against Purdue and other Big Pharma companies, the eventual discontinuing of OxyContin, and replacement with the tamper-resistant OxyNEO in 2010 in the US (2012 in Canada) (Canadian Agency for Drugs and Technologies in Health, 2011; Gomes et al., 2017).[2]

Though the discontinuation of OxyContin was intended to put an end to the "opioid crisis" in North America, it did just the opposite (Ciccarone, 2017; Evans et al., 2019; Goozner, 2016). In the absence of rigorous state regulation – itself a product of the neoliberal politics – the widespread prescribing and consuming of OxyContin created a population of individuals becoming dependent on and addicted to the drug which, after its discontinuation, left large swaths of people seeking an alternative to fill the void (Ciccarone, 2017; Evans et al., 2019; Goozner, 2016). Following the discontinuation of OxyContin, a new trend began to appear in coroner data in North America: drug-related deaths attributed to illicit fentanyl. Although causality cannot be determined, the timing appears more than coincidental. A bulletin released by the Canadian Centre on Substance Use and Addiction (2015) shows a marked increase in fentanyl-related deaths between 2009 and 2014, with the sharpest increase taking place in 2013-2014. This same report showed numbers of fentanyl seizures by enforcement agencies also significantly jumped during this time, from 29 seizures in 2009 to 894 in 2014 (2015). This period marks a drastic shift in the illicit drug supply in Canada, the implications of which have been enormous and devastating across the country, notably in Western Canada. The toxic drug supply has fuelled what is now commonly referred to as the overdose crisis.[3]

Since 2014, the numbers of drug-related harms[4] attributed to illicit fentanyl have sharply and drastically risen in Canada. On April 14, 2016, a provincial health officer in British Columbia

[2] In a commentary, Fischer et al. (2017) discuss the implications of replacing OxyContin with OxyNEO, noting that this drug reformulation resulted in increased heroin use in the US and reduction in numbers of oxycodone prescriptions were offset by increases in other prescription opioid formulations.

[3] I will refer to the "overdose crisis" throughout the dissertation. I refrain from using the term "opioid crisis" because it implies that only opioids are the cause of overdose and death amid the crisis although polysubstance use where opioids such as illicit fentanyl and its analogues are used in conjunction with other substances, such as crystal methamphetamine or cocaine, is increasingly common across Canada (Government of Canada, 2021c). Additionally, the term "opioid crisis" surmises a prescription opioid or biomedical intervention, and I argue that interventions beyond the biomedical need to be considered.

[4] Throughout this paper, I refer to overdoses and deaths occurring within the overdose crisis as "drug-related harms," "substance use-related harms," or "crisis-related harms" (see glossary of terms). Though opioids such as

declared the increased overdoses and mortality due to fentanyl and its analogues a public health emergency (Ministry of Health, 2016). Illicit drug related deaths in British Columbia, the province hardest hit by the overdose crisis in terms of numbers, increased over 325 percent between 2015 and 2020, (British Columbia Coroners Service, 2021a). The provinces of Alberta and Saskatchewan similarly have been hit hard: over 500 percent and 200 percent increases in drug-related deaths between 2015 and 2020, respectively (Government of Alberta, 2021b; Saskatchewan Coroners Service, 2021). Between January 2016 and December 2020, more than 21,100 people have died an apparent opioid toxicity death in Canada, with fentanyl and its analogues responsible for over 80 percent of deaths (Government of Canada, 2021d).

The crisis has forced provincial and the federal governments to respond. Both the British Columbia and Saskatchewan governments established ministries of mental health and addictions (Government of British Columbia, n.d.; Vescera, 2020). The federal government has increased investment in mental health and addictions treatment, harm reduction, awareness campaigns, and monitoring and surveillance of drug-related harms (Government of Canada, 2017; 2021b). Though these efforts and the research associated with them are laudable public health efforts to reduce the real and immediate harms of overdoses, only scant attention has been paid to understanding and addressing the more distal structural, systemic, and contextual drivers of the crisis (Dasgupta et al., 2018; Kerr, 2019). This study explores the potential economic influences on the overdose crisis and how they shape contours of the crisis in Western Canada between 2003 and 2020. I situate this exploration within a political economy of health framework, primarily focusing on the process of neoliberalization and its potential linkages to the crisis. The period of study is inclusive of the pre- and post-2008 financial crisis and recession period, the rise and fall of the prescription opioid crisis, and the emergence of illicit fentanyl. Further detail on the selection of this time period is presented in Chapter 3.

1.4 Study Purpose, Objectives, and Research Questions

Structural determinants shape broader political and economic decision-making and are implicit in driving inequitable and negative health outcomes. The overdose crisis is a very recent phenomenon with limited extant research in the Canadian context and few studies of its Western

illicit fentanyl and its analogues are implicated in the majority of these harms, I use this broad language to account for polysubstance use as described in the previous footnote.

Canadian manifestations undertaken to date. Even more limited is analysis of *what* the structural context is within which the crisis has emerged, and *how* it has contributed to its development and continuance. Therefore, the purpose of this novel study is to explore the potential economic influences on the overdose crisis and how they shape its contours in Western Canada, providing a contextual synthesis analysis as an entryway to potentially identifying the crisis' structural drivers.

The objectives of the study are:

1) to describe the patterns of crisis-related harms in four selected Western Canadian centres from 2003-2020;
2) to identify and describe economic contextual considerations influencing the patterns of crisis-related harms in the four selected centres;
3) to illuminate macroeconomic contextual considerations potentially influencing patterns of crisis-related harms across the selected centres; and
4) to construct a theoretical framework that enables exploration of the relationships between these economic influences and the patterns of crisis-related harms.

This research project is a qualitative case study and was conducted using a political economy of health framework. It was guided by the following research questions:

1) What are the patterns of crisis-related harms in selected Western Canadian centres from 2003 to 2020? How can these patterns contribute to the identification of potential macroeconomic influences of the crisis?
2) What do key informants observe as economic contextual influences affecting crisis-related harms in the selected centres from 2003 to 2020? How can these insights on economic influences be utilized to identify macroeconomic influences on the overdose crisis?
3) What employment trends or events potentially affected patterns of crisis-related harms in the selected centres between 2003 and 2020? How can the study of employment data be utilized to explore potential linkages between macroeconomic influences and crisis-related harms?

1.5 Outline of Dissertation

To address these questions, the dissertation is organized into the following chapters. In the next chapter, I provide a review of relevant literature and discuss the political economy of health

theoretical frameworks that underpin this research. In Chapter 3 I present the research methodology and discuss how each question was addressed in the manuscripts which follow in Chapters 4, 5 and 6.

In Chapter 4, I present the patterns of opioid-related harms experienced in the overdose crisis in Western Canada based on publicly available data, noting the distribution of crisis-related deaths across different social and economic groups. In Chapter 5, using findings from thematic analysis of key informant interview data and Rhodes' risk environment framework, I begin to construct micro- and macroeconomic risk environments of the overdose crisis in Western Canada. The final manuscript, presented in Chapter 6, further expands on the risk environments of Chapter 5, drawing on peer-reviewed literature and publicly available employment data from Statistics Canada. Here, I explore the process of neoliberalization, namely flexibilization of employment in British Columbia and its connections to the overdose crisis.

Chapter 7 presents a discussion of my research, followed by policy and research recommendations, conclusions, and an afterword. As will be illustrated, my exploration of the economic influences of the overdose crisis in Western Canada posits that neoliberalization and its post-2008 mutations influence economic conditions that are associated with crisis-related harms, while noting the limitations of these data. I suggest flexibilized employment and the subsequent reduction in employment-based health and social benefits may be creating risk for certain populations who are unemployed or employed in precarious working arrangements. I find that risks are exacerbated by having fewer resources and protections to mitigate risk of drug-related harms and that they are compounded by issues related to gender, race, and histories of colonialism.

Further, as many have suggested and I concur based on my findings, the prescription opioid epidemic that fueled the overdose crisis is itself a product of neoliberal approaches to policy and practice, including lax regulation allowing Big Pharma to achieve great market success at the expense of people's lives and well-being. Based on my findings and reflections, I offer recommendations that are complementary to those frequently seen in reports on substance use. For example, I recommend governments augment their focus on preventative measures to reduce harms, including increased investment in social protections to capture precariously or un-employed individuals falling through the cracks due to limited (or non-existent) employment-based protections, and increased accessibility of services to improve health and well-being including mental health and alternative pain management. I also recommend improvement in data

collection and sharing by government, particularly around economic factors as they relate to health, well-being, and employment status, to enable further, more nuanced study of the relationships between structural determinants and health outcomes.

Finally, I end Chapter 7 with an afterword discussing the importance and relevance of this research in the era of the COVID-19 pandemic. As I embarked on this research several years ago, I could not have guessed how relevant it would become throughout the pandemic. The overdose crisis has worsened with its onset, with most reports suggesting a more toxic drug supply, less access to community and support services, and increased isolation for people who use drugs as responsible for increased drug-related harms (Canadian Centre on Substance Use and Addiction, 2020). But the pandemic has also thrown the Canadian economy into disarray, triggering social and economic lockdowns, causing significant changes to employment rates and working arrangements, and prompting large scale government investment in social programs coupled with corporate bailouts to save the economy from collapse (Gatehouse, 2020; Statistics Canada, 2021b). Notably, the pandemic has shown *structural drivers in action*, where pre-existing economic and health inequities, underfunded agencies and deregulation combined with political and economic decisions to mitigate the spread of COVID-19 exacerbate negative mental health and substance use outcomes across Canada.

Further, the economic impacts of the pandemic have triggered ongoing mutation in the neoliberal capitalist economy, particularly in flexibilization and working arrangements, financialization, and government spending. As a "new economy" takes shape, I consider its implications for affected industries, workplaces, and workers, as well as government decisions as they relate to increased public spending and debt due to the pandemic, social investments, and subsequent impacts on population health. The pandemic-induced mutating neoliberalization is ongoing and its implications are yet to be seen. While the dissertation does not focus on the pandemic, I suggest that its insights are even more timely given the era in which it was completed. And so, the study ends offering a critique of the "business as usual" approach to political and economic decision-making in the era of neoliberalization and suggesting an equity-oriented approach to prevent history from repeating itself in a mutated manner and driving further inequities.

1.6 Conclusion

Neoliberalism has dominated political decision-making since the 1980s, where economic growth and debt reduction are considered key to prosperity in the wealth and health of populations. Neoliberal politics are the glue holding together the broader structures within which we live, work and play. The CTGG report released by the CSDH illuminated structural determinants that drive inequity and poor health within and across populations but stopped short of naming neoliberal politics and the values eschewed within as the *causes of the causes of the causes* of a social gradient in health. In response to the 2008 global financial crisis, neoliberalism mutated, resulting in structural reconfigurations characterizing the "newer" economy. It is within this mutated and newer economy that increased work precarity and the overdose crisis have emerged, a crisis ultimately responsible for over 21,000 deaths in Canada since 2016. With calls for research to increase understanding of the crisis' structural drivers, particularly among a sparse academic landscape in the Canadian context, this dissertation serves as an exploratory look at the economic influences on the overdose crisis in Western Canada as a means to better understanding the crisis' structural determinants. Further, my exploratory synthesis and analysis of different data sources concludes with the generation of a theoretical framework and suggested hypotheses for future study of economically-derived gradients in crisis-related harms in Canada, providing theoretical support for future study in this field. In the next chapter, I present my literature review, sharing what is already known on this topic and further justifying the necessity of this work.

2. LITERATURE REVIEW

In this literature review I first define and describe the political economy of health theoretical perspective guiding the study, linking it to considerations based on the social determinants of health and *Closing the gap in a generation: Health equity through action on the social determinants of health* report and other works showing the multilevel and complex pathways between structural determinants and health outcomes. Next, I briefly describe the structural capitalist/neoliberal systems that shape our social order, noting features implicated in the study including the "perverse logic" implicit in cyclical macroeconomic shifts and the class relations between capitalists and workers. I then describe two important capitalist shifts in recent decades: from the welfare to the neoliberal state, and toward "mutated neoliberalism" in the wake of the 2008 global financial crash and recession in North America. I define neoliberalism, and elaborate on its features, with particular emphasis on flexibilization of work. In the following section, I describe the relationship between work and health, offering literature on how employment status, employment arrangement, working conditions and industry of employment affect individual and population health. These elements provide the theoretical and structural foundation for understanding the sections to follow.

Next, I present literature on relationships between economic influences and substance use, highlighting macroeconomic shifts and substance use relationships, Big Pharma's role in contributing to the overdose crisis, and the "illicit" economy which includes the illegal drug trade. I then present evidence from studies of substance use that highlight the multiple pathways in which individuals may come to use drugs and individual determinants of substance use and related harms including socioeconomic status, prior mental health or substance use issues, and stress. Last, I present my preliminary theoretical framework used to initiate this study, its development informed by the multiple sections of this literature review.

2.1 The Political Economy of Health

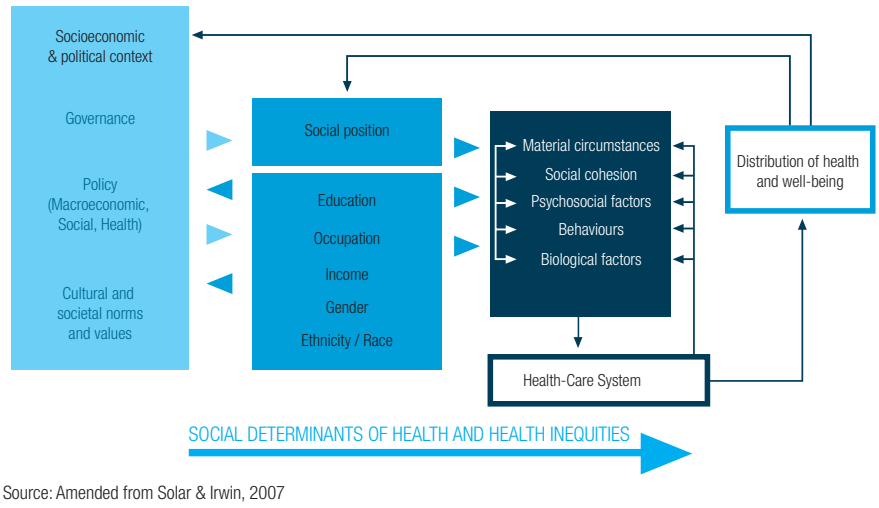
This research was broadly guided by political economy of health theoretical considerations. Political economy of health has been identified as an important approach to substance use research which re-focuses attention to the structural determinants of harm (Rhodes, 2009). In this section, I introduce four perspectives and frameworks related to the political economy of health which underpin this research and are subsequently adapted in the theoretical framework I develop to

suggest relationships between the structural drivers of the overdose crisis and the harms experienced at local levels.

2.1.1 Social Determinants of Health Framework

Ideas and concepts that seek to articulate a political economy of health incorporate and expand on the social determinants of health (SDOH) theoretical framework; thus, the SDOH serve as a useful entry point to this work. The SDOH framework as presented in the canonical *Closing the gap in a generation: Health equity through action on the social determinants of health* report is shown in Figure 2.1. The Commission on the Social Determinants of Health (CSDH) (2008) defines the SDOH as "the structural determinants and conditions of daily life" (p. 1) that shape a social gradient in health where the poorest citizens of the world have the worst health outcomes and the richest have the best. These health inequalities occur via "unequal distribution of power, income, goods, and services, globally and nationally" resulting in unfairness in the circumstances of people's lives such as "access to health care, schools, and education, [and]…conditions of work and leisure…homes, communities, towns, or cities" (p. 1). The CSDH (2008) states that these health inequalities are not inevitable but result from the combination of "poor social policies and programmes, unfair economic arrangements, and bad politics" (p. 1). Figure 2.1 illuminates broader influences on individual and population health including socioeconomic context, governance and policy, and cultural and societal norms and values.

Figure 2.1 Social Determinants of Health Conceptual Framework



Source: Amended from Solar & Irwin, 2007

Source: Commission on the Social Determinants of Health, 2008.

The CTGG report provided three broad fields of recommendations to close the gap in health outcomes between the world's richest and poorest including the improvement of daily living conditions; tackling the inequitable distribution of power, money, and resources; and measuring and understanding the problem and assessing the impact of action (2008). The CSDH lists multiple recommendations within each of these broad categories, the full extent of which will not be discussed here. This report should be applauded for its use of scientific evidence to show that inequities kill; however, the report has been critiqued as doing little to identify the actors who "produce and reproduce inequalities through their public and private interventions" (Navarro, 2011, p. 313) and for avoiding discussion of the political and economic context within which the inequalities and deaths occur (Birn, 2009; Navarro, 2011). Most usefully, the SDOH provides a language for addressing and discussing macro influences on population health and well-being, wherein (in)equities are rooted.

2.1.2 Political Economy and Determinants of Health Patterns

Bambra (2016) states that political economy focuses "…'on the social, political and economic structures and relations' that may be, and often are, outside the control of the individuals or local areas they affect" (p. 138). A political economy of health lens recognizes economic and political contextual considerations, as included in Figure 2.1, that influence the health of individuals, where patterns of health and disease are "produced by the structures, values and priorities of political and economic systems" (Bambra, 2016, p. 139). However, political economists expand on this by suggesting that the actors within these systems and institutions, their relationships to one another and to others (and the power relations between/among them), their interests, and their ideologies are drivers of health outcomes and how they are distributed across a population (Bambra, 2016; Harvey, 2005; Peck et al., 2013). Further, the political and economic context is important to consider for framing motivations and decision-making by actors within different structures and can also reveal underlying causes of health inequalities. Politics, power, and the state are thus highly influential for health and patterns of health.

Political and economic systems are characterized by the political choices informing them, the role of the state and government in enforcing or maintaining them, and the power of these decision-makers and state actors in upholding these systems. Thus, the actions of the state and other actors in these systems can be very influential, and drive inequalities based on two factors:

1) the compositional, where individual characteristics such as demographics, working conditions, and other social determinants affect health, and 2) the contextual, where area-level health is affected by its economic, social, or physical environment (Bambra, 2016). Bambra's identification of compositional and contextual factors makes visible the different levels of influence on individual and population health and the interconnectivity between them. I return to this idea in Chapters 4, 5, and 6: in Chapter 4, I highlight inequities apparent in the overdose crisis in Western Canada by compositional factors, and in Chapters 5 and 6 I explore the economic contextual factors driving the inequitable distribution of crisis-related harms.

2.1.3 "Causes of the Causes of the Causes" and a Political Economy of Health Framework

The compositional and contextual factors listed above can be highly influenced by political choices, hence Birn's (2009) framing them as the "causes of the causes of the causes" of disparities in health. This reiterates Navarro's (2011) assertion that "it is the people who produce and reproduce inequalities through their public and private interventions that kill people" (p. 313); further, the continued avoidance of politics in public health will only continue to cause harm. The interactions between politics and the material conditions of daily life resulting in good or ill health outcomes are visible in the political economy of health theoretical framework (Figure 2.2). Structural determinants, according to Birn (2009), are "political and economic practices and institutions, and class interrelations" (p. 134), ultimately influencing patterns of health via determinants such as public policy, health care, employment and working conditions and housing. Figure 2.2 also highlights the importance of context in influencing structural determinants, where interrelations between micro, meso, and macro (or individual, household, community, national and international/global) levels shape health outcomes across and within populations (Birn et al., 2009, p. 137-8).

Birn et al.'s political economy of international health framework offers a useful visualization of the numerous interrelationships between the structural and individual levels, particularly the influence of social, economic and political structures on individual living and working conditions, and the role these structures play in creating and perpetuating inequalities in socioeconomic status and health. Notably, though, the framework does not show clear causal pathways between structures and individuals, nor does it consider the implications of these structures on (in)equitable distribution of health outcomes across a population. Rather, by focusing

on individual health outcomes, the framework fails to illuminate what impact structures have on population health and the unjust distribution of health outcomes across different populations.

Figure 2.2 Political Economy of International Health Framework

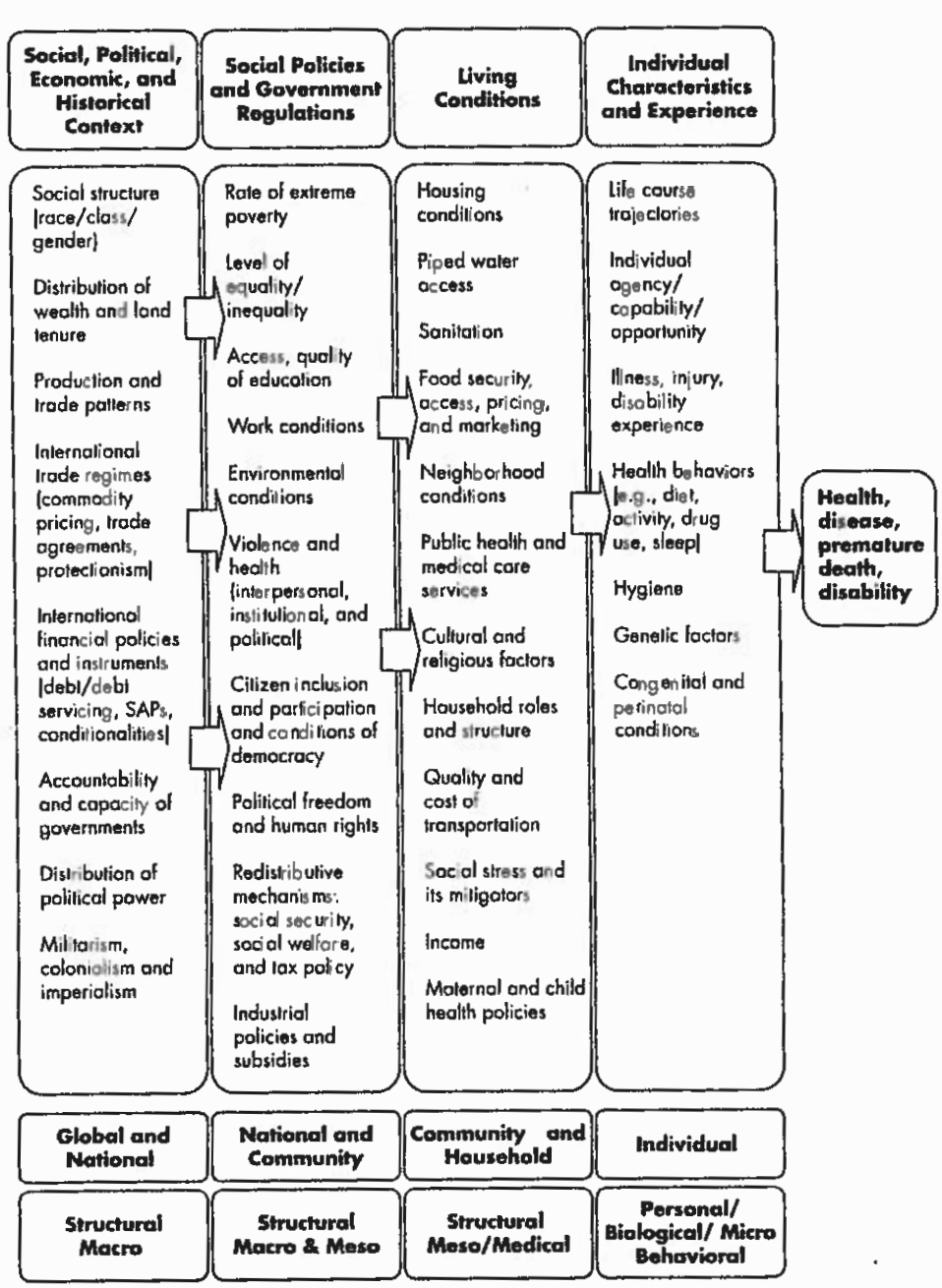


Figure 4–2 Political economy of international health framework. *Source*: Adapted with permission from Gloyd (1987).

Source: Birn et al., 2009.

2.2 At the Root of the Political Economy of Health: Capitalism and Neoliberalization

Theories of political economy are underpinned by a materialist perspective that assumes that how a society reproduces itself shapes the relationships between its people; in other words, "how people make a living influences how they are formed as social beings" (p. 3) and depends on the organization of how goods and services are produced, distributed, and consumed (Clement, 1997). Currently, we live in a capitalist social and economic system that dictates which structures exist, the relationships between them, and their priorities; this system ultimately drives patterns of health within populations.

Capitalism is a "social order that is constantly producing a new economy" (Albo, 2010, p. 3). These "new economies" are implicit in a capitalist economy, where a cyclical process of economic 'boom, overheating, recession, and recovery' continuously produces periods of crisis and growth (McNally, 2011). This cycle is built on and driven by the selling of commodities: capitalist firms/owners purchase means of production (such as space, technology, and labour) to produce commodities (goods and services), which are then sold to consumers in a marketplace for profit (Albo, 2010). Profits, then, regulate production; they are split between output of goods and services, employment, and income to ensure production continues (Albo, 2010). Workers are paid under the assumption that the commodities they help produce will generate profits, with their earned income intended to cover other market-defined costs of daily living. In other words, "workers 'freely' sell their labour-power to capitalists in order to earn their means of subsistence…[and] are just as dependent on the market for their reproduction as are capitalists" (Albo, 2010, p. 6).

McNally (2011) discusses the "perverse logic" of the capitalist economy, where capitalists enter a market with the intention of making money to compete with other firms (via purchasing of new technology or resources to enhance efficiency and productivity) compared to workers/consumers who work in the market with the intention of making money to buy goods and services necessary to live. This contradiction underpins the capitalist economy cycle. Competition between capitalist firms means profits earned are invested back into the firms themselves, buying technology in an effort to become more efficient with higher levels of productivity – thus resulting in increased sales for more profits. The constant drive to expand, fuelled by competition, leads to lower costs, boosted sales and increased profits, what McNally refers to as a 'boom' (2011). However, as this continues and more goods and services are produced, an eventual over-

accumulation will result. Over-accumulation takes places when too much investment – in factories, machines, technology – produces the same good/service, and firms start to lose profits by not earning enough money to cover production costs associated with production. Further, efficiency and productivity often arise at the expense of fewer workers; thus, less labour is needed. Labour's dual role as consumers means less money to spend in the market (McNally, 2011). This over-accumulation and declining profits lead to a crash and recession and the resultant destruction of capitalist firms, which becomes the base for recovery (McNally, 2011). Fewer firms mean opportunity for increased competition that arises with the arrival of new ones. Workers who had previously lost their jobs are available to produce more goods and services, and the cycle of crisis and growth repeats.

In addition to its cyclical nature and the competitive drive underpinning these cycles, capitalism is also understood as a system of social relations, denoted by class. Notably, there is a division between capitalists and workers (or the owners of the means of production and the workers, or the bourgeoisie and the proletariat) (Albo, 2010). One of the key features of this class division is dispossession – or the deprivation of land, resources, some other possession (Dictionary.com, 2018), or power (Palmer, 2014) – of the proletariat or working class (Palmer, 2014). Palmer states that the dispossessed includes both waged workers and those who are without wages and/or who are not working, as both groups, though heterogeneous from and within each other, are dispossessed in some capacity by the capitalist class to provide the means for capital accumulation (2014). According to Palmer (2014), it is from this dispossession that economic insecurities and precariousness in employment originate. And as discussed in Chapter 6, the creation and growth of precariousness affects physical and psychic health.

Class division is another important feature of capitalism with implications for workers and their health. As "new economies" are produced in these ongoing cycles, so too are there cycles in wages and unemployment as market conditions change (Albo, 2010); workers' jobs and income, particularly in sectors that are changing, are thus heavily influenced by the broader system. A constantly changing economy also means individual, familial and household relations are changing, dependent on shifting employment and market opportunities and wage differences (Albo, 2010). This is most easily identifiable in the shift to dual-income households and the changing role of women in the workforce since the post-WWII "golden age of capitalism" (Navarro, 2000b). Another feature of capitalism is that labour organizes, often through unions, for

additional protections beyond wages to diminish inequalities between themselves and the capitalists (Albo, 2010).

While these simplified characteristics of capitalist economies suggest capitalist cycles are the same, in reality each new cycle sees new forms of technological advance and techniques of production that increase competition and profits (Albo, 2010; McNally, 2011). Along with technological advances, political ideologies underpinning varied forms of capitalism emerge or shift. In the past forty years, for example, there has been an increase in the globalized nature of the capitalist economy supported by the tenets of neoliberal ideology. Fluidity of capital across borders has meant new actors at the global level are involved in the economy, and national and local actors have further considerations in their own economic decisions and activities. Because each cycle is unique, political economists note an important historical component in their studies. Production is always transforming and never uniform nor static (Clement, 1997). Each transition into a new capitalist economic cycle, then, has its own unique features in addition to the more general shared characteristics across cycles listed above.

Two transitions have taken place in the last five decades that are important for understanding the capitalist economy in which this study emerged. The first is the shift from the welfare to the neoliberal state; the second is the mutation of the neoliberal state into neoliberal urbanism. For a variety of historic reasons related to the above-noted character of capitalist development, during the 1980s Western governments shifted toward neoliberal policies and practices. Neoliberalism is "a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade" (Harvey, 2005, p. 2). The role of the state in neoliberal practice is to "create and preserve an institutional framework appropriate to such practices" (p. 2) which includes structures such as the military and police to secure private property rights and functioning markets (Harvey, 2005). Further, the idea that public deficits are bad and should be eliminated or reduced at all costs is a core tenet of neoliberalism in practice (Navarro, 2000a), as public deficits are not consistent with economic growth.

The policies and practices supporting neoliberalism include deregulation of markets and cutting back of social services (Albo, 2010; Navarro, 2000b), new ways of increasing circulation of financial capital in national and global markets (or "financialization") (Albo, 2010; Harvey,

2005), attacks against unionization of workers (Albo, 2010; McNally, 2011), privatization of welfare and personal services (Albo, 2010; Navarro, 2000b; Navarro & Shi, 2000), and increased "flexibilization" of employment (Albo, 2010; Bambra, 2012; McNally, 2011; Palmer, 2014). Three of these policies and practices - deregulation, privatization and flexibilization - merit further explanation. Harvey (2005) describing the combined theoretical justification implementing deregulation and privatization in policy and practices, notes they coalesce within the competitive free market to reduce bureaucratic red tape, expand the efficiency and productivity of the market, drive higher quality, and shrink costs for consumers via cheaper commodities and reduction of taxes needed for public goods and services. Albo (2010) defines flexibilization of employment as "the increasing of management abilities to deploy labour freely" (p. 4) and includes increases in part-time, seasonal, contract and precarious work (Albo, 2010; Bambra, 2012; McNally, 2011; Palmer, 2014). I elaborate on the growth of flexibilization and the impacts of work on health more generally in the following section. With the shift to neoliberalism came another shift: increased inequalities between classes in health and wealth, with those in lower classes having fewer resources and worse health outcomes than their upper-class counterparts (Chernomas, 2004; Muntaner et al., 2004; Navarro, 2000a; Muntaner et al., 2004; Ottersen et al., 2014; Weisbrot et al., 2004). These neoliberal policy decisions continue to dominate politics today; neoliberalism is hegemonic (Harvey, 2005; Navarro, 2000a; Peck et al., 2013). Health services and decision-making were and continue to be deeply affected by these trends; and so does the overdose crisis.

The second shift stems from the transition to the neoliberal state by powerful governments across the world such as the US, Canada, and Britain. Due to the global nature of the economy, and the post-1980s shift to fluid capital and financialization, the capitalist cycle began overheating until the Global Financial Crisis and inevitable major recession in 2008. This included devastation of the financial industry, world industrial production, and global trade and stock markets, affecting millions of people across the globe through unemployment and homelessness (McNally, 2011). The crash resulted in what McNally (2011) calls "the great bailout", where trillions of dollars from the wealthiest governments of the world were injected into financial institutions to save them from going under, and more trillions used to stimulate the economy to prevent the collapse of the entire global economy. The debts of the financial industry became the debts of the public governments, and thus a shift to a new capitalist economic cycle. With neoliberal hegemony in constant motion to maintain its dominance by elites, though, came a transition in neoliberalism: no longer was

economic growth alone touted as the way to improve the lives of citizens; rather, it was posed that a reduction of government spending was necessary for long-term economic survival of the countries which bailed out the financial sector (McNally, 2011). Enter the age of austerity.

The importance of historical context in political economy is evident here as it is necessary to understand how neoliberalism emerged in order to understand the current economy and how it is similar to but different from its predecessor. This is what McNally (2011) calls "mutated neoliberalism", where privatization, deregulation, flexibilization, and deunionization are the same but the justifications for pursuing them and the scope of these practices are different (Peck et al., 2013). Further, with this shift came increased neoliberalization in urban spaces – or *neoliberal urbanism* – based on the idea that neoliberalism mutated to place urban centres as both 1) sites of neoliberalization where municipal governments can actively constitute neoliberal policies and practices, and 2) sites influenced by broader "extra-local" or structural influences that shape the "rules of the game" within which sites exist (Peck et al., 2013, p. 1096). Peck et al. (2013) mention "large-scale institutional ensembles, financial systems and monetary arrangements, and international organizations" (p. 1097) as macro influences affecting cities. Thus, place-based investigations can illuminate the "more-than-urban" understanding of the urban (Peck et al., 2013, p. 1096).

2.3 Work and Health in the Era of Neoliberalization

Bambra (2011) describes *work* as an essential part "of the way in which the totality of society is organized politically, socially, and economically" (p. 2). The essential nature of work in our daily lives is further reflected in Bambra's (2011) three categorizations of its value: 1) work is valued as an economic relationship, illuminated in section 2.2 where capitalist systems require workers in order to maintain itself (also described by Albo, 2010; Palmer, 2014); 2) work is valued as a part of self-identity, giving workers a sense of responsibility, achievement, pride and social support; and 3) work is valued as a social contract where work is seen as a service to the greater society and as a means of social integration. Given the material and psychosocial dimensions of work, it can be assumed that employment, or lack of it, can influence individual and population health; notably, employment status, income, and working conditions are considered important determinants of health and pertain directly to work (Government of Canada, 2020b). Further, the global capitalist system within which we live demands economic participation in work, as other

determinants such as physical environments including housing, education, social supports, access to health services (including transportation) and others are both directly impacted by and relational to employment and income (2020b). Examining how the nature of work is affecting health in the neoliberal era is then key to exploring the potential impact of the economic context on the crisis.

Though the Government of Canada (2020b) lists several work-related determinants of health, Bambra (2011) argues work is more than *a* determinant of health but rather is *the* main determinant of health because of its essential and valuable nature in our social and economic order. She additionally claims work is intrinsic to any socioeconomic health and income inequalities, creates division and fragmentation within capitalist societies and is apparent in social hierarchies (2011). Affecting physical health of workers, she notes some of the more obvious determinants including working conditions and physical workplace environments (Bambra, 2011). Affecting mental health of workers, Bambra (2011) describes the impacts of work-related stress on workers, noting that stress can drive both mental and physical negative health outcomes. According to Bambra (2011), negative mental health outcomes from the workplace are driven by work-related psychosocial factors including conditions of chronic workplace stress; psychological demands from time pressure, high work pace, heavy workload, conflicting demands; limited control over work-related decision-making and skill discretion; high-effort and low-reward work balance; and organizational injustices.

Numerous linkages between work and physical and mental health of workers are apparent in Bambra's work. She further distinguishes the work-related health impacts on those who do not work (2011), reifying the importance of work (or, in this case, *worklessness*) as a crucial determinant of health that shapes individual and population health regardless of one's employment status. Hearkening back to the three categorizations of work's value, the relationship between unemployment and lesser health are primarily explained by the psychosocial and material consequences of unemployment (Bambra, 2011). Psychosocial consequences include stigmatization of unemployment by oneself and others, increased isolation and lesser social supports, and loss of purpose or self-worth, whereas material consequences include lost wages or income and ensuing challenges in accessing essential and other goods and services (Bambra, 2011). Further, Bambra (2011) shows multiple associations between unemployment and lesser mental health and increased mortality, as well as an increased likelihood of hazardous health behaviours including smoking or excessive alcohol consumption. Other studies have found

linkages between unemployment and substance use or addictions (Boscarino et al., 2016; Case & Deaton, 2015, 2017; Heimer et al., 2015, Kaye et al., 2017; Keyes et al., 2014; Larance et al., 2015; Manchikanti et al., 2010; Perlmutter et al., 2017). Notably, Miller et al. (2015) and Origer et al. (2014) found employment can be protective against opioid misuse and related harms.

Though Bambra's 2011 work shows associations between work, worklessness, and health outcomes, she gives less attention to the various flexibilized working arrangements that currently exist under the umbrella of employment. The growth of flexibilized employment – or flexibilization, as defined in the previous section – emerged within the process of neoliberalization in the 1980-90s in response to a struggling global economic recession and high unemployment that characterized the end of the "golden years" of welfare state capitalism in the 1970s (Benach et al., 2014). To combat the high unemployment in industrialized countries of this time, the global Organisation for Economic Cooperation and Development had made flexibilized employment a key strategic pillar by the mid 1990s, and governments acted (2014). They eased labour-market relations, limited public social benefits, modified collective bargaining and unionization to favour individual workers over the collective, and deregulated contractual employment relations (2014). This resulted in public and private organizations restructuring their workplaces, including downsizing employees, and outsourcing work (2014). Consequently, industries began to shift, becoming more fragmented and geographically disparate, and these reforms ushered in a new era of work and employment relations (2014). These trends are apparent in Canada, recognized by both the federal House of Commons (2019) and the Chartered Professional Accountants of Canada (Fong, 2018).

As described in the previous section, the shift to neoliberalism in the 1970-80s marked an important period for the global economy. Additionally, the 2008 global Financial Crisis and following recession also marked an important global economic shift, driving high rates of unemployment for industrialized countries once again and spawning governments and firms to enact additional employment relations reforms (Benach et al., 2014). Here, as McNally described, flexibilization "mutated:" flexibilized employment increased while quality employment decreased, characterized by more precarious and lower waged jobs; and firms further restructured, downsized, and outsourced (2014). Further, due to such high unemployment, unions and workers had limited collective bargaining power and were constrained to accept labour reforms despite workers facing less job security and worse job quality overall (2014). The decades of labour

reforms toward increased flexibilization resulted in fragmentation and less cohesion among the workforce generally, diminishing collective worker identity and solidarity and contributing to ongoing cycle of mutating flexibilization of work amid the neoliberal era (Benach et al., 2014; Kecskes, 2020). These changes to work and their potential linkages to the overdose crisis in the Canadian context have been under-explored but could hold a key to understanding patterns of affectation in both working and unemployed populations. I explore this potential in Chapter 6.

2.4 Macro-Economic Influences of Substance Use

In this section, I describe macroeconomic influences on mental health and substance use. In sections 2.2 and 2.3, I presented literature on the structural determinants of health, describing the shift to neoliberal capitalism and the flexibilization of employment, the mutations of each in the Global Financial Crisis of 2008, and the implications for individual and population health. It is within this structure that I present broader economic influences on mental health and substance use. I have broken these down into the following four categories, but note these classifications are not wholly discrete and linkages between them exist: 1) economic shifts and mental health and substance use; 2) flexibilized work and mental health and substance use; 3) profits over people: the role of Big Pharma; and 4) the illicit drug trade.

2.4.1 Economic Shifts and Mental Health and Substance Use

Much literature exists on the relationships between macroeconomic shifts in countries and the effects on substance use or related outcomes. Of note, I draw on review articles and quantitative studies on relationships between macroeconomic and population/county-level health. Commonly, macroeconomic indicators have been collected from national government sources including economic and census bureaus, and population/county-level health indicators have been collected from national mortality or substance use survey data. I begin by sharing studies focused primarily on opioids. Hollingsworth and colleagues (2017) identified both the opioid death and emergency department visit rates increased simultaneously with a rising unemployment rate in different counties in the US between 1999 and 2014. Further, they found macroeconomic shocks increased the overall mortality rate from drug poisonings, noting this increase was fuelled by opioids during the prescription opioid epidemic (2017). With plausible connection to the work of Hollingsworth et al., Carpenter and colleagues (2017) identified evidence suggesting economic downturns lead

to increases in both prescription opioid use and substance use disorders involving opioids. The authors also noted these effects as concentrated in working-age white males with lower educational attainment, a finding consistent with the work of Krueger (2016) who found that nearly half of working aged men not in the labour force take pain medication regularly, most in the form of prescription painkillers. Ruhm (2015) suggests that the recent uptick of drug overdose deaths between 1976 and 2010 may be a physical manifestation of the mental health problems of individuals struggling during bad economic times, similar to Case and Deaton's presumption mentioned previously and plausible in the era of the overdose crisis.

Concerning substance use generally, Dom and colleagues' (2016) review noted overall increases in substance use in the European Union by certain subgroups – mostly those marginalized in some manner – during economic downturns, where job loss and long-term unemployment were identified as key risk factors. Similar findings have been found in metropolitan America concerning injection drug use (Roberts et al., 2010). Zivin and colleagues' (2011) review described a positive association between economic downturns and increased psychological distress, use of mental health facilities and suicide.

Through the remainder of section 2.4.1, I share three examples highlighting the relationship between macroeconomic shifts and substance use epidemics in Russian and US contexts. Like the literature shared in section 2.4.1, these examples illuminate the value of macroeconomic and aggregate health data in understanding structural drivers of substance use.

2.4.1.1 Alcohol Consumption during a Transitioning Economy in Russia. After the collapse of the Soviet Union in 1991, alcohol consumption and related harms and deaths surged in Russia (Chenet et al., 1998; Cockerham, 2012; Falagas et al., 2009; Lazareva, 2020; Leon et al., 2007; Perlman, 2010; Stillman, 2006; Tomkins et al., 2007; Zaridze et al., 2009). This surge followed the collapse of communism and the country's shaky transition to a market economy under former President Boris Yeltsin. This dramatic structural economic shock had significant negative effects on the country's economy: gross domestic product (GDP) declined by 40 percent in the early transition years and unemployment jumped from nearly 0 percent to 10 percent by 1995 (Lazareva, 2020). Lazareva (2020) attributes the increase in unemployment to industrial plant closures or downsizing which resulted in industrial workers shifting occupations, facing salary cuts, and having to take on additional employment. During the transition, the industrial sector deteriorated while the service sector boomed (Lazareva, 2020), and between 1991 and 1998,

Sabirianova (2002) found approximately 42 percent of people employed in Russia permanently changed occupations.

Researchers have identified linkages between this drastic economic shift and alcohol-related harms and deaths in Russia, particularly among working-aged males with lower levels of education and who were primarily employed in the declining manufacturing and industrial sectors (Bessudnov et al. 2011; Chenet et al. 1998; Cockerham 2012; Lazareva 2020; Leon et al., 2007; Perlman 2010; Tomkins et al. 2007; Zaridze et al. 2009). In their population-based case-control study, Leon et al. (2007) suggested nearly half of all deaths in working-aged Russian men between 2003 and 2005 could be attributed to hazardous drinking. In addition to finding lower education strongly associated with such drinking, Tomkins et al. (2007) further found strong associations between being unemployed and having low levels of wealth with hazardous drinking among working-aged men. More specifically, blue-collar workers and working-class men with lower levels of education were recognized as experiencing the brunt of mortality during the transition due to increased stress and fewer opportunities to satisfy individual or family wants and needs (Chenet et al. 1998; Cockerham 2012). Other countries experiencing economic shifts from communist to market economies also experienced increased mortality due to alcohol consumption, though not as extreme as Russia, including Lithuania, Belarus, and Korea (Grigoriev et al. 2017, 2013; Shim & Cho, 2013; Stillman 2006).

These findings are strengthened by qualitative research from Russia. Saburova et al. (2011) interviewed family members of 19 Russian working-aged men who died an alcohol-related death, and their analysis found hazardous drinking contributed to the decedents' employment, family and health problems and was simultaneously used as a coping mechanism to deal with stress and declining socioeconomic status. They found employment and drinking to be closely intertwined, where poor working conditions, loss of job, or alcohol-friendly work environments prompted increased drinking (2011). Additional interviews conducted by Pietilä and Rytkönen (2008) found patterns of gendered stress in their analysis, with men being perceived as having higher levels of stress due to their greater labour market responsibilities and traditional male breadwinner role.

2.4.1.2 Post-Recession Socioeconomic Contours and the Crack Epidemic in the US. Between 1980 and 2000 in the US, the age-standardized mortality rate due to drug use disorders increased by nearly 240 percent though there were serious variations across regions (Dwyer-Lindgren et al. 2018). In their quantitative assessment of the impacts of crack-cocaine, Fryer,

Heaton, and Murphy (2005) found that in this same period, numbers of cocaine-related deaths and emergency department visits both significantly increased. Further, the surge of crack cocaine in the illicit drug market in the mid-1980s had serious implications for poorer, primarily Black American communities as drug-related incarceration increased and educational outcomes decreased (Evans et al., 2016; Fryer et al., 2005). In her historical take on the uprising of crack in poor inner-city neighbourhoods, Acker (2010) writes that "constrained opportunities in the legitimate workforce" (p. 78) provided the economic landscape for crack's successful infiltration into poorer communities and with negative health and social impacts on Black, Latino, and working-class whites (Bourgois, 2003).

Bourgois (2003), Kolb (2009), and Dunlap and Johnson (1992) trace the rise and destruction of the crack era to primarily economic forces. Kolb (2009) describes the impact of the US economic recession in the 1970s and the subsequent deindustrialization as creating challenging conditions for Black Americans, noting over 100 percent growth in ghetto neighbourhoods, nearly doubled numbers of Blacks living in them, drastic industrial job loss among Black Americans, and racism and exclusion for Blacks in the growing service sector and formal economy. Additionally, both Bourgois (2003) and Kolb (2009) note then-US President Ronald Reagan's cuts to social and welfare programming in response to the recession, further creating challenges for those who are poor, unemployed and with limited work opportunities.

In their framework depicting the macro forces influencing the crack era in the US, Dunlap and Johnson (1992) posit economic stagnation and decline, unequal resource allocation, the economic shift where the manufacturing industry declined and the service sector expanded, and increased unemployment and fewer job opportunities for un- or less-skilled men as macro-economic forces contributing to the health and social ills experienced during the crack epidemic. Though obvious differences exist between the Russian and US experiences, including types of economies, substances causing harms, and the social contours resulting, the parallels are perhaps more telling: shifting economies (deindustrialization to the rise of the service sector) and increased physical and mental health challenges for working-age men with lower levels of education. Next, and perhaps most relevant, we turn to the current and ongoing US opioid overdose crisis and the socio-structural determinants implicit in its destructive path.

2.4.1.3 The US Overdose Epidemic and Continued Struggle of Working-Class Men. The overdose epidemic is North American in scope, and the US is experiencing drastic numbers

of opioid-related deaths, attributed initially to the significant rise in prescription OxyContin consumption and misuse (and the failures of both Big Pharma and federal government regulatory bodies) and the resulting shift to heroin in the mid-1990s and 2000s (Van Zee, 2009) but now commonly understood as the inundation of illicit synthetic opioids such as fentanyl and its analogues in the illegal drug supply (Ciccarone, 2017). Deaths from drug poisonings have increased so much that they are considered to be an important driver of the marked increase in all-cause mortality of middle-aged white non-Hispanic Americans, particularly men with lower levels of education, a trend not seen in the US for decades (Case & Deaton, 2015). This unprecedented finding, Case and Deaton (2015; 2017) suggest, is possibly tied to economic insecurity and the major economic shift of the 1970s described above implicit in the crack epidemic, where baby boomers have experienced *cumulative disadvantage* via less financial security, lower wages and limited pension options compared to the generation living in the "golden age of capitalism" and generous welfare state before them (Bambra, 2016). In his study on labour force participation in the US, Krueger (2017) found that nearly half of the men who are out of the labour force self-reported poor mental health and use of prescription opioids.

The recession and decline of the manufacturing industry in the 1970s, and the 2008 financial crisis and subsequent recession have had disastrous impacts on communities and regions reliant on the industry for employment, and many of these communities are similarly being plagued with opioid-related overdose and death (Quinones, 2015). Scholars have linked the deindustrialization of the US and the overdose crisis, with findings showing primarily working-age men in implicated fields experience economic insecurity, loss of purpose and substance use (Baker, 2019; Keyes et al., 2014; McLean, 2016). Keyes and colleagues (2014) specifically identify young adults remaining in deindustrialized areas as at increased risk of using drugs due to factors such as limited employment, experiencing strains in community and social networks where "hard work" is valued and builds trust and community yet is not widely available, and living amid structural stressors such as job sector and industry shifts resulting from the 2008 economic recession. Further, specific blue-collar industries such as manufacturing, agriculture, construction, utilities, mining, and transportation have been recognized in the literature as being heavily affected by both the financial and overdose crises in the US (Maguire et al. 2019; Monnat et al., 2019; Quinones, 2015; Seltzer, 2020).

Beyond the economic insecurities and job loss, Baker (2019) offers additional explanation for why men, particularly those in industries upended during the 2009 recession such as manufacturing, have been more affected by the overdose crisis. She suggests that social disorganization, such as that of deindustrialization, has destroyed both conventional social roles and the cultural scripts that underpin them. Loss of these social roles and cultural scripts, defined as the "conceptual systems that produce meaning, frame behaviour, and structure interaction" has working men in affected industries "left behind" both socially and economically (Baker, 2019, p. 16). Aptly, Baker's hypothesis of social disorganization may also apply to the Russian transition and alcohol consumption and US crack epidemic examples described herein, as an individual's socioeconomic position can heavily influence their health and wellbeing and as noted here, is embedded within broader macroeconomic shifts and changes.

2.4.2 Flexibilized Work and Mental Health and Substance Use

In section 2.3, I describe the influences of work and worklessness on health, primarily drawing on studies measuring macroeconomic and aggregate health indicators; however, I note the limitations of these studies in considering flexible employment arrangements. In this section, I begin to address this gap. Benach et al. (2014) provide a review of health effects of flexible and precarious employment, with evidence generally showing relationships between it and adverse physical, mental health and occupational health outcomes. Notably, they found organizational restructuring and/or downsizing, perceived job insecurity, and temporary employment all to be related to increased mental health challenges or negative mental health outcomes, and to increased occupational health and safety outcomes affecting physical health in the workplace (2014). Bambra and Schrecker (2015) show the resulting negative health impacts in the US and UK due to increased flexibilized employment, referring to this population health shift as a *neoliberal epidemic.* They identify chronic stress, due to heavy psychological demand and limited job control, as a primary driver of these negative health outcomes among workers in flexible working arrangements (2015). Other studies have similarly shown increased precariousness is related to poorer mental health outcomes (Bosmans et al., 2016; Canivet et al., 2016; Canivet et al., 2017; Cortès-Franch et al., 2018; Julià et al., 2017; Matilla-Santander et al., 2020; Moscone et al., 2016; Ruiz et al., 2017; Ruiz-Pérez et al., 2017; Van Aerden et al., 2017; Watson & Osberg, 2017). In a qualitative study on this relationship, Bosmans et al. (2016) found powerlessness, lack of support,

mistrust, and inequity are drivers of decreased mental health of workers in precarious working arrangements, similar with the drivers of stress discussed by Bambra and Schrecker (2015) and Benach et al. (2014). To visualize the complex and multifaceted pathways between flexibilization and health, Benach et al. (2014) developed a conceptual model illuminating broader political and economic influences, precarious employment relations, and psychosocial and material drivers of poor mental health (see Figure 2.3 below). Although not explicitly mentioned, the model serves a useful purpose in conceptualizing how precarious employment may also be factored into an understanding of the overdose crisis.

Figure 2.3 Conceptual Model Linking Precarious Employment and Health and Quality of Life

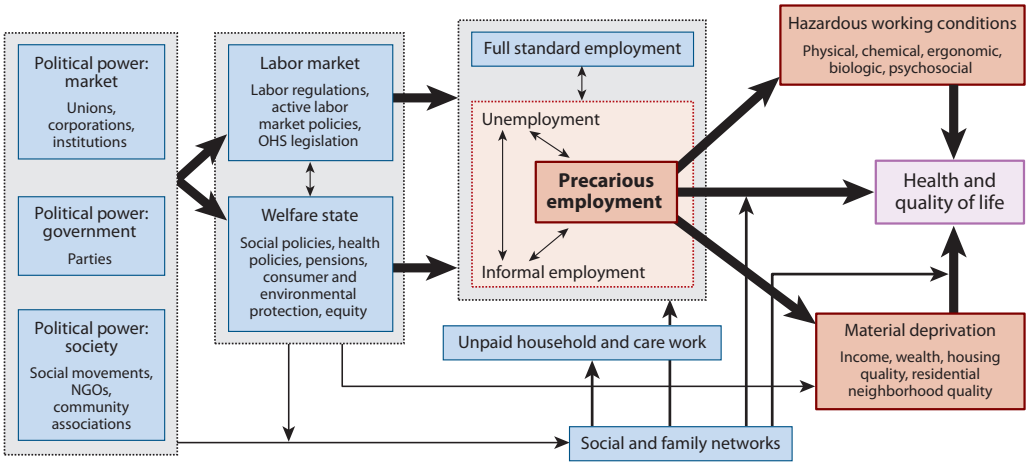


Figure 1

Conceptual model linking precarious employment and health and quality of life (main potential pathways are shown; increasing arrow thickness indicates greater importance). Abbreviations: NGOs, nongovernmental organizations; OHS, occupational health and safety.

Source: Benach et al., 2014.

2.4.3 Profits Over People: The Role of Big Pharma

Two additional neoliberal processes described in chapter 1, section 1.3 namely, deregulation of markets and privatization of government services are implicit in the increased power of corporate pharmaceutical companies, or "Big Pharma" to dictate prescribing practices

that have clearly fuelled the opioid crisis, particularly in the US. It is to this literature that I now turn.[5]

Van Zee (2009) found that Purdue Pharma, the creators of the opioid painkiller OxyContin, utilized aggressive promotion and marketing techniques that resulted in drastically high numbers of OxyContin prescriptions being written by doctors not fully informed of the drug's addictive nature and potential for abuse. OxyContin would eventually be the most misused drug in the US (Cicero et al., 2005; Van Zee, 2009) and some consider this the start of the overdose crisis facing North America. Eventually the drug was discontinued by Purdue Pharma due to the high rates of misuse and was replaced by OxyNEO in 2010 in the US (US Food & Drug Administration, 2021) and in 2012 in Canada (Gomes et al., 2017). OxyNEO, while maintaining similar analgesic properties to that of OxyContin, is manufactured to be tamper-resistant, thereby limiting its potential to be misused. Because OxyContin was heavily prescribed (and consequently misused), the removal of the drug from the formulary and the subsequent replacement with tamper-resistant OxyNEO is considered by many to be what paved the way for increased heroin use in the US (Ciccarone, 2009; Fischer et al., 2017; Quinones, 2015) and established a black market demand for fentanyl in both the US and Canada (Canadian Centre on Substance Abuse, 2014). The exorbitant OxyContin prescribing created populations of people using the highly addictive drug, and when it was no longer available, they turned to cheaper and unregulated street opioids such as heroin and fentanyl. Purdue was targeted in legal action for its role in triggering the overdose crisis in both the US and Canada, resulting in a guilty plea from the corporate executives and over $600 million in fines in the US (Meier, 2007) and an oft-criticized settlement in Canada (Globe and Mail, 2017).

The liberal prescribing patterns for prescription opioids is apparent in the literature; much research has identified links between chronic pain, receiving an opioid prescription from a physician, and misuse and/or addiction (Bauer et al., 2016; Bohnert et al., 2011; Heimer et al., 2015; Kaye et al., 2017; Krueger, 2016; Manchikanti et al., 2010). Case and Deaton (2015) also found increased reports of lesser self-related health and increased pain in non-Hispanic whites aged 45-54 in the US, framing the overdose crisis as an "epidemic of pain". In their commentary,

[5] For this dissertation, my focus is on the neoliberalized process of flexibilization; however, I note other neoliberalization processes including deregulation and privatization also underly the crisis. Future study of the influences of these on the crisis is warranted as future "links" of study and could include examination of the policy or regulatory environment in Canada that facilitated the rise of Big Pharma corporations such as Purdue.

Finestone and colleagues (2016) discuss why they believe opioids are over-prescribed or unsafely prescribed, stating physicians feel pressure to address patients' chronic pain from both the patients themselves and from pharmaceutical companies, as well as a lack of publicly funded community and health system resources to address pain and social issues, and normalized prescribing practices in health institutions such as hospitals and pain clinics.

Additional evidence exists supporting the relationship between prescribing patterns and substance misuse and addiction. For example, Mars and colleagues (2014) found in their qualitative study that some individuals who were injecting heroin were initially prescribed opioid painkillers, became addicted to them, and thus progressed to heroin. Stumbo et al. (2017) also identified the misuse of an opioid prescription as a possible pathway leading to an opioid use disorder, as well as the increased vulnerability of some individuals to opioid dependence even after brief exposure from a prescription for an acute pain episode. Similarly, Compton and colleagues (2016) found that the nonmedical use of prescription opioids was an indicator of future heroin use. In their qualitative study consisting of interviews with individuals in treatment for prescription opioid dependence, Weiss et al. (2014) identified pain relief as the most common reason for the participants to initiate opioid use. This evidence further illuminates the complexity of the overdose crisis, showcasing an important but not exhaustive link between prescription and illicit patterns of opioid use.

Purdue Pharma may have discontinued the promotion and aggressive sales of OxyContin (Associated Press, 2018), but the company, as well as others, continues to influence prescribing patterns of opioids and other medications (Fischer & Rehm, 2017). In the US, for example, Purdue, in addition to misrepresenting the risk of misuse and addiction of OxyContin, also hosted all-expenses paid conferences on pain management for physicians and others in the field, identified high-prescribing doctors to target with their products, enhanced their sales force drastically and implemented a lucrative bonus system for leading salespeople, distributed promotional items in an unprecedented manner, and generally promoted more liberal use of opioids for the chronic pain market (beyond the typical cancer-related pain one) (Van Zee, 2009).

There is less work about Purdue's influence in Canada, however Lexchin (2017) has documented some of the corporation's ties with Canadian doctors and the medical field. He and Kohler (2011) also indicate that the same aggressive marketing techniques were used here as well. In addition, controversy at the University of Toronto arose after Purdue (and three other big

pharmaceutical companies) funded a pain management course for health science students and students were given a Purdue-produced pain management book (Lexchin & Kohler, 2011). The company appeared in yet another conflict-of-interest controversy when one of the members of the voting committee determining the Canadian guidelines for opioid prescribing for chronic pain was revealed to have received money from the company in previous work (Crowe, 2017).

Additional research not specific to Purdue indicates that all-expenses-paid conferences, increased contact with pharmaceutical representatives and free samples influence prescribing patterns of physicians (Orlowski & Wateska, 1992; Zipkin & Steinman, 2005) and exposure to pharmaceutical company information is associated with increased prescribing (Spurling et al., 2010). A cross-sectional study by Campsall and colleagues (2016) found existing financial relationships between organizations producing clinical guidelines and biomedical companies to be common yet infrequently disclosed. Another cross-sectional analysis of pharmaceutical companies' advertisements in medical journals found that most ads do not address the serious risks of medications, and few adhere to all Food and Drug Administration guidelines (Korenstein et al., 2011). Recent commentaries acknowledge the public health concern for these types of dubious practices and suggests necessary reforms are needed to ensure care of patients (Lexchin, 2018; Mulinari, 2016).

Practices by private Big Pharma corporations are reflective of their profit-driven nature. Their freedom to engage in the ways described here and the lax oversight by governments allowing such actions are, too, symptoms of neoliberal capitalism via deregulation: the promoting of economic growth via fewer regulations and less oversight by government (Albo, 2010). Deregulation and privatization limit the role of governments in overseeing economic activities and is synonymous with the idea of "small government" espoused by its proponents. Neoliberal pundits posit regulations limit economic activities and stifle growth, and thus economic actors such as Big Pharma operate with fewer barriers and rules and generate more profit (Albo, 2010). It is within this economic system that Big Pharma was able to behave as described in this section and resulted in significant profits for Purdue Pharma and others in the pharmaceutical industry.

2.4.4 The Illicit Drug Trade

The "buying, selling, distribution and exchange of drugs need to be understood…as economic transactions…" featured in "what have been termed variously informal, shadow or

underground economies" (Seddon, 2008, p. 717-8) that operate at global, national, regional, and local levels outside of the formally regulated economy. In this section, I describe important shifts in this informal economy including the effects of globalization, Big Pharma, and prohibition, and note the implications of such shifts on substance use and specifically, the overdose crisis.

Seddon (2008) describes the changes to the illicit drug trade in the UK in the era of globalization, noting how globalization has shifted the trade's social, economic, and cultural dimensions. Relevant to this dissertation, Seddon (2008) describes mass changes to exchange of goods and services through advances in trade and finance since the 1970s that have allowed the global drug trade to expand and evolve internationally via improved infrastructure catalyzing ease of drug distribution around the world and in laundering and moving large amounts of financial capital across borders. Further, Seddon (2008) also suggests the emergence of new socioeconomic inequalities in the globalized era (or, an era of neoliberalism, as would be identified by others, namely Harvey (2005), McNally (2011), Navarro (2000), and Ottersen et al. (2014)), particularly within urban centres, has created new social hierarchies where those in poverty are heavily affected. Taking the globalization angle, Seddon narrowly avoids indicting the structural institutions and actors implicit in this shift in the illicit drug trade, though the timeline runs parallel to that of neoliberalization and several neoliberally-driven features are apparent.

Though Seddon importantly notes the economic nature of the illicit drug trade, his work predates the overdose crisis and does little to illuminate *why* recent shifts have occurred, particularly in the North American context. In sections 1.3 and 2.4.3 of this dissertation I provide evidence suggesting the introduction of OxyContin in North America by Purdue Pharma marked a first important shift to the availability of the opioid painkiller in both the licit and illicit drug supplies. The discontinuation of OxyContin coincided with another shift in the illicit drug supply: to illicit heroin and fentanyl (Beletsky & Davis, 2017; Ciccarone, 2017; Evans et al., 2019; Friedman et al., 2020; Goozner, 2016). In their quantitative analysis, Evans et al. (2019) found numbers of heroin and synthetic opioid-related (primarily illicit fentanyl and its analogues) deaths were greater in areas that had high access to opioids in the period prior to the reformulation of OxyContin, consistent with other recent expert discourse on the shifting drug supply in the US (Ciccarone, 2017; 2019). Further, repeated use of opioids reduces the *high* sensation, prompting individuals whose drug of choice is opioids to seek out stronger formulations of the drug; along this trajectory, an illicit market insider in British Columbia has noted the shift from heroin to

fentanyl in the post-OxyContin discontinuation period, as well as the more recent shift of illicit fentanyl to its more potent analogue carfentanil in recent years (Mathew et al., 2021).

An emerging topic of discussion and study, particularly in Western Canada, is on the effects of prohibition of certain psychoactive drugs where North American scholars and politicians are challenging the punitive approach of drug policy at national and international levels and complicit in criminalization of people who use drugs (Beletsky & Davis, 2017; Csete et al., 2016; Ribeiro & Ayoubzadeh, 2018; Sischy & Blaustein, 2018). Though the full extent of this topic is out of the scope of this dissertation, Beletsky and Davis (2017) provide a compelling argument for how prohibition also drives shifts in the illicit drug trade, notably the shift to the prevalence of illicit fentanyl. Drawing on the historical lessons learned during the era of alcohol prohibition in the US, Beletsky and Davis (2017) surmise that prohibition of substances drives their production in the black market. Beletsky and Davis (2017) draw on Cowan's 1986 Iron Law of Prohibition, stating: "Imposing substantial barriers and costs to the illicit drug supply chain creates direct pressure to minimise volume while maximising profit. More bulky products become more expensive relative to less bulky ones, incentivising increases in potency" (p. 157). Applied to the overdose crisis, they argue the shift from prescription opioids and heroin to the more toxic illicit fentanyl reflects the same prohibitionist-influenced shift during the era of alcohol prohibition (2017). Fentanyl is a synthetic opioid with a lethal potency level stronger than that of morphine and heroin (Higashikawa & Suzuki, 2008; Ontario Association of Chiefs of Police, 2014; Stanley, 2014), and the shift to synthetic opioids with stronger toxicity is comparable to the shift to more potent alcohol during prohibition. While fentanyl can be prescribed in a patch or nasal spray form, the illicit fentanyl commonly found in Canada is powdered and illegally shipped into the country (Ciccarone, 2017; 20190. Further, the arrival of even more toxic fentanyl analogues, such as carfentanil, in the drug supply in recent years adds support to their claim.

2.5 Macro to Micro: Individual Determinants of Substance Use

This section describes individual determinants of substance use, and I present the following: social and economic determinants including gender, ethnicity, and socioeconomic status; previous history of mental health and/or substance use disorders; previous history of trauma; and other. Previous history of an opioid prescription is also a determinant of crisis-related harm, as was described in more detail in section 2.4.3, and will not be included in this section.

The literature shows general trends of substance use and related harms by gender, ethnicity and socioeconomic status, though recent exceptions exist and are described here. Men are more likely to use opioids and have higher rates of misuse of and mortality due to substance use in the US (Heimer et al., 2015; Kaye et al., 2017; King et al., 2014; Lee et al., 2016; Somerville et al., 2017), although variations exist by urban-rural location and motivation including higher rates of prescription misuse among women (Boscarino et al., 2016; Kaye et al., 2017; King et al., 2014). Regarding the overdose crisis and deaths due to fentanyl specifically, existing literature corroborates previous trends where working-aged white men with less education have high rates of fentanyl-related mortality (Lee et al., 2016; Parham et al., 2018; Somerville et al., 2017; Spies et al., 2016).

Much available literature out of the United States indicates that middle-aged, non-Hispanic white people have higher rates of usage of and mortality due to opioids (Bauer et al., 2016; Boscarino et al., 2016; Heimer et al., 2015; Kaye et al., 2017). Case and Deaton (2015; 2017) found a startling trend in the US showing white, non-Hispanic people aged 45-54 had the sharpest increase in mortality between 1999 and 2013, a trend in complete opposition to that found in all other higher income countries and signifying an entire shift in all-cause mortality in the US. They attribute this surge to increased drug and alcohol poisoning in the US, even naming the overdose crisis as likely contributing to this trend (2017). Research on substance use and related harms by ethnicity in the Canadian context is more limited, although available literature shows that Indigenous people are overrepresented (Firestone et al., 2015; Lavalley et al., 2018).[6] Additionally, among the Indigenous respondents who completed a survey distributed among people who inject drugs in fourteen sites across Canada between 2017 and 2019, Tarasuk et al. (2021) found financial strain (nearly 84 percent), unstable housing (66.2 percent) and placement of participants (23.7 percent) or their family members (nearly 90 percent) in a residential school to be common experiences among respondents. Experiences of economic strain and histories of traumatic

[6] Indigenous refers to the collective name for the original peoples of North America, and includes First Nations, Inuit, and Métis peoples (Government of Canada, 2021c). I will use the term *Indigenous* throughout this dissertation because it includes the many distinct and separate nations of people across Canada. I will use other terminology when referring to specific Indigenous populations such as First Nations or when citing or describing other authors' works where *Aboriginal* is used. *Aboriginal people*, used by Firestone, Tyndall & Fischer (2015), Uscalas (2011), and Lamb (2015) also includes individuals who identify as either First Nations, Métis and Inuit; however, this term may sometimes exclude non-status First Nations individuals in Canada and is commonly being replaced by use of the term *Indigenous*.

experiences, are described as determinants of substance use and related harms, as discussed later in this section. Less research in the substance use literature has been dedicated to the study of collective harms experienced by Indigenous populations stemming from colonization; even less on recognizing the syndemic effects of colonialism and capitalism as structural drivers of health and well-being among Indigenous populations.[7]

In the US, research has shown drug-related harms primarily affect those with lower socioeconomic status. Studies have found those living below the poverty line are negatively affected by drug-related harms (Bauer et al., 2016; Elzey et al., 2016; Fink et al., 2015). Further, these harms have also been identified as affecting those with less education or who are unemployed (Boscarino et al., 2016; Case & Deaton, 2015, 2017; Heimer et al., 2015, Kaye et al., 2017; Keyes et al., 2014; Larance et al., 2015; Manchikanti et al., 2010; Perlmutter et al., 2017). In addition, Miller et al. (2015) and Origer et al. (2014) found employment is protective against the misuse and harms due to opioids. This evidence offers increased plausibility of pathways between structural drivers and drug-related harms, though causality cannot be inferred. Additionally, this evidence offers little in terms of *why* individuals with lower socioeconomic status might use substances in the first place.

Evidence also exists answering the "why" question posed above where other determinants can influence pathways toward substance use or related harm. Aside from receipt of, misuse of and/or dependence on prescription opioids as described in section 2.4.3, stress relief and mental health challenges are two commonly identified reasons people misuse opioids and other substances (Brady & Sinha, 2005; Brandt et al., 2014; Rigg & Ibanez, 2010; Stumbo et al., 2017). Previous diagnosis of a substance use disorder is also a common predictor of substance misuse (Bauer et al., 2016; Kaye et al., 2017; Kolodny et al., 2015; Stumbo et al., 2017). Other common factors influencing an individual's substance use include for recreation and/or socializing purposes (Brandt et al., 2014; Rigg & Ibanez, 2010; Stumbo et al., 2017; Yedinak et al., 2016) and genetic

[7] Colonization, the neo-colonial structures still in existence across Canada, and historical and intergenerational traumas, including residential schools, have had recognized serious implications on the health, well-being, and livelihood of Indigenous populations (Communities, Alliances, and Networks & Interagency Coalition on AIDS and Development, 2019). Important contributions on colonization as a structural determinant of Indigenous populations' health is well-documented by Indigenous health scholars and organizations such as Assembly of First Nations and Thunderbird Partnership Foundation (2011); Communications, Alliances and Networks and Interagency Coalition on AIDS Development (2019); and Reading and Wien (2009) and others. Yet, while the literature examined notes disparities in substance use-related deaths between Indigenous populations and non, there is a paucity of literature regarding how colonialism and capitalism might be acting syndemically to create risk of substance use and cause collective harms in Indigenous populations.

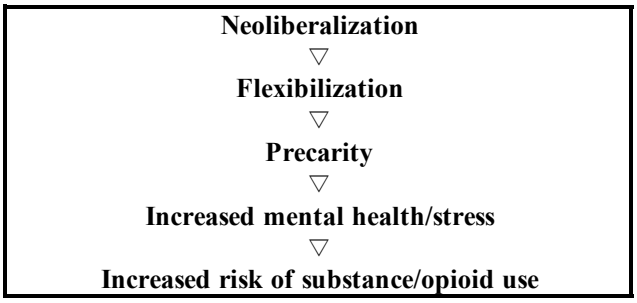
factors (Kaye et al., 2017). The overdose crisis is commonly discussed in relation to other "epidemics": of pain (Case & Deaton, 2015; Friedman et al., 2020) and of addiction (Kolodny et al., 2015), reifying the syndemic nature of these crises and illuminating potentially shared structural influences implicitly driving each.

2.6 Connecting Political Economy and Substance Use: My Proposed Theoretical Framework

Rhodes has contributed much to the literature on the relationship between macro influences and substance use-related harms, particularly through his development of the risk environment theoretical framework (presented and discussed in further depth in Chapter 5). Rhodes (2009) describes gaps in this literature, notably the need for a political economy analysis to better understand drug-related harms and their contextual or structural determinants. Given Kerr and Dasgupta et al.'s call for increased attention to the structural determinants implicit in the surge of overdose and death across North America since 2015, the political economy of health approach is apt, given its focus on *how* and *why* inequities exist in populations; further, this approach includes study of *how* socioeconomic and political forces are responsible for affecting quality of life (Navarro, 2000, p. 1; emphasis in original).

A number of potential foci are possible for a political economy analysis of the crisis, as indicated in my literature review. For this study, I chose to address this knowledge gap as it pertains specifically to changes to work in the neoliberal era. As presented, there is available evidence suggesting that flexible working arrangements can cause high or chronic stress or negative mental health outcomes among individuals. There is also evidence of inequitable health outcomes by different working arrangements (full employment vs. unemployment vs. flexibilized employment), though there has been almost no exploration of the potential effects of flexible employment on substance use. It is from these premises, described in this literature review, that I built an initial preliminary theoretical framework as presented in Figure 2.4. As illustrated, I sought to explore whether neoliberalization as a macroeconomic influence might potentially be shaping the distribution of harms experienced in the overdose crisis in Western Canada via flexibilization and precarity of employment which are shown to drive individual mental health, stress, and substance use in other contexts. Focusing on this novel area required a number of methodological choices and intermediate steps, as described further in Chapter three.

Figure 2.4 Suggested Pathway Between Neoliberalization and the Overdose Crisis



2.7 Conclusion

Available evidence shows that relationships between structural drivers and substance use exist, with recent literature connecting the opioid and overdose crises in the US to the process of neoliberalization. Further, the evidence also shows the importance of using aggregate health and economic data to illuminate patterns of drug-related harms and the macroeconomic influences implicit in creating them. The devastation of the overdose crisis in Western Canada is widely recognized by governments, media, and community; however, there are gaps in understanding the contours of harms it has created, the economic influences implicit in shaping these contours, and the broader structural forces shaping its conditions. The evidence indicates exploratory investigation of these is an important and timely undertaking, particularly given the lack of scholarly work on the relationships between structural and economic influences of the crisis in the Western Canadian context. Neoliberal changes involving flexibilized work arrangements and their potential linkages to the overdose crisis in this context potentially hold a key to understanding patterns of affectation in both working and unemployed populations. Guided by qualitative and exploratory scholarly curiosity, the application of a critical political economy of health lens throughout, previous research on this topic using aggregate and economic data, and my proposed theoretical framework (Figure 2.4), I answer the research questions listed in Chapter 1 to address some of these knowledge gaps. How I do this, including the methodology and data sources used, are presented in the following chapter.

3. RESEARCH APPROACH & METHODS

3.1 Exploratory Research

This study is exploratory in nature. Exploration in research refers to an overall approach to data collection, often the first *link* in a *chain* of studies generating theory on a topic that is emerging or where little is known (Stebbins, 1992, emphasis added). Stebbins describes strengths of exploratory research, noting its primary advantage is its indication of a chain of future studies and offering validity or trustworthiness to accumulated findings that may emerge in subsequent study (1992). Further, exploratory research can inform the development of theoretical frameworks and potential hypotheses (Yin, 2009). A related advantage of exploratory study is that it supports the longitudinal study of "social processes and relationships" beyond the individual (Stebbins, 1992), prompting inquiry of the broader social and structural influences implicit in individual experiences. These exploratory advantages align with the objectives of this research to identify potential macroeconomic influences of the crisis in Western Canada and enhance development of my proposed preliminary theoretical framework (Figure 2.4) to suggest potential linkages between these influences and crisis-related harms.

Exploratory inquiry has been noted as complementary to conducting case study research (Gerring, 2004; Ruddin, 2006; Yin, 2009). Yin (2009) describes the suitability of exploration in a case study when "what" or "how" questions are being asked and limited existing knowledge or literature exists to provide a theoretical framework or hypothesis on a topic Thus, a case study is appropriate for this work and will be discussed in the next section. Though exploratory inquiry offers important advantages in conducting research, it is important to note that claims of relationship or associations are not possible in exploratory research. Rather, research making claims of association or relationships between phenomena would be, to follow Stebbins' metaphor, future *links* of study in the overall *chain* of research prompted by exploratory inquiry (1992). This is an important distinction in this work, where exploratory inquiry of the relationships between macroeconomic influences and the overdose crisis prompts the development of new hypotheses and a theoretical framework, both requiring additional study to clarify the nature and extent of these relationships.

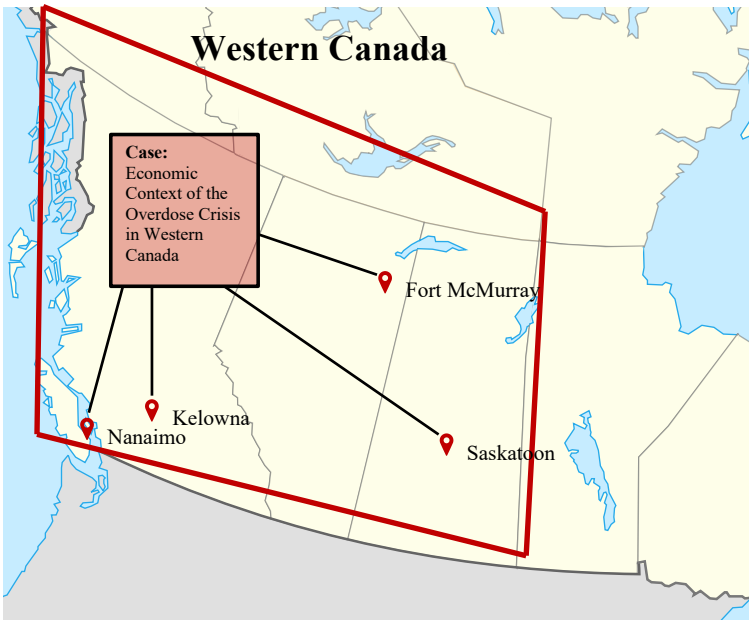
3.2 Case Study

A qualitative case study research approach was used to answer the research questions. A case study is appropriate because there is no methodological control over the events in question.

Further, case study is appropriate because the phenomenon is contemporary in nature and occurring in real life with no manipulations, and the boundaries between the phenomenon and context are not entirely clear (Yin, 2009). The case under study is defined as the economic context of the overdose crisis in Western Canada, which includes the study of three Western Canadian provinces (British Columbia, Alberta, and Saskatchewan) and four sites within these provinces (Nanaimo and Kelowna, BC; Fort McMurray, AB; and Saskatoon, SK) (see Figure 3.1). A single case study on the economic context of the crisis in Western Canada was chosen because a multijurisdictional approach offers insight on potential structural determinants at work *across* multiple provinces and sites. Data collection, compilation, and analysis were completed to illuminate potential structural determinants at the broader level and is thus consistent with the objectives of this research. Further, this approach offers insights that are more appropriate than would be possible in a multi-case study of each individual province or site, where commonalities across sites may be shadowed by unique site-specific findings. In other words, the whole is greater than the parts.

As Stake (1994) describes, a case study is not a methodology but a choice of what is to be studied – the "case". Because of this, there is fluidity in the philosophical underpinning, methodology, and choice of methods to be used in the research (Harrison et al., 2017; Luck et al., 2006) as these can depend on the research question, the nature of the issue, a researcher's training or preference, or a combination. Harrison and colleagues (2017) acknowledge, though, that case study is commonly used for qualitative inquiry, as used in this research study. A primary feature of qualitative inquiry is the use of inductive reasoning, where data is used to generate ideas and develop hypotheses (Creswell, 2013; Merriam, 1998; Thorne, 2000). Inductive reasoning is an ongoing process where findings from research inform future scholarly endeavours, consistent with exploratory research and inherently embedded into this study's research objectives and approach as future "links" in the chain of research on economic influences of the overdose crisis.

Figure 3.1 Case Study of the Economic Context of the Overdose Crisis in Western Canada



Source: Adapted from Wikipedia by Author

The study period of this case study is from January 1, 2003, to December 31, 2020, and was selected for the following reasons. The year 2003 was chosen because it was the year Insite, Canada's first safe injection site, opened its doors. Insite received an exemption from the Canadian government's *Controlled Drugs and Substances Act* (CDSA) (PHS Community Services Society, 2018), signaling a shift in perspective of policymakers about addressing illicit drug use and people who use these drugs. This exemption signalled a shift away from the prohibitionist nature of drug policy in the CDSA and criminalizing people who use drugs (Riley, 1998). The exemption to the CDSA for Insite marked a shift towards a perspective that illicit drug use is a health issue, and that people who use drugs should be treated, not punished. Further justification for selecting 2003 as the start of the study period is that by this time neoliberal policies and practices had been firmly established after being introduced in the 1980s. December 31, 2020, was selected as the end of the study period because of the recent nature of the overdose crisis, where new developments and reports are being released regularly and action taken. To conclude the study earlier would risk missing recent information or data that is directly relevant to the overdose crisis and the research questions being asked. Further, 2020 marks the initiation of the COVID-19 pandemic in Western Canada that has to date yielded economic, social and population health upheaval. Though this study is not pandemic-focused, both macro and micro changes amid the pandemic have already been immediately responsible for worsening overdose crisis outcomes (Berkowitz et al., 2020;

CCSA, 2020; Williams & Cooper, 2020), and recent macroeconomic shifts are likely to have long-term effects on the health of people living in Western Canada, including those who use drugs and beyond.

Case studies are criticized for being "too big", with copious amounts of data and analysis (Luck et al., 2006; Merriam, 1998; Simons, 2009). Thus, there is a need to "bind" the case to prevent the study from getting too large or overwhelming (Flyvbjerg, 2011; Harrison et al., 2017; Luck et al., 2006; Merriam, 1998; Stake, 1994; Yin, 2009). This case study is bound in numerous ways: 1) by time and place; 2) the case itself also serves to help bind this research (Stake, 2006) where the overdose crisis and its provincial and local manifestations will limit what data is collected; 3) it relies on publicly available and interview data to guide exploration; and 4) I use a political economy of health framework which serves to limit the scope of data collected (as described in Chapter 2, Section 2.1).

As a reminder, the study was guided by the following research questions:

1) What are the patterns of crisis-related harms in selected Western Canadian centres from 2003 to 2020? How can these patterns contribute to the identification of potential macroeconomic influences of the crisis?
2) What do key informants observe as economic contextual influences affecting crisis-related harms in the selected centres from 2003 to 2020? How can these insights on economic influences be utilized to identify macro-economic influences on the overdose crisis?
3) What employment trends or events potentially affected patterns of crisis-related harms in the selected centres between 2003 and 2020? How can the study of employment data be utilized to explore potential linkages between macroeconomic influences and crisis-related harms?

3.3 Sites

The sites examined in the study are the following four census subdivisions (CSD): Saskatoon, SK; Wood Buffalo, AB; Kelowna, BC; and Nanaimo, BC, all located in Western Canada. The populations of the two larger CSDs (Saskatoon, Saskatchewan and Kelowna, BC) and the two smaller CSDs (Wood Buffalo, Alberta and Nanaimo, BC) are of comparable size. Each also had its own local manifestation of the overdose crisis. Further, each site has its own

unique contextual considerations. Thus, unique patterns of crisis-related harms and economic contexts are plausible but there may also be similarities in terms of macroeconomic structures of influence.

The Nanaimo CSD is in a region of British Columbia that recorded a substantial increase in numbers of overdose deaths due to fentanyl in the early years of the crisis and maintained high rates of illicit drug-related deaths since (British Columbia Coroners Service, 2021a). The Wood Buffalo CSD also experienced increased overdose deaths and Fort McMurray had the second highest rate of fentanyl-related poisoning deaths in Alberta in 2017 (McDermott, 2017). Wood Buffalo is in northern Alberta, where the resource-based economic downturn had more significant effects on employment with high rates of unemployment in 2015 and 2016 (at 8.0 percent and 9.0 percent respectively), dropping to 7.5 percent in 2017 then just over 5 percent in both 2018 and 2019, and jumping back up to 8.4 percent in 2020 (Statistics Canada, 2021a).

The Saskatoon CSD was chosen because it too recorded high numbers of overdoses and deaths amid the crisis, justifying its inclusion as a site of study (Canadian Institute for Health Information, 2016; Saskatchewan Coroners Service, 2021). Hospital data from 2016 show Saskatoon had the highest rates of opioid poisonings in the country in 2016 (Canadian Institute for Health Information, 2016). The CIHI report indicated that this rate was primarily due to opioids prescribed to an aging population (Canadian Institute for Health Information, 2016), and implied that there may have been inappropriate prescribing of opioids for Saskatoon seniors. In 2019 and 2020, Saskatchewan also saw significant increases in the number of drug-related deaths (Saskatchewan Coroners Service, 2021). The Kelowna CSD is in a region of British Columbia that experienced high rates of overdose deaths, separate from the Nanaimo region (British Columbia Coroners Service, 2020). Reports from the British Columbia Coroners Service stated many drug poisoning deaths affected males working in the trades (British Columbia Coroners Service, 2018), suggesting this population may have been affected in both Kelowna and Nanaimo.

3.4 Methods of Data Collection

My chosen methodology, and each of my research questions prompted collection and analysis of particular data sources. Overall, to better describe and understand the case – the economic context of the overdose crisis in Western Canada – I broadly use contextual synthesis and analysis (CSA). CSA is an approach to understanding complex problems within rich

contextual backgrounds that relies on "critical and comprehensive consideration of available literature, relevant documents and published administrative data" (Plamondon, 2006, p. 18). Given limitations of these data, however, I also sought data aligned with Rhodes' (2009) suggested approaches to understanding environmental influences on drug-related harms: social epidemiology, qualitative inquiry or lived experience, and political economy. This dissertation is organized around the research questions, where Chapters 4, 5, and 6 each address one research question, discuss the corresponding data sources and their limitations and suggest potential "links" of future study gleaned from each. Additional detail on the use, analyses, and limitations of the data is elaborated within those chapters. Table 3.1 provides a summary of data collection methods and approach to analysis which are described in more detail throughout the remainder of this chapter.

Table 3.1 Summary of Data Sources

Research Question	*Diss. Ch.*	*Principal Data Source*	*Guiding Research Approach*
1	4	Publicly available crisis-related data	Social epidemiology
2	5	Key informant interviews	Qualitative inquiry
3	6	Publicly available macroeconomic data	Political economy

3.4.1 Social Epidemiology

Rhodes (2009) describes social epidemiology as holding "great promise" (p. 194) in its emphasis on broader environmental factors and proximal risk factors rather than individualist or biological causes. Social epidemiology of drug-related harms can illuminate both the linear and non-linear linkages between an environment and individuals, offering potential "assemblages" of factors driving "distribution of harm in whole populations or societies rather than focusing on high-risk individuals" (p. 195). Given data limitations noted throughout the dissertation, a fulsome social epidemiology study is out of the scope of this work (but would be considered a future *link* in the chain of studies derived from this exploratory work). However, consistent with social epidemiological emphases on broader societal factors, compilation and descriptive presentation of publicly available overdose crisis-related data from different levels of governance can reveal inequitable patterns and distribution of harms within populations. Based on my existing knowledge of publicly available sources and using Google to identify which agencies collect and share data, I accessed the data sources below to answer part of the first research question of this case study.

This study utilized publicly available overdose crisis-related data from the following bodies: Government of Canada (Opioid- and stimulant-related harms in Canada), British Columbia Coroners Service (*Illicit Drug Toxicity Deaths in BC.; Illicit Drug Toxicity, Type of Drug Data;* and *Illicit Drug Overdose Deaths in BC: Findings of Coroner's Investigations),* First Nations Health Authority (FNHA)(*Overdose Data and First Nations in BC: Preliminary Findings;* First Nations Opioid Overdose Deaths Rise in 2018 (media release and infographic); and First Nations Illicit Drug Deaths Rise during COVID-19 Pandemic (media release and infographic), Government of Alberta and Alberta Health (*COVID-19 Opioid Response Surveillance Report: Q2 2020, Opioid-related deaths in Alberta in 2017: Review of medical examiner data, Alberta Opioid Response Surveillance Report: First Nations People in Alberta,* and *Opioids and Substances of Misuse among First Nations People in Alberta: Alberta Report, 2017)* and Saskatchewan Coroners Service (*Drug Toxicity Deaths: Saskatchewan, 2010 to 2021).* For more information on methods of data analysis of these publicly available overdose crisis-related data used, see Section 3.5.1 of this chapter. Chapter 4 of this dissertation includes the compilation and visual illustration of publicly available data, showing the distribution of crisis-related harms in the three Western Canadian provinces of British Columbia, Alberta, and Saskatchewan, and exploring how publicly available data can be used to identify affected populations in Western Canada, reveal inequities and identify potential environmental influences shaping this distribution.

3.4.2 Qualitative Inquiry and Lived Experience

How drug-related harms are experienced by individuals can reflect the differential impacts of social and structural determinants at individual and local levels (Rhodes, 2009). Qualitative inquiry into the lived experience of individuals can reveal the reciprocal nature of individual-environmental relationship where environmental conditions both constrain and enable individual practices and where individuals' practices create and organize the social system within which they live (Rhodes, 2009). Qualitative inquiry with individuals thus can highlight how individuals *embody* environmental influence and either push back against or build on it. Though meaningful qualitative inquiry with people with lived or living experience of substance use or related harm amid the crisis posed methodological challenges for this study and thus was not possible, interviews with key informants were completed to illuminate environmental influences of the overdose crisis in each site, as per the second research question of this case study.

Qualitative inquiry with people with lived or living experience of harms or substance use experienced in the crisis, too, would be considered a future *link* of study.

Semi-structured key informant interviews were conducted with key informants in each site to explore the contextual social, political, and economic influences of the overdose crisis. Key informants were defined as individuals whose paid (including those in health care, government [various levels], mental health and addictions, harm reduction, pharmacy, education, housing, and law enforcement) or unpaid (including caregivers or volunteer advocates) roles are implicated by the crisis. A total of forty-five semi-structured interviews with 51 participants were audio-recorded and transcribed. Some interviews were conducted with multiple participants at once. Participants were recruited through existing contacts in the field, referral, and snowball sampling in each site. Interviews lasted between 1 hour and 2.75 hours. Participants were asked to share how they understood or defined the overdose crisis, and what they understood to be social, economic, and political contextual influences of the crisis. The interviewer used probing questions to gain further depth on participants' understandings of the crisis and its influences. See Appendices A and B for the interview guides used to conduct the interviews. Tables 3.1 and 3.2 show distribution of participants by site and role. Methods of data analysis of these interviews are elaborated on in Section 3.5.2 of this chapter. Chapter 5 of this dissertation presents findings that include key informants' understanding of economic influences on the crisis together with a discussion that draws on their understandings to suggest broader influences affecting the crisis.

Table 3.2 Participants by Site

Site	Interviews conducted	Participants interviewed
Saskatoon[8]	21	24
Wood Buffalo	8	10
Kelowna	8	8
Nanaimo	8	9
Total	**45**	**51**

Table 3.3 Participants Across Sites by Role

Role	Interviews conducted
Government/health authority Leadership/management	12
Health care workers	11
Harm reduction/treatment workers	7
Human/social services workers	6

[8] Interviews in Saskatoon were conducted for a separate but similar study. See the *Consolidating perspectives on the nature of Saskatoon's evolving opioid crisis* study technical and final summary reports, available from https://crismprairies.ca/affiliated-programs/consolidating-perspectives-on-saskatoons-evolving-opioid-crisis/

Enforcement workers	4
Caregivers	3
Other	2
Total	**45**

3.4.3 Political Economy

Rhodes (2009) suggests studies in political economy can reveal important environmental influences on drug-related harms, as this type of inquiry focuses on "how economic and political institutions produce and reproduce social and economic conditions which shape inequalities in health and access to services" (2009, p. 196). This study is guided by a political economy of health framework, with a focus on the economic influences affecting crisis-related harms. The third research question of this study prompts exploration of these broader economic influences. Given the exploratory nature of and focus on neoliberalization and flexibilization of work in this case study, I have selected publicly available employment data from Statistics Canada to illuminate broader economic trends in Western Canada. Methods of data analysis are elaborated on in Section 3.5.3 of this chapter. Chapter 6 of this dissertation presents these findings, suggesting potential linkages between broader economic influences and the harms experienced in the crisis in British Columbia.

3.5 Data Compilation and Analysis

A common analysis strategy used in exploratory case study research is building a description of the case (Yin, 2009). Undertaking that task, I broadly use contextual synthesis and analysis (CSA) to explore the overdose crisis in Western Canada in combination with Rhodes' (2009) more specific approaches to understanding environmental influences on the overdose crisis. These use three different types of data as described above.

For each manuscript, I analyze the corresponding data differently, described briefly in sections 3.5.1, 3.5.2, and 3.5.3 and elaborated on within the manuscripts themselves. I draw on key principles of political economy of health to inform analysis of these data and overall direction of the case description, including focus on structural factors, the ongoing mutation of our economic system, and the role of work in shaping an individual's socioeconomic position and potential link to the crisis. Use of abductive reasoning regarding economic influences affecting drug-related harms in the Western Canadian context allowed me to narrow the broader economic scope to

employment and working arrangements. In Chapter 7, I consider each of the analyses together to describe the economic influences of the overdose crisis and build a theoretical framework suggesting some of its potential structural drivers in Western Canada. Further, I offer discussion and future research direction that are greater than is offered by each individual chapter alone.

3.5.1 Compilation of Administrative Data and Distribution of Crisis-Related Deaths

The urgency and devastation of the overdose crisis has prompted increased monitoring and reporting of data on drug-related harms by various government bodies. These data provide an entry point to describing the harms experienced amid the crisis and how they are distributed across different populations. Due to limited availability of stratified crisis-related data at the municipal/site level, I compile data as described and presented by various agencies listed in Section 3.4 at the provincial level: counts and rates of overdose crisis deaths; deaths by type of opioid; deaths by age, gender and First Nations status; and deaths by employment status and occupations. Deaths by employment status and occupation are available for samples of crisis decedents in Alberta and British Columbia; this information is not available for Saskatchewan.

In Chapter 4, crisis-related death data are compiled and graphed to illuminate patterns of deaths and their distribution across populations in each province. These graphs contribute an important descriptive dimension of the harms experienced during the crisis, indicating inequitable patterns of deaths across Western Canada where working-age men, First Nations people, the unemployed, and those employed in blue-collar industries are most affected by the crisis. These data show the contours of the crisis in each province, reflecting the broader purpose of this study to explore potential economic influences of the crisis and its contours in Western Canada. Findings are consistent with scholarly literature on structural drivers of drug-related harms and support the need for increased study of employment status or industry of employment to better understand the crisis' broader economic influences.

3.5.2 Qualitative Inquiry and Key Informants' Understandings of the Crisis' Contextual Influences

Within-site thematic analysis of key informant interview transcripts was conducted to build a picture of microeconomic risk environments for each site. The first round of deductive analysis was conducted using a predetermined coding schema adapted from Rhodes' risk environment

framework (Figure 3.2). This analytic approach was used to organize the interview data into general overarching themes illuminating the social, political, and economic context of the crisis in each site. Additionally, the deductive approach was useful for initial identification of potential structural determinants of the overdose crisis, and I used the emergent themes as broad categorizations of contextual influences that served as an entryway to further explore the political economy of the crisis in more depth in the second round of analysis. The findings from this more focused round of analysis on contextual influences of the crisis are summarized by site in Appendices C, D, E, and F. The following subthemes emerged abductively from analysis of the broad economic contextual influences within each site: socioeconomic pressures, the illicit drug trade, and prescription opioids. These were organized into microeconomic risk environments for each site. Following this within-site thematic analysis for each site, I determined the economic influences to be the most novel and underexplored, thus narrowing my focus in this exploration.

Following the within-site thematic analysis and development of microeconomic risk environments for each site, across-site analysis was conducted where microeconomic contextual similarities across the sites were drawn out and organized into a macroeconomic risk framework for Western Canada. Socioeconomic pressures within and across the sites, identification of potential macroeconomic influences such as the illicit drug trade and Big Pharma, and available scholarly literature provided further support for the exploratory study of macroeconomic influences pertaining to work and their possible linkages to the crisis. Elaboration on thematic analysis and the development of micro- and macroeconomic risk environments is described in Chapter 5.

Figure 3.2 A Simple Model of a Risk Environment

	Micro environment	Macro environment
Physical environment		
Social environment		
Economic environment		
Policy environment		

Source: Rhodes, 2002.

3.5.3 Exploring the Political Economy of the Crisis

In Chapter 6, I compile and graph various employment measures including unemployment, numbers of jobs, and numbers of temporary workers by gender and industry. These graphs

contribute an important descriptive dimension of the broader economic context within which the crisis has emerged and maintained. In conjunction with the inequitable economic contours of crisis-related deaths and scholarly literature, I identify potential macroeconomic influences of the overdose crisis and suggest two hypotheses linking potential structural drivers and crisis-related harms. Notably, I observed trends in temporary employment, particularly in blue-collar and service industries in macroeconomic data, revealing potential connections to the distribution of harms experienced in the crisis in British Columbia. Building on the description of the economic context and scholarly literature, I offer theoretically informed future "links" of study, addressing the objectives of this exploratory case study and direction for future inquiry.

3.6 Project Outputs and Knowledge Translation

The following project outputs have been produced from this work: four site reports (one for each Saskatoon, Fort McMurray, Kelowna, and Nanaimo) and three manuscripts (Chapters 4, 5, and 6, respectively). Knowledge translation occurred within this research in two primary ways: 1) through distribution of site reports to interview participants; and 2) through media articles and interviews (see Appendix G).

3.6.1 Site Reports

Executive summaries of site reports (see Appendices C, D, E and F) contain brief descriptions of the crisis in each site (Saskatoon, Fort McMurray, Kelowna, and Nanaimo). Note that the Saskatoon site report and executive summary was created for a separate but similar study.[9] Common influences described in these reports include social influences (stigma, racism, and different social determinants of health as introduced in Chapter 2, Section 2.1.1); political influences (specific laws and policies of influence, political traditions, and competing priorities in a democratic voting system); and economic influences (socioeconomic pressures, the illicit drug trade, and prescription opioids).

[9] See the *Consolidating perspectives on the nature of Saskatoon's evolving opioid crisis* study technical and final summary reports, available from https://crismprairies.ca/affiliated-programs/consolidating-perspectives-on-saskatoons-evolving-opioid-crisis/

3.6.2 Manuscripts

Chapters 4, 5, and 6 of this dissertation are the three manuscripts produced for this work, and each serves two general purposes. First, each manuscript answers one of the three research questions, the source of data scrutinized in each aligning with one of Rhodes' suggestions for inquiry on environmental influences of drug-related harms: social epidemiology and descriptive statistics, qualitative inquiry and lived experience, and political economy. Consequently, each manuscript includes unique findings specific to the type of data studied, offering standalone insights to answer each research question, as described in sections 3.4 and 3.5 of this chapter.

Second, when taken together, the manuscripts offer various dimensions of economic influence potentially impacting the overdose crisis in Western Canada. Here, the manuscripts each act as separate but interlocking puzzle pieces, offering a thorough but introductory exploration of economic influences on the overdose crisis in Western Canada using a political economy of health lens. The puzzle metaphor here is appropriate for this exploratory research: the manuscripts each act as a single puzzle piece, connected to show potential connections between macroeconomic influences and crisis-related harms; however, also clear is the need for more puzzle pieces for better understanding of these connections, and the number of pieces and the overall puzzle size remain unknown. In the final chapter of this dissertation, Chapter 7, I consider each of the manuscripts together, offering a final discussion, conclusion, and afterword on what has been learned through this exploratory qualitative case study.

3.7 Trustworthiness of Data

To ensure collection of high-quality and trustworthy data in this case study, two strategies were employed: crystallization and member checking.

3.7.1 Crystallization

The use of multiple sources of data in case study is a common tactic to establish quality and trustworthiness (Yin, 2009). Triangulation involves using different data checking methods to provide additional depth and breadth on a particular phenomenon and thus increasing trustworthiness of a study. Triangulation, though, according to Richardson (1994), is "rigid, fixed, two-dimension" (p. 934) and does not accurately capture the postmodern and multidimensional nature of phenomena operating in specific contexts. Richardson (1994) suggests crystallization

instead as it provides a deeper, complex, and thoroughly partial understanding of the phenomenon of interest. Where a triangle is a two-dimensional three-sided figure, crystals are entirely complex with many sides and are multi-dimensional. Researchers aim to understand a phenomenon under certain subjectivity and recognize that multiple subjectivities exist at any given time and knowledge is socially constructed dependent on a variety of influences beyond the control or manipulation of a study. Crystallization, then, integrates the use of multiple data sources and analyses and offers insights on particular dimensions of a phenomenon. This strategy is conducive to undertaking qualitative inquiry and is reflected in the exploration of an economic dimension of the overdose crisis and the use of the political economy of health framework to guide the research direction.

3.7.2 Member Checking

Member checking is a trustworthiness strategy where participants can examine the writing where their words are featured to ensure accuracy (Stake, 1995). All key informant interview participants were provided the opportunity to review preliminary findings in drafted site reports (the final summaries of which are available in Appendices C, D, E, and F). In Saskatoon, all 24 participants and other key informants were invited to review preliminary findings and attend a follow-up forum to discuss; nineteen key informants took part in the forum as part of a separate but similar study.[10] In the Fort McMurray, Kelowna and Nanaimo sites, all participants received preliminary findings and a drafted report for their respective sites and were provided the opportunity to share feedback.

3.8 Research Ethics

A separate but similar study on the opioid crisis in Saskatoon received ethics approval from the University of Saskatchewan Research Ethics Board (REB) on February 8, 2018 (BEH 18-18), which stipulated interview data was going to be used for this doctoral research. I was a research assistant for this work and conducted the majority of key informant interviews. An amendment was submitted to the REB to include the additional sites and revise recruitment, consent, and data

[10] See the *Consolidating perspectives on the nature of Saskatoon's evolving opioid crisis* study final summary report, available from https://crismprairies.ca/affiliated-programs/consolidating-perspectives-on-saskatoons-evolving-opioid-crisis/

collection materials for my doctoral research. BEH 18-18 received an Approval of Amendment for these changes on September 5, 2018. Due to the multijurisdictional nature of this project and the intention to interview key informants working in health authorities in Alberta and British Columbia, ethics and operational/administrative approvals were required from the Universities of Alberta and British Columbia, and from health authorities wherein the sites are located. Ethics approvals were obtained from the University of Alberta REB (ethics ID Pro0087216) and the University of British Columbia (ethics ID H18-02927). Institutional approval was granted by the Vancouver Island and Interior Health Authorities in British Columbia; administrative approval was granted by Alberta Health Services.

4. UNDERSTANDING THE CONTOURS OF THE WESTERN CANADIAN OVERDOSE CRISIS: WHAT DOES THE PUBLICLY AVAILABLE DATA TELL US?

4.1 Introduction

Overdoses and overdose deaths have been dramatically increasing in Canada since 2010 (Canadian Centre for Substance Use and Addiction [CCSA], 2015; Canadian Institute for Health Information [CIHI], 2018). The harms experienced from the crisis have driven the Government of Canada (2021e; 2021f) to describe these unprecedented harms as a public health crisis; they are responsible for a decline in life expectancy in British Columbia and a stunted life expectancy nationally (Government of Canada, 2020a). Between January 2016 and December 2020, more than 21,100 Canadians had an apparent opioid-related death (Government of Canada, 2020c). The number of nonfatal overdose events is much harder to quantify; however, hospitalizations due to opioid overdose, one indicator showing a partial but incomplete picture of such events, increased 27 percent from 2013 to 2017 (CIHI, 2018). Available Emergency Medical Services data also indicates an increase in responses to suspected overdose since 2016 (Government of Canada, 2020c). The crisis is largely fuelled by an increase of illicit fentanyl and its analogues in the illicit drug supply (Government of Canada, 2020c), with publicly available data from the Government of Canada (2020c) showing that from January to December 2020, 96 percent of deaths were accidental in nature and 84 percent of these deaths were due to non-pharmaceutical opioids such as illicit fentanyl and its analogues.

Though important actions have been taken at federal and provincial levels to reduce crisis-related harms (Government of Canada, 2017; 2021b), governments across the country have repeatedly been criticized for not addressing the underlying socioeconomic and political root drivers of the crisis (Canadian Association of Chiefs of Police, 2020; Canadian Association of People who Use Drugs [CAPUD], 2019; Moms Stop the Harm [MSTH], 2020). Scholars in the field of substance use in Canada and the US have echoed these criticisms, calling for additional scholarly endeavour in understanding these broader structures in driving drug-related harms and death in both countries (Collins et al., 2019; Dasgupta et al., 2018; Friedman et al., 2020; Kerr, 2019).

The crisis has been made worse since the onset of the COVID-19 pandemic, as predicted by leading substance use agencies across Canada (British Columbia Centre for Substance Use [BCCSU], 2020; CCSA & Canadian Community Epidemiology Network on Drug Use

[CCENDU], 2020; Canadian Research Initiative in Substance Misuse [CRISM], 2020). Overdoses have climbed sharply throughout the country, notably in Western Canada (British Columbia Coroners Service, 2021a; Government of Alberta, 2021b; Saskatchewan Coroners Service, 2021). A 2020 report released by CCSA described the impacts of the pandemic expressed by people who use drugs across the country, noting increased isolation, fear and anxiety, a more toxic drug supply, and reduced access to and availability of support and health care services in the community that have increased risk of overdose and death. Further, the report states the pandemic "exposes the shortcomings that have long existed for people who use substances" and specifically mentions "socio-structural conditions…create underlying vulnerabilities to developing COVID-19 and substance use disorders" (CCSA, 2020, p. 1). In addition to the increased risk of overdose and death among people who use drugs, the pandemic is also responsible for significant structural social and economic changes. These include public health measures limiting socializing with others such as physical and social distancing, working from home and avoiding gatherings, and considerable economic upheaval with economic shutdown, shifts to virtual and distanced goods and service provision, increased unemployment, and decreased gross domestic product (Statistics Canada, 2021b).

This paper was undertaken within a larger exploratory case study of economic influences of the overdose crisis in Western Canada. We report on an exploratory examination of publicly available government data, with a particular focus on the Western Canadian provinces of British Columbia, Alberta and Saskatchewan that was undertaken to identify the broad contours of the crisis and begin to identify and illuminate its potential macroeconomic influences. Here, we begin with a brief examination of literature discussing how patterns of health outcomes can be used as a jumping off point to identify potential structural drivers of these outcomes, drawing on population health equity literature and the risk environment theoretical framework. Then, after outlining the methods used, we present our findings, including the identification of potential socioeconomic influences driving overdose and death amid the overdose crisis. We illustrate that patterns of deaths by socioeconomic characteristics and type of drug are reflective of structural disadvantage for populations, particularly working-aged men, First Nations people, and those working in blue-collar and service industries. In the discussion, we expand on the inequitable patterns shown in the findings, suggesting these patterns may be influenced by economic forces but that additional data and further nuanced study are required. The paper concludes with calls for the capturing and

sharing of more socioeconomic data relating to those affected by the crisis that will highlight areas for upstream action and intervention to prevent these tragic and avoidable deaths.

4.2 Population Health and Structural Drivers

Broadly, the study of population health is "the health outcomes of a group of individuals, including the distribution of such outcomes within the group" (Kindig & Stoddart, 2003, p. 381). What constitutes a group varies and includes individuals sharing a common characteristic(s); it can include demographic information (groups categorized by gender, age, ethnicity, education, employment, income, among others) and geographical location (groups categorized by urban or rural location, community, province or state, country, among others). Differences in distribution of health outcomes across groups, otherwise known as inequalities, exist and either occur naturally or are produced by broader structures and systems that function outside the realm of the individual (Arcaya et al., 2015). Inequalities that exist naturally are those that are relating to health outcomes specific to a particular group. For example, women, due to their biological sex, have higher incidence of breast cancer than men; Australians, due to their geographic location and higher sun exposure, have higher incidence of skin cancer than North Americans.

Unequal distribution of health outcomes that are not naturally occurring are thus "created," resulting from "a toxic combination of poor social policies and programmes, unfair economic arrangements, and bad politics" (CSDH, 2008, p. 1). While still technically inequalities, these differences are also inequities because they are unjust and avoidable (Arcaya et al. 2015; Whitehead, 1992). The labelling of differences as inequities thus establishes a normative imperative to reduce negative health outcomes among populations with higher incidence of particular health outcomes, namely via the structural determinants of health, which includes poor social policies and programmes, unfair economic arrangements and bad politics (CSDH, 2008).

Study of structural influences of substance use-related harms is itself not a new field of inquiry. For example, social, political and economic drivers have been identified in the excess drinking and related deaths in Russia amid its economic transition to a market economy in the 1990s (Cockerham, 2012; Lazareva, 2020; Perlman, 2010), and in the US crack and opioid epidemics in the 1980s and 1990s to present, respectively (Acker, 2010; Bourgois, 2003; Dunlap & Johnson, 1992; Keyes et al., 2014; McLean, 2016; Monnat et al., 2019; Seltzer, 2020). These studies have primarily utilized aggregate health and economic data to study relationships between

structural determinants and drug-related harms, particularly highlighting the influence of employment on outcomes. Employment, or lack thereof, have been identified as crucial determinants influencing individual health, where an individual's employment status heavily shapes daily experiences though significant differences exist by employed or unemployed status, occupation, and industry of work (Bambra, 2011). Each of these shapes an individual's socioeconomic status and imply different psychosocial and material circumstances for the individuals living within them (Bambra, 2011). Bambra (2011) notes circumstances among those who are working are affected by differing working conditions, physical environments, levels of workplace stress, the nature and amount of work, and employee input and control at work, while those who are not working or otherwise unemployed face stigmatization, isolation, loss of purpose, and loss of material resources including wages, benefits and access other services via lost wages and benefits.

Historic and ongoing colonial practices in Canada have resulted in ongoing socioeconomic disadvantage among Indigenous populations[11] across the country, driven by "colonization, cultural suppression, family and community dislocation and disruption, chronic unemployment, political alienation, and unhealthy environments" (Firestone et al., 2015, p. 1120).[12] These systemic drivers are considered largely responsible for the disproportionate burden of substance use-related harms among Indigenous people, before and during the overdose crisis (Firestone et al., 2015; Lavalley et al., 2018). Further, Collins et al. (2019) used a risk environment approach to highlight intersectionality as it pertains to distribution of drug-related harms and found that ethnicity intersects with gender and class to create additional burdens for subpopulations, notably Indigenous women, youth, and those with lower incomes. Overrepresentation of Indigenous women in drug-related harms compared to non-Indigenous women, as well as the unique experiences and pathways of this group as they relate to both crisis- and drug-related harms, have similarly been identified by other Canadian researchers (Goodman et al., 2017; Hyshka et al.,

[11] Indigenous refers to the collective name for the original peoples of North America, and includes First Nations, Inuit, and Métis peoples (Government of Canada, 2021c).

[12] I acknowledge the many important Indigenous health scholars in addressing disparities in health. I recognize my dissertation explores potential structural drivers of the overdose crisis, noting disparities in substance use-related deaths between Indigenous populations and non, and also acknowledge important contributions on colonization as a structural determinant of Indigenous populations' health shared by Assembly of First Nations and Thunderbird Partnership Foundation (2011); Communications, Alliances and Networks and Interagency Coalition on AIDS Development (2019); and Reading and Wien (2009).

2017; Lavalley et al., 2018; McKenzie et al., 2016) as well as Indigenous and substance use organizations (Assembly of First Nations, National Native Addictions Partnership Foundation & Health Canada, 2011; Canadian Observatory on Homelessness, 2019; Communities, Alliances and Networks & Interagency Coalition on AIDS and Development, 2019; First Nations Health Authority, 2017). Indigenous women have different experiences of substance use and accessing of substance use-related services compared to men, where factors such as male-female relationship dynamics, gendered experiences of abuse (intergenerational trauma, sexual abuse, intimate partner violence), safety, pregnancy and motherhood, and engagement in sex work can be of influence (Boyd et al., 2018; Shahram, Bottorff, Oelke et al., 2017; Shahram, Bottorff, Kurtz et al., 2017; Sharma et al., 2021; Tarasuk et al., 2021).

Rhodes (2002) developed a "risk environment" framework to better understand the structural drivers of drug-related harms in both micro and macro contexts. He defined the risk environment "as the space – whether social or physical – in which a variety of factors interact to increase the chances of drug-related harm" (p. 88), noting physical, social, economic, and political environments can be highly influential on individual- and population-level drug-related harms (2002; 2009). Rhodes (2009) discusses the use of post-positivist approaches in identifying risk and harm outcomes of substance use-related harms, noting that these approaches can be useful in answering "What drug harms exist, how are these distributed in populations, and how are they the product of individuals interacting with their environments?" (p. 199). The efficacy of this approach is seen in both the Russian and US contexts, where the publicly available Russian Longitudinal Monitoring Survey database and US Census Bureau data have both been particularly helpful for understanding economic drivers of alcohol- and opioid-related deaths in each country (Lazareva, 2020; Monnat et al., 2019; Perlman, 2010; Seltzer, 2020). Notably, there is limited availability of economic data pertaining to the crisis in Canada, an important limitation preventing further study of the crisis' economic influences in the same vein of those seen in Russia and the US.

Given the utility of population-level data in understanding structural drivers and the limited research in the Canadian context, particularly in Western Canada, we began by studying what is known about the distribution of overdose deaths as an entryway to understanding which most affected groups and possible influences affecting this distribution, with close attention to indicators related to economics. In the next section, we describe the methods used to achieve this.

4.3 Methods

This paper is situated within a larger case study of the overdose crisis in Western Canada with an overall purpose to explore the potential economic influences on the overdose crisis and how they shape its contours in Western Canada, the region of the country where the crisis has been most devastating. The authors sought understanding of economic influences on the crisis at a broader level, starting our exploration by examining publicly available crisis-related data from the provinces of Saskatchewan, Alberta, and British Columbia to discern patterns of harm in the crisis and potential structural drivers implicit in shaping these patterns. Data gathered for the broader case study include publicly available administrative data on drug- and crisis-related harms, interviews with key informants, and economic and employment data from Statistics Canada. This paper focuses on findings from publicly available administrative data, where crisis-related death data which has been descriptively presented by a number of federal and provincial agencies, is compiled and graphed to illuminate the patterns of drug-related harms that exist and their distribution amid the Western Canadian overdose crisis. We chose to use publicly available data because it is easily accessible, available to everyone and offers a pragmatic picture of the overdose crisis.

The publicly available data gathered for this paper are from the following agencies and reports: Government of Canada (Opioid-related harms in Canada), British Columbia Coroners Service (*Illicit Drug Toxicity Deaths in BC; Illicit Drug Toxicity, Type of Drug Data;* and *Illicit Drug Overdose Deaths in BC: Findings of Coroner's Investigations),* First Nations Health Authority (FNHA)(*Overdose Data and First Nations in BC: Preliminary Findings;* First Nations Opioid Overdose Deaths Rise in 2018 [media release and infographic]; First Nations Illicit Drug Deaths Rise during COVID-19 Pandemic [media release and infographic]; First Nations in BC and the Toxic Drug Crisis [media release and infographic]), Government of Alberta and Alberta Health (*COVID-19 Opioid Response Surveillance Report: Q2 2020, Opioid-related deaths in Alberta in 2017: Review of medical examiner data, Alberta Opioid Response Surveillance Report: First Nations People in Alberta,* and *Opioids and Substances of Misuse among First Nations People in Alberta: Alberta Report, 2017)* and Saskatchewan Coroners Service (*Drug Toxicity Deaths: Saskatchewan, 2010 to 2021).*

The main study author (JD) reviewed these public reports and organized the data presented in them to highlight patterns of drug-related deaths by available social (gender, age, and First

Nations status) and economic (employment, industry of employment where available) descriptors, as seen in the findings section. Compiling and graphing of these data make visible patterns of inequities in each province and Western Canada more broadly.

This exploratory method and approach are posed as an entry point into understanding drivers of patterns of harms amid the overdose crisis in Western Canada, an underexplored area that needs further study (Collins et al., 2019; Dasgupta et al., 2018; Friedman et al., 2020; Kerr, 2019). These descriptive statistical data illuminate patterns of deaths and their distribution across populations in each province under scrutiny, identified as an important step in highlighting the broader environmental influences of drug-related harms (Rhodes, 2009). These data are stratified by different socioeconomic characteristics but due to data limitations, we are unable to conduct intersectional analyses illuminating potential combinations of socioeconomic characteristics among crisis decedents. Here, the findings act as a first "link" in a chain of studies, offering important insights on their own but also indicating direction for future studies (Stebbins, 1992) such as identification of particular characteristics requiring further in-depth investigation and nuanced intersectional analyses showing combinations of effect of multiple socioeconomic characteristics and highlighting structural and interrelated systems of power perpetuating patterns of outcomes (Jaehn et al., 2020).

However, there are limitations of these publicly available data that are important to note. First, this paper illustrates counts and rates of fatal overdose events but does not consider counts or rates of non-fatal overdose events and thus the findings are an underrepresentation of actual harms experienced during the crisis. While data on non-fatal overdose events are collected, such as through hospitalizations or emergency medical services responses, these data are not consistently collected across regions or time. Inconsistencies across agencies, regions and time are seen in other data collection and reporting criteria as well. For example, British Columbia Coroners Service specifically reports on illicit drug-related deaths, whereas the Alberta and Saskatchewan data do not specify whether death events are licit or illicit in nature. Additionally, inconsistencies in federal and provincial reporting create challenges in depicting chronological patterns of harms. Further, details on specific practices undertaken by coroners or at other points of data collection in each agency are not clearly and consistently outlined, and there may be slight variations in these practices across each.

It is also important to note the limited availability of data pertaining to decedents' socioeconomic status, particularly employment status, occupation, education, and First Nations status. The Government of Canada (2017) states there are still gaps in its data collection and evidence, noting the institution is exploring "more permanent ways to collect and monitor data… [to help] identify future drug issues as they emerge" (p. 16). Recognizing the importance of these data in understanding the overdose crisis, we suggest increased attention to collection of and reporting on economic measures, by all levels of government. We also suggest better data collection pertaining to the overdose crisis can provide valuable information on both upstream and local influences of drug-related harms and possible areas for prevention to reduce these harms in the future. Given the current economic challenges facing Canada, amplified in the time of the coronavirus pandemic, the need for more accurate data is both urgent and appropriate.

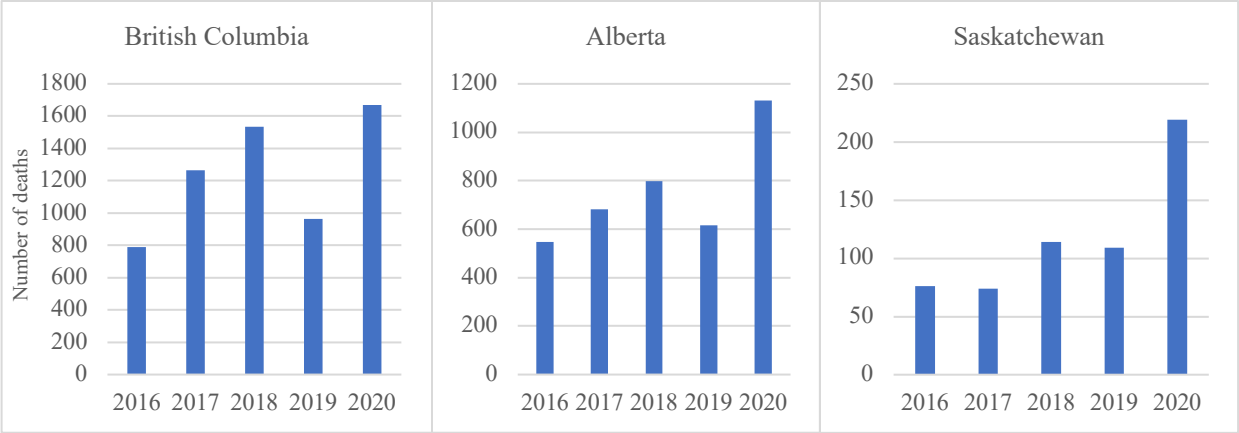
4.4 Findings

4.4.1 Overdose Crisis Deaths

Each of the provinces recorded a general increase in opioid-related deaths since 2015 as shown in Figure 4.1, though variations in rates of deaths and type of opioid implicated in the death exist. Counts are included here to illuminate the overall trends in each province, showing a general increase in numbers of deaths between 2016 and 2020, with surges occurring in 2020. Figure 4.2 shows rates of accidental apparent opioid-related deaths for each province for the 2016-2020 period, allowing us to visualize the trends, and their similarities and differences across provinces. British Columbia shows not only the highest rates of deaths but also the steepest initial increase between 2016 and 2017. All three provinces recorded a decrease between 2018 and 2019; however, the Government of Canada's most current data is only available until September 2020 and each province has seen substantial increases in drug-related deaths in 2020 amid the COVID-19 pandemic (British Columbia Coroners Service, 2021a, 2021b; Government of Alberta, 2021b; Saskatchewan Coroners Service, 2021). All three provinces' age-adjusted rates of accidental apparent opioid-related deaths experienced a steep increase in 2020 as seen in Figure 4.2.[13]

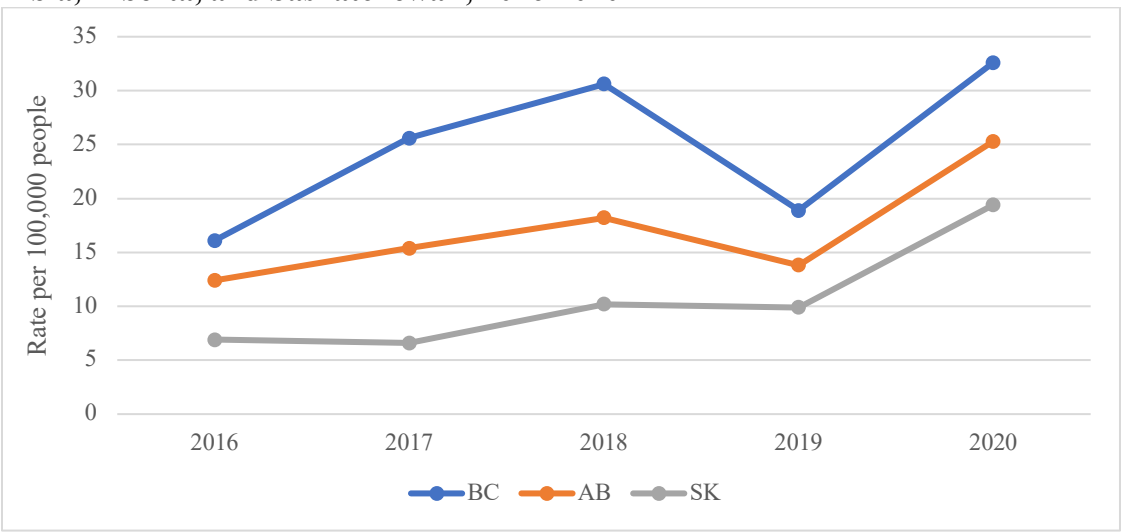
[13] Both counts and rates are shared in this manuscript. Counts are used to illuminate patterns of crisis-related death within each province. Rates and proportions are used to highlight patterns of crisis-related death across the provinces of Saskatchewan, Alberta, and British Columbia. Age-adjusted rates of accidental opioid-related deaths are shared to highlight numbers of people harmed per 100,000 people in each province, offering a standardized measure useful for across-province analysis. Proportions of harms experienced by type of opioid, age, gender, First Nations status,

Figure 4.1 Accidental Apparent Opioid-Related Deaths; British Columbia, Alberta, and Saskatchewan; 2016-2020



Source: Government of Canada, Opioid- and Stimulant-Related Harms in Canada, 2021.

Figure 4.2 Age-Adjusted Rates of Accidental Apparent Opioid-Related Deaths; British Columbia, Alberta, and Saskatchewan; 2016-2020



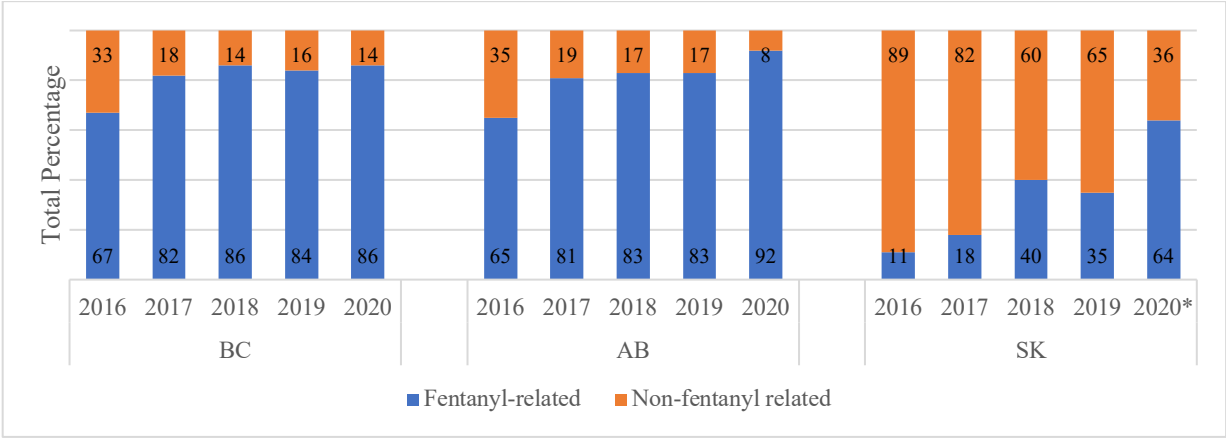
Source: Government of Canada, Opioid- and Stimulant-Related Harms in Canada, 2021.

Patterns of opioid-related deaths by type of opioid are shown in Figure 4.3. A majority of accidental apparent opioid-related deaths in British Columbia and Alberta are related to fentanyl. Saskatchewan differs in this regard, where the majority of accidental opioid-related deaths appear to be non-fentanyl related. Despite this, numbers of fentanyl-related death events have been

employment status, and industry of employment are shared for each province, again offering useful descriptive statistics to highlight trends across the provinces.

increasing in Saskatchewan since 2016, and the province has experienced steady increases and substantial jumps in fentanyl-related deaths in the reporting period, particularly in 2018-2020.

Figure 4.3 Percentages of Accidental Apparent Opioid-Related Deaths by Type of Opioid; British Columbia, Alberta, and Saskatchewan, 2016-2020

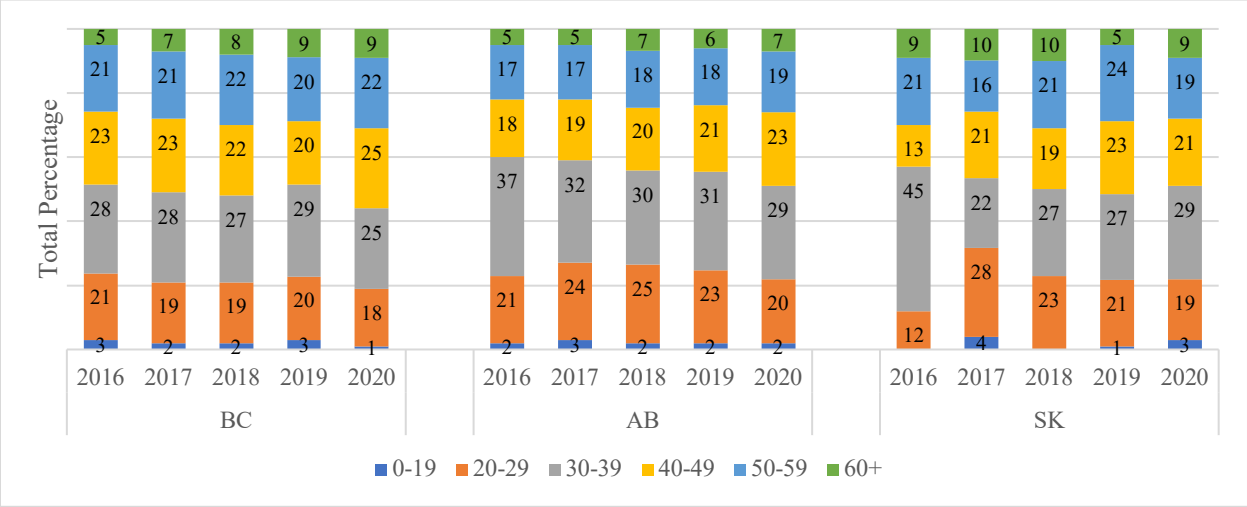


*Data for Saskatchewan from January 1 – December 31, 2020. Cases still pending.
Source: Government of Alberta, Alberta Substance Use Surveillance System, 2021; British Columbia Coroners Service, Fentanyl-Detected Illicit Drug Toxicity Deaths, 2021; Saskatchewan Coroners Service, Drug Toxicity Deaths, 2021.

4.4.2 Overdose Crisis Deaths by Age, Sex, and First Nations Status

Figure 4.4 shows percentages of accidental apparent opioid-related deaths by age group. Deaths have occurred among all age groups, though generally are higher among those aged 30-39 years. However, this is not always consistent, particularly in Saskatchewan post-2016, and the data show deaths are also frequently occurring within the 20-29, 40-49 and 50-59 age groups in each province.

Figure 4.4 Percentages of Accidental Apparent Opioid-Related Deaths by Age; British Columbia, Alberta, and Saskatchewan, 2016-2020



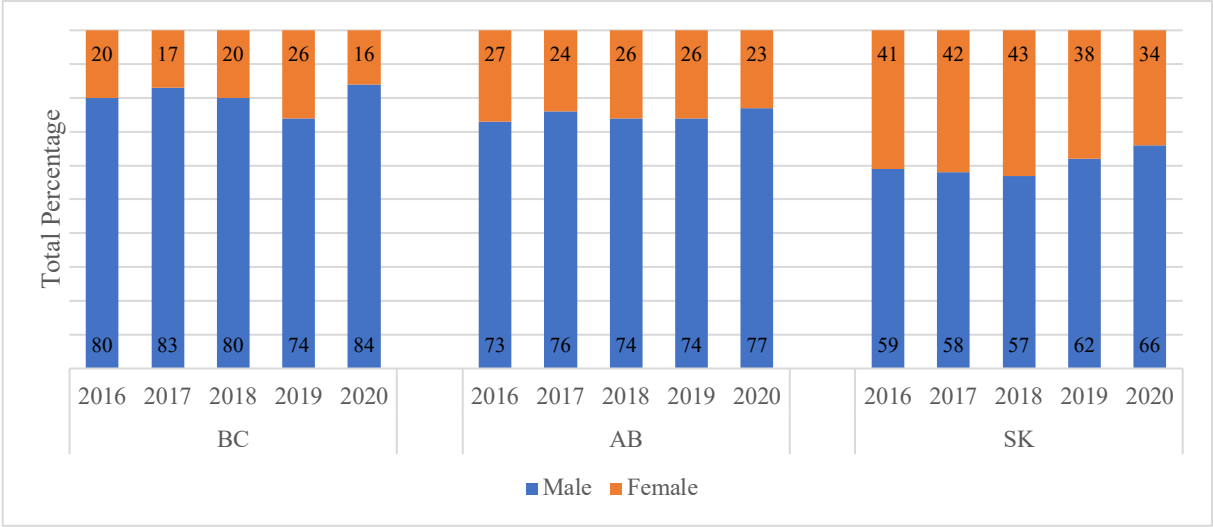
Source: Government of Canada, Opioid- and Stimulant-Related Harms, 2021.

Across all three provinces, most accidental opioid-related deaths have occurred among males (Figure 4.5). Males are overrepresented in these deaths: in British Columbia and Alberta, men made up approximately 75-80 percent of decedents, whereas in Saskatchewan they made up approximately 60 percent of decedents. In all three provinces, males account for approximately 50% of the total population. The three agencies reporting First Nations status and drug-related deaths are the Saskatchewan Coroners Service, Alberta Health, and the First Nations Health Authority in British Columbia. These agencies diverged in what they shared relating to drug-related deaths among First Nations populations, and with limited information available we were unable to depict patterns or trends graphically beyond what is shown in Figure 8.[14] The publicly available data indicates non-First Nations people are the majority of opioid-related overdose deaths in each province; however, the reports in British Columbia and Alberta state rates of accidental opioid-related deaths for First Nations people appear to be at least three times higher than those who are non-First Nations, and getting as high as nearly six times the rate in British Columbia for the first five months of 2020 (First Nations Health Authority, 2020). Additionally, British Columbia and Alberta have a higher proportion of accidental opioid-related deaths among First

[14] The Saskatchewan Coroners Service includes both status and non-status First Nations individuals in their reporting, where the First Nations Health Authority includes only status First Nations. Alberta Health includes First Nations reporting but does not specify if their data is based on status, non-status, or both.

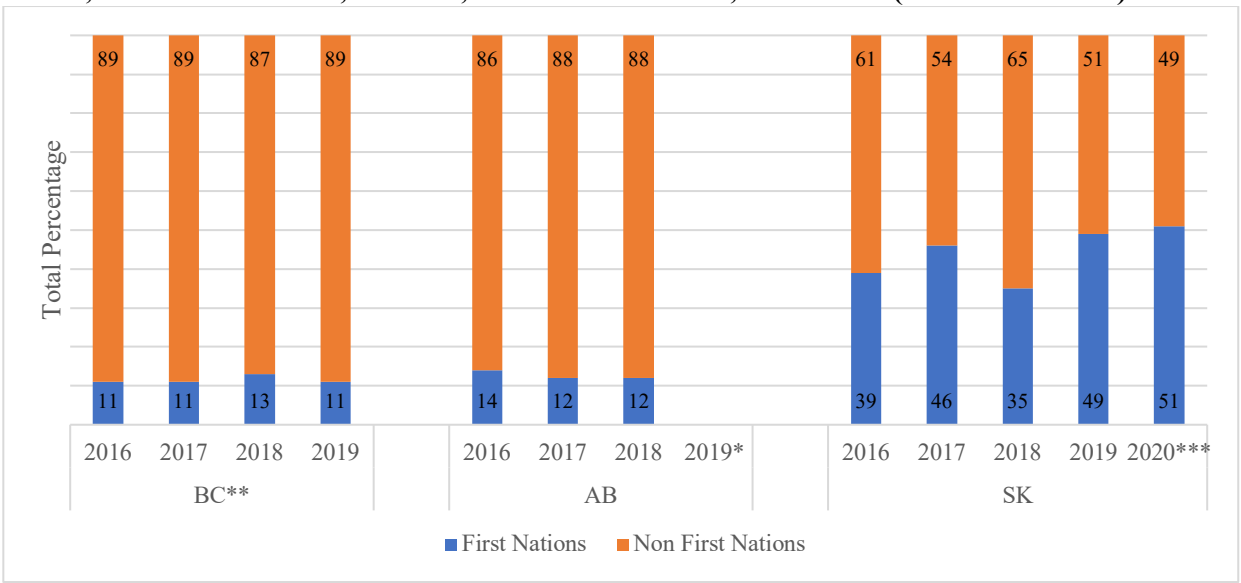
Nations people to non-First Nations than in Saskatchewan, which has experienced a general increase of deaths among First Nations people in the reporting period (Figure 4.6).

Figure 4.5 Percentages of Accidental Apparent Opioid-Related Deaths by Sex; British Columbia, Alberta, and Saskatchewan, 2016-2020



Source: Government of Canada, Opioid- and Stimulant-Related Harms, 2021.

Figure 4.6 Percentages of Accidental Apparent Opioid-Related Deaths by First Nations Status; British Columbia, Alberta, and Saskatchewan, 2016-2020 (where available)



*Data not available for Alberta after 2018.
**Data reflect all illicit drug deaths, not exclusively opioid-related deaths.
***Data for Saskatchewan from January 1 – December 31, 2020. Cases still pending.
Source: First Nations Health Authority, Overdose data and First Nations in BC: Preliminary findings, 2017; The impact of the opioid crisis on First Nations in BC, 2019; First Nations in BC and the overdose crisis, 2020; British Columbia Coroners Service, Illicit drug toxicity deaths in BC, 2021; Government of Alberta, Alberta Opioid Response Surveillance Report: First Nations People in Alberta, 2019; Saskatchewan Coroners Service, Drug Toxicity Deaths, 2021.

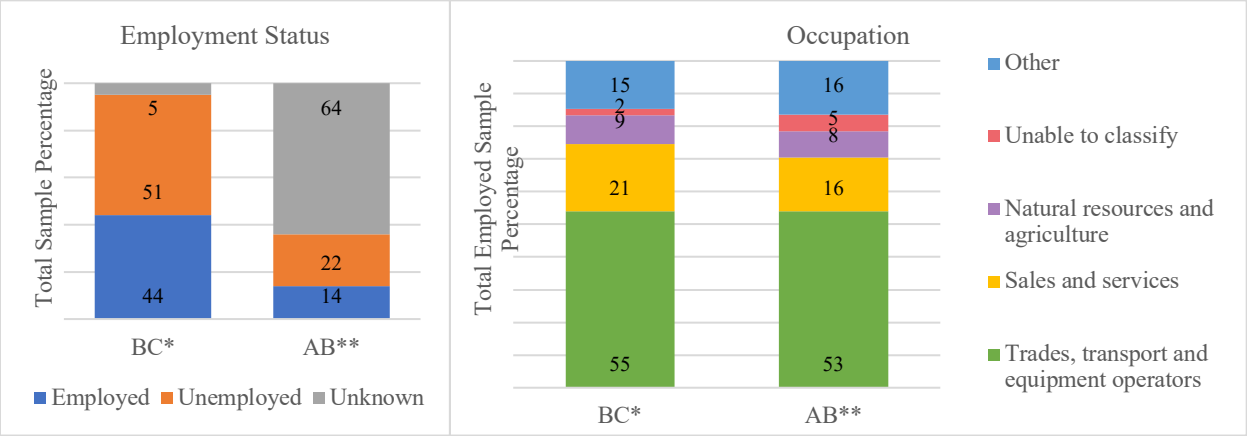
When stratified by both sex and First Nations status, another pattern is clear: among non-First Nations decedents, the proportion between males and females is more pronounced than it is among those for First Nations (First Nations Health Authority, 2020; Government of Alberta, 2019a; Saskatchewan Coroners Service, 2021). Among First Nations people in British Columbia in 2018, 61 percent of overdose deaths were males and 39 percent females, compared to 83 percent males and 17 percent females in the non-First Nations population (First Nations Health Authority, 2019). From 2016 to 2018 in Alberta, 51 percent of opioid-related deaths among First Nations people were males and 49 percent were females, compared to 76 percent of males and 24 percent of females among non-First Nations (Government of Alberta, 2019a). According to the Saskatchewan Coroners Service (2021), among non-First Nations decedents, the proportion between males and females was not as pronounced as in Alberta or British Columbia (63 percent males and 37 percent females in 2017; 68 percent males and 32 percent females in 2018; 73 percent males and 27 percent females in 2019; and 76 percent males and 24 percent females in 2020). Among First Nations decedents, the proportion between males and females was equal in 2016 and 2019, and nearly equal in 2017 (51 percent males and 49 percent females). In 2020, 61 percent of First Nations decedents were males and 39 percent were females. However, in 2018 in Saskatchewan, the typical trend of higher numbers of deaths among males than females reversed, with 62 percent of First Nations decedents being female and 38 percent male (Saskatchewan Coroners Service, 2021).

4.4.3 Overdose Crisis Deaths by Employment Status and Occupation

Publicly available data on the employment status and occupation of individuals who died an accidental apparent opioid-related death in the overdose crisis are limited, and only two reports with limited samples illuminating trends by employment status and occupation are available, one each from British Columbia and Alberta. In British Columbia, based on a sample of 872 illicit drug overdose investigations (613 from 2016, 259 from 2017), nearly half of decedents were identified as being employed at their time of death (Figure 9). Of those, over half were employed in the trades and transport industry (55 percent), just over one-fifth were in sales and services (21 percent), 9 percent were in natural resources and agriculture, and the remainder (15 percent) were relatively evenly spread among other industries or unknown (Figure 4.7). According to 2016 census data for British Columbia, those in trades and transport accounted for nearly 15% of the total labour force,

sales and service just over 24.5%, and natural resources and agriculture 2.65%. Thus, decedents employed in trades and transport and natural resources and agriculture at the time of their death are overrepresented in the data, especially evident among those in trades and transport occupations. Employment status and occupation information of decedents in Alberta was much more limited; of the 653 cases examined in 2017, only 36 percent had employment status information listed (Figure 4.7) and 64 percent listed an occupation identified by next of kin though it is not clear if this occupation was current at the time of death or if it was the last known occupation (Government of Alberta, 2019b). Of the information available, trades and transport (53 percent), sales and services (16 percent) and natural resources and agriculture (8 percent) were similarly listed as the top three industries of employment of decedents (Figure 4.7).

Figure 4.7 Percentages of Drug-Related Deaths by Employment Status and Occupation; British Columbia and Alberta; 2016-2017



*Representing a sample of 613 illicit drug overdose investigations from 2016, 259 from 2017.
**Representing all unintentional opioid-related deaths in 2017 (653 cases).
Source: British Columbia Coroners Service, *Illicit drug overdose deaths in BC: Findings of Coroner's Investigations,* 2018; Government of Alberta, *Opioid-related deaths in Alberta in 2017: Review of medical examiner data,* 2019.

4.5 Discussion

Our findings reveal a diversity of groups is affected by the overdose crisis, varying by social, economic and combinations of these determinants. Data illuminating employment status of decedents at the time of death show a high proportion of decedents each who were either: 1) employed at the time of their death, or 2) unemployed at the time of their death, suggesting potentially unique pathways to drug-related harms for those within each group. Employment can significantly impact an individual's health outcomes, identified by Bambra (2011) as *the* main

determinant of health as it can inform income, access to employment-based benefits and supports, social connections, and psychological well-being. Previous study on relationships between unemployment and drug-related harms have found these two be related (Collins et al., 2019; Dunlap et al., 2016; Stone et al., 2012), and our findings suggest further study of this relationship is needed in Western Canada as just over half of decedents captured in available studies were unemployed at the time of their death.

Further, blue-collar and service industry workers, namely those in trades and transport, make up the greatest proportion of employed individuals to have died a crisis-related death in British Columbia and Alberta. Similar to this finding, previous research has identified men from these industries are overrepresented in substance-related harm and death in both Russia and the US during previous epidemics of substance-related harms in each country (Carpenter et al., 2017; Chenet et al., 1998; Keyes et al., 2014; Lazareva et al., 2020; Monnat et al., 2019; Perlman, 2010; Seltzer, 2020). Both the Russian and US crises were preceded by macroeconomic shock and disruption resulting in largescale macroeconomic shifts to each country and driving unemployment, increased stress and isolation and loss of social roles among affected workers and contributing to increased substance use and related harms among working men in each country (Baker, 2019; Carpenter et al., 2017; Cockerham, 2012; Keyes et al., 2014; McLean, 2016; Perlman, 2010; Seltzer, 2020). The economic shocks experienced in these countries – the collapse of the communist USSR in conjunction with a shift to a market economy and subsequent recession in 1991 in Russia, and the repeated market crashes and recessions, notably in 1980 and 2008, in the US – had drastic effects on blue-collar industries and the health and wellbeing of workers in each country (Chenet et al., 1998; Forbes & Krueger, 2019; Keyes et al., 2014; Lazareva, 2020; McKee & Leon, 2005; Quinones, 2015). To be sure, the Canadian economy is different from that of the US and Russia, yet the economic pattern of deaths visible in our findings, though inconclusive, suggests there may be complex relationships between economics, employment status, industry of employment and overdose or death that these data could not discern but that warrant further study.

The overrepresentation of First Nations people in deaths amid the overdose crisis is consistent with previous literature describing the disproportionate amount of substance use-harms experienced by Indigenous populations (Firestone et al., 2015; Lavalley et al., 2018). The historical and contemporary context of colonization in Canada creates the conditions enabling these harms

as well as the economic disadvantage experienced by Indigenous populations in Canada. For example, Canadian research has shown Aboriginal people have experienced higher economic struggle after the 2008 recession (Lamb, 2015) and are more likely to be employed in temporary or precarious positions (Uscalas, 2010). Colonization is described by Indigenous health scholars as a separate structural determinant of Indigenous populations' health, driving disparities in socioeconomic position and health outcomes between Indigenous populations and non (Assembly of First Nations & Thunderbird Partnership Foundation, 2011; Communities, Alliances, and Networks & Interagency Coalition on AIDS and Development, 2019; Reading & Wein, 2011). Such findings suggest a syndemic relationship between colonialism and capitalism may be acting to create the inequities, though no studies to date have framed it this way. Only two agencies had publicly available data on First Nations status and the overdose crisis (Government of Alberta and First Nations Health Authority), and our investigation confirms working-age First Nations individuals are particularly affected in the overdose crisis, similar to the non-First Nations population. However, Tarasuk et al.'s (2021) work shows nearly 84 percent of a sample enrolled in a national survey of Indigenous people (nearly 83 percent of this sample are First Nations people) who inject drugs in Canada experienced financial strain between 2017 and 2019.

Further, evidence from the US highlights the disproportionate impact of the crack epidemic by ethnicity, particularly Black Americans. The crack epidemic had particularly devastating effects for poorer Black US neighbourhoods (Acker, 2010; Bourgois, 2003), and the social and economic contours of the crack epidemic share parallels with the social and economic contours of the overdose crisis in Western Canada, notably among First Nations populations. These similar patterns are shared here not to generalize the experiences of non-white ethnic groups in North America, but to highlight the social and economic disparities as consequence of white settler colonial history in both the US and Canada. That these inequalities by ethnicity persist is reflective of the systemic barriers marginalized groups continue to face relating to substance use and beyond. Gender should additionally be taken into consideration, as our findings show First Nations women are experiencing higher rates of harms than non in Western Canada, consistent with other Canadian academic and grey literature (Canadian Observatory on Homelessness, 2019; Communities, Alliances and Networks & Interagency Coalition on AIDS and Development, 2019; Goodman et al., 2017; Hyshka et al., 2017; Lavalley et al., 2018; McKenzie et al., 2016; Assembly of First Nations, National Native Addictions Partnership Foundation & Health Canada, 2011). This finding

suggests pathways to harms in the crisis are multiple and influenced by social and economic determinants – albeit not in a linear or uniform way.

Discerning the compounded and intersectional effects of the economic and social determinants is not possible given data limitations. The available stratified data shared in this paper capture some of the contours of the overdose crisis, making more visible patterns of death by different socioeconomic groups. The limited individual economic data presented in this paper may be indicative of broader economic influences on the crisis; however, without consideration of other economic variables such as income and education and further stratification of this data, we are unable to identify important economic patterns beyond what is presented here. Consequently, the limited availability of public data inhibits our inference regarding additional structural drivers. A second dataset was collected for this study from qualitative interviews with key informants in Western Canada to capture some of these complex nuances regarding economic influences and better illuminate the experiences of those affected by the crisis.[15] Further, we suggest compounded effects of ethnicity and socioeconomic status may increase risk of crisis-related death among individuals, reifying the need for intersectional analyses as a future link in a chain of studies on economic influences of the overdose crisis (Jaehn et al., 2020; Stebbins, 1992).

Another potential avenue to explore structural or macroeconomic influences of the overdose crisis presents itself by the patterns of death by type of opioid causing death. Our findings show most accidental apparent opioid-related deaths Saskatchewan are due to non-fentanyl opioids, unlike both British Columbia and Alberta where fentanyl and its analogues are most common. The unique overdose crisis in Saskatchewan provides compelling evidence that drug-related harms may differ due to Saskatchewan's social, economic, and geographic contexts, all identified as potentially important influences affecting an area's substance use-related harms (Rhodes, 2002; 2009). There has been little study to date on this potential; however, qualitative inquiry with key informants suggests illegal drug distribution routes in Western Canada often leave Saskatchewan as one of the last recipients of illicit drug shipments, explaining in part the delayed increase in fentanyl-related deaths compared to British Columbia and Alberta.[16]

[15] See Chapter 5, The "High Cost" of Living: Economic Risk Environments of the Western Canadian Overdose Crisis.

[16] See Chapter 5, The "High Cost" of Living: Economic Risk Environments of the Western Canadian Overdose Crisis.

In Saskatchewan, the surge of illicit fentanyl-related deaths nearly tripled from 2019 to 2020, reinforcing the idea of a changing dynamic of the illicit drug supply amid the COVID-19 pandemic (Canadian Centre on Substance Use and Addiction, 2020). Each province has seen a dramatic increase in numbers of drug-related deaths during the pandemic (British Columbia Coroners Service, 2021; Government of Alberta, 2021b; Saskatchewan Coroners Service, 2021) and this is reflected in the rising rates of harms reported by the Government of Canada for the first half of 2020. It is expected, then, that this rate will only increase as data are updated. Given the inequitable harms occurring among employed and unemployed working-aged men, First Nations people and people in blue-collar and service industries amid the overdose crisis prior to the pandemic, it is unsurprising that harms have been exacerbated during the COVID-19 era. The pandemic has intensified the inequitable disparities already in place (Berkowitz et al., 2020; Williams & Cooper, 2020), including those illuminated by the overdose crisis. While frequently described as being caused by more potent fentanyl, the more recent spike in crisis-related deaths during the COVID-19 pandemic has not been examined in light of the economic shift that has accompanied it.

Statistics Canada (2021b) has described the impact of the economic shift on the Canadian economy, highlighting that blue-collar and service industries are the most severely impacted. The British Columbia Centre for Disease Control (2021) released a report stating that economic well-being of young adults in British Columbia has worsened in the pandemic, with unemployment, financial strain and economic insecurity, and low or lost wages as the major contributors. Job insecurity and unemployment both increased in Canada during the pandemic, and associations exist between these and negative mental health outcomes (Bambra, 2011; Benach et al., 2014) and increased substance use or related harms (Boscarino et al., 2016; Heimer et al., 2015, Kaye et al., 2017; Keyes et al., 2014; Larance et al., 2015; Manchikanti et al., 2010; Perlmutter et al., 2017). It is not fully known to what extent the pandemic-induced economic upheaval has been influential in increasing drug-related harm in 2020; however, our analysis shows incidence of crisis-related harms spiked during the pandemic in Western Canada, and evidence from Canadian Centre on Substance Use and Addiction (2020) reveals the pandemic worsened conditions for people who use drugs. Further, substance-related harms spiked in the aftermath of economic shocks in the US and Russia (Lazareva, 2020; Monnat et al., 2019; Perlman, 2010; Seltzer, 2020), and Western Canada shares some of these conditions suggesting patterns of economically driven drug-related

harms may continue to occur among Canada's blue-collar and service industry workers here as well. That this group of workers was already at increased risk of overdose or death pre-pandemic is concerning, particularly given these industries have been most severely impacted by the economic shock accompanying COVID-19.

The patterns of overdose crisis deaths described here illuminate the inequitable distribution of deaths across different groups in Western Canada, and these patterns are neither unavoidable nor natural. Studying these patterns is a necessary first step, given the unabating nature of the crisis, the exacerbated challenges predicted at the onset of and evident during the COVID-19 pandemic (BCCSU, 2020; CCSA & CCENDU, 2020; CRISM, 2020), and the calls from leading US and Canadian scholars for identifying the crisis' structural drivers (Collins et al., 2019; Dasgupta et al., 2018; Friedman et al., 2020; Kerr, 2019). Our findings reveal inequitable contours of harms experienced by different populations during the crisis, and we have expanded these findings by discussing potential macroeconomic influences implicit in their creation. Gaps remain, however, in large part due to the availability of data related to the socioeconomic status of crisis decedents. A separate qualitative inquiry with key informants of the crisis was conducted as part of the overall case study within which this paper is nested and was pursued to provide additional insight on the economic influences affecting people who use substances or were otherwise harmed during the crisis in four Western Canadian sites.[17]

4.6 Conclusion

The Canadian overdose crisis is a pressing public health issue that has claimed the lives of thousands of Canadians. More than five years after it was first recognized as a serious concern by frontline service providers and governments, the crisis is showing no signs of slowing down; in fact, it has deepened during the COVID-19 pandemic. Our study is the first to draw on publicly available data sources from government bodies in Western Canada to identify overall patterns of harms in the overdose crisis as a means of beginning to suss out the economic influences and structural drivers fuelling the crisis. Despite limitations in what is shared in the data, our analysis suggests these patterns may be influenced by economic structures and processes inherent to both neoliberalism and colonialism, perhaps especially if we were to consider their intersections with

[17] See Chapter 5, The "High Cost" of Living: Economic Risk Environments of the Western Canadian Overdose Crisis.

class, ethnicity, and gender. Our exploratory work suggests that publicly available data is useful but that future inquiry in this field would be facilitated by improved data collection and reporting on social and economic measures that enable stratification and more nuanced cross-site comparison, as well as qualitative study of the intersecting influences of class, ethnicity, and gender.

5. THE "HIGH COST" OF LIVING: ECONOMIC RISK ENVIRONMENTS OF THE WESTERN CANADIAN OVERDOSE CRISIS

5.1 Introduction

Between January 2016 and December 2020, over 21,100 people have died an opioid-related death in Canada (Government of Canada, 2021d). The Government of Canada (2021e; 2021f) has called this surge in opioid-related overdoses and deaths across the country a crisis, catalyzed in part by the advent of powerful synthetic opioids such as fentanyl and its analogues in the illicit drug supply as well as high numbers of opioids being prescribed and consumed across the country. Numbers of drug-related deaths have increased so drastically, particularly in British Columbia, that the overall life expectancy of Canadians has decreased, a trend not seen in over four decades (Statistics Canada, 2019a). The crisis is national in scope, affecting communities in all provinces and territories from coast to coast to coast. In a separate manuscript and informing one aspect of an overarching case study research design, the contours of the crisis and the patterns of deaths in its wake were described in the Western Canadian provinces of Saskatchewan, Alberta, and British Columbia, illuminating inequities in patterns of death by gender, First Nations status, and employment status, the infiltration of illicit fentanyl into the illegal drug supply, and inferences about the crisis' structural drivers based on publicly available data.[18]

This paper describes another aspect of the case study exploration of the economic influences of the overdose crisis in Western Canada. In it we offer adaptations of Rhodes' risk environment framework to reflect the microeconomic risk environments of four Western Canadian cities and then amalgamate these into a broader macroeconomic risk environment of Western Canada through analysis of key informant interview data for each site using across-site analysis. Variations in the manifestation and maintenance of the crisis appear according to micro/local contexts, and our exploration suggests some shared macroeconomic risks across the sites. To situate our continued exploration, we first present an overview of economic contexts and structural drivers of substance use and related harms in North America. This is followed by an outline of the risk environment theoretical framework we use for data organization, and a description of the research methods used. We then offer snapshots of demographic and economic data to better situate the context within which the crisis exists in each site. Thereafter, we present and describe

[18] See Chapter 4, Understanding the Contours of the Western Canadian Overdose Crisis: What Does the Publicly Available Data Tell Us?

key themes from key informant interviews in microeconomic risk environments for each site before combining them into an exploratory macroeconomic risk environment framework offering potential leads for further inquiry of the crisis' structural determinants.

5.2 Background

In this section, we describe economic considerations influencing the overdose crisis including the impacts of the economic shift of US "deindustrialization" on substance use and related harms; individual economic characteristics such as income, occupation, and education; the competing interests of the for-profit pharmaceutical industry; and the unregulated illicit drug trade and market.

With few exceptions,[19] studies on the relationship between economic downturns and substance use found disruptions in the economy and economic decline associated with increased substance use and related harms (Betz & Jones, 2018; Brown & Wehby, 2019; Carpenter et al., 2017; Dom et al., 2016; Friedman et al., 2020; Gordon & Sommers, 2016; Modrek et al., 2013; Nagelhout et al., 2017; Roberts et al., 2010; Seltzer, 2020; Yang et al., 2018). Research on the overdose crisis in the US suggests deindustrialization is linked to increases in crisis-related deaths in the country, where some states and communities most heavily affected by the decline in the manufacturing industry are also experiencing high numbers of drug-related fatalities in the overdose crisis (Betz & Jones, 2018; Friedman et al., 2020; Keyes et al., 2014; McLean, 2016; Quinones, 2015). Working-aged men with lower levels of educational attainment are also overrepresented in drug-related deaths (Betz & Jones, 2018; Carpenter et al., 2017; Carrière et al., 2018; Geronimus et al., 2019; Monnat et al., 2019; Pear et al., 2019), and there is some overlap between this group and those who have been left behind amid the shifting economy (Baker, 2019).

In their important work on mortality rates in the US, Case and Deaton (2015; 2017) hypothesize that fatal overdoses and other deaths of despair in the US – having increased substantially over the last two decades among middle-aged non-Hispanic white men to the point of increased all-cause mortality in the country for the first time in decades – are the result of

[19] For example, a study led by Christopher J. Ruhm (2019) found that macroeconomic indicators such as the unemployment rate and median household income had little to no relationship with drug-related harms in the US after controlling for confounders. Though this finding led Ruhm to discount macroeconomic effects and suggest focus on the immediate drug-using environment, the common indicators he used to measure relationships between macroeconomic conditions and drug-related harms neglected to account for the impacts of specific forms of work associated with neoliberalization. See also Chapter 6.

"cumulative disadvantage" in the labour market, in marriage and child outcomes, and in health driven by worsening labour market opportunities. Other researchers have found similar associations between those with lower educational levels and drug-related harms as noted above, drug-related harms and lower income (Betz & Jones, 2018; Cairncross et al., 2018; Carrière et al., 2018; Glei & Weinstein, 2019; Gordon & Sommers, 2016; Pear et al., 2019; Roberts et al., 2010; Yang et al., 2018;) and unemployment (Carrière et al., 2018; Perlmutter et al., 2017; Rhee & Rosenheck, 2019; Yang et al., 2018). Though drug-related harms appear to affect those with lower educational attainment or income or who are unemployed, the effects are not exclusive nor representative of all who have experienced drug-related harm. In a previous manuscript, analysis of publicly available crisis-related data from British Columbia illuminated nearly 50 percent and 39 percent of sample crisis decedents in British Columbia and Alberta, respectively, were employed at the time of death, though the Alberta data should be interpreted with caution because occupation was identified by decedents' next of kin and it is not known if the job was held at time of death.[20] These findings challenge the common stigmatizing narrative that people living with substance use disorders are unemployed and of a lower socioeconomic status.

Although employment data may not directly correspond with income or educational status, it appears that drug-related harms and deaths, particularly during the overdose crisis, exist among individuals across different socioeconomic categorizations, suggesting multiple nonlinear pathways between these economic influences and drug-related harms among individuals. What is clear from the evidence is that a variety employment-related factors, either singularly or in combination with each other and/or other factors, influence individuals' use of substances or related harms. Though deindustrialization in the Canadian context is less explored, another potentially related macroeconomic shift is present including an increase in precarity of labour, particularly in blue-collar and service industries (Fong, 2018; House of Commons, 2019). Evidence from the literature indicates macroeconomic shifts can affect the health and well-being of workers, and their families and communities, and offers justification for exploratory study of these in relation to the overdose crisis in the Western Canadian context.

Additionally, scholars and journalists have explored the impacts of the pharmaceutical industry and the overdose crisis in the US, particularly the misleading information used to promote

[20] See Chapter 4, Understanding the Contours of the Western Canadian Overdose Crisis: What Does the Publicly Available Data Tell Us?

opioids, the push for liberal prescribing, and the resulting substantial profits gained by Big Pharma (Friedman et al., 2020; Lexchin & Kohler, 2011; Van Zee, 2009). Though explored less in the Canadian context, evidence suggests a similar trend in Canada as opioid consumption in the country significantly increased since the 1990s and conflicts of interest between Big Pharma and research and education have been revealed (Crowe, 2017; Fischer et al., 2011; Gomes et al., 2011; King et al., 2014; Lexchin, 2017, 2018; Murphy et al., 2015; Smolina et al., 2017).

Legal action against Purdue Pharma has been taken in both Canada and the US, with the company pleading guilty for its role in initiating the overdose crisis in the US (Meier, 2007) and a class action lawsuit was filed against the company in 2020 by the Canadian provinces for similar charges (Brend, 2020). Van Zee (2009) describes the paradox of the negative impacts Big Pharma has had in contributing to the development of substance use disorders, overdose, and death in the pre-illicit fentanyl era, with major companies such as Purdue Pharma using inappropriate and harmful tactics to address a chronic pain epidemic while simultaneously generating billion-dollar profits. Both the fatal practices of Big Pharma and the influx of illicit fentanyl in the drug supply have been under scrutiny by policymakers and decision-makers across the country, and though illicit fentanyl is implicated in more overdoses and deaths since 2015, connections between prescription opioid misuse and the fentanyl crisis suggest that there are numerous links between these two crises (Fischer & Rehm, 2017; Friedman et al., 2020; Gounder, 2013; Van Zee, 2009).

Finally, the illicit drug trade functions as its own unregulated and underground market economy, influenced and evolving in conjunction with licit global market economy forces (Seddon, 2008). Due to its illegal nature, scholarly endeavour on the illicit drug market, particularly as an economic force, is limited; however, structural determinants have influenced the illicit drug trade in recent decades. First, Seddon (2008) describes how the shift to a globalized economy á la globalization since the 1970s has driven advances in both international trade and finance, both allowing for greater quantities of goods and money to flow across global borders and thus expanding global drug trafficking and trade routes and illegal financial exchanges of large amounts of capital through money laundering. Further, Seddon (2008) also suggests the emergence of new socioeconomic inequalities in the globalized era, particularly within urban centres, has created new social hierarchies where illegal drugs are more available and harmful to those with lower socioeconomic standing.

An additional macroeconomic factor influencing the illicit drug trade since the 1990s is the pharmaceutical industry. More specifically, evidence exists suggesting the introduction of OxyContin in North America in the 1990s by Purdue Pharma marked an important shift to the availability of the opioid painkiller in both the licit and illicit drug supplies. Further, discontinuation of the prescription drug in the mid-2000s coincided with other shifts in the illicit drug supply: to illicit heroin and fentanyl (Beletsky & Davis, 2017; Ciccarone, 2017; Evans et al., 2019; Friedman et al., 2020; Goozner, 2016) and then to more potent illicit fentanyl analogues such as carfentanil (Mathew et al., 2021). Further, numbers of heroin and synthetic opioid-related (primarily illicit fentanyl and its analogues) deaths were greater in areas that had high access to opioids in the period prior to the reformulation of OxyContin (Evans et al., 2019, consistent with other recent expert commentary/editorial on the shifting drug supply in the US (Ciccarone, 2017; 2019). The shift to illicit fentanyl from prescription opioids is expanded upon by Beletsky and Davis (2017), referring to the prohibitionist approach to drug enforcement in North America as pushing increased potency of illicit substances via pressures to maximize profits while minimizing volume. They argue the shift from prescription opioids and heroin to the more toxic illicit fentanyl reflects the same prohibitionist-influenced shift during the era of alcohol prohibition, with the discontinuation of OxyContin presenting an illicit drug market opportunity for increased profits via illicit fentanyl (2017).

Prominent scholars in Canada and the US have called for research on structural drivers of the overdose crisis to better understand and meaningfully reduce and prevent crisis-related deaths (Collins et al., 2019; Dasgupta et al., 2018; Kerr, 2019). Much of the research on the relationship between macroeconomic conditions and drug-related harms in North America, particularly in the overdose crisis, is in the American context. Though it is plausible that some evidence presented here may be applicable in the Western Canadian context, little research has been done on this relationship. Further, the Western Canadian economy is unique from that of the US, with blue-collar (namely natural resources, construction, manufacturing) and service industries making up a large portion of economic activity in each research site and province. The scant research on the interplay between macroeconomics and drug-related harms in the Canadian context and the almost non-existent research within Western Canada needs to be addressed. Taking into consideration earlier research that examined patterns of overdose deaths in the crisis, this study aimed to illuminate economic risk environments to identify potential influences of the crisis in both local

and macro contexts. Rhodes (2009) offers three data sources that are useful in understanding risk environments of drug-related harms: 1) social epidemiology; 2) qualitative inquiry of lived/living experience; and 3) political economy inquiry with focus on broader structural and institutional influences. Following previous research where patterns of crisis-related death were identified in each province via compiling and graphing of publicly available data, this paper draws on qualitative interviews with key informants from four sites in Western Canada and reveals their perspectives on economic influences. Next, we outline the risk environment framework which was found useful in achieving our aims to build micro- and macroeconomic risk environments of the overdose crisis in Western Canada.

5.3 Risk Environments

The risk environment framework developed by Rhodes (2002; 2009) can be used to increase understanding of drug-related harms and their contextual influences in a community. This framework was adapted for use in our study because it takes into consideration social and economic influences at both the micro and macro level and uses a social science rather than a biomedical approach; the latter has been critiqued as dismissive of broader social, political, and economic factors (Rhodes, 2002). The framework was developed to study environmental impacts on drug-related harms, suggesting both qualitative and quantitative approaches in doing so (Rhodes, 2009). The risk environment is defined "as the space—whether social or physical—in which a variety of factors interact to increase the chances of drug-related harm" (Rhodes, 2002, p. 88). The basic framework, seen in Figure 5.1, comprises of two key components: the *types of environment* and *levels of environmental influence* (Rhodes 2002). Types of environments include the physical, social, economic, and political environments whereas the levels of environmental influence are micro and macro (Rhodes 2002). Micro risk environments can include interplay between "perceived social norms, rules and values; the nature and structure of [person who uses drugs'] social relationships and social networks; peer group and social influence; the immediate social settings in which drugs are used; and the local neighbourhood and context in which [people who use drugs] live" (Rhodes, 2002, p. 89). Rhodes also describes the macro risk environment as "including the public and legal context of risk management; the economic, gender and ethnic inequalities associated with risk production and reduction; …the cultural organisation of risk and

harm" and "public health, drug, welfare and economic policies" (p. 89). How this risk environment framework was used in this study is described in further detail in the next section.

Figure 5.1 A Simple Model of a Risk Environment

	Micro environment	Macro environment
Physical environment		
Social environment		
Economic environment		
Policy environment		

Source: Rhodes, 2002.

5.4 Methods

This paper addresses one of the objectives of an exploratory case study on the economic influences of the Western Canadian overdose crisis. The overall purpose of this novel case study is to explore the potential economic influences of the overdose crisis and how they shape its contours in Western Canada, providing a contextual analysis as an entryway to potentially identifying the crisis' structural drivers. In separate papers, we present analyses of publicly available data that reveal inequities in patterns of death and their linkages to possible macroeconomic influences of the crisis,[21] and that illuminate macroeconomic employment trends and their potential influence on the overdose crisis in Western Canada.[22] For this paper, we focus on qualitative data collected via interviews with key informants from four Western Canadian sites. We found these data to be particularly insightful as an entryway to identifying potential economic influences in and across sites, using them to build economic risk environments of each site and offering insight on the utility of Rhodes' framework for understanding environmental influences.

The four sites selected as the foci of this project, Saskatoon, SK, Fort McMurray, AB, Kelowna, BC, and Nanaimo, BC were experiencing overdose crises. First, data on each site's demographics, economy and drug-related harms were gathered from Statistics Canada and from each province's mechanism for reporting drug-related harms (Saskatchewan Coroners Service, British Columbia Coroners Service, and Alberta Health) and then organized to begin illustrating

[21] See Chapter 4, Understanding the Contours of the Western Canadian Overdose Crisis: What Does the Publicly Available Data Tell Us?

[22] See Chapter 6, Business as Usual: Neoliberalism Driving the Overdose Crisis in Western Canada.

the demographic and economic context and crisis-related harms experienced at each site. Crude rates of drug-related deaths were calculated using death data from each province's reporting bodies and from population data from Statistics Canada (2021f). Census subdivision data from Statistics Canada were used as demographic and economic information is available in the census profile and national household survey data by these demarcations.

The main study author (JD) conducted twenty-four semi-structured interviews with twenty-seven key informants in Kelowna (eight participants), Nanaimo (nine participants) and Fort McMurray (ten participants) between November 2018 and March 2019. Some interviews were conducted with multiple participants at once. Ethics approval was obtained from the Universities of Saskatchewan, Alberta, and British Columbia (Ethics IDs Beh 18-18, Pro0087216, and H18-02927, respectively). Occasionally, two participants were interviewed at the same time. Interviews lasted between one and 2.75 hours; all were audio-recorded and transcribed verbatim.

Participants were asked to share how they understand or define the overdose crisis, and what they understood to be the contextual influences of the crisis. The interviewer used probing questions to gain depth on participants' insights of the crisis and its influences. Interview questions were shaped from Rhodes' risk environment framework, and it guided the organization of economic themes for each site at the micro level. Once the interviews were transcribed, the main study author (JD) used a closed coding schema to complete thematic analysis of the interview data. The chosen codes, based primarily on the risk environment framework, included categories denoting social, political, and economic influences. For purposes of this study, economic themes were extracted, organized into specific economic themes, and analyzed resulting in microeconomic risk environments capturing the microeconomic influences for each site.

In a separate but related study, twenty-one semi-structured interviews were conducted with twenty-four key informants in Saskatoon between May and July 2018.[23] The main study author conducted most of these interviews. In one instance, four informants participated in one interview. Interviews lasted between one and 2.5 hours. Similarly, participants were asked to share their understanding of the crisis and insights on its social, economic, and political influences. They consented to the use of their interview data for this study as well, and ethics approval was obtained

[23] See the *Consolidating perspectives on the nature of Saskatoon's evolving opioid crisis* study technical and final summary reports, available from https://crismprairies.ca/affiliated-programs/consolidating-perspectives-on-saskatoons-evolving-opioid-crisis/

from the University of Saskatchewan (Beh 18-18). Three members of the research team, including the main author, went through multiple iterations of deductive coding, also based partially on Rhodes' risk environment framework. Across all four research sites, a total of forty-five interviews with 51 participants were analyzed for this paper.

Key informants were defined as individuals whose paid or unpaid roles are implicated by the crisis and included those providing services, support or decision-making in health care, government (various levels), mental health and addictions, harm reduction, pharmacy, education, housing, caregiving, advocacy, and law enforcement. People with lived/living experience were not included in this study due to limited time and financial considerations, limited capacity for meaningful engagement, and additional research ethics approval challenges given the multi-jurisdictional nature of the project; however, an advisor with lived/living experience was hired to provide input and feedback on project outputs. Key informant participants were recruited through existing connections in each site, snowball sampling, and identification through publicly available reports or media.

The second phase of analysis involved the building of a macroeconomic risk environment. To do this, themes identified in the four microeconomic risk environments from the first phase of analysis were combined to identify broader themes affecting multiple sites and begin development of the macroeconomic risk environment. After microeconomic risk environment themes were combined to highlight commonalities across the sites, the macroeconomic risk environment was further populated drawing on qualitative data exemplifying each theme and reflective of structural determinants. Birn (2009) defines structural determinants as the "political and economic practices and institutions, and class interrelations" (p. 134) ultimately influencing patterns of health through determinants such public policy, health care, employment and working conditions and housing. The macroeconomic risk environment, then, was built using the qualitative data shared by participants and organized into categories abductively determined from the data and structural determinants of health literature.

The microeconomic risk environments of each site reveal local contexts of drug-related harms while the analysis of risk environments across sites suggests important macroeconomic contextual influences implicit in harms that play out at local levels. The microeconomic and macroeconomic frameworks together outline overall economic risk environments and are suggestive of local and upstream areas for future study and intervention with potential applicability

to other sites in Western Canada or beyond. The method used in this study is transferable to other contexts and may enable study of other structural drivers of drug-related harms in other regions (Rhodes, 2009). Additionally, although people with lived or living experience/expertise were not recruited directly to participate, some key informant participants openly identified their own history of substance use and drew on their lived experience in the interviews. The lived experience advisor mentioned previously provided feedback on the study within which this paper is nested.

5.5 Findings

The findings are organized into the following subsections: 1) a brief overview of each site; 2) demographic, economic, and drug-related death data for each site; and 3) micro-economic risk environments of each site based on key informant interviews.

5.5.1 Overview of Each Site

Saskatoon, dubbed the "Paris of the Prairies", is Saskatchewan's most populous city with over 280,000 inhabitants in 2020 (Statistics Canada, 2021f). With the South Saskatchewan River running through it, Saskatoon boasts typically hot summers and frigid winters (Government of Canada, 2021a). The river demarcates an oversimplified boundary of "east-side" and "west-side" in the city, with the east containing the U15-member University of Saskatchewan (U15, n.d.), sprawling suburbs, and wealthier neighbourhoods whereas the west contains the downtown and inner-city core where issues of racism and poverty are more prominent (Department of Justice, 2015). The skyline of Saskatoon contrasts that of the rest of Saskatchewan, as the city is situated amid the rural plains of the prairies.

The city of Fort McMurray is in northern Alberta in the regional municipality of Wood Buffalo. In 2020, Wood Buffalo was home to nearly 75,000 people (Statistics Canada, 2021f). Fort McMurray is the gateway to the oil sands in Alberta, one of the largest crude oil reserves in the world and a significant driver of mining employment and revenue in Alberta and Canada (Government of Alberta, 2021a). More than 400 kilometres north of the city of Edmonton, Fort McMurray is the most urban hub in the boreal forest of northern Alberta. In 2016, a devastating wildfire swept through the city and the surrounding area, causing the largest wildfire evacuation in Alberta history, costing billions of dollars in damages, and leaving the community devastated and amid a slow and expensive re-build (Ramsay, 2019).

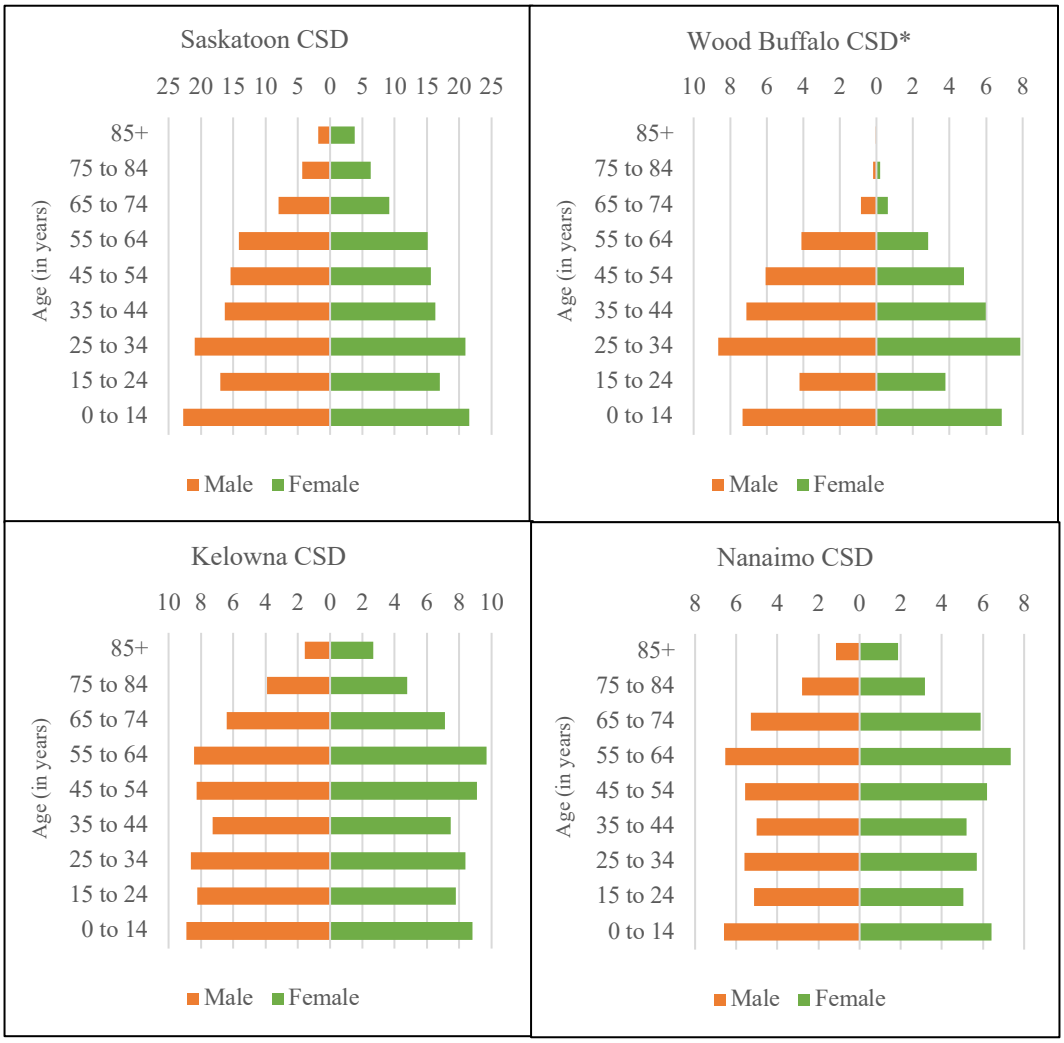
Kelowna is the largest city in the interior of British Columbia, home to nearly 150,000 residents in 2020 (Statistics Canada, 2021f). Due to the city's scenic location and temperate climate, Kelowna offers plenty for tourists year-round including mountains, vineyards, waterfronts and more (Tourism Kelowna, 2021). The desirability of Kelowna is reflected in its ongoing population increases – in recent years the city has been one of Canada's fastest growing cities (Gaffney, 2018; Matassa-Fung, 2021a) – and an expensive and competitive housing market (Matassa-Fung, 2021b; Shykora, 2021). Further, it is an attractive option for baby boomers looking to retire and older seniors. These older populations account for a high proportion of Kelowna's residents (Gaffney, 2018).

The "Harbour City" of Nanaimo, located on Vancouver Island, is the gateway to the northern part of the island and home to over 100,000 people (Statistics Canada, 2021f). Like Kelowna, Nanaimo has a typically warmer coastal climate (Government of Canada, 2021a), a scenic location and is a popular tourist destination because of its ferry port and access to other areas (Tourism Nanaimo, n.d.). Its accessibility and climate also make it an attractive location for people who may be homeless or otherwise transient, and the city was home to "Discontent City" in early 2018. This tent city encampment with approximately 300 residents sparked social and political tensions in Nanaimo and beyond but was eventually bulldozed with all residents evicted later that year (Nanaimo News Staff, 2018).

5.5.2 Demographic, Economic and Drug-Related Harm Data for Each Site

First, demographic and economic data on the Saskatoon, Kelowna, Wood Buffalo (in which Fort McMurray is the major centre) and Nanaimo census subdivisions (CSDs) are presented below (Figure 5.2). Demographically, each centre in 2016 is nearly evenly comprised of men and women; however, Fort McMurray's population has a greater proportion of men than women relative to the other sites. This is likely due to the male-dominated oil sands industry. Working-aged people (aged 25-65) make up the highest proportion of the population in each centre, with Fort McMurray's proportion sharply visible compared to the other sites. The British Columbian centres, particularly Kelowna, contain overall a higher percentage of older adults (aged 50-65) than Fort McMurray and Saskatoon. In 2016, Saskatoon had the highest proportion of younger adults.

Figure 5.2 Demographics by Age and Gender (x 1,000); Saskatoon, Wood Buffalo, Kelowna, and Nanaimo Census Subdivisions (CSDs), 2016

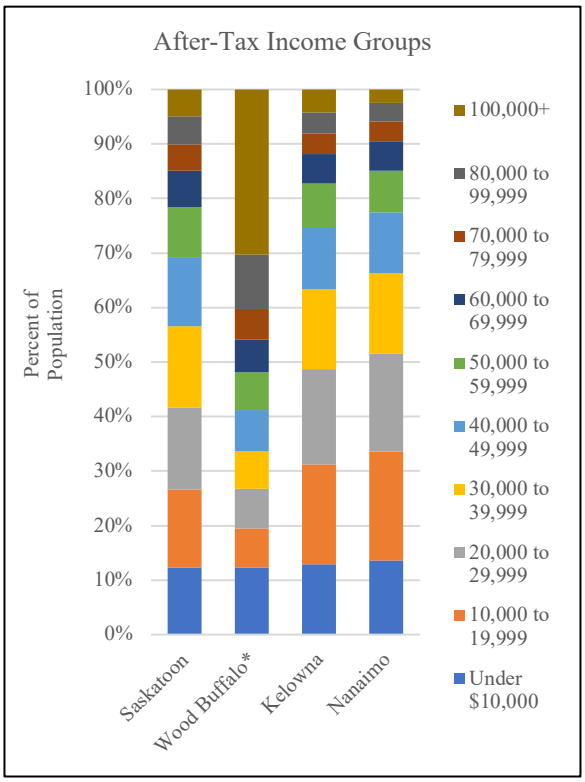


*Fort McMurray is the major centre of the Wood Buffalo CSD.
Source: Statistics Canada, Census Profiles, 2016.

Fort McMurray is also the exception in income, with the majority of those in the labour force earning more than $60,000 per year after tax, and the biggest percentage of earners banking over $100,000 after tax in 2015 (Figure 5.3). Comparatively, the majority of workers in the other centres earned less than $50,000 per year after tax (Figure 5.3). Income in Saskatoon is most evenly distributed, and Kelowna and Nanaimo recorded the highest proportion of lower income earners with approximately 50 percent in each city earning less than $30,000 after taxes (Figure 5.3). Across each site, between 30 percent and 40 percent of those aged 25 to 64 have a high school diploma equivalent or less (Figure 5.4). Saskatoon has the highest proportion of individuals with

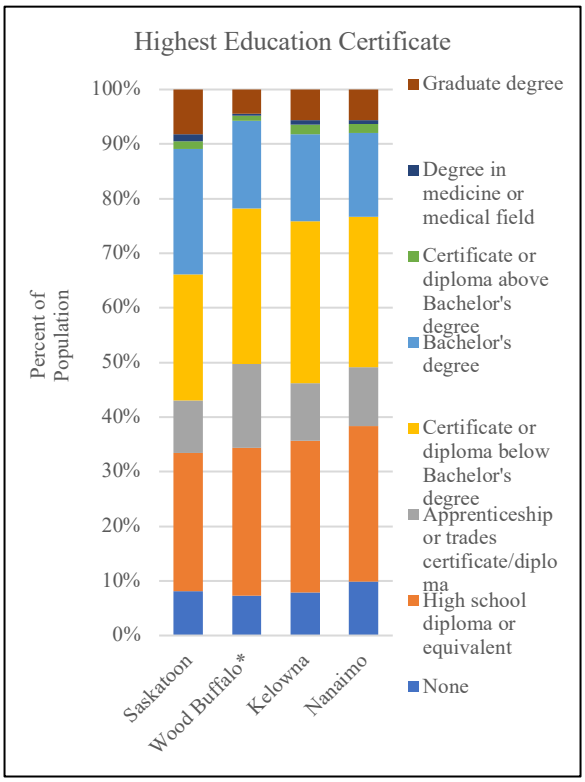
a bachelor's degree or higher, representing over 30 percent of those aged 25 to 64 years in the CSD. Between 75 percent and 80 percent of those aged 25 to 64 years in the remaining sites have less than a bachelor's degree but each also had higher proportions of certificates and diplomas than Saskatoon (Figure 5.4).

Figure 5.3 Percentages of After-Tax Income Groups; Saskatoon, Wood Buffalo, Kelowna, and Nanaimo CSDs, 2016



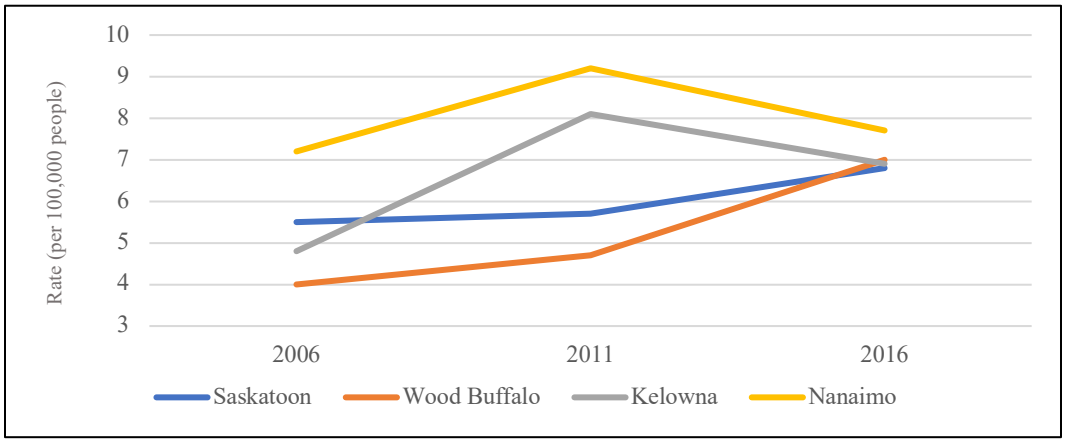
*Fort McMurray is the major centre of the Wood Buffalo CSD.
Source: Statistics Canada, Census Profiles, 2016.

Figure 5.4 Percentages of Highest Education Certificate for Ages 25 to 64 Years in Private Households; Saskatoon, Wood Buffalo, Kelowna, and Nanaimo CSDs, 2016



*Fort McMurray is the major centre of the Wood Buffalo CSD.
Source: Statistics Canada, Census Profiles, 2016.

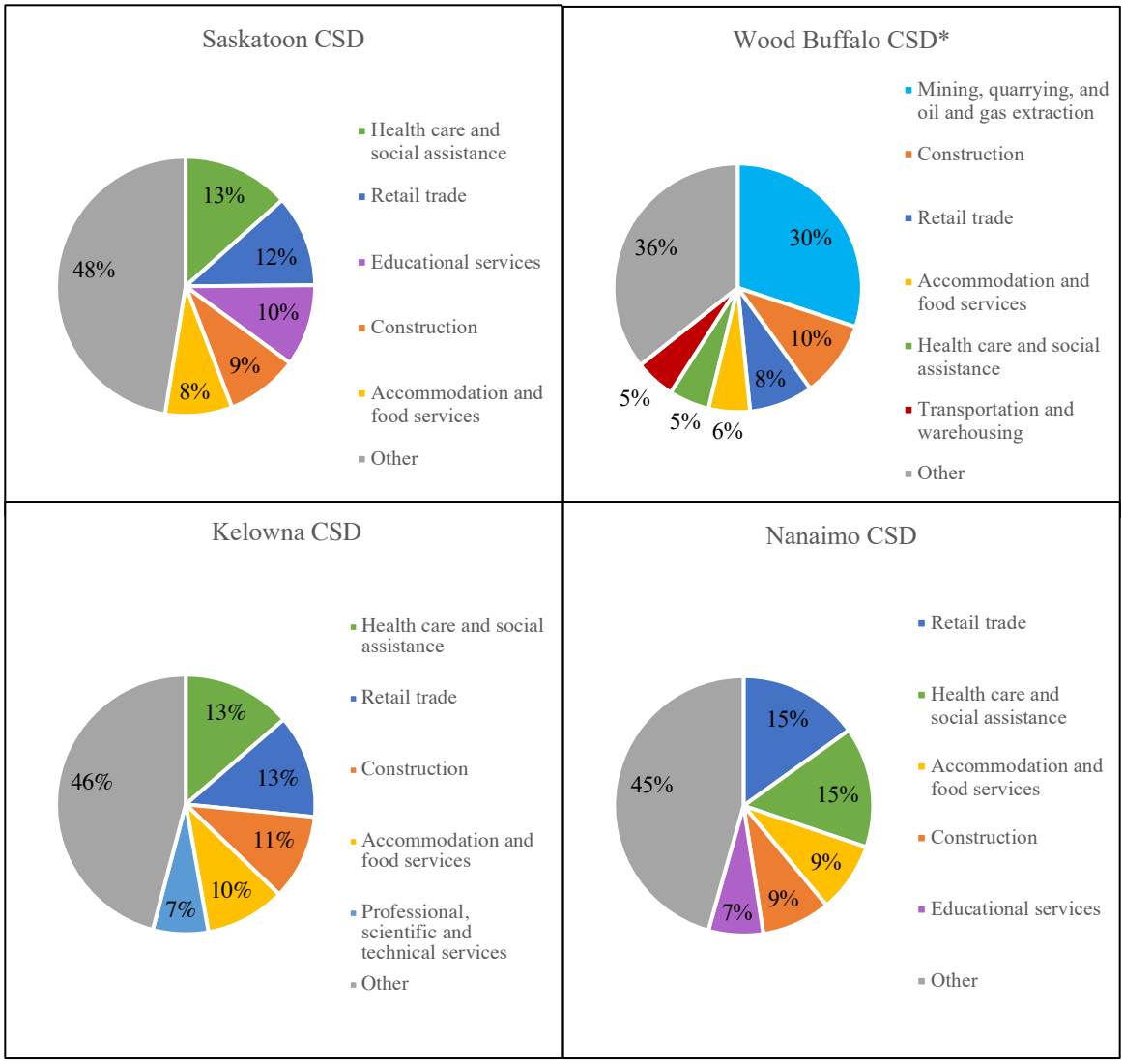
Figure 5.5 Unemployment Rates; Saskatoon, Wood Buffalo, Kelowna, and Nanaimo CSDs, 2006-2016



*Fort McMurray is the major centre of the Wood Buffalo CSD.
Source: Statistics Canada, Census Profiles, 2006, 2016; National Household Survey Profiles, 2011.

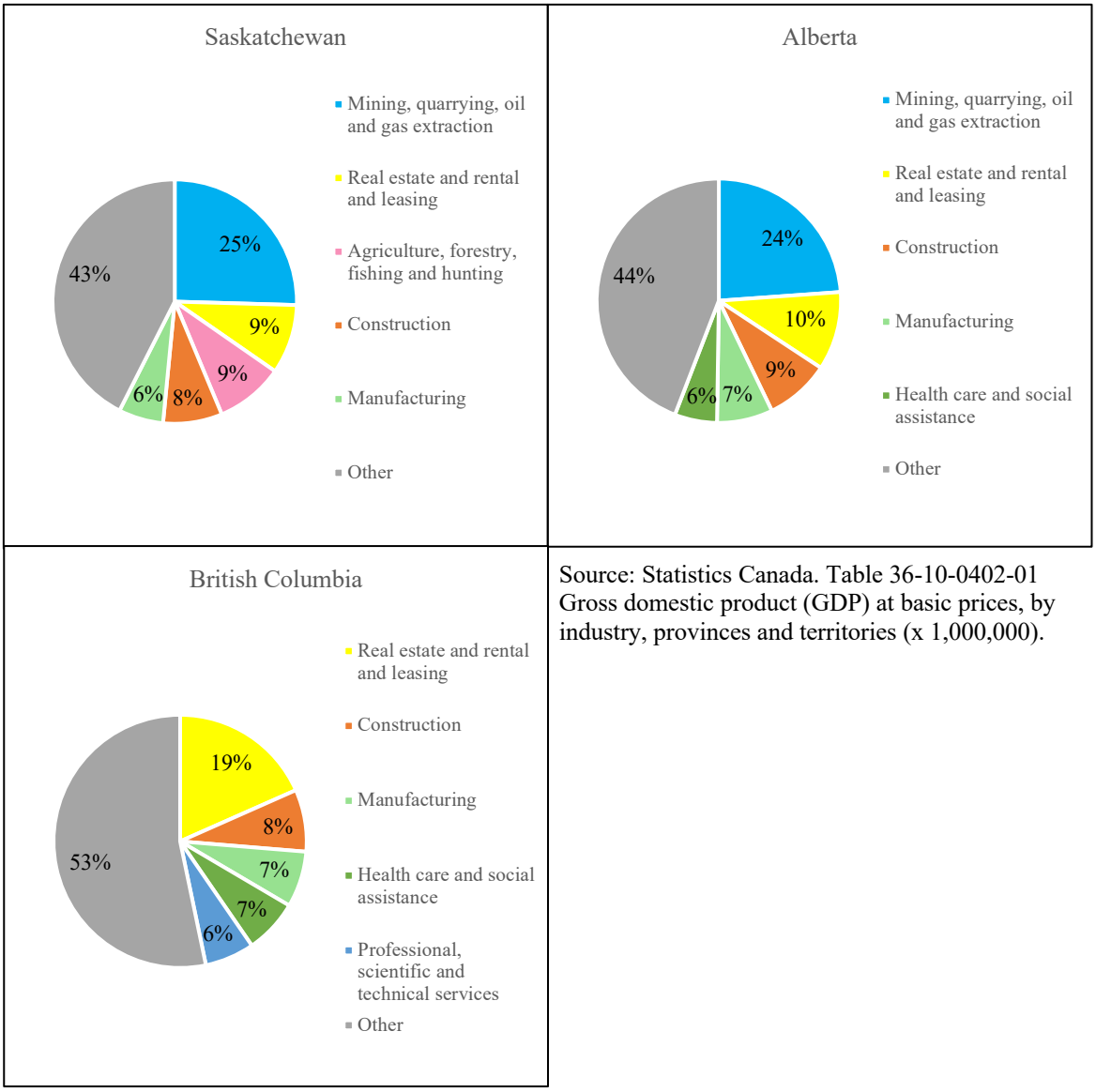
The unemployment rate increased in Saskatoon and Fort McMurray between 2011 and 2016 (with a greater increase found in Fort McMurray), whereas Kelowna and Nanaimo both experienced decreases in the same period (Figure 5.5). In 2015, the industries employing most workers across all sites are health care and social assistance and retail trade, though the mining, quarrying and oil and gas extraction industry is unsurprisingly the top employing industry in Fort McMurray (Figure 5.6). This industry also accounted for the greatest percentage of provincial gross domestic product (GDP) in both Alberta and Saskatchewan in 2016 (approximately 25 percent) (Figure 5.7). The construction and accommodation and food services industries also were among the top employing industries in each of the four sites (Figure 5.6). Real estate and rental and leasing contributed the most to British Columbia's GDP (nearly one fifth) in 2016 (Figure 5.7). Real estate and rental and leasing, construction, and manufacturing industries also contributed significantly to each province's total GDP in the same year (Figure 5.7).

Figure 5.6 Percentages of Leading Industries of Employment; Saskatoon, Wood Buffalo, Kelowna, and Nanaimo CSDs, 2016



*Fort McMurray is the major centre of the Wood Buffalo CSD.
Source: Statistics Canada, Census Profiles, 2016.

Figure 5.7 Percentages of Leading Industries by Gross Domestic Product (GDP) at Basic Prices; Saskatchewan, Alberta, and British Columbia; 2016

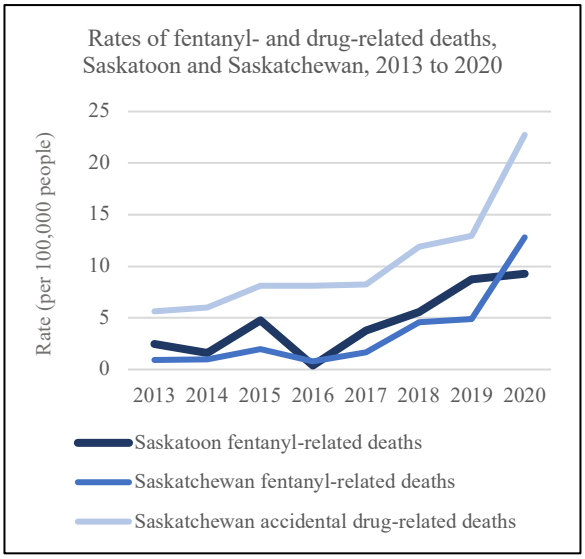


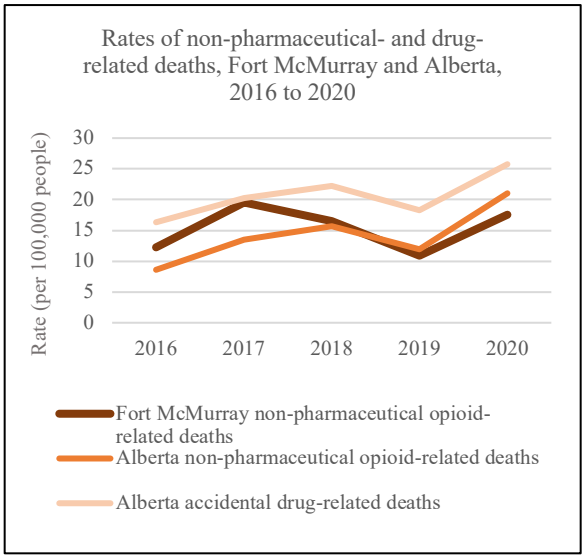
Source: Statistics Canada. Table 36-10-0402-01 Gross domestic product (GDP) at basic prices, by industry, provinces and territories (x 1,000,000).

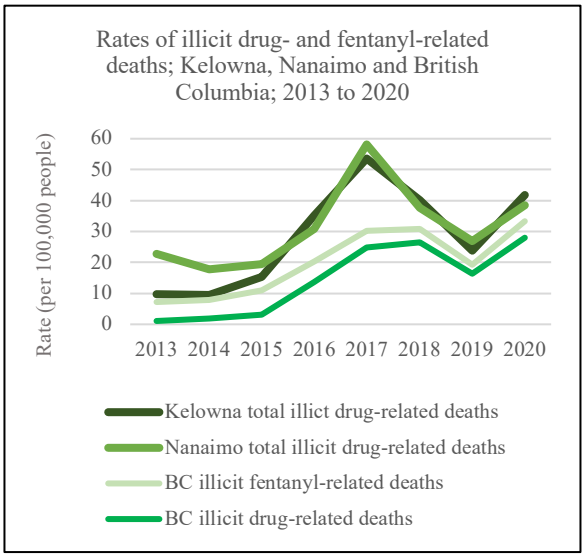
Figure 5.8 displays the rates of fentanyl-related deaths in Saskatoon, non-pharmaceutical opioid-related deaths in Fort McMurray, and illicit drug-related deaths in Kelowna and Nanaimo. Note that each provincial drug-related reporting agency captures slightly different data at the local level; for the purposes of this paper, however, each measure adequately reflects the overdose crisis in each site. Without these distinctions, though, limitations in comparability exist. Further, rates of fentanyl-/non-pharmaceutical opioid-related deaths and accidental (in Saskatchewan and Alberta) and illicit (in British Columbia) drug-related deaths in the provinces also are shown, again

noting the slight variations in language and measures captured. Saskatoon has seen a slow and steady increase in fentanyl-related deaths since 2016 (from 3.8 people per 100,000 in 2017 to 8.72 in 2019), though the city's rate itself tended to be slightly lower than the province's rate of total accidental drug-related deaths throughout the period (Figure 5.8). Saskatchewan generally recorded lower rates than Alberta and British Columbia, though serious increases occurred in 2018 while the province's western neighbours were declining. Additionally, the rate of fentanyl-related deaths in Saskatoon surged in 2020. Fort McMurray, Kelowna and Nanaimo's rates all peaked in 2017 (at 19.54, 53.6, and 58.15 people per 100,000, respectively), then declined, and sharply jumped in 2020 (Figure 5.8). Rates of illicit drug-related deaths in Kelowna and Nanaimo consistently have been higher than the provincial rate and both peaked significantly higher than the rest of British Columbia in 2017 (Figure 5.8). British Columbia's rates have been the highest of the three provinces (Figure 5.8). The sharp jump in 2020 is consistent across all measures in each site, reflecting the surge in drug-related deaths amid the COVID-19 pandemic.

Figure 5.8 Rates of Drug-Related Deaths* by Saskatoon, Wood Buffalo, Kelowna, and Nanaimo CSDs; and by Saskatchewan, Alberta, and British Columbia Provinces; 2013-2020 (where available)







*Classification of drug-related deaths based on categorizations provided by sources.

Rates calculated using data from sources: Saskatchewan Coroners Service, Drug Toxicity Deaths, 2021; Government of Alberta, Alberta Substance Use Surveillance System, 2021; British Columbia Coroners Service, Illicit drug toxicity deaths in BC, Fentanyl-Detected Illicit Drug Toxicity Deaths, 2021; Statistics Canada, Table 17-10-0142-01 Population estimates, July 1, by census subdivision, 2016 boundaries.

Rates were calculated using the following formula: (number of drug-related deaths/population estimate 2016) * 100,000

5.5.3 Microeconomic Risk Environments of Each Site

Thematic analysis of interview data in each site revealed economic, social, and political influences on the emergence and/or maintenance of the overdose crisis in each community (see Appendices C, D, E, and F for summarized findings of these different influences). For this paper, we focus on the economic influences and these are summarized in further detail in Table 5.1. Common themes across the sites included socioeconomic pressures, the illicit drug market, and prescription opioids. These are described in more depth in the following sections.

Table 5.1 Microeconomic Risk Environments of Saskatoon, Fort McMurray, Kelowna, and Nanaimo

Microeconomic Risk Environments of Saskatoon, Fort McMurray, Kelowna, and Nanaimo			
	Socioeconomic Pressures	**Illicit Drug Market**	**Prescription Opioids**
Saskatoon	*"…we have a tendency to want our children to develop between point A and point B and that we want them to fit into this mould, get happy, get a degree, have a couple of kids, buy a house…and there are so many kids that don't fit into that and I think that we drive mental health issues by not accepting them for who they are…"* Participant 1	*"…we've had people sell both their methadone and their opioids…they're selling them to you know, either make their own money or to continue making money for their own addiction…"* Participant 19	*"I don't want to sound [like a] conspiracy theorist, I mean there's evidence…large pharmaceutical companies have had unethical practices of pushing these medications for monetary gain and unfortunately, I think that's been a big part of it as well…"* Participant 2
Fort McMurray	*"I mean, have we seen a progressive trend and increase in presentations with drugs and alcohol use in even the past year? Is that in relation to the wildfire and economic downturn? Yes…people are…struggling, families are struggling, family units are struggling, divorce rates are high, coping skills are not…perhaps where they used to be…divorced parents are living together in homes because they can't afford a divorce* [or to] *take a hit for selling their house…"* Participant 9	*"…in the early 2000s the RCMP identified that the amount of…illicit drugs that were coming into this, this community area rivaled that which passes through both Edmonton and Calgary. But the difference up here being it's an end…so whatever passes into this community, is consumed in this community. And that's phenomenal…I think the estimate* [in the early 2000s] *was over 1 million or 2 million dollars a day habit for this area. It's only gone up…"* Participant 1	*"…family docs* [are encouraged] *to use adjunct therapies so greater use of physiotherapy, massage therapy…talk therapy, those types, psychology, in dealing with chronic pain for…patients. Oftentimes though those resources are not necessarily fully funded or accessible to…patients."* Participant 1
Kelowna	*"And I think that's part of the crisis, right? If we're not even going to give people the basic security of home…I remember in elementary learning that we need three things to survive, food, shelter, water, right? And we're not giving that to people anymore…How did that become okay? [Y]ou know, we hear this all the time about Canadians living so much in debt, I'm included in it. I'm two checks away from living here, right?"* Participant 5	*"…really what we're seeing is you know, we see people that are seeking out fentanyl as a drug of choice so you know it's, it's kind of amorphous and changing in the landscape, and really the advice we give people now is, you know, you should suspect that there's fentanyl or you know, at worst carfentanil or another analogues, in any substance you're taking."* Participant 1	*"…there are some physicians out there that you know…get paid per visit…so they want to get forty visits in a day so they want the visit to be four minutes so it's actually easier to write a prescription for a painkiller than to actually sit and counsel this person on what was going on…So I think there are doctors out there that prescribe too generously. Some of them knowingly, some of them not."* Participant 4
Nanaimo	*"…I think that there's so many other socioeconomic factors that come into play that are causing…the number of people dying from the opioid crisis…So the level of poverty, the increased costs of living, the welfare rates staying the same…like people are trying to make ends meet on next to nothing…[I]t's not even so much like the fentanyl that's killing people as much as it is the hustle…"* Participant 6	*"…it's so easy to put a large amount of fentanyl into a smaller container and…have it mailed…cause you only need such a small amount of it to get the same effect that you can…bring so much more of it in in smaller packages, it's easier to, to hide and it's a lot harder…to detect…"* Participant 7	*"Well I think this is a manmade crisis. I don't think this crisis needed to have existed."* Participant 8

5.5.3.1 Socioeconomic Pressures. Participants across all sites described how socioeconomic pressures faced by individuals, due to increased costs of living, having limited resources or perceptions of risk of losing resources such as during an economic downturn, influence the nature of the crisis. These pressures were described as challenging for those experiencing employment or unemployment, with dependents, or other financial obligations including mortgages, debt, and other loans. The high cost of housing was identified frequently across all four sites, with one participant in Kelowna saying there are "*people that work every day*

and have permanent jobs but can't afford housing for themselves or their family so we have a working poor that are homeless" (Participant 1). However, participants also named other high costs of living including postsecondary education and job training, caring for family/children, and the cost of supporting their own and their family members' mental health and well-being such as counselling or therapy. Mental health support, although necessary for day-to-day life and functioning for their clients, was understood as inaccessible or challenging to obtain by employed or under- and unemployed adults, due to limited availability or employment benefits coverage. Additionally, participants spoke of the economic challenges inherent in substance use disorders as costly and requiring reallocation of personal finances to maintain. Commonly, participants noted individuals work in the illicit drug trade or engage in other activities (such as crime or sex work) as a means to support their substance use disorder. These stressors were considered common risk factors for people who use drugs or who have a substance use disorder, and therefore partly responsible for the number of deaths in the opioid overdose crisis.

Participants described the high costs of these features of daily life as catalysts for increased stress and mental health outcomes such as depression and anxiety that play out in two ways. First, participants described the material factors facing individuals like housing (purchasing or renting) or postsecondary education/training through the mechanism of debt – "*they get this loan, that loan, this truck, that truck and they become stressed out and…need ways to cope…*" (Fort McMurray, Participant 2). Accrual of debt and/or expensive regular monthly payments puts extra and accumulating pressures on individuals and families, that have been exacerbated by significant jumps in both housing and/or tuition costs in all sites. Further, key informants noted young adults are challenged in finding meaningful work with university education failing to guarantee employment or economic security as it had in earlier decades. As one participant in Nanaimo described, "*Students are coming out these days…[with] great educations and there's no jobs available…we need to go back to the days where there were much higher investments in supporting entry level positions going into workforces"* (Nanaimo, Participant 4).

The other way participants described psychosocial factors contributing to heightened stress, mental health challenges and substance use among the population, noting the pressures inherent in trying to achieve a "normal" or "ideal" livelihood in a materialist social and economic order. This ideal was described as inaccessible to some, with one participant commenting that some individuals with addiction "*…never felt that they measured up so there's a lot of self-loathing*

and feelings of being incompetent and that contributes to all that" (Kelowna, Participant 4). Purchasing a home and/or attending postsecondary education were both considered to be indicators of success in a young adult's life, and their inaccessibility due to their high cost were viewed by some participants as creating unrealistic expectations for young adults resulting in increased stress and mental health challenges. Further, these "ideal norms" were described as not ideal for everyone, alienating and isolating individuals who may not follow the "typical" path for employment and housing.

A struggling Canadian economy, particularly in certain sectors such as natural resources, was identified and discussed in all sites with varying implications for communities and the overdose crisis. The economic downturn was described as influencing the movement of illicit drugs across the country, where the illicit drug market also responds to the greater economy by shifting distribution and accessibility depending on booming or busting local economies such as in Fort McMurray.

The impact of economic downturn was most prominently noted in Fort McMurray. Here, it resulted in job loss in the oil sands; local businesses shutting down; lower wages for remaining employees, particularly in the oil sands; and housing issues including a stalled housing market, higher rents, and individual losses of property due to inability to make mortgage or lease payments. In addition to the economic downturn, Fort McMurray also experienced severe wildfires in 2016, compounding the downturn's effects by further reducing numbers of jobs and available work and destroying homes and properties.

The combined influence of the economic downturn and wildfires was described as having significant effects on the mental health and wellbeing of residents in and around Fort McMurray, and increased substance use. One participant stated, "*I mean, we have seen a progressive trend and increase in presentations with drugs and alcohol use in the past even year. Is that in relation to the wildfire and the economic downturn? Yes"* (Fort McMurray, Participant 9). Prior to the arrival of illicit fentanyl, Fort McMurray was described by key informant participants as already characterized by heavy substance use, driven primarily by the demanding and strenuous nature of oil sands production and the toll of this on the industry's labour force. Participants commonly described the impact of these socioeconomic pressures on clients' mental health and wellbeing, stress levels and economic security, and as contributors to extra stress on family units causing increased family breakdowns and decreased social connections. Many of these effects were

described as current, but also expected to continue as the community attempts to rebuild from the wildfire and the economy continues to struggle.

5.5.3.2 The Illicit Drug Trade. Participants described the illicit drug trade and particularly the inundation of powdered fentanyl as a substantial influence on the overdose crisis across all sites. Though fentanyl is not a new substance and has been misused in other forms (i.e. patches), the shift to the powdered variety and its analogues in the illicit drug supply is known to be the catalyst of overdose and death due to the drug's deadly toxicity in small doses. Further, these properties of fentanyl and its analogues were deemed "valuable" for criminal organizations, cartels and gangs who produce and distribute the drug because they allow the drug to be trafficked with more ease and it is more challenging to identify in routine shipping and border checks. Further, Canada was described as an ideal location for criminal organizations to traffic drugs, with one participant saying, "*some of the information coming out of [the El Chapo trial] is to do with drug trafficking in Canada, and, you know, the Mexican cartels know that Canada is a safe haven for drug trafficking…people take advantage of that…"* (Nanaimo, Participant 7).[24]

Participants described the geographical implications of the inundation of powdered fentanyl in the drug supply, noting that the drug trade operates similarly to other market products in terms of supply and demand. In this way, Nanaimo, a port city on Vancouver Island that is geographically near Vancouver, has a large ongoing supply of drugs, including fentanyl. Because of its island location and more favourable climate, Nanaimo, and to a similar extent Kelowna, were also viewed as attractive locations for individuals who are transient or homeless. Participants recognized that drug use happens in these homeless or transient communities but that in British Columbia specifically, the majority of deaths are taking place in private residences and thus are perceived to be affecting people who are not experiencing homelessness.

High demand for substances was also described in Fort McMurray, particularly among employees in oil sands production, and because of its northern and remote location the community was also described as an "end point" for distribution where all drugs that end up in the community are consumed there and not distributed elsewhere. In contrast, Saskatoon, because of its location in the landlocked province of Saskatchewan, was described as a community with less readily

[24] Joaquin "El Chapo" Guzmán is the internationally known head of the Sinaloa drug cartel. He was arrested on February 22, 2014, for charges including drug trafficking, money laundering, and murder. Guzmán was tried in a federal court case in the US where a jury found him guilty on all counts and he was sentenced to life in prison. See Edwards (2019) for more detail on the trial.

available supply of illicit drugs compared to Fort McMurray and the British Columbian sites due to its distance from large distribution sites in British Columbia and Ontario. The movement of drugs around Canada is influenced by the general economy, with one Saskatoon participant noting, "*If…the Fort McMurray oil patch starts drying up or there's not as much money there, that means there's also not as many people buying drugs there so then a lot of those drug traffickers travel and then they'll come to Saskatchewan"* (Participant 5). Illicit drugs that come into the community, then, are often adulterated with additional chemicals as a means of making the product last longer by having larger quantities. Also, the inland province of Saskatchewan was viewed as one of the last places to receive shipments of drugs in the western part of country.

With these considerations, the drug trade in Saskatoon was described somewhat differently than that in the other sites, where fentanyl is present but not in the same extreme way it is in Nanaimo and Kelowna where the majority of drugs being tested contain it. Misuse of prescription opioids in Saskatoon also appears to be a challenge, as the majority of opioid-related deaths in the province are attributed to prescription opioids, not fentanyl. Fentanyl deaths have been increasing annually, as predicted by some participants who described Saskatoon as often being "late" to such trends, partly because of its geographic location.[25]

5.5.3.3 Prescription Opioids. Participants described the economic influences implicit in opioid prescribing across all sites, noting that misuse of prescription opioids existed in each and that this misuse is an issue despite not being as fatal or prevalent as illicit fentanyl. Key informants described seeing the pathway for some individuals from receiving a prescription opioid to the eventual misuse of and addiction to the prescription in their daily experiences working in the crisis. In this regard, participants discussed three separate but intersecting economic components contributing to this pathway and the eventual harms. First, participants identified the influence of big pharmaceutical corporations such as Purdue Pharma on the crisis, describing the corporation's use of misleading and false information about the risk of harms of using prescription opioids. Further, key informants also noted Purdue's aggressive marketing strategy that created conditions of easy access to and dependence on prescription opioids while simultaneously generating

[25] It is also important to note that since these interviews were conducted, numbers of drug-related deaths in Saskatoon and Saskatchewan have drastically spiked and reached record numbers in 2020 (as shown in Figure 5.8), suggesting a recent shift in the supply or demand of drugs that was not fully captured, though it was anticipated, in the 2017 interviews with Saskatoon participants.

substantial profits. *"[Purdue] convinced doctors that [OxyContin] was just the wonder drug, and some doctors just thought, it is the wonder drug"* (Kelowna, Participant 4).

Second, participants described the fee-for-service model of physician service delivery in health care as creating emphasis on quantity of services delivered over quality by practitioners. Though many participants highlighted this as not generalizable to all physicians, or even most of them, they did note that even small numbers of practitioners abusing this model still had drastic effects on the communities in which they worked, and the speed and ease of writing an opioid prescription for a patient's acute or chronic pain allowed the abuse of this model with severe consequences for patients, their families, and their communities. One participant noted "*...the quality of care is not there. So there's a difference between quantity and quality and I find because we're going with quantity right now and that's how we can bill, I think people's health [is] at risk"* (Saskatoon, Participant 14), while another referred to the amount of opioid use disorders stemming from prescriptions as "*damning*" (Fort McMurray, Participant 1).

The last economic influence described by participants is the accessibility of opioid prescriptions compared to other pain management options, particularly due to coverage by public and employment insurance or employment benefit plans. Participants described how coverage for prescription opioids is often very easy to get from public or employment insurance plans. However, participants also noted that other effective treatment options for pain, such as physiotherapy, occupational therapy, massage, chiropractor, or acupuncture, are often only accessible in more lucrative employment-based insurance packages or to those who can afford them. In this way, limited pain management options exist for those without extensive employment benefit packages or with low income.

5.6 Discussion

5.6.1 Development of a Macroeconomic Risk Environment of the Overdose Crisis in Western Canada

The release of the *Ottawa Charter for Health Promotion* in 1986 (World Health Organization [WHO], 1986) prompted a shift in understanding public health, framing health as beyond an individual's own responsibility to also include attention to local environments for individuals and communities and health-supportive policy (Rhodes, 2002). Rhodes (2002) describes the similarities in principles of both this "new public health" and harm reduction but also

how, in practice, emphasis on individualized behaviours in making "healthier" choices to reduce risk of harm to oneself continued to prevail over recognition of environmental and contextual factors. Imagining "what a fully-fledged new public health approach to harm reduction would look like if applied" (p. 87), Rhodes (2002) provides international examples from Vancouver, Kathmandu, Russia, and Ukraine, demonstrating that the risk of and response to harms varies situationally and is "structurally dependent on the environments in which they occur" (p. 88). Illumination of the risk environment also prompts a shift in thinking about responsibility for harm, "from constituting individuals alone as responsible for their behaviour to tackling the socio-political situations and structures in which individuals find themselves" (p. 88).

The problematic framing of individual risks persists, however, leading to inadequate consideration of the social and economic structures within which risks and drug-related harms exist. Multilevel frameworks help to create the idea of a pool of risks in which individuals live and make choices, but actual empiric studies of risk environments are as rare as are tools to analyze them. The methodological challenge of this research, then, was to explore how a more robust framework might set up future study of contextual influences to counter the individual risk frames into which most drug studies fall. Thus, utilizing a framework that challenges the linear and individual blame narrative is imperative if harm reduction is to function properly. For that task, we utilized Rhodes' risk environment framework, focusing on economics and with an assemblage of potential macroeconomic risk environmental factors derived from the microeconomic risk environments described above. Use of qualitative inquiry to develop micro risk environments for each site allowed us to identify shared contextual economic components shaping these environments within each site. In our across-site analysis, we identified and explored these components via the development of a macroeconomic risk environment. The development of the macroeconomic risk environment further provided a different way of organizing and understanding economic influences beyond the local sites, offering a novel way to organize and synthesize the qualitative data and the literature across sites, illuminating broader economic influences and potential "links" for further study of the crisis' structural drivers.

Our analysis of the economic influences of the overdose crisis described by key informants in each site in this study suggests influences operating across all sites including socioeconomic pressures related to economic security, employment status and income, the illicit drug trade and opioid prescribing. Participants described various potential pathways between these influences and

drug-related harms from the overdose crisis, including their effects on individual mental health and stress levels, drug quality and availability, and determinants of health including income, housing, access to services (harm reduction, health care, and/or pain management), social supports, and employment benefits coverage.

The microeconomic risk environments of each site outlined and described above are neither surprising nor unexpected and support other research describing drug-related harms and populations affected by the crisis that are outlined in the introductory section. These include trends in use and harms among those both unemployed and employed, particularly in industries such as construction and trades (British Columbia Coroner's Service, 2018; Government of Alberta, 2019b) – each of which contain high numbers of employees and contribute substantially to the GDP of each province. Additionally, our findings share some consistencies with literature on the impacts of economic downturns and economic shifts on substance use and related harms, such as the deindustrialization of America and fallout from the 2008 recession linked to deaths of lesser educated non-Hispanic white men in manufacturing in the American overdose crisis (Betz & Jones, 2018; Case & Deaton, 2017; Keyes et al., 2014; McLean, 2016; Seltzer, 2020). In a separate manuscript, we expand on this potential relationship by exploring post-2008 economic shifts in Canada, focusing on trends in temporary employment, industries experiencing shifts, and potential connection to crisis-related harms.[26] Our amalgam of data so far suggest Canada may have its own unique economic shifts that are linked to the crisis, and public health concerns more broadly, as described by scholars in the US. In Fort McMurray and a lesser degree in Saskatoon, the oil and gas industry in Canada, employing thousands of males with varying levels of education is a significant driver of economic activity in Western Canada, employs people from all over the country and is very reactive to influence of global oil and gas corporations and market shifts (McNally & Levi, 2011). Questions are raised by these data and indicate that more research is needed to better understand the pathways between macroeconomic trends and outcomes for population health and well-being. Questions are also raised about impacts of economic shifts among workers, notably males with less education who are left behind by these shifts in blue-collar and service industries (Baker, 2019; Case & Deaton, 2017).

The inundation of fentanyl in the illicit drug market, fueled by international criminal organizations with distribution and accessibility considerations that play out nationally and locally,

[26] See Chapter 6, Business as Usual: Neoliberalism Driving the Overdose Crisis in Western Canada.

was described frequently by participants across the sites. This finding is apparent in drug-related death data collected both provincially and nationally in Canada, and visible in Figure 5.8. The shift to illicit fentanyl and its increasingly toxic analogues is supported by the literature, with the market forces driving supply and demand (Mathew et al., 2021; Seddon, 2008), the discontinuation of OxyContin (Ciccarone, 2017; Evans et al., 2019; Friedman et al., 2020; Goozner, 2016), and the effects of prohibition on drug supply (Beletsky & and Davis, 2017)—all plausible factors implicit in the shifting drug supply. The properties of fentanyl, such as its toxicity and covert distribution, and its increased availability pose significant challenges and create limitations for meaningful intervention at individual and local levels. In the Canadian context, conversations have been taking place at local, provincial and national levels, with prominent government and health leaders calling for alternative models of drug regulation due to the advent of fentanyl and its analogues in the drug market. Alternative provincial and national models of regulation are described by these leaders, as well as by participants in this study, as ultimately the last point of significant public health intervention to prevent overdose and death among Canadians who use drugs (Canadian Association of Chiefs of Police, 2020; CAPUD, 2019; Canadian Drug Policy Coalition, 2012; MSTH, 2020; Office of the Provincial Health Officer, 2016).

Key informants noted prescription opioids to be of influence because of the profit-driven motivations and corporate greed of big pharmaceutical companies, pointing to inappropriate marketing and unsafe prescribing practices as responsible for driving high prescription opioid consumption across the country. This observation is consistent with research in the US documenting Big Pharma's role in its overdose crisis (Lexchin, 2017, 2018; Lexchin & Kohler, 2011; Van Zee, 2009). Further, the delisting of the prescription opioid painkiller OxyContin was also described by participants as creating a "market opportunity" for criminal organizations on which to capitalize by introducing powdered fentanyl into the drug market. Beyond these, participants described the limited accessibility of alternative pain management options, particularly for those with lower incomes and limited employer health care benefits. Taken together with the potential dangers of a fee-for-service health care model of reimbursement for physicians, these circumstances point to structural challenges that merit further exploration.

We have synthesized these economic influences across sites into a macroeconomic risk environment (Table 5.2) that contributes to the shaping of local economic contexts within which drug-related harms take place in Western Canada. The common themes across the sites –

socioeconomic pressures, the illicit drug trade, and prescription opioids – taken from the microeconomic risk environments of the sites, provide the structure for inference of the macroeconomic risk environment in Western Canada, supported and further populated with influences gleaned from the qualitative data and literature.

Table 5.2 Macroeconomic Risk Environments of Western Canada

Microeconomic Risk Environment	Macroeconomic Risk Environment	
Socioeconomic Pressures	Inflation	Increasing prices of housing, education, drugs, other needs
	Insufficient wages	Unrealistic socioeconomic ideals/goals
	Greater individual and household debts	Economic shifts/downturn
	Unemployment	Insufficient protections for workers
Illicit Drug Trade	Prohibition of controlled drugs	Responsive to the economy
	Lack of alternative controlled drug regulation and distribution models at national, international levels	
Prescription Opioids	Limited employment benefit health plans coverage	Gaps in federal regulation of prescription drugs
	Lacking alternative pain management options	Lacking health care provider education
	Limited alternative pain management accessibility	Fee-for-service-based physician remuneration

5.6.2 The Risk Environment as a Tool for Understanding Drivers of Drug-Related Harms

In his 2002 commentary, Rhodes offered a risk environment theoretical framework as a tool for building understanding of drug-related harms. By exploring microeconomic risk environments for each site through qualitative interviews with key informants, we identified influences being discussed locally and, through consideration of these, conceptually used them to initiate development of a macroeconomic risk environment illuminating broader structures driving local drug-related harms. In a 2009 follow-up commentary, Rhodes further discussed how the risk environment approach "enables harm reduction" (p. 194), stating the approach challenges the typical epidemiological approach to studying proximate risk factors of individuals, refocuses attention on the broader social structures within which people live, and invokes the inclusion of lived experience to increase understanding of how individuals embody or experience the risk environment in their daily lives (Rhodes, 2009). He highlights research in the fields of social epidemiology and political economy and in qualitative engagement with individuals with lived/living experience as three areas that can significantly contribute to understanding relationships between micro and macro environments and drug-related harms. Our qualitative interviews with key informants and use of political economy in shaping our interview guide are thus appropriate in our development of microeconomic risk environments for each site.

Rhodes' work on risk environments predates the arrival of illicit fentanyl and its analogues in the drug market and its spawning of unprecedented numbers of drug overdoses and deaths across North America, though further consideration of this framework and its offerings during the

overdose crisis seemed warranted. Our exploration of economic influences on the crisis, using descriptive site-specific data and qualitative interviews with local key informants illustrated its potential utility.

Further, though this framework emerged with a specific focus on harms stemming from drug use, it simultaneously "illuminates the parallels in how social contexts influence health and vulnerability in general" (Rhodes, 2002, p. 88) and can be used to understand harms beyond those specifically related to drugs. In this sense, harm reduction can be seen in interventions addressing multiple vulnerabilities leading to experiences of harm including but also beyond those related to substance use. Programs and practices addressing these vulnerabilities close the gap on inequities more generally and embody a human rights approach in tackling systemic and structural conditions implicit in harm, drug-related and beyond (Collins et al., 2019; Rhodes, 2002). Our specific interest was in economic influences, though this framework can and should be applied to explore other spheres including the political, social, and physical, all of which contribute to drug-related harms (Collins et al., 2019; Rhodes, 2002).

5.7 Conclusion

Canada's overdose crisis is responsible for unprecedented numbers of deaths, and the need for study on the structural socioeconomic contexts within which it exists has been recognized by prominent North American scholars in the field of substance use and substance use disorders (Collins et al., 2019; Dasgupta et al., 2018; Kerr, 2019). However, data specific to this task are not self-evident and require exploration using social epidemiology, qualitative inquiry, and political economy as starting points (Rhodes, 2009). Our analysis of economic risk environments of four Western Canadian sites suggests the influence of personal and household economic pressures, the illicit drug trade, and pain management and opioid prescribing on drug-related harms in the four communities studied. However, across-site analysis of these microeconomic risk environments suggests that they are not uniquely local and that larger contextual forces are also implicit in drug-related harms, creating unequal risk and harm for particular subpopulations. Our exploratory research enabled identification of potential broader economic contextual forces, which we characterize as domains in a macroeconomic risk environment.

Though economic influences on substance use and related harms can and do play out locally, the identification of broader factors and assembly of a macro risk environment points to a

much deadlier economic transaction. It is not just the high cost of meeting basic needs, but also the more devastating price of a "business as usual" social and economic system that is creating the risks of drug-related harms, and deaths. It is through the identification of macro-economic risk environments in which the overdose crisis is embedded that areas for upstream intervention will be illuminated, creating opportunities to "enable harm reduction" and shift the responsibility of harm from the individual to systems and structures within which individuals live and work. Our research is one small contribution to that challenge.

6. BUSINESS AS USUAL: NEOLIBERALISM DRIVING THE OVERDOSE CRISIS IN CANADA

6.1 Introduction

Canada is in the throes of an overdose crisis. According to the Government of Canada, the crisis is defined as a "significant increase in opioid-related overdoses" due, in part, to high rates of opioid prescribing across the country and the advent of synthetic opioids such as fentanyl in the illicit drug supply (Government of Canada, 2021e). The number of opioid-related deaths has been increasing and between January 2016 and December 2020, more than 21,100 people died an opioid-related death (Government of Canada, 2020c). As noted by Statistics Canada (2019a), drug-related deaths in British Columbia, where the crisis is causing most harm, have decreased the life expectancy of Canadians, a trend not seen in the country in over four decades.

The crisis has intensified since the onset of the COVID-19 pandemic, when overdoses have climbed sharply throughout the country, notably in Western Canada (British Columbia Coroners Service, 2021a, 2021b; Government of Alberta, 2021b; Saskatchewan Coroners Service, 2021). National substance use researchers released reports, based on qualitative inquiry, describing the impacts of the pandemic on people who use drugs, noting that increased isolation, increased fear and anxiety, a more toxic drug supply, and reduced access to and availability of support and health care services in the community have increased the risk of overdose and death (Canadian Centre on Substance Use and Addiction, 2020; Canadian Research Initiative in Substance Misuse and Canadian Institute for Health Research, 2020). Further, the report states that the pandemic "exposes the shortcomings that have long existed for people who use substances" and specifically mentions "socio-structural conditions…create underlying vulnerabilities to developing COVID-19 and substance use disorders (2020, p. 1).

Prior to the pandemic, governments across Canada had taken important actions at the federal, provincial, and local levels to respond to the overdose crisis. Efforts to reduce the numbers of overdoses and deaths include increased access to treatment options for populations affected by the crisis, more support for and provision of harm reduction services including the approval of nearly 40 supervised consumption sites, public awareness campaigns, and preventative measures to reduce opioid prescriptions (Government of Canada, 2021b). Though these efforts and the research associated with them are laudable public health efforts to reduce the real harms of

overdoses, they do little to illuminate or foster change to the structural and systemic drivers of the crisis (Collins et al., 2019; Dasgupta et al., 2018; Kerr, 2019).

The study we report on here was forged as one of a series of studies within an exploratory case study design seeking to begin to explore that gap by illuminating potential economic influences on the crisis in Western Canada. As part of that research, we have used administrative data to describe the iniquitous nature of the crisis, illuminated key informant views on features of the microeconomic contexts influencing its contours and proposed macroeconomic influences across four Western Canadian study sites (Chapters 4 and 5 of this dissertation respectively). Those studies and related literature bring us to our focus here on the final research questions: *What employment trends or events potentially affected patterns of crisis-related harms in the selected centres between 2003 and 2020? How can the study of employment data be utilized to explore potential linkages between macroeconomic influences and crisis-related harms?* Our point of departure is to note that the crisis emerged in an era of neoliberalized flexibilization, where the structure of work has shifted toward an increase in precarity and places significant downward wage and cost of living pressures on working people and the poor. Further, the COVID-19 pandemic and subsequent economic shutdown has resulted in serious declines in economic output, employment and hours worked, with workers in lower-paying industries the most severely affected (Statistics Canada, 2021b). We further consider these impacts in the era of neoliberalization and speculate that these impacts will negatively affect substance use, health, and well-being among Canadians well into the future.

Peck (2010) describes neoliberalization as a differentiated process toward a free market state "principally negotiated at the boundaries of the state, and occupying the ideological space defined by a (broadly) sympathetic critique of nineteenth-century laissez-faire and deep antipathies to collectivist, planned, and socialized modes of government" (p. 22). The process of neoliberalization is rooted in neoliberal economic theories, which posit that "human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade" (Harvey, 2005, p. 2). Neoliberal practice and policies emerged in the late 1970s and early 1980s, primarily in the US and the United Kingdom, because of its alignment of interests of business and the wealthy and its increased respectability in scholarly and academic circles (2005).

The process of neoliberalization was initiated in Canada under the Conservative Mulroney government elected in 1984. Under Mulroney's leadership, the federal government attempted to downsize the state and its administration and initiated managerial reforms that were viewed by some public servants as trimming the public sector and cutting costs (Clark, 2002). Further, the Liberal Chrétien government that followed Mulroney continued his neoliberal reforms, decreasing the role of the federal government in public service provision including the slashing of health care transfers to the provinces by one-third in 1995 (Canadian Centre for Policy Alternatives, 2000). Neoliberalism "has come to dominate socio-economic policy thinking, power structures, and institutions" across the globe (Albo, 2010, p. 4).

Features that are part of the process of neoliberalization include privatization, deregulation, free trade, de-unionization, financialization and flexibilization (Albo, 2010). Flexibilization – the focus of this paper – refers to the "increasing of management abilities to deploy labour freely" (2010, p. 4), and includes the increasing precariousness of labour. Precarious labour can be temporary and lacking certainty of continuity, have limited or no union protections or benefits, and/or an income level that is not competitive or unable to support basic needs, and the last decade has seen an increase in precarious employment arrangements in Canada (Chen & Mehdi, 2018; Fuller & Vosko, 2008). These features of neoliberalization are embedded into policy to stimulate a free market and economic growth under the assumption that "a rising tide lifts all boats" and a strong economy benefits all (Harvey, 2005, p. 64). Theories of neoliberalism assume that responsibility and rights to health and well-being are assigned primarily to the individual; that individuals should be able to participate and purchase in the market of health services more freely and thus be able to decide and provide for themselves and their kin. As such, individualization of risk and responsibility is an inherent feature of neoliberalization as pertains to personal health (Harvey, 2005; Schrecker and Bambra, 2015).

Neoliberalization has had many implications for population health in high-income countries such as the US and the United Kingdom. The process of privatization and weakening of public services in particular has resulted in some economic growth but is primarily characterized by increased inequalities within populations (Navarro, 2000). Health disparities between income groups in these countries often occur along a gradient where those with the lowest income experience the highest rates of disease and those with the highest income experience the lowest (Chernomas, 2004; Bambra, 2012, 2016). These disparities have increased largely due to lower

wages and increased poverty, an increase in financial gains among capitalists with less redistribution to labour, and reduction of social expenditures (Navarro, 2000). Often correlated with income, employment is influential on both individual and population health outcomes, and both employment and income are identified by the Government of Canada (2020b) as social determinants of health. Other related determinants include educational attainment and working conditions.

Additionally, gender and ethnicity are important determinants of health and trends in health outcomes relating to substance use vary by both factors (Collins et al., 2019). Men have been identified as using drugs more frequently than women (Government of Canada, 2014), and Indigenous people[27] as experiencing more harms from substance use than non (Assembly of First Nations, National Native Addictions Partnership Foundation & Health Canada, 2011; Collins et al., 2019; Firestone et al., 2015; Lavalley et al., 2018). As Hankivsky and Christoffersen describe (2008), consideration of multiple dimensions of individual identity, or intersectionality,[28] is significant as determinants interact in various ways to influence outcomes and inequities in health. Thus, neoliberalization can theoretically have implications for individual and population health outcomes, including substance use and related harms, and gender, ethnicity, employment, and other economic determinants can be influential in how these outcomes are distributed.

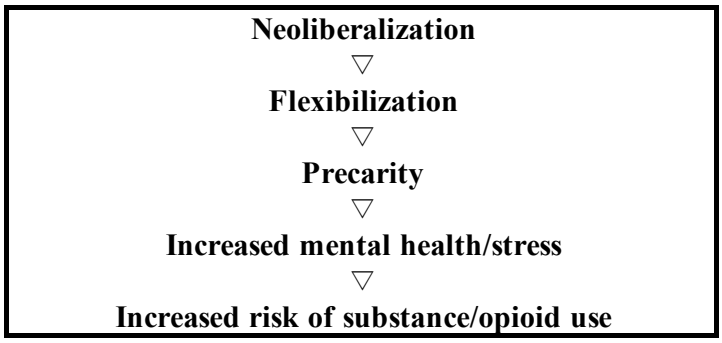
The Canadian overdose crisis is one of the most urgent and pressing public health crises in recent decades. Recognizing the paucity of study of its structural drivers, we undertook an exploratory case study of the economic influences potentially shaping the contours of the overdose crisis. This paper presents one aspect of this work, where we seek potential associations and pathways for study between the process of neoliberalization and the crisis. We focus on increasing flexibilization and precariousness of labour given the deleterious health effects noted on health and the emergence of patterns of substance use in the context of the crisis (Figure 6.1). In this

[27] The authors use *Indigenous* throughout this dissertation, except when referencing specific works or data where *Aboriginal* or *First Nations* is used. We use this term in lieu of *Aboriginal* because it is inclusive of a variety of Aboriginal groups and also recognizes the many distinct and separate nations of people across Canada. *Aboriginal people*, as included in Firestone, Tyndall and Fischer's work and subsequently in Uscalas' and Lamb's research as referenced later, includes individuals who identify as either First Nations, Métis and Inuit. This term, though, may sometimes exclude non-status First Nations individuals in Canada.

[28] We identify the need for intersectional analyses in future "links" of study on the differential impacts of the overdose crisis on subpopulations in and across Canada. In Chapters 4 and 6, we present publicly available data showing trends in crisis-related harms and in employment trends, stratifying where available but recognizing intersectional analyses for this work is not possible given data limitations and is out of scope of this work.

paper we explore the plausibility of such associations and pathways through an analysis of scholarly literature and publicly available drug-related and economic data for two communities in British Columbia. In those communities, we note that increasingly precarious industries have the highest numbers of opioid-related fatalities, and that these industries predominantly employ both men and Indigenous people. We further suggest that precariousness, experienced as increased economic insecurity and chronic stress, is a key element in the pathway toward increased mental health challenges and substance use but that its study requires more nuanced employment data. We further note the COVID-19 pandemic has had significant impacts on both employment status and substance use and suggest the impact of COVID-19 and the resultant economic shutdown in Canada will potentially contribute to ongoing mental health and substance use challenges in the future.

Figure 6.1 Suggested Pathway Between Neoliberalization and the Overdose Crisis



We first present the contextual synthesis and analysis approach employed and the data included for this study. Then we provide a brief outline of the harms and trends of the overdose crisis in British Columbia and selected centres. Next, we present a description of the influences of macroeconomic conditions, socioeconomic status and precarious employment, gender, and ethnicity as they relate to the overdose crisis. The last section discusses the findings and includes our emergent hypothesis, suggesting multiple potential pathways between macroeconomic conditions and drug-related harm or death for those employed in industries vulnerable to economic shocks and/or those precariously employed.

6.2 Methods

This paper is situated within an exploratory case study of the Western Canadian overdose crisis and is the final of three papers with the overall purpose of exploring the potential economic influences of the overdose crisis and how they shape its contours in Western Canada. A contextual synthesis and analysis (CSA) broadly guided the exploration of potential pathways between neoliberalization and the crisis. CSA is a "critical and comprehensive consideration of available literature, relevant documents and published administrative data" (Plamondon, 2007, p. 18). It is useful for exploring complex research problems with rich contextual backgrounds (Plamondon, 2007), thus is fitting for a study of the overdose crisis as means to better understanding these contextual influences. This approach allows us to bridge the literature in the fields of public health and political economy to better understand the relationship between macroeconomic conditions, substance use and mental health, gender and ethnicity, socioeconomic status, and precarious employment. Such an approach recognizes that addictions are not simply individual choices but are reflective of broader social inequality.[29]

Because of limitations of data availability for all four study sites, two of the study sites, Kelowna and Nanaimo, British Columbia, Canada, are the focus of this paper. They were selected because the overdose crisis has significantly affected both, and because they are outside of the downtown east side of Vancouver which is often the focus for drug-related research and media attention despite the crisis taking place province-wide. The time period 2003 to 2020 has been selected for three reasons: 1) by 2003 Canada was entrenched in neoliberalization, 2) 2003 marks a notable time for drug policy as the first safe injection site, *Insite,* was granted exemption from the *Controlled Drugs and Substances Act*, and 3) the period captures the transition of fentanyl into the illicit drug market.

Relevant documents and literature and publicly available statistical data on the crisis and on employment as reported in various sources were obtained through intensive searches of the

[29] Though mental health and substance use disorders are reported here similarly, it is important to note that these are not the same. Previous research has shown mental health and substance use disorders are related, where the presence of one is often associated with the presence of the other (see Section 2.5). Mental health disorders are also known to worsen in the context of a substance use disorder. Additionally, substance use includes the use of any drugs, including opioids. However, due to the properties of different drugs, not all substance use and disorders should be considered the same. For example, opioids can be obtained through prescriptions, have addictive properties, and can result in severe withdrawal symptoms after one becomes dependent. Further, drugs and alcohol are not always used in isolation, and polysubstance use is common.

Web of Science academic database; websites of federal, provincial, and local governments, health authorities, and other stakeholders, and web searches using Google.[30] We then arranged and synthesized information in these data reports to describe the overdose crisis, as shown in the next section, to broadly illuminate the economic context within which it has emerged and to explore possible pathways between employment trends (specifically flexibilization) and patterns of crisis-related harms. We end with our observations on how the study of employment data might be utilized to explore potential linkages between macroeconomic influences and crisis-related harms.

This research had limitations that are important to acknowledge. Census metropolitan area and census agglomeration data for the Kelowna and Nanaimo sites, respectively, were used to compile and graph the unemployment rate. These census boundaries extend beyond city borders to include some surrounding rural populations though this distinction is not expected to change the proposed hypotheses and overall discussion of this paper.

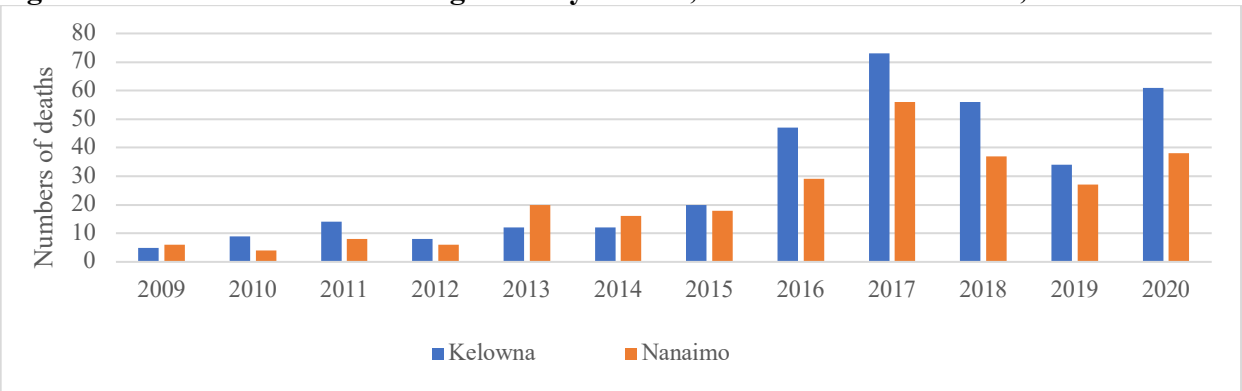
6.3 The Overdose Crisis in Kelowna and Nanaimo, British Columbia

Illicit drug toxicity deaths have been increasing across British Columbia since 2009, and this section shows trends of the crisis including counts and rates of deaths by locality and by gender, First Nations status, and employment. Counts and rates have been compiled from publicly available British Columbia Coroners Service reports. Figures 6.2 and 6.3 show illicit drug-related death information for Kelowna and Nanaimo. Figure 6.2 depicts numbers of illicit drug-related deaths steadily increasing between 2009 and 2017 for both locations; though 2018 and 2019 showed a decline 2020 saw a significant jump amid the COVID-19 pandemic. The rates of illicit drug toxicity deaths (Figure 6.3) also increased since 2009 with a sharp jump after 2015. Rates are shown by health services delivery area (HSDA) as this data is not available by township. The rates for the Okanagan (in which Kelowna is located) and Central Vancouver Island (in which Nanaimo is located) HDSAs are mostly consistent with the provincial average although each surpassed the provincial average in 2017. The HSDAs and provincial average, though, are consistently lower than that of the Vancouver HSDA, which is unsurprising given Vancouver is often considered

[30] Publicly available data compiled include British Columbia Coroners Service reports *Illicit Drug Toxicity Deaths in BC, Fentanyl-Detected Illicit Drug Toxicity Deaths,* and *Illicit Drug Overdose Deaths in BC: Findings of Coroner's Investigations*; First Nations Health Authority reports *Overdose Data and First Nations in BC: Preliminary Findings, The Impact of the Opioid Crisis on First Nations in BC, First Nations and Opioid Overdose: A severe and persistent threat to wellness,* and *First Nations in BC and the toxic drug crisis;* and Statistics Canada data from Labour Force Survey and Census Program.

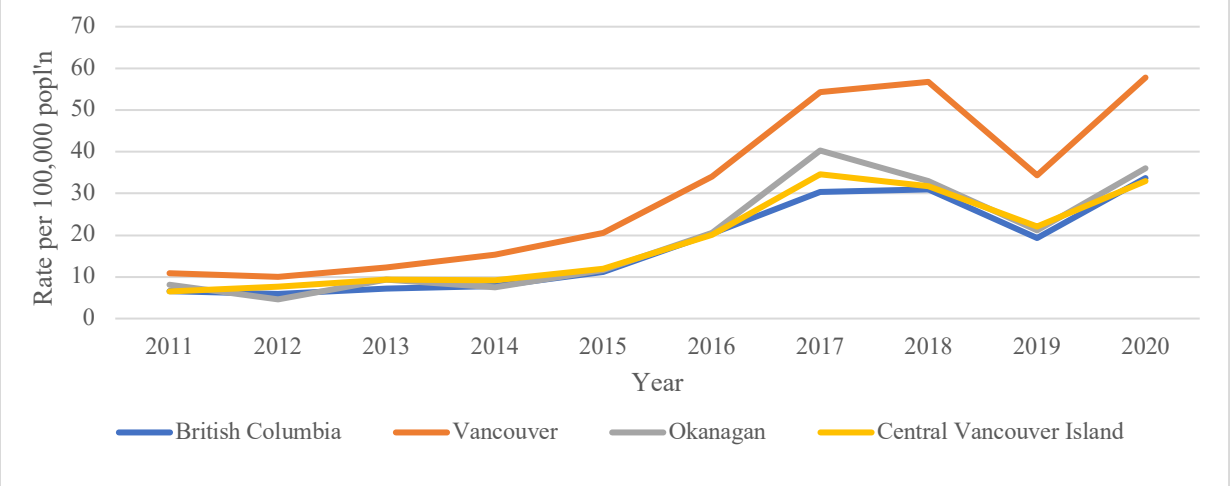
ground zero for the overdose crisis. The rates of illicit drug toxicity deaths in both HSDAs follow the same pattern as numbers of illicit drug toxicity deaths shown in Figure 6.2: a decreasing trend post-2017 but a sharp spike in 2020 amid COVID-19.

Figure 6.2 Numbers of Illicit Drug Toxicity Deaths; Kelowna and Nanaimo, 2009-2020



Source: British Columbia Coroners Service, Illicit Drug Toxicity Deaths in BC, 2021.

Figure 6.3 Crude Rates of Illicit Drug Toxicity Deaths, British Columbia and Vancouver, Okanagan, and Central Vancouver Island Health Services Delivery Areas (HSDAs), 2011-2020

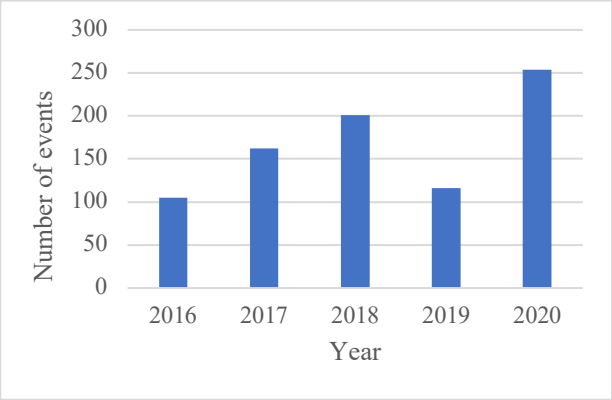


Source: British Columbia Coroners Service, Illicit Drug Toxicity Deaths in BC, 2021.

Data from the BC Coroners Service and the First Nations Health Authority indicate that the crisis is affecting men and First Nations people, as each of these is overrepresented. Men made up 79 percent of deaths between 2009 and 2020 (not shown; British Columbia Coroners Service, 2021). Numbers of First Nations overdose deaths have been increasing annually between 2015 and 2020 (Figure 6.4), and reports from the First Nations Health Authority in British Columbia state that the rates of First Nations fatal overdose events were 11.8 and 14.7 times higher than for other

British Columbia residents in 2018 and 2020, respectively (First Nations Health Authority, 2019). Additionally, the gender gap in First Nations overdose deaths is smaller than the gender gap within the total provincial overdose deaths, with First Nations men accounting for 61 percent of the total overdose deaths in First Nations communities (compared to 79 percent of men in the province) and thus the overdose crisis appears to have more impact on First Nations women than women in the province generally (First Nations Health Authority, 2019).

Figure 6.4 Number of First Nations Fatal Overdose Events, British Columbia, January 2015-July 2016, 2017-18

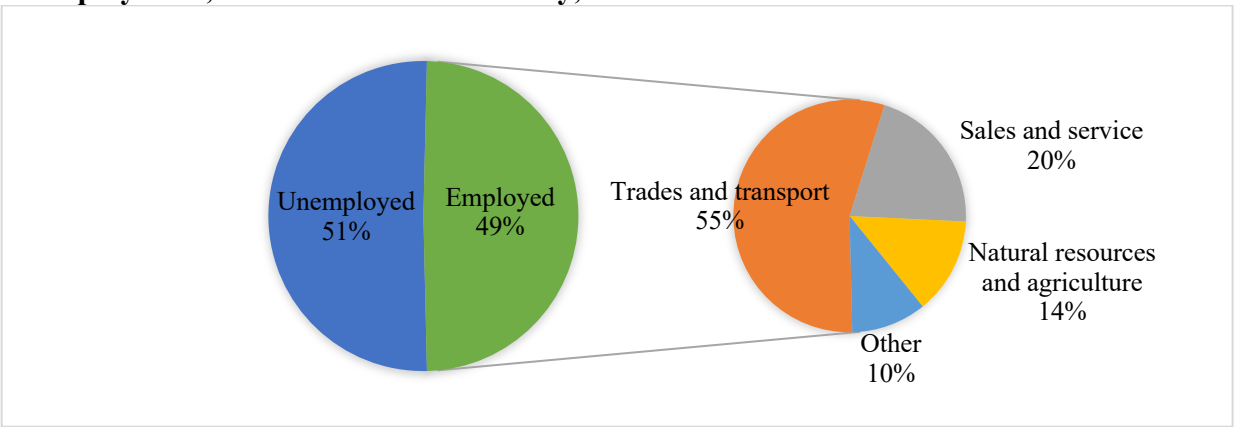


Source: First Nations Health Authority, Overdose data and First Nations in BC: Preliminary findings, 2017; The impact of the opioid crisis on First Nations in BC, 2019; First Nations in BC and the overdose crisis, 2020; First Nations in BC and the toxic drug crisis, 2021.

Figures 6.5 and 6.6 are compiled from data presented in the *Illicit Drug Overdose Deaths in BC: Findings of Coroners' Investigation* report released by the British Columbia Coroners Service which analyzed 872 completed illicit drug overdose investigations with 613 cases from 2016 and 259 from 2017 (British Columbia Coroners Service, 2018). Nearly half the individuals in the Interior Health Authority (where Kelowna is located) were employed (Figure 6.5), with a slightly lower percentage (41 percent) in the Island Health Authority (where Nanaimo is located; Figure 6.6). Employed individuals made up 44 percent of the provincial total in the case sample. In both health authorities, employed individuals were primarily working in the trades and transport industry (including construction) (55 percent Interior Health; 41 percent Island Health), followed by sales and service (21 percent and 23 percent respectively) and natural resources and agriculture industries (13 percent and 15 percent respectively). According to 2016 census data for British Columbia, those in trades and transport accounted for nearly 15% of the total labour force, sales and service just over 24.5%, and natural resources and agriculture 2.65%. Thus, decedents

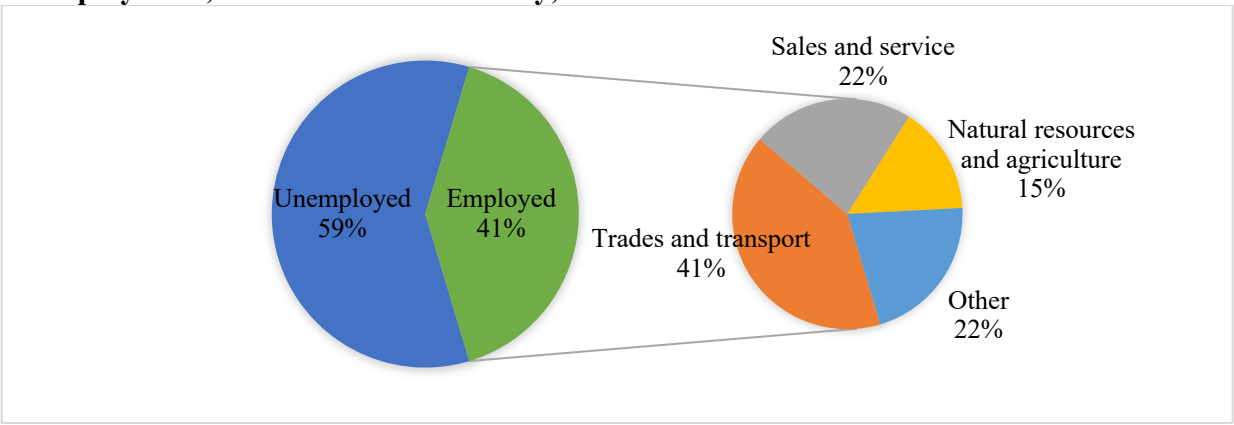
employed in trades and transport and natural resources and agriculture at the time of their death are overrepresented in the data from both Interior and Island Health Authorities, especially evident among those in trades and transport occupations. Employment data is not available by health authority, thus limiting identification of overrepresentation at those boundaries.

Figure 6.5 Percentages of Illicit Drug Toxicity Deaths by Employment Status and Industry of Employment, Interior Health Authority, 2016-17



Source: British Columbia Coroners Service, Illicit Drug Overdose Deaths in BC: Findings of Coroners' Investigations, 2018.

Figure 6.6 Percentages of Illicit Drug Toxicity Deaths by Employment Status and Industry of Employment, Island Health Authority, 2016-17



Source: British Columbia Coroners Service, Illicit Drug Overdose Deaths in BC: Findings of Coroners' Investigations, 2018.

6.4 The Context of the Overdose Crisis: Macroeconomic Conditions and Economic Shifts

Rhodes (2002; 2009) identifies macro risk environments as important for understanding individual substance use and suggests examination of the physical, social, economic and policy environments. The case study within which this paper is nested is focused on exploring the potential economic influences of the overdose crisis and how they shape its contours in Western

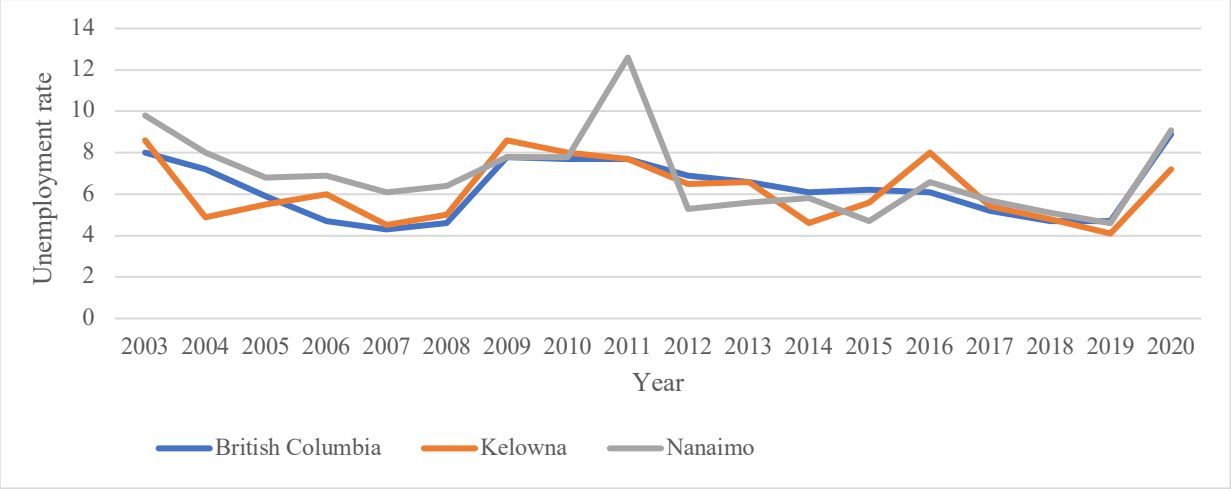
Canada. In this paper we consider broader macroeconomic trends shaping the nature of work and possible material and psychosocial linkages to the crisis. There is a considerable scholarly literature on macroeconomic conditions and their relationship to mental health and substance use. Focus has typically been on effects of economic downturns on population health and well-being, with unemployment rates, job growth, and median household income frequently used as indicators of these downturns. The global financial crisis of 2007-08 and the following recession has proven to be fertile ground for study of the relationships between macroeconomic conditions and physical and mental health outcomes.

Generally, research has shown that economic decline is often associated with both decreased mental health (Barbaglia et al., 2015; Margerison-Zilko et al., 2016; McCartney et al., 2019; Nour et al., 2017) and increased substance use (Brown & Wehby, 2019; Carpenter et al., 2017; Dom et al., 2016; Nagelhout et al., 2017) within populations. Some studies report a decrease in alcohol consumption during recessions (Margerison-Zilko et al., 2016; Modrek et al., 2013) but this finding has not always been consistent (Nour et al., 2017; Wang et al., 2018). Ruhm has been studying relationships between macroeconomic conditions and health (including substance use) for more than two decades, having done much rigorous work in this regard (Ruhm, 2015; 2005; 2000; 1995; Hollingsworth, Ruhm & Simon, 2017). In his empiric 2019 study, he found that US counties that experienced economic decline are also experiencing increased drug-related mortality due to the overdose crisis. However, after controlling for potential confounders such as county characteristics (including gender, ethnicity, share of foreign-born population, age, urban-rural status, among others), the relationship between economic conditions and drug-related mortality was found to be nearly spurious (2019).

Economic data for the province of British Columbia and for Kelowna and Nanaimo provide important economic context relevant to this research. The provincial unemployment rate had a general decline between 2003 and 2018 though it did rise between 2008 and 2009, likely in conjunction with the Great Recession (Figure 6.7). The recession affected more than unemployment, as the same period saw the gross domestic product (GDP) increase minimally (approximately $1 billion) from 2007 to 2008 for the province (compared to a nearly $5.5 billion increase between 2006 and 2007 and an over $8 billion increase between 2005 and 2006) before experiencing decline of over $5 billion in 2009 (Statistics Canada, 2021d). Further, the majority of industries in the province also recorded declines in GDP in the same period except for the real

estate and rental and leasing; educational services; health care and social assistance; arts, entertainment and recreation; and public administration industries, which saw slight increases. The most significant declines in GDP were in manufacturing (over $2 billion), mining, quarrying, and oil and gas extraction (approximately $1 billion) and construction (nearly $900 million) (Statistics Canada, 2021d).

Figure 6.7 Unemployment Rate as a Percentage of the Labour Force by 15 Years and Over; Census Metropolitan Area (CMA) of Kelowna, Census Agglomeration (CA) of Nanaimo, and Province of British Columbia; 2003-2020



Source: Statistics Canada. Table 14-10-0327-01 Labour force characteristics by sex and detailed age group, annual; Table 14-10-0096-01 Labour force characteristics by census metropolitan area, annual; Table 14-10-0102-01 Labour force characteristics by census agglomeration, annual.

The unemployment rate is commonly used as an indicator of economic decline and recessions, and the literature has shown that substance use and related harms increase during times of economic decline or increased unemployment (Betz & Jones, 2018; Brown & Wehby, 2019; Carpenter et al., 2017; Nagelhout et al., 2017; Pear et al., 2019) though British Columbia did not experience steady economic decline. Rather, the province as well as Kelowna and Nanaimo experienced spikes of increased unemployment in an overall trend of decreasing unemployment through the period until the 2020 economic shutdown amid COVID-19. Searching deeper into the provincial unemployment data, Kelowna and Nanaimo experienced similar trends in unemployment compared to the province but with some exceptions (Figure 6.7). Nanaimo had a significant spike in unemployment in 2011 but by 2012 the region was recording a lower unemployment rate than both the province and Kelowna. While the province recorded a steady decline in unemployment from 2009 until 2019, Kelowna and Nanaimo recorded increases in the

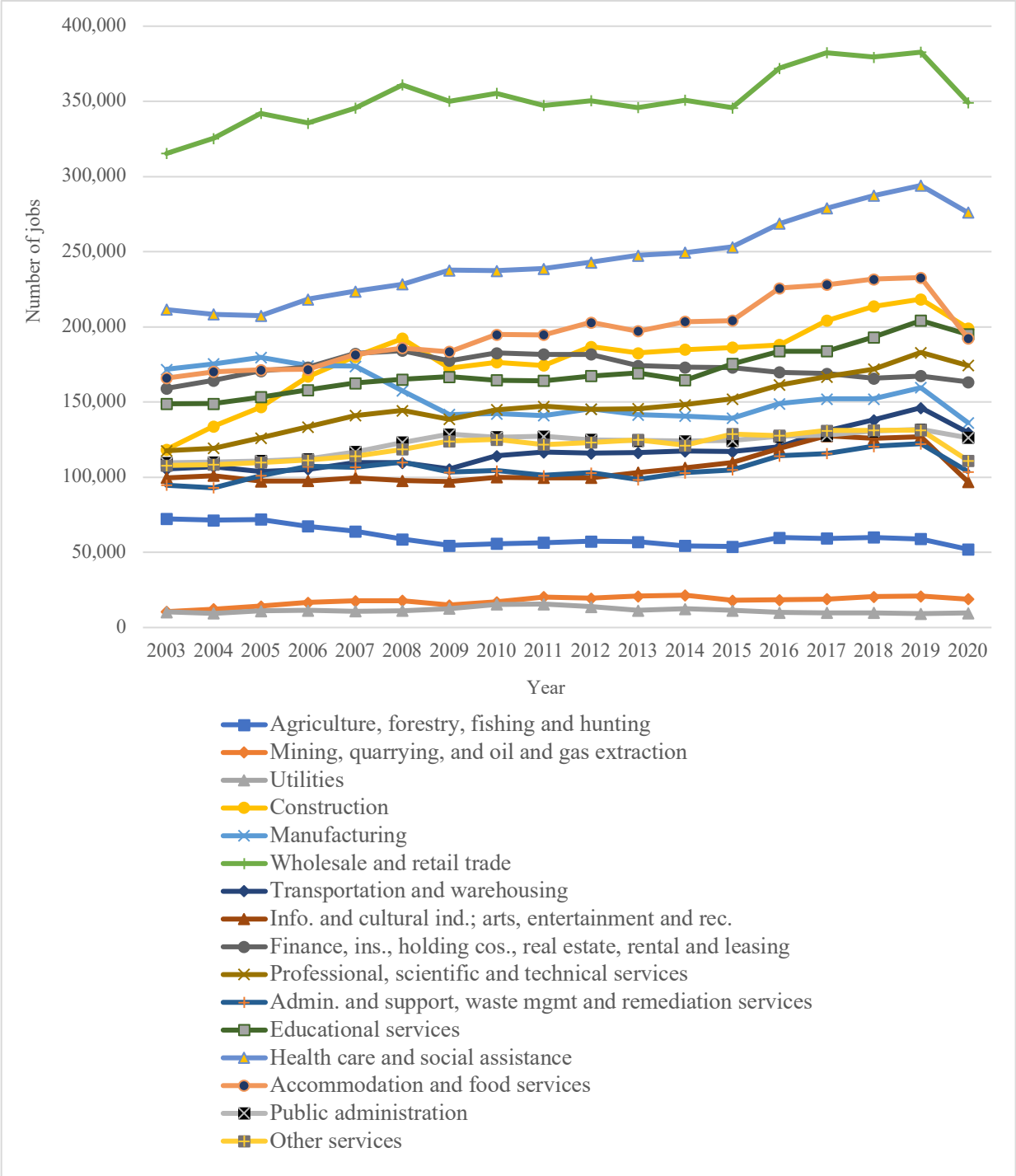
unemployment rate between 2015 and 2016 before seeing it drop again between 2016 and 2019. Unemployment spiked in 2020, consistent with the arrival of COVID-19 in Canada and the economic shutdown that followed.

These data show partial support for Ruhm's work on macroeconomic conditions and other research on economic shifts. The inverse relationship between (mostly declining) unemployment and opioid-related deaths in the province may support Ruhm's notion that unemployment and drug-related harms have a spurious relationship; however, local and provincial economic contexts are not always consistent, as evidenced by some of the differences between Kelowna/Nanaimo and British Columbia unemployment rates across the period. As such, aggregate data can fail to capture local nuances (Betz & Jones, 2018). Ruhm's observation of the need for "researchers emphasizing the importance of demand-side factors…to identify omitted variables whose absence is attenuating the association between changes in economic conditions" and substance use is an invocation for further research into these variables (Ruhm, 2019, p. 40).

Researchers have also hypothesized that the North American overdose crisis is due, in part, to broader economic shifts including globalization and the decline of the manufacturing industry in North America after the 2008 financial crisis. Namely, the shift toward a globalized manufacturing industry resulted in increased unemployment in Canada and the US, and scholars have found linkages between the formerly employed manufacturing workers, their communities, and the overdose crisis (Baker, 2019; Burns, 2015; Case & Deaton, 2015; Keyes et al., 2014; McLean, 2016; Seltzer, 2020). Seltzer's (2020) recent work shows strong associations between the decline of the manufacturing industry in the US and its current overdose crisis, and he notes the decline can predict over 20 percent of overdose deaths for men and 15-17 percent of deaths for women. Broader economic influences such as these economic shifts or recessions can result in increased unemployment, financial uncertainty and struggle, and mental health issues for those affected (Brown & Wehby, 2019; Dom et al., 2016; Nagelhout et al., 2017; Ruiz-Pérez et al., 2017). The economic shift, described in more detail in the US linking the decline of the manufacturing industry and the increase of opioid-related deaths, is plausible in the Canadian context given the decline of the manufacturing industry in terms of GDP and numbers of employees (Statistics Canada, 2021c). However, the manufacturing industry in British Columbia, and particularly in Kelowna and Nanaimo, is dissimilar from that described in the US as manufacturing represents only a small portion of employment in both the province and localities

(Figure 6.8). When examining trends in employment in British Columbia, other economic shifts become apparent.

Figure 6.8 Total Number of Jobs by Industry, British Columbia, 2003-2020



Source: Statistics Canada. Table 36-10-0489-01 Labour statistics consistent with the System of National Accounts (SNA), by job category and industry.

Generally, number of jobs increased across all industries in the reference period, except the manufacturing and agriculture, forestry, fishing and hunting industries (Figure 6.8). In 2020, the number of jobs across the province decreased in conjunction with the COVID-19 pandemic. Wholesale and retail trade employ most individuals consistently across the time period, followed by health care and social assistance. Both the construction and food and accommodation services industries experienced large increases and by 2010 were top employers in the province. The majority of industries saw steady or slight increases between 2003 and 2019; however, wholesale and retail trade, construction, and accommodation and food services experienced more fluctuations, particularly post-2008.

In 2008, when the unemployment rate jumped both provincially and in Kelowna and Nanaimo, industries recording fewer jobs included wholesale and retail trade, construction, and manufacturing (Figure 6.8). Post-2008, the wholesale and retail trade, construction, and accommodation and food services industries saw nearly annual fluctuations in numbers of jobs until 2015, and then increased until 2019 (Figure 6.8). How these changes manifest in Kelowna and Nanaimo is challenging to assess due to reliance on census data which is captured every five years despite yearly changes in industry and job numbers, and inconsistencies in measurement of industry variables between the 2006 and 2011 surveys. Keeping these limitations in mind, the Kelowna census metropolitan area recorded a slight decrease in the number of wholesale and retail trade jobs, and the Nanaimo agglomeration recorded slight decreases in number of jobs in the wholesale and retail trade, transportation and warehousing, and accommodation and food services industries between 2011 and 2016 (Statistics Canada, 2013a; 2013b; 2017a; 2017b).

This analysis suggests that aggregate unemployment data may not be a wholly reliable indicator for exploring potential associations to harms caused by the overdose crisis at the local level, and that further study of broader economic shifts which can influence unemployment rates for *specific* industries could be more revealing, as could proxy indicators of socioeconomic conditions as intermediate factors. As presented, and consistent with research out of the US, it is plausible that shifts in industry-specific employment spurred by economic crises and recessions may influence the overdose crisis in the Canadian context. Possible pathways exploring this relationship follow.

6.5 Pathway Between Context and Harms: Socioeconomic Status

Researchers have recognized that there are concrete relationships between socioeconomic status and substance use; these are described below. Socioeconomic status is understood as "a measure of one's combined economic and social status" (Baker et al., 2014). Common proxy indicators are education, income, and occupation (Baker et al., 2014). While these are often related, they are not interchangeable.

Educational attainment appears to be associated with both mental health and substance use. Case and Deaton's important work in the US showed an increasing death rate from external causes, primarily suicide and drug and alcohol poisonings of the overdose crisis, among white non-Hispanics with a high school degree or less (Case & Deaton, 2015; 2017). Case and Deaton (2017) refer to deaths by suicide and poisoning as deaths of despair and propose American whites with low levels of education experience cumulative disadvantage in the labour market, marriage and child outcomes, and in health; they suggest these are driven by worsening labour market opportunities. While their work is perhaps among the most cited, relationships between lower educational attainment and drug-related harms have also been found in other works (Betz & Jones, 2018; Carpenter et al., 2017; Carriére et al., 2018; Geronimus et al., 2019; Pear et al., 2019). Similarly, decreasing mental health has occurred among men with lower educational attainment, especially during the recession in Spain and more generally in the US and Italy (Forbes & Krueger, 2019; Goldman et al., 2018; Moscone et al., 2016; Ruiz-Pérez et al., 2017).

Income is a commonly used indicator of socioeconomic status. Several studies have shown that a decrease in median income in a population and lower household income are associated with poorer mental health and increased substance use (Barbaglia et al., 2015; Burns, 2015; Cairncross et al., 2018; Carrière et al., 2018; Glei & Weinstein, 2019; Goldman et al., 2018; Pear et al., 2019) and this is more common in rural areas where median income is lower than in urban areas for certain subpopulations (Betz & Jones, 2018; King et al., 2014; Smith Mitchell, 2019). Occupation, which can be dependent on educational attainment and can define an individual's income, is also used to measure socioeconomic status. Studies have found that increases in the unemployment rate (Barbaglia et al., 2015; Betz & Jones, 2018; Brown & Wehby, 2019; Carpenter et al., 2017; Dom et al., 2016; Hollingsworth et al., 2017; Margerison-Zilko et al., 2016; Nagelhout et al., 2017; Pear et al., 2019; Wang et al., 2018), being unemployed (Carrière et al., 2018; Goldman et al., 2018; McCartney et al., 2019; Perlmutter et al., 2017; Rhee & Rosenheck, 2019; Ruiz-Pérez et al., 2017),

and job loss (Barbaglia et al., 2015; Dom et al., 2016) are associated with poorer mental health and increased substance use among subpopulations such as males and Caucasians, but there is much heterogeneity. When controlling for confounders, Ruhm (2019) found median household income and the unemployment rate to have very little to no association with drug-related deaths during the overdose crisis in the US, suggesting interventions addressing macro social and economic conditions are likely ineffective to mitigating crisis-related harms.

Betz and Jones (2018), in studying wage and employment growth and substance use at both aggregate and county levels, acknowledge the importance of studying aggregate data but note there is much heterogeneity within populations. Aggregate measures can mask important nuances of different subpopulations particularly as related to variations in patterns of substance use by gender, ethnicity, and socioeconomic status (Betz & Jones, 2018). In research on the relationships between deindustrialization, economic shifts and the overdose crisis, scholars found economic shifts as primarily driving men in implicated fields to economic insecurity, loss of purpose, and substance use (Baker, 2019; Case & Deaton, 2017; Keyes et al., 2014; McLean, 2016; Seltzer, 2020). Specific blue-collar industries (including manufacturing, agriculture, construction, utilities, mining, and transportation) and the service sector have been recognized as being heavily affected by both the financial and overdose crises in Canada and the US (Maguire et al., 2019; Monnat et al., 2019; Ruckert & Labonté, 2014; Selzter, 2020; Usalcas, 2011). In their qualitative work focusing on substance use in the construction industry, Flannery, Ajayi and Oyegoke (2019) similarly found construction workers use substances at work to cope with safety-related traumas and mental health and poor working conditions, to be “one of the boys”, and for reasons relating to the precarity of the construction industry including lacking job security, routine, appreciation, and protections. Through further understanding of socioeconomic status, we can begin to understand the possible relationship between macroeconomic conditions, economic shifts, and drug-related harms, though educational attainment, income, and/or occupation do not provide a complete picture.

6.6 What Socioeconomic Status Fails to Tell Us: Precarious Employment

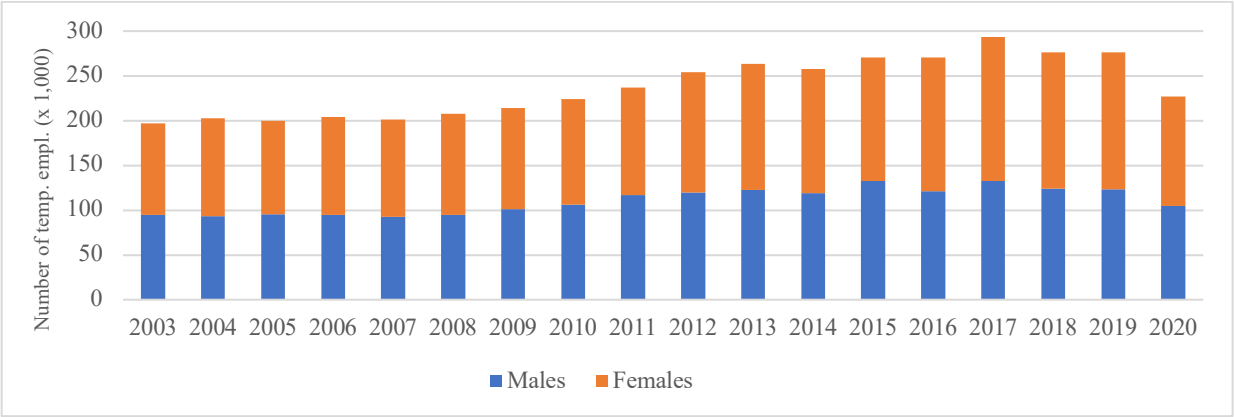
Julià et al. (2017) describe precariousness in employment as multidimensional, where the following features characterize it: temporariness, where workers are only employed for certain periods of time; disempowerment, where they have less bargaining power over employment conditions; vulnerability, where they are powerless to unfair treatment; insufficient wages, where

they are unable to cover daily living expenses; and limited entitlement to workplace rights and social security benefits. Fong (2018) states that precarity "relates to specific elements of a job, not the job itself," and because of the wide variety of circumstances that could be considered precarious, it is challenging both to define and study (p. 5). Because of these challenges, there are limited indicators to enable the study of precarity in Canada. Statistics Canada measures temporary employment, and we use this measure to inform the following discussion. Statistics Canada (2019b) describes temporary employment as having a "predetermined end date or as ending as soon as a specified project is completed", and this type of employment includes seasonal employment; term, or contract employment including work done through a temporary agency; casual employment; and other temporary work (Fuller & Vosko, 2008). Though measures of socioeconomic status can include occupation, the variation in features and types of employment are not considered.

Measures of precariousness in Canada, though limited, can be found in labour force data, which show increases in both part-time and temporary work arrangements in Canada (Peck et al., 2013). Between 2003 and 2019, numbers of individuals temporarily employed increased by nearly 80,000 in British Columbia (Figure 6.9). Further, there has been a general increase in numbers of temporary employees in British Columbia post-2008, a finding consistent with Peck, Theodore, and Brenner's (2013) claim that the process of neoliberalization morphed and accelerated after the financial crisis in the wake of global and national financial struggle. This trend is evident in Figure 6.10, where increases in temporary employment were apparent pre-2008, but were more substantive between 2008 and 2012. Since 2008 and particularly post-2012, changes in temporary employment are more pronounced than permanent, with fluctuations more frequent and extreme (Figure 6.10). Changes in numbers of those temporarily employed are also much sharper than among permanent employees, notably since 2008, and fluctuations in numbers of temporary employees are more frequent and extreme (Figure 6.10). These extremes are most evident after 2008, particularly post-2012 (Figure 6.10). More women are temporarily employed than men, and within fewer industries; but both groups experienced increases in the numbers of individuals temporarily employed until 2020 (Figures 6.9, 6.12, 6.13). In 2020, the number of temporary employees decreased (Figures 6.9, 6.10, 6.11), reflecting the economic shutdown of the COVID-19 pandemic, making visible the dramatic effects of this shutdown on temporary workers. Number

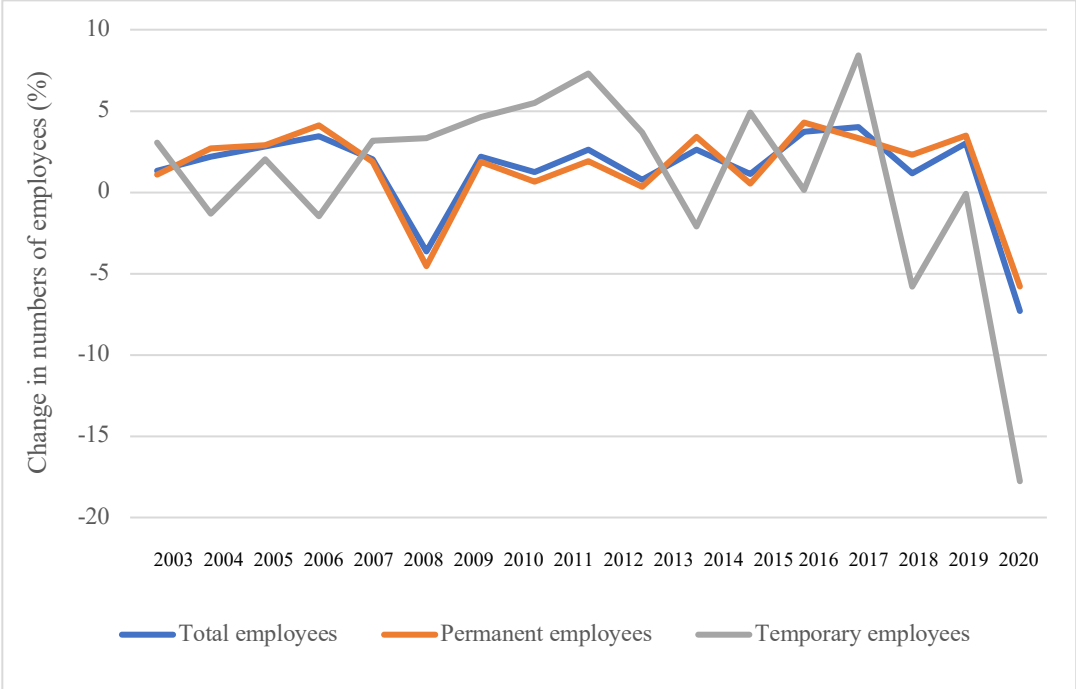
of permanently employed individuals dropped nearly 6% in 2020, compared to nearly 18% of the temporarily employed (Figure 6.10).

Figure 6.9 Number of Temporary Employees (x 1,000) by Gender, British Columbia, 2003-2020



Source: Statistics Canada. Table 14-10-0072-01 Job permanency (permanent and temporary) by industry, annual (x 1,000).

Figure 6.10 Change in Numbers of Employees (%) by Job Permanency, British Columbia, 2003-2020

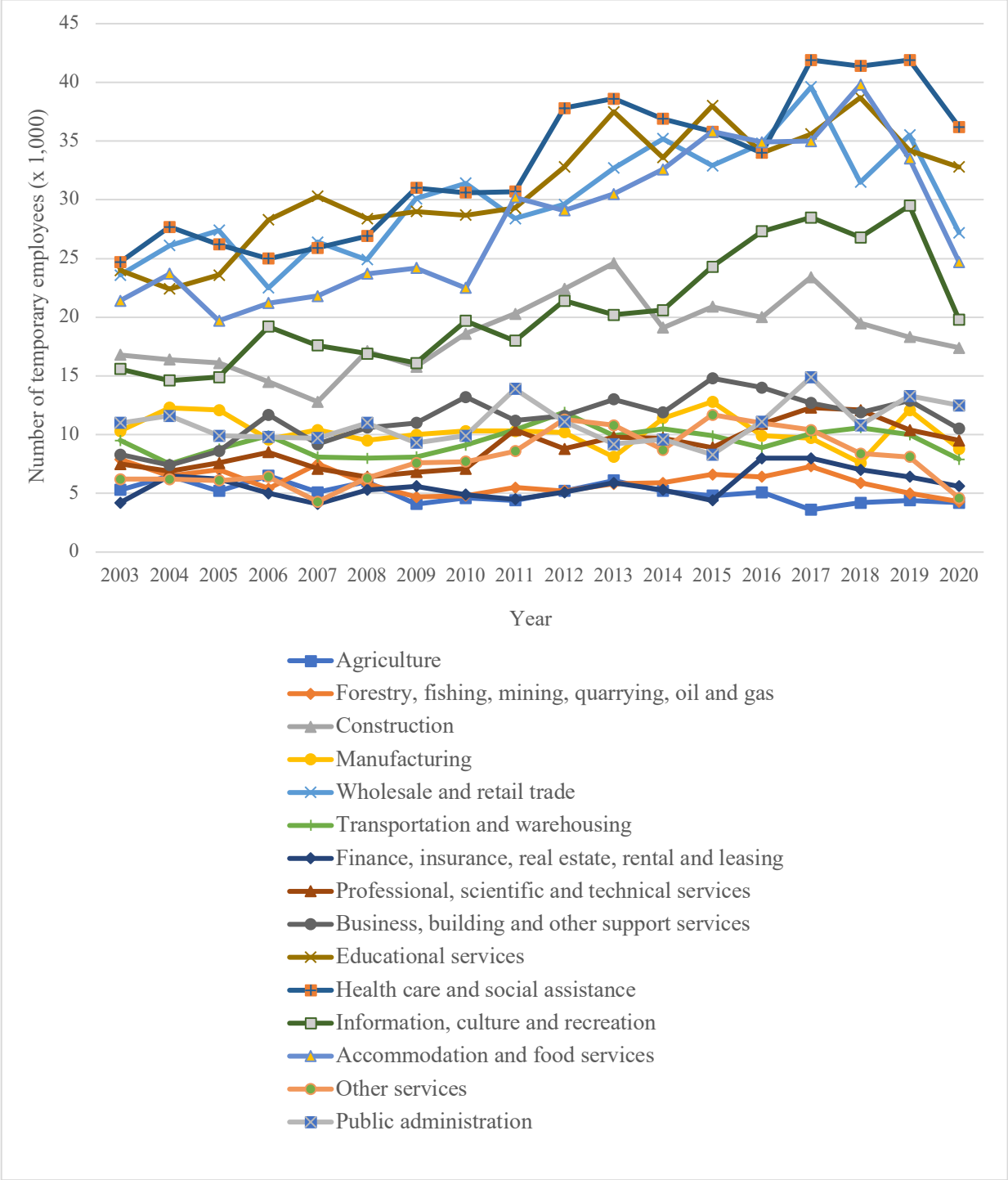


Source: Statistics Canada. Table 14-10-0072-01 Job permanency (permanent and temporary) by industry, annual (x 1,000).

There was a general increase in temporary employment across all industries between 2003 and 2019, less the agriculture; forestry, fishing, mining, quarrying, oil and gas; manufacturing; and

public administration industries which saw slight declines (Figure 6.11). The most substantial increases occurred in the educational services; health care and social assistance; information, culture, and recreation; and accommodation and food services industries; while the construction; wholesale and retail trade; transportation and warehousing; finance, insurance, real estate, rental and leasing; professional, scientific and technical services; business, building and other support services; and other services saw smaller increases (Figure 6.11). Expectedly, 2020 saw dramatic decreases, particularly for the accommodation and food services, information, culture and recreation, and wholesale and retail trade industries (Figure 6.11). Though the general trends show increases in temporary employment in British Columbia, Figures 6.10 and 6.11 additionally show many fluctuations throughout, which will be described in further detail in the next section. In 2019, six industries employed more than 71 percent of temporary workers throughout the period: health care and social assistance (15.2 percent); wholesale and retail trade (12.9 percent); educational services (12.4 percent); accommodation and food services (12.2 percent); information, culture, and recreation (10.7 percent); and construction (6.6 percent) (Figure 6.11).

Figure 6.11 Number of Temporary Employees (x 1,000) by Industry, Aged 15 Years and Over, British Columbia, 2003-2020



Source: Statistics Canada. Table 14-10-0072-01 Job permanency (permanent and temporary) by industry, annual (x 1,000).

Consistent with Fong's (2018) discussion on the challenges of measuring precarity, Chen and Mehdi's (2018) more recent study on job quality in Canada found job permanence, as seen in

Statistics Canada's temporary employment data, was only one feature of precarity but noted the presence of other features such as lower earnings, limited benefits and union protections, and powerlessness among workers, among others. Their study found trades, transportation, and hospitality industries had the lowest scores in terms of job quality dimensions relating to precarity and that temporary and atypical work arrangements commonly fared worse in job quality compared to more permanent arrangements (2018). Trades and transportation, which includes wholesale and retail trade, and warehousing and transportation industries, were associated with irregular scheduling, lower earnings, and fewer benefits, as well as less union protection and opportunity for training and providing input, whereas the hospitality industry was associated with irregular scheduling, lower earnings and benefits, and less union protection but provided opportunities for time off, training, and providing input (2018). While the construction industry did not score as low as trades and transportation and hospitality, it did have low scores in job permanence and security, receiving paid sick leave, irregular scheduling, and fewer opportunities for union protection and training (2018). Chen and Mehdi (2018) further found that those employed in agriculture, forestry, hunting, fishing, mining, quarrying, oil and gas extraction and utilities also scored low on job permanence and security, but these industries did relatively well in other measures of precarity.

Limited research on relationships between precarious employment and substance use exists but relationships between precarious employment and mental health have been well documented. Studies have shown that increased precariousness is related to poorer mental health outcomes (Bosmans et al., 2016; Canivet et al., 2016; Canivet et al., 2017; Cortès-Franch et al., 2018; Julià et al., 2017; Moscone et al., 2016; Ruiz et al., 2017; Ruiz-Pérez et al., 2017; Van Aerden et al., 2017; Watson & Osberg, 2017). In a qualitative study on this relationship, Bosmans et al. (2016) found powerlessness, lack of support, mistrust, and inequity are drivers of decreased mental health of workers in precarious working arrangements. There is, though, considerable overlap between industries with decreased job quality relating to precarity and industries whose employees are overdosing and dying in the overdose crisis. The trades and transport (including construction), sales and service, and natural resources and agriculture industries, as noted in the BC Coroners Service report, are the industries most affected by the crisis. These same industries are also characterized by higher levels of precarity, particularly relating to lacking job permanence and lower earnings. Though telling, examination of socioeconomic status and precarity does not reveal

the full picture as other determinants such as gender and ethnicity intersect with it to influence health outcomes.

6.7 Intersecting Pathways: Socioeconomic Status, Gender, Ethnicity, and the Overdose Crisis

Macroeconomic factors exacerbate already existing gender and ethnicity inequalities regarding employment. Both men and women engage in substance use or experience harms from substance use during times of economic downturn and in the ongoing overdose crisis, but men appear to experience higher rates (Betz & Jones, 2018; Brown & Wehby, 2019; Carpenter et al., 2017; Case & Deaton, 2015, 2017; Maguire et al., 2019; Modrek et al., 2013; Ruhm, 2019; Seltzer, 2020). Seltzer's (2020) quantitative analysis of macroeconomic conditions and the overdose epidemic in the US found strong associations between the decline of the manufacturing industry and drug-related mortality. Further, Seltzer (2020) suggests upstream intervention to reduce "persistent economic precarity" among American workers as an important structural intervention in reducing harms alongside accountability structures for pharmaceutical companies and more inclusive health policies (p. 14).

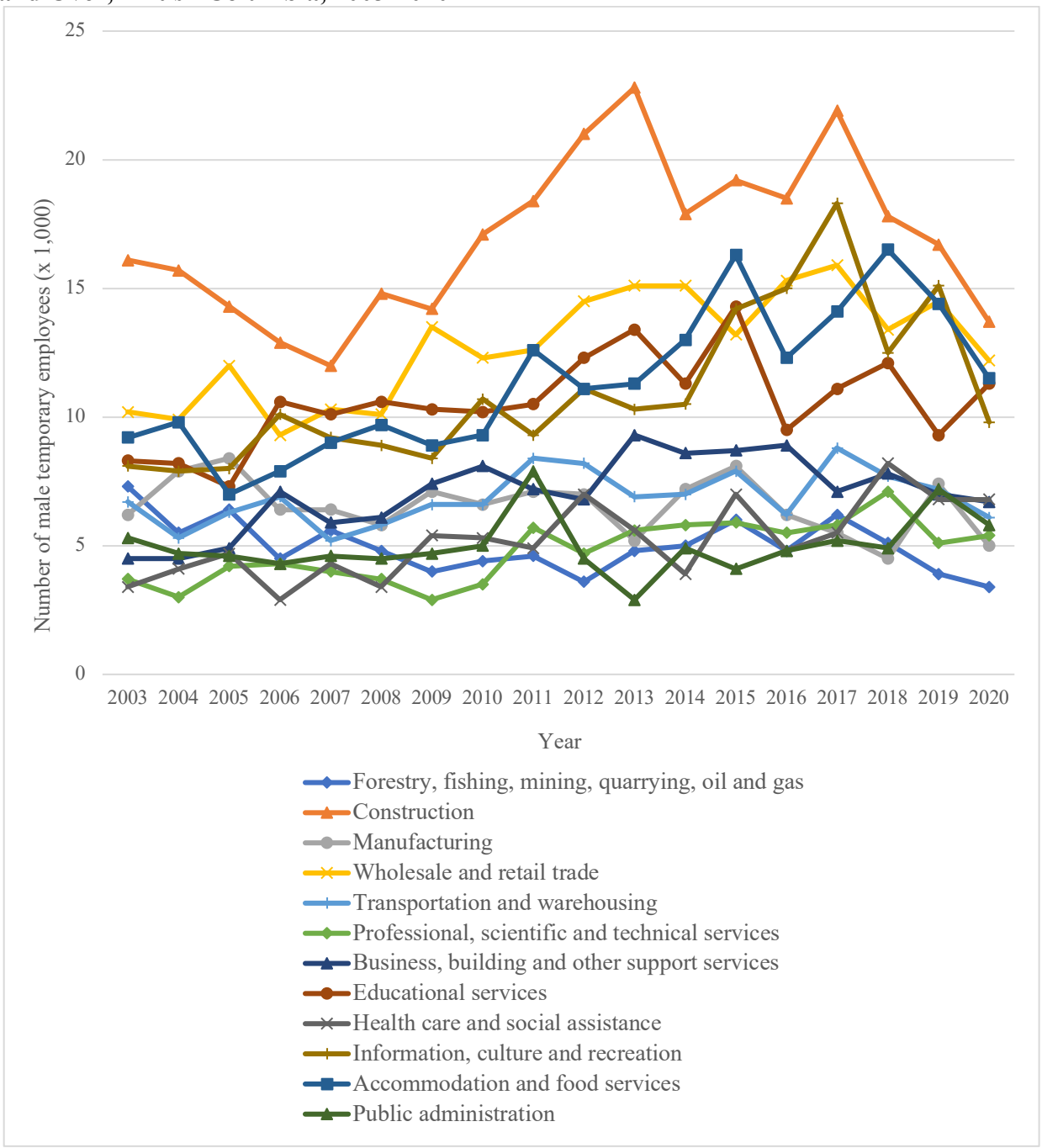
Similarly, both men and women experience mental health challenges in times of economic downturn. While research in Canada illustrated that men experience increased psychological distress during economic shocks in Canada (Watson & Osberg, 2017), research in Spain suggests both men and women self-reported poorer mental health in times of recession (Ruiz-Pérez et al., 2017), perhaps due to the severity of the effects of the recession experienced there. In one study of labour force participation in the US, Krueger identified that nearly half of men in the US who are out of the labour force self-reported poor mental health, and that many of these men were also using prescription opioids (2017). However, other research has found that females were more likely to report major depressive episodes and nonmedical use of prescription opioids concurrently (Fink et al., 2015), and the 2009 recession had a greater impact on women's physical and mental health (Wang et al., 2018). While some research has suggested that the effects of economic shocks, or in particular the recession following the 2007-08 financial crash, on mental health and substance use affects men and women in similar ways, most research has found that both greater morbidity and mortality associated with these macroeconomic conditions is experienced by men.

Baker (2019) offers a partial explanation for why men, particularly those in industries upended during the 2009 recession such as manufacturing, have been more affected by the overdose crisis. She suggests that social disorganization, such as that caused by deindustrialization, has destroyed both conventional social roles and the cultural scripts that underpin them. Loss of these social roles and cultural scripts, defined as the "conceptual systems that produce meaning, frame behaviour, and structure interaction" has working men in affected industries left behind both socially and economically (Baker, 2019). Similarly, the natural resource extraction and manufacturing industries in Canada, both directly affected by the recession, primarily employ men in their workforces (Statistics Canada, 2021c; 2021e). Thus, it is plausible that blue-collar working men in Canada are experiencing a similar loss.

In British Columbia, certain industries employ a majority of men and women temporarily (Figures 6.12, 6.13). Just over 60 percent of temporarily employed men were employed in five industries in 2019: construction (14.6 percent); information, culture, and recreation (13.2 percent); wholesale and retail trade (12.7 percent); accommodation and food services (12.6 percent); and educational services (8.1 percent). Each industry experienced increases in numbers of temporary employees throughout the period though it was the construction, accommodation and food service and information, culture and recreation industries that experienced the most dramatic ups and downs (Figure 6.12). Over 70 percent of temporarily employed women worked in four industries in 2019: health care and social assistance (24.7 percent); educational services (17.5 percent); wholesale and retail trade (14.8 percent); accommodation and food services (13.4 percent), each of which saw increases over the study period (Figure 6.13). Temporarily employed females in these four industries comprised the highest proportion of temporary workers in British Columbia. Numbers of temporary male and female employees dropped in nearly every industry in 2020, indicating the economic shift implicit in the COVID-19 shutdown. The most dramatic drops were among the information, culture and recreation, construction, accommodation and food services, manufacturing, and wholesale and retail trade industries for men; and among the accommodation and food services, health care and social assistance, and information, culture, and recreation industries for women (Figures 6.12, 6.13). Analysis of this temporary employment data suggests that there are certain industries that have been affected by economic shifts and that some of these, particularly the construction, accommodation and food service, and information, culture, and

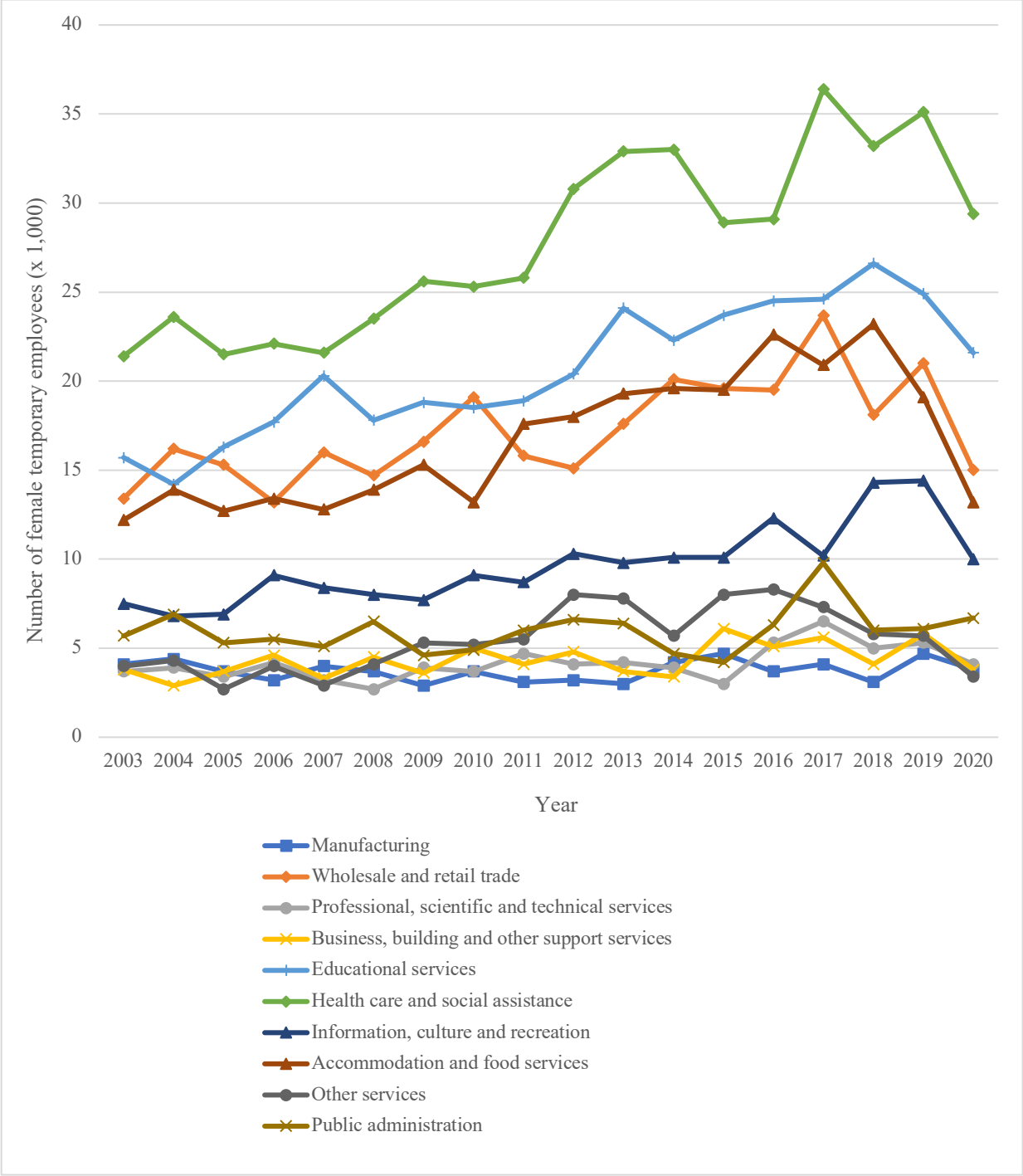
recreation industries, have been characterized by general increases in numbers of temporarily employed men and also dramatic fluctuation post-2008.

Figure 6.12 Number of Male Temporary Employees (x 1,000) by Industry, Aged 15 Years and Over, British Columbia, 2003-2020



Source: Statistics Canada. Table 14-10-0072-01 Job permanency (permanent and temporary) by industry, annual (x 1,000). Some industries excluded due to suppression of data to meet confidentiality requirements of the Statistics Act.

Figure 6.13 Number of Female Temporary Employees (x 1,000) by Industry, Aged 15 Years and Over, British Columbia, 2003-2020



Source: Statistics Canada. Table 14-10-0072-01 Job permanency (permanent and temporary) by industry, annual (x 1,000). Some industries excluded due to suppression of data to meet confidentiality requirements of the Statistics Act.

There is limited research in the Canadian context on the relationships between ethnicity and employment. Aboriginal populations are more likely than non-Aboriginal populations to have temporary employment and this population saw greater proportional increases in temporary employment (Usalcas, 2011). Further, studies on the impact of the Great Recession on Aboriginal populations in Canada by Lamb (2015) and Usalcas (2011) noted they were disproportionately affected by the economic downturn in terms of unemployment rates. Moreover, the recession lasted longer and was thus far deeper for Aboriginal populations (Usalcas, 2011). Fuller and Vosko's (2008) research demonstrates much heterogeneity in temporary employment by gender, race, and immigration status in Canada, but notes that contract employment is the least precarious of the temporary arrangements and casual work obtained through temporary employment agencies is the most precarious. Data released by Statistics Canada (2021b) on the impacts of COVID-19 show that the economic shutdown resulted in higher unemployment among Indigenous men and women (12 and 11 percent, respectively), compared to 8 percent among non-Indigenous men and women. The evidence of increased economic insecurity and struggle among Indigenous people is one of many negative impacts of colonization, systemic racism, ongoing social exclusion, and lack of self-determination, where they experience increased economic, social and substance use challenges compared to non-Indigenous (Collins et al., 2019; Firestone et al., 2015; Lavalley et al., 2018; Reading & Wien, 2009).

Consideration of gender and ethnicity reveals intersections in terms of substance use outcomes, socioeconomic status, and macroeconomic conditions. Several studies have shown that Whites, particularly men, are experiencing harms due to the overdose crisis in North America, and researchers in the US have linked this to macroeconomic conditions such as deindustrialization as described above (Betz & Jones, 2018; Case & Deaton, 2015, 2017; Collins et al., 2019; Geronimus et al., 2019; Hollingsworth et al., 2017; Maguire et al., 2019; Perlmutter et al., 2017; Seltzer, 2020; Wang et al., 2018). However, scholars note Indigenous people are also experiencing high rates of morbidity and mortality in the crisis (Carrière et al., 2018; Collins et al., 2019; Kerr, 2019), but there is less study relating this finding to macroeconomic conditions and employment. However, drug-related deaths statistics from British Columbia, Alberta, and Saskatchewan show an overrepresentation of First Nations people in overdose deaths as the crisis has continued (First Nations Health Authority, 2017, 2019; Government of Alberta, 2019a; Saskatchewan Coroners Service, 2021). Further, nuanced research exploring linkages between economic shifts, First

Nations or Indigenous status and substance use is needed in the Canadian context. Economic shifts, particularly to neoliberalization in the 1980s and the post-2008 financial crisis, have been described as 'leaving men behind' in the US manufacturing industry (Baker, 2019), and may be leaving behind Canadians, including working men and Indigenous populations in shifting industries. In the following section, considering this heterogeneity among those affected, we propose a hypothesis regarding the impacts of economic shifts on the overdose crisis in Canada and heed warning for the future given the major recent economic shifts experienced as part of the COVID-19 pandemic.

6.8 Neoliberalization and the Overdose Crisis in British Columbia

In the US, the relationship between the decline of the manufacturing industry in 2008 and the overdose crisis have been widely discussed (Burns, 2015; Case & Deaton, 2015, 2017; Keyes et al., 2014; McLean, 2016; Seltzer, 2020). Perhaps the US is not entirely unique in this regard, as the decline of the manufacturing industry also occurred in Canada post-2008, affecting males and Indigenous people disproportionately though not to the same extent (Usalcas, 2011). After 2008, another neoliberal economic shift towards heightened flexibilization began, and numbers of precariously employed individuals increased, though with fluctuations, year after year. This trend has been observed particularly in the construction, wholesale and retail trades, and accommodation and food service industries. Given what is known in the US context about the financial and overdose crises, it seems further research into the health effects of the 2008 crisis in the Canadian context is warranted. Further, the 2020 economic shutdown has had serious implications, particularly on the same industries affected post-2008 (Statistics Canada, 2021a), and the compounded effects of these macroeconomic conditions are likely to negatively affect the health and well-being of precariously employed workers in Canada.

In his most recent analysis, Ruhm (2019) found the relationship between aggregate unemployment rate data and drug-related deaths to be nearly non-existent after controlling for confounders, prompting him to suggest that "improvements in the economic and social conditions of disadvantaged groups, while desirable for other reasons, are unlikely to be the most effective means of addressing the fatal drug epidemic" (p. 40). Though it is not incorrect to suggest more intervention focusing directly on the immediate drug-using environment, such as harm reduction initiatives or the provision of a safe supply of drugs to reduce harms and deaths, his economic

analysis was limited to the variables of unemployment and poverty rates, median household income and home prices, and exposure to imports (2019). We conclude by proposing that flexibilization is perhaps one of the "missing" economic variables of which Ruhm writes, though to establish a measure or proxy of flexibilization requires additional study. These economic variables have been in play since before the emergence of the crisis, and there is limited research on the relationship between precarious employment and substance use; however, several studies have shown a relationship between precariousness and chronic stress and decreased mental health (Bosmans et al., 2016; Canivet et al., 2017; Canivet et al., 2016; Cortes-Franch et al., 2018; Julià et al., 2017; Moscone et al., 2016; Ruiz et al., 2017; Ruiz-Pérez et al., 2017; Van Aerden et al., 2017; Watson & Osberg, 2017), which are often considered pathways toward increased substance use or addiction.

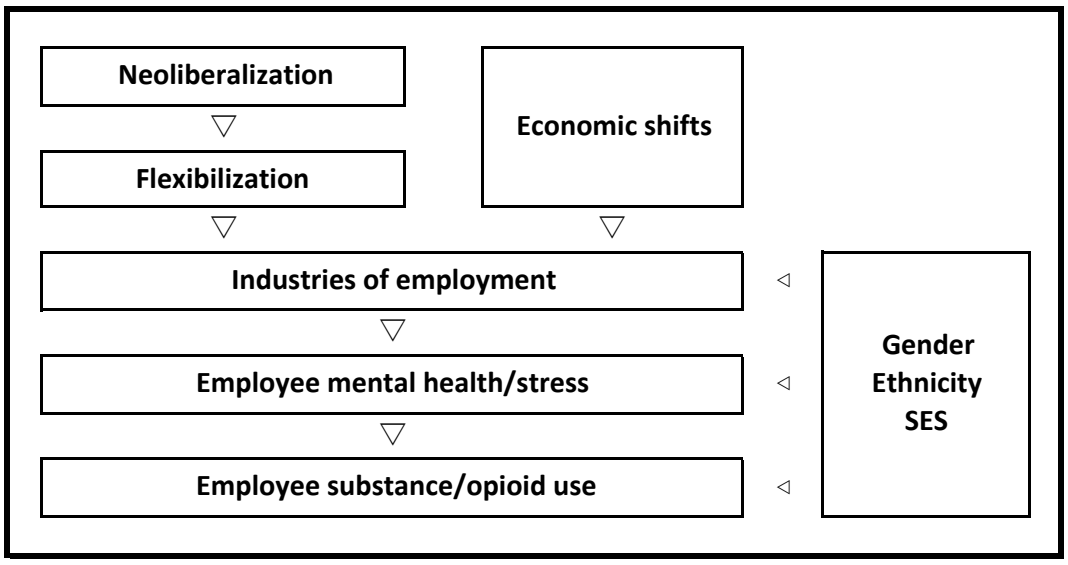
Following the work of Betz and Jones, there is a need to consider employment heterogeneity in attempting to understand the relationship between economic conditions and the overdose crisis. Heterogeneity among forms of employment (by industry and dimensions of precarity), gender, and ethnicity all appear to be important considerations. Both the provincial and local data suggest certain industries such as manufacturing, construction, wholesale and retail trade, accommodation and food services, and information, culture and recreation have been more prone to job insecurity and loss and unpredictability during the post-2008 economic shift, and it is within these same industries that higher rates of deaths by overdose are reflected in the BC Coroners Service data (British Columbia Coroners Service, 2018). These industries are characterized by higher levels of precarity due to temporary nature, uncertainty of future employment, limited employee protections, and lower wages (Chen & Mehdi, 2018). This finding resonates with other research in both Canada and the US, particularly Case and Deaton's (2017) theory of cumulative disadvantage where working men and others may be left behind amid a transitioning economy (Baker, 2019; Monnat et al., 2019; Ruckert & Labonté, 2014).

Gender and ethnicity are also important factors as there appear to be intersections between them and employment conditions. The industries identified above employ high numbers of men and women temporarily. Further, Aboriginal persons are more likely than non-Aboriginal persons to be temporarily employed and commonly work in the trades and transport and sales and service industries (Usalcas, 2011). Further study of the relationships between macroeconomic conditions,

the overdose crisis, and affected subpopulations such as working men and Indigenous populations is needed, particularly in relation to socioeconomic status, industry, and type of employment.

Upon consideration of these different factors, our exploratory analysis of these data suggests there may be nuanced economic influences on the contours of the overdose crisis in Canada related to the process of neoliberalization and economic shifts. It appears that the increased numbers of substance use-related deaths and harms cannot be attributed to economic decline itself. In this we concur with Ruhm; however, a more nuanced consideration of heterogeneity suggests multiple potential pathways between macroeconomic conditions and drug-related harm or death for those employed in industries vulnerable to economic shocks and/or those precariously employed including those who: a) lost employment in the wake of the financial crisis; b) lost employment in the wake of the financial crisis and have struggled to find permanent or secure employment in a job market with increasing precarity; or c) have struggled to find permanent or secure employment in a job market with increasing precarity post-2008. Further, we note consideration of socioeconomic status, gender and ethnicity is essential for understanding these pathways, as particular subpopulations appear to be at higher risk of drug-related harms. We have expanded on Figure 6.1 to include this emergent hypothesis (Figure 6.14).

Figure 6.14 Updated Suggested Pathway Between Neoliberalization, Work, and the Overdose Crisis



This research does not suggest that every person who is harmed or has died in the overdose crisis has experienced flexibilization or precarity; rather, in recognizing the heterogeneity and

different subpopulations of people affected, we suggest these possible pathways as worthy of additional scholarly endeavor and have proposed a theoretical framework for further investigating the links. Further, this investigation may provide valuable insight in further understanding the "hidden population" of people who are affected by the overdose crisis: those who are dying in private residences and not typically accessing mental health and addictions or harm reduction services in the community (British Columbia Coroners Service, 2018; Fraser Health, 2018). An additional related theme is that of prescription opioid use, which has been identified as part of the crisis and is plausibly linked to affected industries as they typically are more strenuous and physically demanding; examination of that phenomena is worthy but out of the scope of the current research.

An important question, now in the time of economic upheaval of 2020, is to what extent will neoliberalism mutate, and how will the process of neoliberalization shift as governments look to economic recovery? The data presented in this paper show the blue-collar and service industries have been prone to shifts since 2008 and are also the ones whose employees are overrepresented in overdose deaths among decedents employed at the time of their death. These industries have further been heavily disrupted in COVID-19, each recording significantly lower GDP in 2020 than the pre-pandemic time period (Statistics Canada, 2021a) and sharp decreases in numbers of temporarily employed workers (Figures 6.10, 6.11, 6.12, 6.13). Since the 1980s, economic downturns and shifts, much like the one within we currently are experiencing, result in government-led increased neoliberalization, further opening up of free markets, and reduction of protections and security for workers (Albo, 2010; Clark, 2002; Peck et al., 2013). These changes often take place at the expense of increased inequities, particularly with negative effects for those of lower social and economic standing experience (Navarro, 2000). Given what this shift has meant for the overdose crisis as it currently unfolds, it is not an exaggeration to suggest that this "business as usual" approach, if taken in the aftermath of COVID-19 economic shutdown, will be nothing short of deadly.

6.9 Conclusion

Thousands of Canadians are dying every year in the overdose crisis, revealing levels of drug use across the country that were previously not fully known or understood. With the advent of illicit fentanyl and its analogues in the drug market, more individuals are at risk of drug-related

harms. This paper has explored the impact of macroeconomic conditions on the crisis, with a particular focus on neoliberal economic shifts and the processes of flexibilization of employment. The findings suggest that atypical employment arrangements, or those that are temporary and/or precarious in nature, have a negative impact on individual mental health that can drive increased substance use. We have further built an argument that these conditions have created increased risk of drug-related harm for certain populations characterized by interrelated determinants of socioeconomic status, gender, and ethnicity such as men and Indigenous people in precarious employment positions. This paper is situated in a broader exploratory case study of the economic influences on the overdose crisis in Western Canada, offering complementary analysis to previous manuscripts where we described the inequitable trends of crisis-related deaths, particularly among working-age men, Indigenous people and those working in blue-collar or service industries,[31] and the economic risk environments contributing to crisis-related harms at both micro and macro levels in Western Canada.[32]

More nuanced research on the relationships between macroeconomic conditions, changing employment patterns and forms and the overdose crisis is needed. Additionally, we note the impact of the COVID-19 pandemic and subsequent economic shutdown as a major economic shift that will have ongoing impacts on people across the country, both in the proximal as people navigate the acute effects of the shutdown in their day-to-day living, as well as in the long-term as they face increased economic insecurity and governments plan for economic recovery. We have hypothesized the "business as usual" approach inherent in neoliberalization is driving crisis-related harms in Western Canada, and its continuation in the aftermath of the COVID-19 pandemic will only exacerbate them.

[31] See Chapter 4, Understanding the Contours of the Western Canadian Overdose Crisis: What Does the Publicly Available Data Tell Us?

[32] See Chapter 5, The "High Cost" of Living: Economic Risk Environments of the Western Canadian Overdose Crisis.

7. DISCUSSION, RECOMMENDATIONS, CONCLUSION & AFTERWORD

7.1 A Tale of Two Crises Revisited

I opened this dissertation introducing two crises: the Global Financial Crisis and subsequent Great Recession of 2007-08 and the illicit fentanyl-fuelled overdose crisis that took hold in 2015 and has escalated to unprecedented numbers in the years since. At the outset, I described these crises as seemingly unrelated, though I suggest, through exploration undertaken in this study, structural interrelations may exist between and connect them. In this section I elaborate on these potential linkages, first discussing the Global Financial Crisis and subsequent Great Recession as a structural precursor responsible for a "mutation" of neoliberalism and creating conditions, such as flexibilization, driving the inequitable distribution of overdose deaths in Western Canada. Second, I discuss the structural conditions which enabled the emergence of the prescription opioid crisis and reflect on how these have coalesced with the recent neoliberal mutation to further create risk and drive deaths amid the overdose crisis. In these sections, I highlight plausible pathways between structural drivers and harms amid the overdose crisis and identify two economically-derived gradients as they relate to the crisis, informed by the explorations of data and data sources in this dissertation. Next, I consider strengths and challenges in this case study of economic influences of the overdose crisis in Western Canada, particularly as they relate to the exploratory research approach and methods and data sources used. I then describe my proposed policy and research recommendations, highlighting shortcomings of current approaches and how they perpetuate existing structural challenges and inequities. Finally, I share my concluding remarks and afterword, reflecting on the relevance of this work in the era of the COVID-19 pandemic.

7.2 Mutating Neoliberalism: Creating Risk and Driving the Overdose Crisis

The 2008 Great Recession prompted an economic shift – rather, a "mutation" – to use McNally's language – of the neoliberal capitalist economy where the process of neoliberalization was actively re-constituted and re-calibrated in response to overheating of the housing and financial markets (Peck et al., 2013). In Chapter 6, I describe one potential avenue for understanding the implications of flexibilization of work since 2008 in British Columbia, particularly evident in blue-collar and service industries, and explore if and how this shift may

have created an increased risk of drug-related harm among "flexibilized" employees amid the overdose crisis.

Inherent in a capitalist economy is class division between capitalists and labour, and a gradient of health and well-being similarly exists along these lines where those with higher socioeconomic status tend to have better health than those whose socioeconomic status is lower (Bambra, 2012, 2016; Schrecker, 2016). In Chapter 4, I presented my analysis of publicly available crisis-related data, and a similar gradient began to take shape: first, a distinction between those who are employed and unemployed, where the unemployed make up a majority of crisis-related deaths in British Columbia; and second, a distinction where those in the most precarious industries make up the majority of crisis-related deaths among the employed. Further, the gap between the unemployed and precariously employed is surprisingly small with unemployed persons making up just over half of deaths in the sample presented in Chapter 4 (51 percent and 59 percent in Kelowna and Nanaimo, BC, respectively), and between one-third and one-half of deaths are from the increasingly precarious trades, natural resources and food and accommodation industries (44 percent and 32 percent in Kelowna and Nanaimo, BC, respectively). Because of the multidimensional nature of and challenges in measuring precarious employment (Fong, 2018), it is not clear if some features of it are more instrumental in creating risk of mental health and addictions in these industries. However, based on this exploratory observation, I suggest that mutating neoliberalism not only maintains and upholds inequitable disparities between the rich and poor but also further fragments the working population, creating inequitable disparities within and between workers with different working arrangements. Here, those working in more precarious industries could be at increased risk of overdose or death. Data limitations prohibit a more fulsome exploration of this idea of a gradient, but this initial work suggests its merit.

The synthesis and analysis of publicly available crisis-related and economic data and qualitative data suggest two pathways connecting increased flexibilization of employment and drug-related harms in the overdose crisis: 1) the psychosocial pathway including creation of risk through increased stress and mental health challenges among employees in mutating industries, and 2) the material pathway including inequitable access to social protections via employment-based health benefits (which I discuss in Section 7.3). Relationships between shifting industries and increased substance use and related harms among employees are evident in the literature (Carpenter et al., 2017; Hollingsworth et al., 2017; Ruhm, 2015). This is most recently visible in

the US where the decline of the manufacturing industry is driving the country's own overdose crisis (Maguire et al. 2019; Monnat et al., 2019; Quinones, 2015; Seltzer, 2020). Similarly, evidence exists linking precarious employment to increased stress and mental health challenges (Bosmans et al., 2016; Canivet et al., 2016; Canivet et al., 2017; Cortès-Franch et al., 2018; Julià et al., 2017; Moscone et al., 2016; Ruiz et al., 2017; Ruiz-Pérez et al., 2017; Van Aerden et al., 2017; Watson & Osberg, 2017). In Chapter 5, comments from key informants in each site provided support for this material pathway; though precarious employment was not named, participants identified other features of precarity as economic influences of the crisis driving mental health and substance use: socioeconomic pressures driven by job insecurity, and insufficient wages and employee protections. It is from this evidence that I suggest linkages between structural drivers and the overdose crisis, and I suggest features of neoliberalization, including flexibilization, are the unnamed structural drivers implicit in the distribution of crisis-related deaths, and require further study.

Though flexibilization was identified as a potential driver of overdose deaths in Western Canada, I discuss in Chapters 4 and 6 how an individual's employment status, whether flexibilized or not, intersects with other individual features such as gender and ethnicity to create uneven contours of the crisis: namely, the overrepresentation of working-aged males and First Nations people in the death data. In other words, flexibilization does not operate in a linear way; rather employment status, gender, and ethnicity can intersect in various formations, and identified subpopulations appear to be at higher risk of harm in this crisis as consistent with the work of Collins et al. (2019). I begin to postulate different pathways between structural drivers of the crisis and harms experienced but recognize these different formations likely have both unique and overlapping pathways and are influenced by psychosocial factors. For example, socioeconomic pressures and prescription opioids are described by interviewees in Chapter 5; though both may be applicable to different formations, the extent to which and how dis/similar these pathways are is out of the scope of this dissertation. Available evidence illuminates some dissimilarities: Baker (2019) describes the loss of cultural scripts, primarily economically determined, among blue-collar men in the US manufacturing industry and the impact of economically derived identity on men when the economy – to use McNally's language – "mutates" and they are left behind. Friedman et al. (2020) speak the complex and connected nature of the overdose and prescription opioid crises, describing the role of the pharmaceutical industry, social and economic despair driven by

deindustrialization, and increases in physical and psychic pain (notably in workplaces), noting them each as individual challenges but also as reflective of a broader "one-sided class war" where neoliberalization has eroded social and labour protections for people regardless of employment status (p. 8).

Relating to the overrepresentation of Indigenous people in the overdose crisis data, a political economy of health perspective draws our attention to the historical and contemporary context of colonization, the legacy of residential schools and the 60s Scoop, the ongoing pervasive colonial practices underpinning our current political, social, and economic order, and the systemic racism imbued in Canadian political and economic systems. Colonization has been described by Indigenous health scholars as a structural determinant of Indigenous populations' health (Assembly of First Nations & Thunderbird Partnership Foundation, 2011; Communications, Alliances and Networks & Interagency Coalition on AIDS Development, 2019; Reading & Wien, 2009), and this dissertation shows preliminary support for the syndemic nature of both colonization and neoliberalization as separate, but overlapping and mutually enhancing, structural determinants of the overrepresentation of crisis-related deaths among Indigenous populations in Canada. The resultant economic dispossession of Indigenous people in Canada further demands significant upstream interventions to meaningfully reduce inequities. Despite ongoing evidence of disproportionate negative health and wellbeing outcomes occurring among Indigenous people, particularly in substance use (Assembly of First Nations, National Native Addictions Partnership Foundation & Health Canada, 2011; Firestone et al., 2015; Lavalley et al., 2018), and the 94 calls to action to improve wellbeing by the Truth and Reconciliation Commission of Canada (2015), our work suggests the need for additional and immediate upstream intervention addressing systemic racism and structural violence towards Indigenous populations in Canada.

7.3 Prescription Opioids: Compounded Effects of Neoliberalization via Employment-Based Health Benefits

In Chapter 5, I presented economic risk environments of the overdose crisis for each site and for Western Canada as a whole, where prescription opioids were described by key informants as contributing to the emergence of the crisis in each locale. Prescription opioids were also viewed as an ongoing challenge, still causing harms despite the attribution of illicit fentanyl to the majority of crisis deaths as shown in Chapter 4. Participants echoed evidence from the US (Quinones, 2015;

Van Zee, 2009), describing the role of Big Pharma, including Purdue Pharma, in initiating the overdose crisis through dangerous and unethical promotion of opioids to address chronic and acute pain while generating substantial profits for the corporation and its owners.

The freedom of corporations such as Purdue Pharma to unethically disseminate false information and promote unsafe prescribing of opioid painkillers is reflective of glaring shortcomings in Health Canada's *Food and Drugs Act* and *Food and Drug Regulations*, two pieces of legislation intended to establish standards of safety and quality of all food and drugs sold in the country (Government of Canada, 2008). The failures of these national regulatory systems to protect the health of Canadians from risk of misuse of or addiction to opioid painkillers suggests regulatory agencies need to implement adequate controls over drug promotion to strengthen their effectiveness (Lexchin, 2017; Lexchin & Kohler, 2011). The freedom of Big Pharma and the shortcomings of regulatory bodies are reflective of two features of a capitalist system: privatization and deregulation (Albo, 2010). Simply put, the private ownership of a public health good and the failure of government regulatory bodies to establish safety and accountability are implicit in the rise of the prescription opioid epidemic. In recognizing that this epidemic emerged in the era of neoliberal capitalism, I suggest capitalist structures as foundational to establishing the "perfect storm" of conditions to create the crisis. The degree to which neoliberalization of these structures influenced the breadth of the crisis is beyond the scope of this dissertation though it is not far-fetched to hypothesize that increased neoliberalization, particularly as it relates to privatization and deregulation of prescription drugs, is correlated with increased opioid-related harms. Further study of this relationship is warranted.

My analysis of key informant interviews in each site revealed the influence of flexibilization on access to prescription opioids and pain management practices in the health care system more generally. In Chapter 5, participants noted opioid prescriptions are a commonly used tool by physicians to address pain because it is often the only tool they have. Participants described inequitable access to effective and holistic pain management services in Western Canada where other effective pain management tools such as physiotherapy, occupational therapy, acupuncture, yoga, massage, and psychology are beyond the scope of a general practitioner's practice and typically only available to individuals with the financial supports to access them. Here I postulate the existence of a second economically-derived gradient relating to the overdose crisis: inequitable

access to pain management and other health services via practice of employment-based health and social protection benefits.

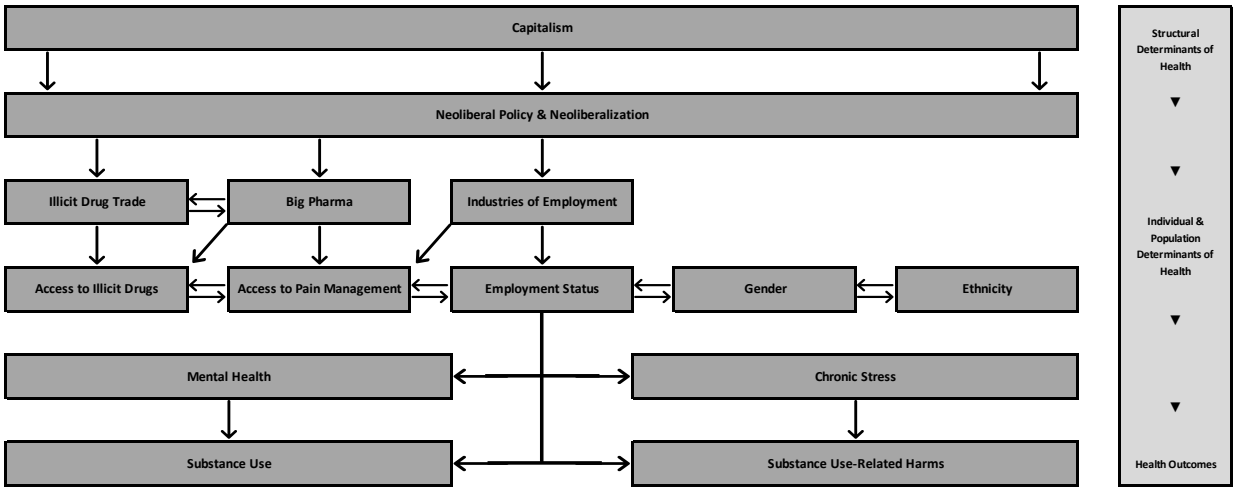
My findings in Chapter 5 revealed inequitable access to pain management services through employment-based benefits via three pathways: 1) not all health services, particularly mental health services, are publicly accessible, creating extra barriers for people without workplace health benefits; 2) not all employers offer health benefits to their employees; and 3) there are inconsistencies in what health services are covered by different benefits packages, meaning not everyone who has access to health benefits has coverage of all types of therapies. These inequities are tiered – and where a gradient emerges – with some workers afforded the ability to access a wide range of health services, but others with fewer or no options at all. Precariously employed workers have limited entitlement to social security benefits (Julià et al., 2017), an important dimension of precarity (Fong, 2018). Further, access to health benefits is much lower than average among workers in the hospitality industry and some blue-collar occupations (Chen & Mehdi, 2018). Those working in the construction and manufacturing industries tend to have health benefits with their work but to a lesser extent than those in white-collar occupations (Chen & Mehdi, 2018). Further examination of relationships between working arrangement, industry of employment, and access to pain management services is thus also warranted, particularly when considering the physically demanding and strenuous nature of many blue-collar jobs, the linkages between working-aged men not in the labour force using prescription opioids (as highlighted by Krueger, 2017), and the overrepresentation of blue-collar workers in overdose deaths in North America.

Based on the exploratory analysis presented here, I suggest increased flexibilization of employment, particularly in the industries highlighted in Chapter 6, may be driving inequities among the employed, where flexibilized workers in precarious industries have more access to services than those who are unemployed but less access than those with more secure arrangements. The limited availability of pain management tools beyond prescription opioids in a physician's toolbox may further increase reliance on them by both doctor and patient, particularly if the patient is precariously employed, has limited workplace benefits, and/or has limited access to other pain management services.

7.3.1 An Emergent Framework to Guide Further Study

The strength of exploratory studies is to be found in their capacity to generate informed hunches, created here through the assemblage of different data sources and informing future links of study (Stebbins, 1992). This study began to generate pathways worthy of additional inquiry, described in both Chapter 6 and sections 7.2 and 7.3 here. Figure 7.1 is an overarching framework that may be useful for this purpose, offering suggestions for additional links of study on the potential relationship between structural determinants, including neoliberalization, and the overdose crisis.

Figure 7.1 Suggested Theoretical Framework of Structural Determinants of the Overdose Crisis



Source: Author.

The framework in Figure 7.1 illuminates the structural determinants that "shape the rules of the game" (Peck et al., 2013, p. 1096). In other words, the capitalist structure within which we live, work, and play organizes our daily lives, offering a materialist edifice informing the values and priorities of institutions and actors who function within, including governments, businesses, and people. The shift to neoliberal capitalism, as described in Section 2.2 of this dissertation, further refined these rules of the game, advancing the liberal ideals of the free market, economic growth, and individualism via the tenets of flexibilization, deregulation, privatization, deunionization, and financialization (Albo, 2010). My data syntheses and analyses in this exploratory case study suggest these rules influenced the overdose crisis by opening up advancements in the illicit drug trade, freeing up regulatory and decision-making processes for the pharmaceutical industry, and creating employment-related risk among the precariously and

unemployed in Western Canada. Further, this framework captures my exploration of employment status and the overdose crisis where I have suggested socioeconomic pressures and access to pain management are influenced by an individual's employment status and arrangement in conjunction with one's gender and ethnicity (as described in Chapter 5). More specifically, I suggest individuals who are precariously employed or without employment experience greater socioeconomic pressures and have fewer options for suitable physical and psychic pain management, thus potentially driving higher incidence of mental health challenges, chronic stress, substance use and related harms. This suggestion is supported by publicly available data that I have collected and synthesized in this dissertation, showing high proportions of overdose deaths among both the unemployed and employed (as described in Chapter 4), and trends toward increased flexibilized employment. Further, regarding employment status, the publicly available data and literature offer additional plausibility of influence, where blue-collar and service industries are overrepresented in decedents' industries of employment data, have experienced increases in flexible working arrangements since 2008 as reflected in employment data, and are identified in the literature as industries characterized by increased precarity (as described in Chapter 6). The contextual synthesis and analysis employed in this dissertation has resulted in the development of this framework suggesting possible pathways between structural determinants and the overdose crisis, also elucidating other future "links" in the chains of study as is characteristic in exploratory research (Stebbins, 1992).

7.4 Understanding Structural Drivers: Lessons Learned from Conducting Exploratory Case Study Research

I conducted this study using an exploratory case study research approach. Exploratory research is an important first step in new fields of inquiry, creating a landscape of knowledge to generate hypotheses or frameworks informing future study in lieu of making claims of relationship between variables (Stebbins, 1992; Yin, 2009). The contextual synthesis and analysis (CSA) broadly guiding this research allowed me to create this landscape, each research question purporting a different source of data to collect and synthesize to illustrate the economic contours and context of the overdose crisis. Simultaneous to creating this landscape of knowledge, the various analyses of data also enabled my development of two hypotheses and a theoretical

framework, a strength of exploratory research with novel next steps informed by the crystallization of the different data (Stebbins, 1992; Yin, 2009).

Further, exploratory research fits well with a case study research approach (Gerring, 2004; Ruddin, 2006; Yin, 2009). The "case" under scrutiny in this research is the economic context of the overdose crisis in Western Canada. With very little research in this field in the Canadian context and mounting calls for improved understanding of the context and structural drivers (Dasgupta et al., 2018; Kerr, 2019), the flexibility and yield of case study were effective and useful, allowing me to collect different sources of data and combine them to better explore and describe the economic context and potential economic influences of the crisis. Due to the exploratory nature of this study, I offer a descriptive view of the economic influences and potential structural drivers of the crisis but recognize the need for further research to better understand these relationships. In this section, I describe the strengths and limitations of the data sources used, as well as the utility in combining them to answer the research questions guiding this study.

A strength of this case study research is its multijurisdictional and multilevel nature, the collection, combining and sequencing of which allowed me to get a more complete picture of the crisis and its economic context. Through the consideration of the three data sources used together, in conjunction with evidence from the literature and driven by my use of political economy, I was able to: 1) depict trends of deaths locally by socioeconomic descriptors, illuminating patterns within and across sites to show inequities by gender, Indigenous status, employment status, and industry of employment (and using place-based research to incite further study of large scale influences, as described by Peck et al. (2013)); 2) depict macroeconomic provincial and local trends before and during the period of the crisis, and contrast these findings with the literature to begin inferring economic influences affecting the crisis in Western Canada; 3) describe potential pathways connecting macroeconomic influences to local realities of the crisis via rich qualitative data obtained through key informant interviews in each site; and 4) suggest a theoretical framework, posit gradients of crisis-related harms by employment status, and foster hypotheses of future study which emerged when data are combined. Guided by a political economy of health lens and the iterative qualitative process, I was able to synthesize the data to paint a rich contextual picture of the economic context of the overdose crisis in Western Canada. For the remainder of this section, I will share reflections on the different data sources used and considerations for future study of structural drivers of the crisis.

In Chapter 4, I relied on publicly available data to show patterns of crisis-related deaths in each site. The accessibility and depiction of the data in this chapter are its strengths, allowing me to show inequitable trends of deaths in this crisis, revealing gradients by decedents' employment status as described in 7.2 and 7.3, and initiating further exploration of structural drivers creating these inequities. Though the analysis of publicly available health data allowed preliminary exploration of economic influences of the crisis, some limitations are worth noting. First, the multijurisdictional nature of the project meant crisis-related data were collected from different reporting bodies in each province. As such, there are inconsistencies in collection and reporting, including British Columbia's reporting of illicit drug toxicity deaths compared to Saskatchewan and Alberta's reporting on deaths in both licit and illicit circumstances without distinction, and different reporting standards on First Nations crisis-related deaths. Further, a lack of data on decedents' economic characteristics (including employment status, industry of employment, income, and education) is apparent across the sites, with only two reports including some breakdown and doing so for smaller samples of total decedents in British Columbia and Alberta. Decedents' economic positions can help identify patterns of death and illuminate structural drivers; however, this is made challenging through inconsistencies in reporting and a general lack of publicly available disaggregated economic data in these government reports.

My analysis of key informant interview data in Chapter 5 identified social, political, and economic contextual influences on the crisis in each site. Further, this analysis shed light on the multiple nonlinear pathways linking determinants of the crisis. Interviews with people with lived and living experience of substance use, particularly in the era of the overdose crisis, are missing in this analysis, a criticism often levied at researchers and policymakers in this field (Canadian HIV Legal Network, International HIV/AIDS Alliance & Open Society Institute, 2008). Though lived and living experience was not specified in the inclusion criteria when recruiting participants, some participants disclosed it in the interviews. Interviews with people with such experience have been identified as an essential component of building risk environments (Rhodes, 2009), and doing so with a political economy of health lens would offer clearer insights on the economic influences on people who use drugs amid the crisis. I attempted to rectify this shortcoming by employing an advisor with lived and living experience to review the manuscripts in this dissertation; however, due to limited financial resources and COVID-19-related challenges, only one of three manuscripts has been reviewed at the time of writing.

I gathered publicly available macroeconomic data for Chapter 6, sharing similar strengths with the data shown in Chapter 4 since it is easily accessible and graphically represented to illuminate macroeconomic trends in the pre- and current crisis period. An additional strength of this data source is that to date macroeconomic data related to substance use in the Canadian context have not been systematically compiled from different sources, and thus its inclusion provides compelling and novel findings that are underexplored and worthy of future inquiry. There are limitations to note pertaining to the data I used to show flexibilization and precarious employment. Flexibilization of employment is the increasing ability of management to deploy labour freely and is inclusive of a variety of working arrangements: part-time, seasonal, contract and temporary work (Albo, 2010). I relied on temporary employment data from Statistics Canada as an indicator of flexibilization, and though this may be inclusive of seasonal and contract working arrangements, it is not a proxy for the entire scope of flexible employment and different pathways for working arrangements are possible. Further, temporariness is one feature of precarious employment, though the multidimensional nature of precarity means not all precarious workers are temporarily employed and other features can also characterize it, including disempowerment of workers and less bargaining power, lower wages, and/or limited social security benefits (Fong, 2018; Julià et al., 2017). Lower wages and limited worker protections and benefits were among the pathways revealed in Chapters 5 and 6, and additional research on these are future "links" in the chain of study of the relationship between structural determinants and the overdose crisis. Fong (2018) writes that the multidimensional nature of precarity makes it challenging to capture and study the full breadth of precarity in Canada, and I begin to shed light on potential connections between it and the overdose crisis while recognizing the challenge and complexity of accurately capturing flexibilization given these limitations. Like the distinctive working arrangements noted above, different dimensions (and combinations of dimensions) of precarity are likely to influence an individual's pathway, though data limitations inhibit full understanding. Though linkages between temporary employment and the crisis are evident, additional study on the other features of flexible and precarious employment would further illuminate potential economic pathways.

The three manuscripts of this dissertation each focused on a particular data source, each aligned with Rhodes' (2009) scholarly suggestions of important modes of inquiry to better understand environmental influences on substance-related harms: social epidemiology, qualitative inquiry, and political economy. Study of environmental drivers is oft critiqued for its focus on

large-scale systems, inadequacies in discerning differential impacts of structural drivers, and ignoring individual agency or painting individuals as passive (Rhodes, 2009). In conducting this research using multiple data sources, I attempted to counter these criticisms: situating the macroeconomic with the local, presenting potential pathways connecting them, illuminating the differential and inequitable distribution of crisis-related deaths, and including voices of professional and personal experience. I analyze and present these different data sources in this dissertation where each source reveals important insights on its own and, when combined, they reveal a crystallized, contextually rich, and broad descriptive look at the economic dimension of the overdose crisis in Western Canada. Here, the combining of different sources of data shows a whole that is greater than the sum of its parts, where the taking the manuscripts together offers a more robust proposed theoretical framework, additional informed hypotheses for future *links* within a general *chain of study* (Stebbins, 1992) as highlighted in this chapter.

7.5 Recommendations

The following recommendations are made based on the research findings and suggestions from research participants during interviews.

7.5.1 Recommendations for Research

I make the following recommendations for research "links" amid "chains of study" on the relationship between structural determinants and the overdose crisis. Implicit in these suggestions are studies including people with lived/living experience of substance use and related harms and with focus on structural and economic determinants of substance use.

- Research on differentiated pathways and outcomes related to mental health and substance use by individual's employment status (full-time permanently employed, unemployed, or precariously employed):
    - Research on differentiated pathways and outcomes related to mental health and substance use by dimensions of precarious employment.
    - Research on the relationships between work, prescription opioids, and access to employment-based health benefits, making more visible the pathways between structural determinants, access to pain management and substance use.
    - Qualitative research focusing on the economic experiences of people with lived/living experience of substance use, employed in vulnerable industries, and

across different working arrangements is needed to further understand pathways between macroeconomic context and individual experiences.

    - Intersectional research on pathways to and experiences of mental health and substance use, considerate of gender, ethnicity, and the different dimensions of socioeconomic status (income, education, employment, wealth; as well as the dimensions of employment [full-time permanently employed, unemployed, or precariously employed]).
        - Research examining the overrepresentation of Indigenous women in crisis-related harms compared to non-Indigenous women, with attention to the role of Indigenous identity and socioeconomic status.
    - Life-course or longitudinal research highlighting differentiated pathways to and experiences of mental health, substance use and related harms, by various dimensions of socioeconomic status.
    - Research on the economic positions of decedents of the overdose crisis revealing the inequitable distribution of overdose deaths and should be further stratified by province/geographic area to reflect variances in regional economies and people affected.
- Research on differentiated pathways between macroeconomic shifts, affected industries of employment, and health and well-being outcomes of affected workers, particularly regarding chronic stress, mental health, substance use and related harms.
    - Notably among blue-collar employees and industries.
- Research on the illicit drug trade including its distribution routes between international and local locations, its reactivity to the global licit market economy, and connections with the prescription drug supply.
- Research on the influence of Big Pharma on the crisis in Western Canada and beyond:
    - The privatized nature of the industry and the impacts of this on the crisis and related harms.
    - The regulatory environment within which Big Pharma operates and the impacts of this on the crisis and related harms.
- Research on the unique crisis in Saskatchewan, where higher numbers of First Nations people are affected, and non-fentanyl opioids make up the majority of drug-related deaths.

- Risk environment research:
    - On other types of environments (social, political, geographic, and other economic environments).
    - On the macroeconomic risk environment in other sites to support or refine the theoretical framework presented in 7.3.1.
- Further research on the relationships between other macro-economic features implicit in neoliberalization, including flexibilization but also privatization, de-unionization, deregulation, decentralization and financialization, and negative health outcomes (including substance use, addictions, overdose, death, other deaths of despair, among others) to illuminate new pathways between the structural determinants and individual- and population-level health outcomes and also potential new indicators of measurement beyond typical macroeconomic indicators of gross domestic product, unemployment, and median household income.
- Research on practices to better understand and capture flexibilization and precarity among the Canadian workforce, including the multiple dimensions that characterize each, will facilitate future study of precarious and other work arrangements. Clearer practices and understanding will allow for additional study of differential impacts and highlight additional pathways between structural drivers and individual and population health outcomes.
- Research on the nature of the relationships between colonization and neoliberalization that extend understandings of the disproportionate effects of the crisis on Indigenous peoples; such research should explore whether and how such syndemic 'causes of the causes' can be intervened upon.

7.5.2 Recommendations for Policy

I offer the following policy recommendations, generally focused on structural and preventative interventions, better data collection and sharing, and evidence-based and equitable mental health and substance use policy and programming. The Government of Canada has increased investment in reactionary responses to the overdose crisis, boosting access to harm reduction and treatment services (Government of Canada, 2017; 2021b); however, with the crisis ongoing and worsened in the time of COVID-19, it is clear access to these services remains limited. Increased investment in these services is recommended across government levels, with particular

focus on using evidence-based best practices and addressing inequitable access to these services among priority populations such as working-aged men and First Nations people, consistent with the recommendations of Hyshka et al. (2017) in their review of harm reduction policy provincially and nationally. Further, reactionary measures do nothing to address the structural drivers of the crisis described in this dissertation, and I suggest upstream measures pertaining to education, social and workplace protections, and enhanced government infrastructure to meaningfully prevent substance use-related harms from occurring in the first place. Finally, I suggest political commitment to enhanced and consistent data collection and sharing to further evidence on the overdose crisis, macro and micro economic determinants of negative health outcomes (as they relate to substance use and beyond), and equitable policy and practice. Data improvements include collection (and perhaps creation) of consistent measures of substance use-related harms and socioeconomic status across jurisdictions and at multiple levels to increase comparability and start moving from the *micro* to the *macro* to better understand broader influences

I propose the following:

- Structural and upstream interventions to prevent substance use, addictions, and other unhealthy coping mechanisms, such as inclusion of individual and population health, mental health and coping with stress, and harm reduction in education curricula. This will further normalize these oft-stigmatized topics.
- Enhancement of social protections and a social safety net both federal and provincially and shifting away from austerity budgets and employment-based protections.
- Development and implementation of health policy advisor infrastructure across all federal and provincial ministries to illuminate health effects of policies and programs, including within economic domains such as business and industry, jobs, and finances.
- Enhancement of economic data captured at multiple levels pertaining to decedents of the overdose crisis and other health outcomes, the different features of flexibilized and precarious employment, and the different features of neoliberalization such as deregulation, privatization, deunionization, and financialization.
    - The Canadian House of Commons (2019) offers 11 policy recommendations for the Government of Canada regarding the growth of precarious employment. These recommendations include consulting with stakeholders to find a common understanding of precarious employment and its various dimensions, building a

strategy and tools to better measure precarity, reform Employment Insurance to better support precarious workers, consider other forms of income support beyond employment-based, review human resources practices to better protect precarious workers, recognize the intersectionality of precarious employment, ensure precarious workers access to occupational health and safety protections and workers compensation, invest in workplaces and workers to promote worker rights, and update the skills agenda for the workforce of this 21st century.

- Increased access to mental health and addictions programming, drawing on best practice, an evidence base, and inclusion of people with lived and living experience in decision-making at national, provincial, and local levels. Access should further take into consideration the varied pathways people with lived and living experience follow, dependent on social determinants of health including gender, ethnicity, socioeconomic status, among others.
- Commitment to evidence-based and transparent substance use policy and programming, informed by better systems of data collection including economic indicators; nuanced data analysis focusing on equity and population health; and publicly available data sharing.

7.6 Conclusion

In 2007 and 2008, the Global Financial Crisis resulted in the Great Recession affecting national economies across the world. At the time, this recession was described as the worst in history since the Great Depression of the 1930s, only recently usurped by the global recession caused by the COVID-19 pandemic. Out of the Great Recession mutated a neoliberalized economic shift in Western Canada, with industrial work sectors experiencing declines and shifts in the nature of work including increased flexibilization among workers. During this same era, a prescription opioid epidemic was in full force, with high opioid prescribing and consumption taking place across North America due to inhumane and unethical practice of Big Pharma companies and high demand for chronic pain management. In the years to follow, these seemingly unrelated events would ultimately converge in the form of the overdose crisis: unprecedented numbers of overdose-related deaths distributed unevenly by gender, ethnicity and socioeconomic status, where blue-collar and service industry workers, working-aged men, and Indigenous people are overrepresented in crisis-related deaths.

The most recent global threat, the COVID-19 pandemic, has resulted in global economic shutdown, with the same blue-collar and service industries again being affected. The pandemic reaffirms the importance of the work presented in this dissertation in at least two ways: 1) drawing on Case and Deaton's idea of *cumulative disadvantage*, introduced in section 2.4.1.3 and expanded upon in Chapter 6, driving the overdose crisis in the US*,* further disruptions in these industries means ongoing disadvantage for workers, via additive stressors such as unpredictable and insecure working environments; and 2) prompting questions of how neoliberalism will mutate in response to the global economic shutdown and recession, and what the broader implications of this shift are; what government responses, investment and bailouts have been and will continue to follow; will taxpayers foot the bill for these costs; and how will the economic fabric change and what will that mean for different industries and workers affected, as observed with flexibilization post-2008? Structural drivers, though often overlooked in the Canadian literature, are crucial in influencing individual experiences of substance use and addiction. Evidence presented in this dissertation begins to show how economic context and the process of neoliberalization may be implicit in both the creation of risk for and the inequitable distribution of overdose and death for affected populations in Western Canada.

7.7 Afterword: COVID-19, Learning from the Past & Emerging Trends

The impact of the COVID-19 pandemic on the overdose crisis and the economy in 2020 is evident in the publicly available data and analysis presented throughout this dissertation. The pandemic has had immediate risk-creating effects already, offering a glimpse of *structural drivers in action* as they drive unprecedented numbers of drug-related deaths due to an even more toxic drug supply, isolation and mental health challenges, and limited access to support services for people who use drugs (CCSA, 2020); increased economic instability, notably among industries already affected by the overdose crisis including blue-collar and service industries, via global economic contraction and shutdown and resulting in an "unofficial" unemployment rate of 33 percent in April 2020 (Stanford, 2020; Statistics Canada, 2021); and significant jumps in government spending fighting COVID-19 resulting in record-high public debt (Antunes, 2020; Gatehouse, 2020e). My study of the structural drivers of the overdose crisis in Western Canada offers timely and necessary insights during this significant period where the crisis is worsened and

the economy is mutating, reifying the importance of this work and study of structural drivers of health outcomes using a political economy of health lens generally.

A "business as usual" response to the pandemic could also continue to create risk for particular populations in the longer term. Post-2008, the process of neoliberalization mutated, shown in Chapter 6, with an increase in flexibilization and implicit in the evolving wholesale and retail trade and food service industries described above. The global economic recession accompanying the pandemic will likely serve as the impetus for further economic shifts, with further mutation a possibility to both boost economic activity and reduce public debt after record government investments. Given the decline of manufacturing and growth of flexibilization within the blue-collar and services industries in Western Canada pre-pandemic (and the economic shocks to these same industries in the pandemic), the volatility and high responsiveness of these industries to the economy suggest future economic disruptions could continue to affect the health and wellbeing of workers within them.

Notably, the wholesale and retail trade and food services industries were already shifting pre-pandemic, with shifts to online markets and consumer shopping exponentially increasing in the 2010s, with even more gains for corporate giants such as Amazon and Skip the Dishes since the start of the pandemic (eMarketer, 2021; Richter, 2021). This has coincided with the closure of stores or bankruptcy among previous bricks and mortar retail giants, a trend also accelerated in the time of COVID-19 (StyleDemocracy, 2020). With these macro-economic changes, driven by combined forces of technological innovation, neoliberalization and necessity to maintain economic activity during a pandemic, more and more workers find themselves left behind in the shifting economy, ideally able to be absorbed into the growing industries but with work training and experience that may not be entirely transferable. Identification of who these workers are and the impacts of these economic shifts to their health and wellbeing in the years to come are likely to be areas of worthwhile study in the future. Consideration of outcomes (including overdoses but also other "deaths of despair" such as suicide and alcohol poisoning, as well as negative mental health diagnoses or coping strategies), stratified by gender, ethnicity, and socioeconomic status, is important for understanding differential impacts of economic shifts and inequitable distribution across different groups as economies continue shift and new groups of workers are left behind.

With "typical" work arrangements fulfilling fewer needs and wants for the working class, people are seeking an alternative means of economic security: financial investment.

Financialization of the economy is a feature of neoliberalization where people investing in the financial sector are able to gain profits (but also experience losses) on investments (Albo, 2010). This has been a key driver of the unequal distribution of wealth allowing the wealthiest individuals and corporations to capitalize on their investments. In the fallout of the global economy during the pandemic, financialization has become increasingly more popular among younger generations, with investment and wealth management among millennials a recent phenomenon that will no doubt have impacts on the economy and individuals' socioeconomic positions in the upcoming years (Fox, 2021). This is exemplified by the recent surge in fading retailer GameStop's stock driven by amateur investors sending financial warnings to Wall Street (Phillips, 2021). Further, financialization and economic innovation are visible in the emergence of NFTs (non-fungible tokens), a means of cryptocurrency exchange popularized by artists and musicians selling their digital works to mega-rich consumers (Clark, 2021). The shift to digital financial investments among post-boomer generations hints at future direction of financialization and becoming more inclusive to more people; however, the cyclical nature of capitalism and the devastating financial crash in 2008 should not be forgotten as history has shown the volatile nature of this trend and its potential devastating effects on big banks, the global economy, and people across the world.

The Canadian government's response to the COVID-19 pandemic has been swift and costly. The pandemic has revealed federal and provincial governments can – and do – move with urgency to respond to public health crises; however, the choice of crises in receipt of swift government response and investment is inconsistent. Despite expert predictions on the impact of COVID-19 on people who use drugs (BCCSU, 2020; CCSA & CCENDU, 2020; CRISM 2020), record-breaking numbers of overdose deaths across the country and ongoing calls for upstream and local action, key informants interviewed in this study described government response to the overdose crisis as insufficient to meaningfully reduce harms. As shown in the executive summaries of the site reports following this dissertation (Appendices C, D, E and F), participants described government response to the overdose crisis as a lesser priority than other health crises, hindered by "playing politics" with people' lives, and consistently underfunded. These assertions are hardly new, having been described prior to the overdose crisis by people with lived and living experience in the decades prior (Canadian HIV Legal Network, International HIV/AIDS Alliance & Open Society Institute, 2008) and highlighting the ongoing struggle among people with lived and living

experience, their families, advocates, and other stakeholders to be seen, heard, protected and valued by government and public institutions.

Further, the Canadian government has invested billions in COVID-19 response, driving record-breaking public debt (Gatehouse, 2020). Previous responses to significantly increased public debt have included neoliberally-driven austerity measures and less spending by governments, particularly notable in the aftermath of the 2008 crisis. Austerity is a "crisis policy of choice" among governments, including in Canada (McBride, 2016, p. 6), intended to reduce public debt via cutting social welfare spending (Stuckler & Basu, 2013). Austerity budgets have resulted in an inequitable distribution of negative health outcomes, particularly affecting already marginalized or low-income groups (Ruckert & Labonté, 2014; Schrecker & Bambra, 2015; Stuckler & Basu, 2013). Ruckert and Labonté (2014) conclude that austerity budgets, in combination with transforming labour markets, are "likely to have a significant impact on [social determinants of health], with a further deepening in health inequities according to socio-economic status…" (p. 8). How governments across the globe, including those in Canada, will respond to their increased public debt is to be seen; however, austerity measures have been shown to be short-sighted and result in negative health (Ruckert & Labonté, 2014; Schrecker & Bambra, 2015; Stuckler & Basu, 2013), an indication that an end to the pandemic does not mean an end to suffering should austerity measures be implemented.

I offer these reflections and current considerations to broaden the reader's perspective: the overdose crisis – or other health crises and inequities – does not exist in a vacuum. Though it appears a simple task to separate the crisis from the structural or macro-economic, it is impossible, for they exist all around us, in everything we do yet out of sight and impossible to touch. History has shown political decisions can negatively impact health and wellbeing, particularly among the working class and poor: from the shift from the welfare to the neoliberal state and the ongoing mutating of neoliberalism in the decades since, to implementation of austerity measures in response to crises**.** History has also shown the impact of economic shifts that are driven by capitalist cycles and ongoing neoliberalization and continue to exclude more and more workers as industries morph and decline, while they lose jobs and struggle to fit into the "new" economy. It is here where political economy has its footing, navigating the "marriage" between the political and the economic in a capitalist economy, each with its own areas of inquiry but undoubtedly

intertwined in a co-dependent union, and having serious implications for the health and wellbeing of populations – of us – as we live, work, and play within them.

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APPENDIX A – Consolidating Perspectives on the Nature of Saskatoon's Evolving Opioid Crisis Interview Guide

Thank you so much for meeting with me today. As you know from our correspondence and review of the consent form, we're seeking your perspective about the nature of Saskatoon's evolving opioid crisis. We are using this information to consolidate, or bring together, perspectives from many different areas to better understand what is happening in Saskatoon with the opioid crisis. We are seeking to create a description of the crisis in Saskatoon, while also improving connections and knowledge exchange among stakeholders like yourself with the knowledge-exchange forum that we'll host in November. We hope that you're able to join us for this day and we'll provide more information about that by August 2018.

Overall, I am interested in hearing your thoughts about the opioid crisis in Saskatoon and while we have a few guiding questions for this study, if you want to include additional information or if you think we've missed something, please feel free to include that too!

I'll start by asking a few questions to get us started and we will get as far as we can in the 90 minutes. If you would like to skip a question, take a break, or end the interview at any time please just let me know.
You are welcome to say as much, or as little, as you like about any particular question. Sound good? Any questions?

Background:

1) What is your name and where do you work?
2) Can you tell me a little about what your day-to-day looks like? How long have you been in this role? What education or experience did you have coming into this role? Where do you see yourself in 5 years? (Same/Different role? Intention to stay/move in role or area of work/advocacy)
3) From your perspective - How do you define or understand the opioid crisis?

Project Questions:

4) What is your role in the opioid crisis in Saskatoon? What do you see happening in your day-to-day work?

5) What changes have you seen in response to opioid use? Is this changing your relationship with others in the community?
    a. Prompt – Population/demographic changes? Number of patients/calls? Changes in presentation of users? Use-rates generally?
    b. Prompt - How has your own work evolved or changed? How has the approach of your institution evolved or changed?
    c. Prompt – Are there changes that you would like to see, or that you think would have impact on these issues?
    d. Prompt – Policy/Decision Makers – What are the system-level changes (institution, governance, employment) that you think policy has or can address regarding the opioid crisis

6) Have you noticed any changes in the environment surrounding opioid use? Socially, politically, or economically? Put in another way, what do you see as influencing opioid use? Has this changed over time? How?
    a. Prompt – Some people have mentioned employment as one factor that might influence opioid use. Do any other factors come to mind for you? Ie: Family relationships?
    b. Prompt – Do you think these factors (note one or two that respondent identified) could be modified or changed? How? Or Why not?
    c. Prompt – Policy/Decision Makers – Has the political or social environment of your institution changed in response to opioids? What factors should be considered when guiding institution-level change?

7) How has your access to information evolved or changed in response to the opioid crisis?
    a. Prompt – Some people have mentioned that different information is now being collected, while others have noted new sources of information are available. Do you have access to additional or new information, in comparison to 5 years ago?
    b. Prompt – Policy/Decision Makers – Are you collecting different information or new kinds of information than you were prior to the opioid crisis? Or is there a different use for the same information collected today?

8) Do you share information with others about opioids? Do others share information with you?
    a. Prompt – What makes this information useful for you? What do you think makes information useful for others?
    b. Prompt – Policy/Decision Makers – What are the processes your institution/organization has in place for information sharing? Is the process useful/helpful? Does this structure cause any problem for access to information? Does this structure facilitate sharing within or across sectors?

9) Do you have access to enough information in your role to address the opioid crisis? Please describe.

10) What is missing in our response to the opioid crisis?

11) Do you think there is generally enough information available to address the opioid crisis?
    a. If no, what kind of information would be helpful? What is needed?
    b. If yes, why do you think the opioid crisis has not been resolved using this information?

12) How has your access to tools or resources changed in relation to the opioid crisis?
    a. Prompt – Beyond information sharing - what other tools or resources would help?

13) *Data manager /monitoring role only: How do you monitor and compile information about the opioid crisis?
    a. How has your access to information evolved or changed?
    b. How has your access to tools or resources changed?

c. What other tools would help?

Forum Invite & Snowball Recommend

14) Speaking of sharing information – are you interested in coming to a stakeholder forum to further discuss the opioid crisis in Saskatoon? Why/Why not?

15) Can you recommend another person who we should speak with about the opioid crisis in Saskatoon?

16) Is there anything that you would like to add or further discuss today?

APPENDIX B – Interview Guide

Thank you so much for meeting with me today. As you know from our correspondence and review of the consent form, we're seeking your perspective about the nature of western Canada's evolving opioid crisis. We are seeking to create a description of the crisis in your city, while also gaining further understanding of the broader contextual influences of the crisis. Overall, I am interested in hearing your thoughts about the opioid crisis in your city and while we have a few guiding questions for this study, if you want to include additional information or if you think we've missed something, please feel free to include that too!

I'll start by asking a few questions to get us started and we will get as far as we can in the 90 minutes. If you would like to skip a question, take a break, or end the interview at any time please just let me know. You are welcome to say as much, or as little, as you like about any particular question. I would also like to remind you that this interview will be recorded, and that I will follow up with you after the interview to verify the accuracy of the results and to further help protect your confidentiality. Sound good? Any questions?

Background:

1) Where do you work and what is your role?

2) Can you tell me a little about what your day-to-day looks like? How long have you been in this role? What education or experience did you have coming into this role?

3) From your perspective - How do you define or understand the opioid crisis?

Project Questions:

4) What is your role in the opioid crisis in your city? What do you see happening in your day-to-day work?

5) What changes have you seen in patterns of opioid use? Is this changing your relationship with others in the community?
    a. Prompt – Population/demographic changes? Number of patients/calls? Changes in presentation of users? Use-rates generally?
    b. Prompt – Types of opioid changes? Increases or decreases in usage of different specific kinds of opioids?

6) What changes have you seen in response to opioid use? Is this changing your relationship with others in the community?
    a. Prompt - How has your own work evolved or changed? How has the approach of your institution evolved or changed?
    b. Prompt – Are there changes that you would like to see, or that you think would have impact on these issues?
    c. Prompt – <u>Policy/Decision Makers</u> – What are the system-level changes (institution, governance, employment) that you think policy has or can address regarding the opioid crisis

7) What is missing in our response to the opioid crisis?

8) How has your access to tools or resources changed in relation to the opioid crisis?
    a. Prompt – Beyond information sharing - what other tools or resources would help?

9) Have you noticed any changes in the social environment surrounding opioid use? Put in another way, what social factors do you see as influencing opioid use? Has this changed over time? How?
    a. Prompt – Are there individual social characteristics that influence an individual's opioid use? I.e. family, peer, workplace
    b. Prompt – Do you see broader social influences in the community, province, or nationally as having any influence? I.e. stigma, gender roles, racism

10) Have you noticed any changes in the political environment surrounding opioid use? Put in another way, do you see any political influences on the crisis? Has this changed over time? How?
    a. Prompt – Do you see changes at the local, provincial, and/or national level?
    b. Prompt – In your opinion, have these been beneficial or harmful?
    c. Prompt – Do you think these factors could be modified or changed? How? Or why not?
    d. Prompt – Policy/Decision Makers – Has the political or social environment of your institution changed in response to the opioid crisis?

11) Have you noticed any changes in the economic environment surrounding opioid use? Put in another way, what economic factors do you see as influencing opioid use? Has this changed over time? How?
    a. Prompt – Are there individual economic characteristics that influence opioid use? I.e. employment, education, income, job security, etc.
    b. Prompt – Do you see the broader economy – local, provincial, national – as having any influence?

12) How has your access to information evolved or changed in response to the opioid crisis?
    a. Prompt – Some people have mentioned that different information is now being collected, while others have noted new sources of information are available. Do you have access to additional or new information, in comparison to 5 years ago?
    b. Prompt – Policy/Decision Makers – Are you collecting different information or new kinds of information than you were prior to the opioid crisis? Or is there a different use for the same information collected today?

13) Do you have access to enough information in your role to address the opioid crisis? Please describe.
    a. Prompt – Do you share information with others? Do they share with you?

14) Do you think there is generally enough information available to address the opioid crisis?
    a. If no, what kind of information would be helpful? What is needed?

b. If yes, why do you think the opioid crisis has not been resolved using this information?

15) *Data manager /monitoring role only: How do you monitor and compile information about the opioid crisis?
    a. How has your access to information evolved or changed?
    b. How has your access to tools or resources changed?
    c. What other tools would help?

Snowball Recommend and Wrap-up:

16) Is there another person(s) who you believe has a valuable perspective on the opioid crisis in your city? Would you be comfortable sharing the study invitation with that person(s), giving him/her/them the opportunity to reach out to me if interested in participating?

17) Is there anything that you would like to add or further discuss today?

APPENDIX C – Consolidating Perspectives on the Nature of Saskatoon's Evolving Opioid Crisis: Executive Summary

March 2019

Prepared by (in alphabetical order): Dr. Peter Butt (Co-Investigator); James Dixon (Research Assistant); Dr. Barbara Fornssler (Research Manager); Maryellen Gibson (Research Assistant); Dr. Lori Hanson (Principal Investigator)

Funding provided through the University of Saskatchewan, College of Medicine; additional support from the Canadian Research Initiative in Substance Misuse (CRISM) Prairie Node

Background to the Project:
The aim of the *Consolidating perspectives…* study was to bring information and perspectives together regarding the evolving opioid crisis in Saskatoon. It was driven by anecdotal evidence that our perspectives on the nature of the opioid crisis vary considerably, making timely and adequate responses more difficult.

The study sought to address three key research questions:

1. What is the current nature of the opioid crisis in Saskatoon?
2. What do key stakeholders perceive as contextual influences affecting opioid use in Saskatoon? Do stakeholders consider those influences modifiable?
3. How can stakeholders better share information and knowledge of opioid use? What research is needed?

This project began with an extensive literature review on opioid use, which revealed three main themes of research in this field: observations of the current crisis; influences affecting the nature of the crisis; and scans of current responses. Using information gleaned, the research team conducted interviews with local stakeholders connected to or working within the continuum of care for people who use drugs in Saskatoon and area. Using snowball sampling and direct referrals, 21 interviews were conducted with 24 total participants. Additionally, publicly available administrative data on opioid usage from various sources was gathered.

During analysis, the research team identified key themes from interviews and summarized them. The administrative data were compiled into a single "snapshot" of opioid usage in Saskatoon and Saskatchewan. These summaries were presented in a discussion document and shared with interview participants prior to a stakeholder forum on October 29, 2018. A final revised technical report reflecting the full results of that process is available upon request (contact James Dixon at james.dixon@usask.ca).

This abridged document provides an overview of the proceedings at the forum and summarizes the conversations that took place.

Executive Summary of Final Technical Report:

Nature of the Crisis

The interviews yielded a multitude of descriptions of the overall nature of the opioid crisis experienced by people in Saskatoon. These included:

1. *There is no 'opioid' crisis* but rather there is a high usage of crystal methamphetamine in Saskatoon which needs to be addressed in any response.
2. *The crisis is about the arrival of fentanyl* because the nature of the drug accelerates and increases the harms from use. I.e.: Immediate overdose or death.
3. *The crisis is about the lack of systematic response* and participants called for better coordination between service providers, government, community organizations, advocates, and people who use drugs.
4. *There is a different crisis being experienced on the East-side vs West-side* as described as the 'atypical' drug user (young, male, white, east-side dwelling, recreational oral and nasal use) and the 'typical' drug user (male, west-side dwelling, Indigenous ancestry, injection use). It was described as important to address the needs of all people affected in any coordinated response.
5. *The prescription opioid crisis* is being addressed but there is more to be done and better pain management is needed.
6. *Insufficient preparation likely to mean a crisis is coming* but it was also suggested harms can be reduced through well-designed intervention and outreach services at the program level and increased availability of health and social service provision at the systems level.

Contextual Factors Influencing the Crisis

Social Influences:

Participants identified many social determinants of health as influencing opioid use including housing, transportation, gender, race, food security, income, childhood experiences, historical trauma, coping skills and behaviours, and access to appropriate health or support services. Mental health challenges were described as one major link between these determinants and opioid use (and drug use more generally). These factors led participants to describe the need for increased awareness and education on the realities of drug use to reduce stigma held by the general public and professionals whose work is implicated by the crisis.

Political Environment:

Funding was reflected as a key mechanism by which governments implement decisions. The majority of respondents recognized a lack of funding from various levels of government as a major barrier for addressing the crisis. Public perception and competing priorities of governments were suggested as reasons for this. It was recognized that government decisions were made for political security and to maintain power, relying on short term "band-aid" solutions to the crisis over long term, evidence-informed strategies. Participants called for governmental commitments to service providers by increasing funding for sustainable staffing and a coordinated provincial response plan that brings all involved parties to the same table.

Economic Factors:

Participants noted how profits and profit-oriented systems have driven the crisis via the influence of business improvement districts, the current fee-for-service health care model, the role of the

pharmaceutical industry, and the local and national illicit drug market. A legal drug supply was noted as a significant action to address some of these factors while also reducing enforcement and health costs.

October 29th Forum:

Participants

Nineteen stakeholders took part in the forum on October 29th. Participants represented various service providers along the continuum of care, policy makers at the municipal and provincial level, media representatives as well as advocates from various organizations.

Methodology

The forum utilized the methodology of a World Café where individuals engaged in four separate conversations facilitated by research team members. The conversations were guided by these questions:

1. What actions might mitigate the impending tsunami [wave-like crisis about to engulf SK]?
2. How can stakeholders better share information and knowledge of opioid use? What else do stakeholders need to know?
3. If you could change ONE thing influencing the use of opioids what would that be? Why?
4. Are we thinking "big enough" in our understanding and response to opioid use? What is missing from the conversation we are having about opioids?

At the end of these conversations, facilitators consolidated prioritized topic areas into key themes to address the guiding question. These key themes were then presented to the larger group. These themes have been summarized in the following section.

Conversation Conclusions:

Interestingly, similar discussions had taken place at each table and could be summarized into four key actions needed to address the opioid crisis in Saskatoon. The need for actions to be data-driven, sustainably funded, conducted with meaningful engagement of both Indigenous leadership and community members as well as people with lived or living experienced underpinned each of the identified action items.

Coordination of Service Providers

Lack of coordination between service providers was noted as the biggest challenge affecting responses to opioid use in Saskatoon. Participants called for greater communication among service providers, and more timely and agile sharing of information and data among organizations and governments. A network or coalition was suggested as a means to coordinate information sharing among stakeholders and advocacy efforts for change at government or systems levels.

One Stop Shop

Participants called for a coordinated low-barrier, 24-hour service delivery centre where clients would be able to access services needed all in one location. Services mentioned included harm reduction, health, treatment, housing, and employment support.

Awareness Raising

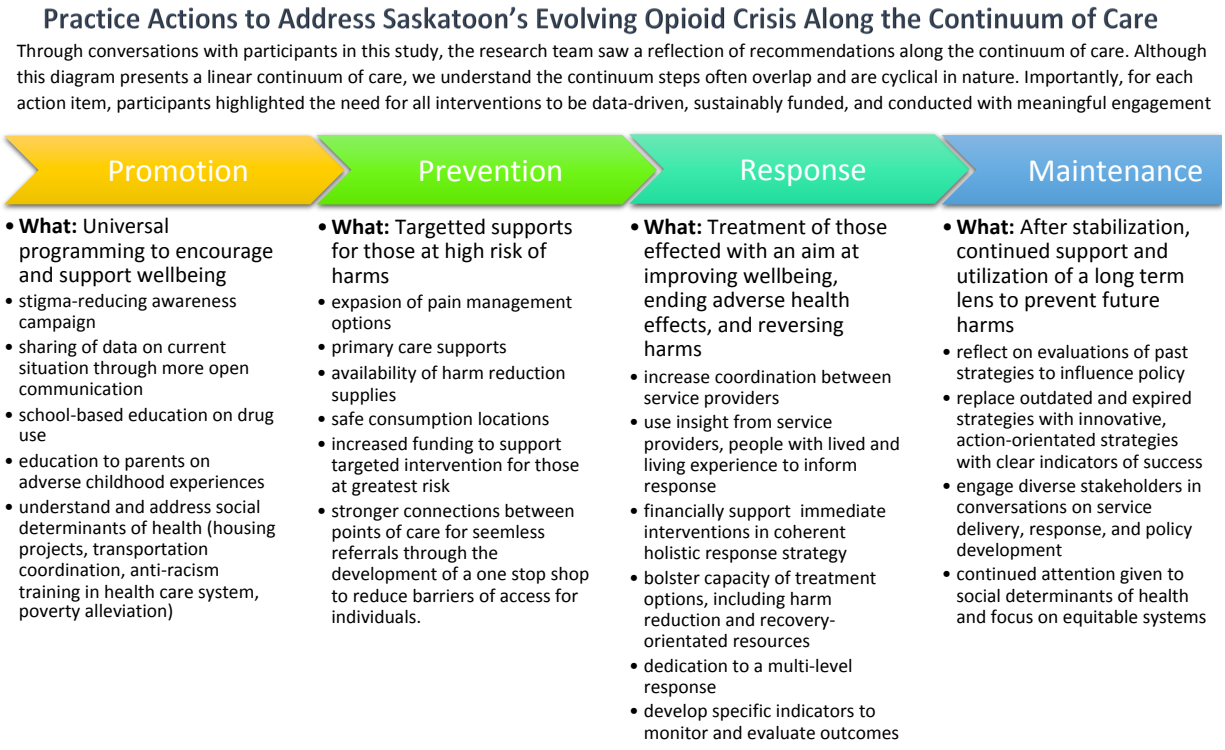
Participants noted that responding to opioid use in the province could be improved through culture change as a means to reducing stigma and increasing community support for people who use drugs and the organizations serving them. This was seen as necessary for political change, and an awareness raising campaign and public education were considered routes to building public support.

Response Plan and Long-Term Strategy

Service providers noted the need for a coordinated multi-pronged approach to address opioid use. They highlighted that this response plan would need to be housed in the provincial government and should include specific indicators, detailed service provision approaches, means of communication between stakeholders, and financial support for intervention strategies. Further, addressing HIV, mental health, and drug use more generally should also be considered in this strategy.

Future Action:

Major action items from this project call on the Saskatchewan Government to develop a long- term collaborative strategy that integrates the abovementioned four areas. These four areas can be understood along the continuum of care as denoted in the attached graphic.



APPENDIX D – Fort McMurray Site Report: Executive Summary

August 2019

Prepared by: James Dixon (PhD Candidate)

Funding provided through the University of Saskatchewan, College of Medicine and the Government of Canada, Social Sciences and Humanities Research Council

Executive Summary of Fort McMurray Site Report:

Nature of the Crisis

The opioid crisis was widely understood by participants as excessive death and loss, the infiltration of fentanyl in the illicit drug market, the overprescribing of opioid painkillers, and an inadequate response given the substantive harms taking place.

1. *The crisis is death* and is being experienced locally, nationally, and globally, and affecting "everyone".
2. *The crisis is fentanyl*, the catalyst driving overdose and death in Fort McMurray and the surrounding area and used as both a drug of a choice and unknowingly by people in the community.
3. *The crisis is prescription opioids*, understood as excessive prescribing by physicians, lacking alternative pain management resources to address chronic pain, and the normalization of opioid prescriptions.
4. *The crisis is inadequate response*, where more is needed to be done to address harms in the community, particularly in health care and mental health and addictions sectors.

Contextual Factors Influencing the Crisis

Social Context:

Participants spoke of the social context often relating to social determinants of health including gender, ethnicity, racism and colonialism, culture, challenges with housing, previous experiences of trauma, coping skills and mechanisms, limited access to health and related services, decreased social supports, and challenging workplace environment and conditions in the oil sands. Further, participants described the impacts of stigma on the crisis, and suggesting increased education, targeted awareness raising, and public dialogues to combat it.

Political Context:

In various ways the political decisions about services and response to the crisis involves the relationships between civic, provincial, and federal governments – particularly with regard to priority needs and funding allocations to address the crisis. Participants highlighted that the current political decision- making included some very important steps to address the crisis but that some policy barriers and influences on the decision-making process affect it in several ways. Participants noted competing political priorities, lacking leadership, lacking education, and understanding of government employees, and the need for proper evaluation of mental health and addictions services as political challenges.

Economic Context:
Participants noted several economic influences on the crisis in Fort McMurray and surrounding area. The economic downturn was described as creating challenges for the oil sands industry, those employed within it, and the local business community, generating additional financial stressors on residents. The illicit drug market was also described, with Fort McMurray being an end-point of drug distribution routes resulting in excess drug availability in the region as well as "employing" others in the community to make profits and support their own substance use disorders. The production-driven nature of the oil sands industry corporations were frequently mentioned by participants, where work camps were described as havens of drugs and other risky behaviours, stigmatization of substance use is common and workers hide their use to protect their jobs, and the safety sensitive nature of oil sands work creates additional barriers for and stigma toward workers, and challenges among health care providers to address pain management and opioid prescribing. Finally, participants noted the fee-for-service health care delivery model as contributing to decreased quality of health care.

APPENDIX E – Kelowna Site Report: Executive Summary

August 2019

Prepared by: James Dixon (PhD Candidate)

Funding provided through the University of Saskatchewan, College of Medicine and the Government of Canada, Social Sciences and Humanities Research Council

Executive Summary of Kelowna Site Report:

Nature of the Crisis

The opioid crisis was widely understood by participants as excessive death and loss, a dangerous and evolving illicit drug market, shortcomings of physicians and the medical system in addressing pain management, and as a symptom of the bigger challenges of disconnection and colonization.

1. *The crisis is death* and Kelowna has experienced much of it in the crisis, notably among the "hidden" population that uses drugs but does not access mental health and addictions programming in the community. Other subpopulations were identified as being at increased risk as well, including those who are Indigenous, notably women, or LGBTQ2S+.
2. *The crisis is fentanyl* which has inundated the drug supply and includes more deadly analogues such as carfentanil. Participants described people using fentanyl as either a drug of choice or unknowingly as it has been mixed with other drugs including cocaine, crack, heroin, crystal meth, or fake Oxy or Xanax pills.
3. *The crisis is prescription opioids*, understood as excessive prescribing by physicians and lacking alternative pain management resources. Participants noted the transition from opioid prescription to the illicit market does not reflect the majority of people who use drugs in the community but significant enough to warrant further attention.
4. *The crisis is disconnection* from basic needs such as housing, food, economic security, community, and social supports. Disconnection was also described between Indigenous people and the colonial social and economic system that characterizes daily life, due to colonization and its devastating rippling effects including residential schools and overrepresentation of Indigenous people in homelessness, and child welfare and justice systems.

Contextual Factors Influencing the Crisis

Social Context:

Participants spoke of the social context often relating to social determinants of health including gender and sexual identity, ethnicity, racism and colonialism, challenges with housing, previous experiences of trauma, coping skills and mechanisms, limited access to health and related services, and decreased social supports. Further, participants described the impacts of stigma on the crisis, creating a "hidden population" of people who use drugs and catalyzing *not in my backyard* (NIMBY) attitudes in the city.

Political Context:
In various ways the political decisions about services and response to the crisis involves the relationships between civic, provincial, and federal governments – particularly with regard to priority needs and funding allocations to address the crisis. Participants highlighted that the current political decision- making is focused on electability rather than addressing specific needs and prevents meaningful long-term and preventative work from being done. Governments were viewed as being both "for" and "against" action to address the crisis – balancing the need to prevent harms and protect life in the face of an unprecedented overdose crisis while also maintaining public support. This resulted in important action by governments, but importantly were described as insufficient to addressing root causes of the crisis. Other political challenges noted by participants included the slow- moving and fragmented bureaucratic nature of the health, mental health and addictions, social services, and legal-enforcement systems, and the complexities of balancing public programming and polices affecting people who use drugs (such as harm reduction services, and public spaces laws and bylaws) with the illegality of possessing drugs.

Economic Context:
Participants described the crisis as affecting people with diverse economic backgrounds, with much variance based on income levels and employment status. Notably, the "hidden" population of people who use drugs but are disconnected from mental health and addictions services were frequently identified as often employed in blue-collar or service jobs. Several participants spoke of the economic pressures of daily life as possible drivers of substance use including pursuing and succeeding in education, finding and maintaining stable employment, and purchasing a home in Kelowna's challenging housing market were all identified as causing extra stress and feelings of inadequacy when individuals felt they were not "measuring up" to these expected economic norms. Last, participants described profit-driven motivations as influencing the crisis, where NIMBYism among the business community, the illicit drug trade and its "employees" working within it to generate profit or support their addictions, the corporate greed of the pharmaceutical industry, and the fee-for-service health care model were discussed.

APPENDIX F – Nanaimo Site Report: Executive Summary

August 2019

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Executive Summary of Nanaimo Site Report:

Nature of the Crisis

One participant described the opioid crisis, also commonly referred to as the overdose crisis, as a "complex problem" with "multiple facets," a description reiterated by several others. Participants commonly described the following facets when defining the crisis: a poisoned drug supply, a lack of action taken to respond to the crisis, as symptomatic of other issues, and criminal activity.

1. *The crisis is a poisoned drug supply,* inundated with illicit fentanyl and its analogues, and causing overdose and death for people who use drugs in different capacities such as recreational use or who have substance use disorders. Fentanyl and its analogues were described as drugs of choice for some but also being unknowingly mixed with other drugs such as cocaine. Because of the prevalence of fentanyl in the illicit drug supply, participants spoke of increased risk of harm for all as substance use is not restricted to particular groups or populations.
2. *The crisis is a lack of action* by different levels of government, failing to address the harms caused by the poisoned drug supply, the criminalization of people who use drugs, and lacking access to treatment options. This lack of action was viewed as highly influenced by a lack of political will and general misunderstanding of substance use and substance use disorders.
3. *The crisis is symptomatic of other issues* including disconnection of people who use drugs from their communities and society, the oppressive capitalist structure of our social and economic order, and Big Pharma and the prescription opioid crisis.
4. *The crisis is criminal activity,* understood by some participants as the work of criminal organizations and the international network of illicit drug distributors including powerful black-market groups such as the Triads and Big Circle Boys in Asia and the Soldiers of Odin in Nanaimo.

Contextual Factors Influencing the Crisis

Social Context:

Participants spoke of the social context often relating to social determinants of health including gender, ethnicity, racism and colonialism, challenges with homelessness and housing, previous experiences of trauma, coping skills and mechanisms, limited access to health and related services, and decreased social supports. Many participants spoke of the influence of the homelessness crisis and the establishment (and shutdown) of DisconTent City on increasing stigma and negativity from the community. Participants noted that the establishment of Discontent City, as well as its shutdown and subsequent move to the abandoned school building, left a "sour taste in peoples'

mouths" due to perceptions of increased crime both in the tent city as well as neighbourhoods surrounding it and other housing projects.

Political Context:
Participants identified lacking leadership at federal, provincial, and municipal governments, as well as within Vancouver Island Health Authority and First Nations Health Authority in response to the crisis. Further, participants described politicians' focus on electability over addressing the crisis, where overdose and death were one of many competing priorities among politicians and contributing to "dragging their feet" in response. Municipally, amid the homelessness crisis and establishment of Discontent City, community safety was discussed as a priority of the residents of Nanaimo and thus was an important platform in the recent civic election. This prioritization of community safety was described as limiting public support for the homeless and PWUD in Nanaimo, and even serving to legitimize white supremacist group Soldiers of Odin's Nanaimo chapter president run for mayor. Additionally, participants described some municipal bylaws creating challenges for people who use drugs locally, the failure of the province to include the Ministry of Education in its prevention of substance use strategy, and the federal criminalization of substance use and people who use drugs as political challenges affecting Nanaimo.

Economic Context:
The illicit drug trade and economic pressures (including finding and maintaining stable employment, housing) were described by participants as influencing the crisis. One participant located these influences in the bigger system of capitalism, acknowledging that our current capitalist system operates on the oppression of individuals who do not have ownership over capital or means of production, and that this system works in tandem with both patriarchy and colonization that historically and presently work to also marginalize women and Indigenous peoples respectively. Beyond this system of oppression, capitalism was also described as creating the conditions of the "illicit economy" that includes the drug trade, sex work, and other forms of employment outside of the dominant economy and employs people who are disenfranchised so they can meet their needs and survive despite their exclusion from society.

APPENDIX G – Media Listings

March 28, 2019:

Opioid response should include safe consumption site, crisis plan: U of S study
Saskatoon StarPhoenix
https://thestarphoenix.com/news/local-news/opioid-response-should-include-safe-consumption-site-crisis-plan-u-of-s-study

U of S study takes aim at province's growing opioid crisis
650 CKOM
https://www.ckom.com/2019/03/28/u-of-s-study-takes-aim-at-provinces-growing-opioid-crisis/

Study recommends Saskatoon provide supervised consumption for drug addicts
CJWW 600
https://www.cjwwradio.com/2019/03/28/study-recommends-saskatoon-provide-supervised-consumption-for-drug-addicts/