

**Life Won't Wait:
Reducing Fatal Drug Overdoses in British
Columbia**

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Abstract

In recent years British Columbia has seen an increase in fatal drug overdoses. In 2013, 308 British Columbians lost their lives to drug overdoses. The highest yearly total since 1998. Each death represents an emotional, social, and economic burden for the province to carry. Many of these deaths are entirely preventable. This research paper was conducted in order to understand the potential role that public policy and provincial legislation can play in reducing fatal drug overdoses, as well as the barriers and challenges that current programs face in their delivery. This paper uses a mixed-method design based on case studies, qualitative stakeholder interviews and quantitative survey results to determine fatality reduction measures, with a particular focus on naloxone, an overdose reversal drug.

Dedication

For drug users everywhere.

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Table of Contents

Approval.....	ii
Partial Copyright Licence	iii
Ethics Statement.....	iv
Abstract.....	v
Dedication	vi
Acknowledgements.....	vii
Table of Contents.....	viii
List of Tables.....	xi
List of Acronyms.....	xii
Glossary.....	xiii
Executive Summary	xiv
Chapter 1. Introduction	1
Chapter 2. Background.....	6
2.1 An Overview of the Response to Overdose Deaths in Vancouver.....	6
2.2 Economics of Overdose	8
2.3 Prescription Opioids.....	9
2.4 Environmental Impact on Drug-Related Harms.....	11
2.5 Concerns of Police Response Among PWUDs.....	12
2.6 Naloxone	13
2.7 Conclusion	15
Chapter 3. Methodology.....	16
Chapter 4. Case Studies.	25
4.1. Massachusetts	25
4.2. Ontario.	28
4.3. North Carolina	32
4.4. Dispensing Naloxone Kits	36
Chapter 5. Key Themes about Overdose Prevention.....	37
5.1. British Columbia	37
5.1.1. Increasing program comprehensiveness	37
5.1.2. Provincial Structural Barriers to Overdose Education and Naloxone Training and Naloxone Availability.....	38
5.1.3. Potential for a “Good Samaritan” Overdose Prevention Law at the provincial level	40
5.2. Out of province interviews	41
5.2.1. Best Practices for Good Samaritan Laws	41

5.2.2.	Worst Practices for Good Samaritan Overdose Prevention Legislation	41
5.2.3.	Misconceptions about Naloxone Usage.....	42
5.2.4.	Finding the Champion	42
Chapter 6. Quantitative Findings		44
6.1.	Overdose Education and Naloxone Training.....	50
6.1.1.	OENT Option #1.	50
6.1.2.	OENT Option #2.	51
6.2.	Naloxone Distribution	53
6.2.1.	Naloxone by Pharmacists' prescription.....	53
6.2.2.	Nurse's Prescription based on Decision Support Tool (DST).	54
6.3.	Other Potential Policy Options	55
Chapter 7. Criteria and Measures		57
7.1.	Ranking of Objectives	57
7.2.	Measures	58
7.2.1.	Effectiveness.....	58
7.2.2.	Equity	59
7.2.3.	Stigma Reduction.....	60
7.2.4.	Program Implementation.....	61
7.3.	Objectives and Measures- Naloxone Distribution Policies	62
7.3.1.	Health and Safety	63
7.3.2.	Efficiency.....	63
7.3.3.	Cost Efficiency	64
7.3.4.	Stakeholder Acceptability.....	65
7.3.5.	Program Implementation.....	66
Chapter 8. Policy Evaluation		67
8.1.	OENT Option #1.....	67
8.1.1.	Effectiveness.....	67
8.1.2.	Equity	68
8.1.3.	Stigma Reduction.....	69
8.1.4.	Program Implementation.....	69
	Initial Implementation	69
	Achieving Societal Objectives.....	70
8.2.	OENT Option #2 Evaluation	72
8.2.1.	Effectiveness.....	72
8.2.2.	Equity	73
8.2.3.	Stigma Reduction.....	74
8.2.4.	Program Implementation.....	75
	Initial Implementation	75
	Achieving Societal Objectives.....	76
8.3.	OENT Policy Evaluation Summary.....	77
8.3.1.	Summary.....	78
8.4.	Naloxone Distribution Policy Options	78
8.4.1.	Health and Safety	78

8.4.2.	Efficiency.....	79
8.4.3.	Cost Efficiency	80
8.4.4.	Stakeholder Acceptability.....	81
	Acceptability among governing body (College of Pharmacists)	81
	Acceptability among PWUDs	81
8.4.5.	Program Implementation.....	82
	Initial Implementation	82
	Implementation to Achieve Societal Objectives.....	82
8.5.	Naloxone Distribution Policy Option #2.....	83
8.5.1.	Health and Safety	83
8.5.2.	Efficiency.....	83
8.5.3.	Cost Efficiency	85
8.5.4.	Stakeholder Acceptability.....	86
	Acceptability of Governing Body (College of Nurses).....	86
	Drug User Acceptability	86
8.5.5.	Program Implementation.....	86
	Initial Implementation	86
	Achieving Societal Objectives.....	87
8.6.	Naloxone Distribution Policy Evaluation.....	87
 Chapter 9. Recommendations		89
9.1.	Future Considerations	90
9.2.	Methodological Limitations	91
9.3.	Future Research	91
 Chapter 10. Conclusion		92
 References		94
Appendix A.	How I Got Here. (Reflexivity).....	104
Appendix B.	Per Capita Measure of Naloxone Distribution	112
Appendix C.	Survey	114
Appendix D.	BC Stakeholder Interview Schedule.....	117
Appendix E.	Out of Province Stakeholder Interview Schedule.....	118

List of Tables

Table 3.1.	Methodology Outline.....	17
Table 3.2.	Case Study Methodology Overview	19
Table 6.1.	Survey Participant's Responses to demographic question.	45
Table 6.2.	Awareness of VPD Overdose Prevention policy	46
Table 6.3.	Emergency services arrival at overdose among those previously unaware of VPD policy	48
Table 7.1.	Criteria and Measures for OENT Policy Options.	57
Table 7.2.	Measures of Policy Effectiveness.....	58
Table 7.3.	Measure of Effectiveness for Overdose Education and Naloxone Training (OENT)	59
Table 7.4.	Equity Measurement for Overdose Prevention.....	60
Table 7.5.	Reduced Stigma Objectives Measurement	60
Table 7.6.	Implementation Criteria Measure	61
Table 7.7.	Objectives and Measures- Naloxone Distribution Policies	62
Table 7.8.	Health and Safety Measure	63
Table 7.9.	Efficiency for Overdose Response Options.....	64
Table 7.10.	Amount of Naloxone Kits Dispensed	64
Table 7.11.	Cost Efficiency for Overdose Response Options	65
Table 7.12.	Stakeholder Expected Reaction to Policy Change	66
Table 7.13.	Program Implementation Scores	66
Table 8.1.	Summary Evaluation for Policy Option 1	71
Table 8.2.	Overall Evaluation of OENT Options	77
Table 8.3.	Naloxone Distribution Policy Evaluation	87

List of Acronyms

Term	Initial components of the term (examples are below)
BC	British Columbia
BCCDC	British Columbia Centre for Disease Control
CDSA	Controlled Drug and Substances Act
DTES	Downtown East Side (neighborhood in Vancouver, BC)
HAT	Heroin Assisted Treatment
NCHRC	North Carolina Harm Reduction Coalition
OEND	Overdose Education and Naloxone Distribution
OENT	Overdose Education and Naloxone Training
PWUID	Person Who Uses Injection Drugs
PWUD	Person Who Uses Drugs
EMT	Emergency Medical Technician

Glossary

PWUD (Person who Uses Drugs)	Defined as any person who uses drugs illicitly, or who misuses prescribed medication, whether by altering the route of administration (such as injecting drugs rather than taking them orally, as prescribed) or by using greater than the dosage they were prescribed.
Accidental death	An unnatural death (overdose) that was determined to be unintentional.
Drug withdrawal	After habitual use of an opioid drug, users go into a state of physical and mental withdrawal characterized by feelings of restlessness, anxiety, depression, and suicidal thoughts, along with physical symptoms such as vomiting, diarrhea, muscle tension and headache that typically last for 3 to 7 days.
Emergency Medical Technician (EMT)	Healthcare provider that specializes in emergency assistance, often provided by ambulance.
Endorphins	Shorthand term for “endogenous morphine”, endorphins are produced by the human body’s central nervous system to inhibit the chemical transmission of pain signals.
Fentanyl	Fentanyl is an opioid pain killer prescribed by physicians for severe pain. However, it is often sold as counterfeit heroin in illicit markets. The drug is extremely potent, approximately 100 times more powerful than morphine.
Hydromorphone	Sold commercially as Dilaudid, an opioid pain killer prescribed by physicians.
Methadone	An opioid that is prescribed by physicians as a substitute for heroin or other pain killers. Since prescribing the drug is legal, patients can consistently receive daily methadone which prevents them from going into opioid withdrawal.
Naloxone	A drug used to reverse the symptoms of opioid overdose.
OxyNEO	A reformulated version of the prescription painkiller OxyContin. The drug is more difficult to sniff or inject, lowering abuse potential.
Standing Order/Directive	Extends a physician’s prescribing privileges to other people (ie nurses)
Undetermined overdose death	An overdose death in which the British Columbia’s Coroner’s Service is unable to determine if the cause of death is an unintentional accident or an intentional suicide.

Executive Summary

Drug overdose deaths are becoming increasingly common in British Columbia. 2013 recorded the highest yearly total of unintentional, illicit overdose deaths in more than a decade (308 deaths). Many of the recent overdoses can be attributed to a drug called fentanyl being sold illicitly as OxyContin or heroin on street markets. Fentanyl is approximately 100 times stronger than either heroin or OxyContin. Many persons who use drugs (PWUDs) are unsuspectingly using fentanyl, under the impression it is OxyContin or heroin. This is increasing overdose deaths in the province. Additionally, 'licit' prescription opioid users are dying of overdose in increasingly large numbers. In some regions of the province, people are dying of prescription overdose more often than in motor vehicle accidents. Current restrictions on Overdose Education and Naloxone Training, as well as naloxone distribution inhibit the reduction of overdose fatalities in British Columbia.

This paper utilizes a mixed- methods methodology to research how policymakers can reduce overdose fatalities in the province. It relies on qualitative interviews with service providers, policymakers, and researchers both within BC and internationally to discern how other jurisdictions have reduced overdose deaths. It features three case studies from jurisdictions within Canada (Ontario) as well as the United States (North Carolina and Massachusetts). Each case study was selected based on their distribution of a drug, known as naloxone that reverses opioid overdoses. Finally, a survey of street-level PWUDs in Vancouver's downtown Eastside was conducted to gauge awareness of the Vancouver Police Department's overdose prevention policy. The survey was conducted in order to understand the impact of the VPD's policy on illicit drug users calling 911 at the scene of drug overdoses and if this policy should be implemented in other jurisdictions in BC.

Results of the qualitative stakeholder interviews suggest that the province needs to make greater efforts to provide overdose education and naloxone training (OENT) to friends and family members of illicit PWUDs as well as 'licit' prescription opioid users. Naloxone distribution could be improved by making the drug available by pharmacist's or

nurse's prescription. Federal governmental barriers prohibit naloxone from being utilized more fully at the provincial level. Misconceptions surrounding naloxone availability are common among political leadership. Some believe that making naloxone more available will increase risky drug use practices. Structural barriers (fears of police intervention) that inhibit PWUDs calling 911 at the scene of an overdose were identified as increasing overdose deaths.

Case studies suggested that the jurisdictions with the most broadened access to naloxone had higher amounts of drug overdose reversals. Jurisdictions that dealt with regulatory obstacles during the implementation of overdose prevention programs had markedly higher rates of overdose deaths. Those jurisdictions that provided naloxone to law enforcement and fire departments had increased overdose reversals. This is relevant to British Columbia, where law enforcement and fire departments are unable or unwilling to carry naloxone.

Survey results suggest that most PWUDs (73%) were unaware of the VPD's overdose prevention policy. 63% suggested after hearing about the policy, that they were "very likely" to call 911 the next time that they witnessed an overdose. Most Vancouver-based PWUDs felt comfortable calling 911 at the scene of an overdose. Further research with PWUDs in other parts of the province is suggested to determine if a similar policy could be effective in reducing overdose deaths.

Policy options were based on qualitative interviews, survey results, and case studies. Options were divided into two categories: those that focused on providing overdose education and naloxone training (OENT) and those that focused specifically on distributing naloxone to the public. Each OENT option focuses on a separate demographic. OENT option #1 focuses on providing training friends, family members, and licit drug users. Option #2 focuses on expanding OENT to illicit drug users by providing incentives for them to attend trainings in locations such as methadone clinics and detox centres.

Naloxone distribution option #1 is a rescheduling of naloxone on the province's drug formulary which would make the drug available by a pharmacist's prescription.

Option #2 would create a nurse's decision support tool (DST) that would enable nurses to prescribe and dispense the drug.

This paper recommends that OENT be expanded to friends, family members and licit drug users. It recommends that both naloxone distribution options be implemented, as both options are most cost effective than having the drug prescribed by physicians. However, it cautions against considering naloxone as a "magic bullet" solution to the issue of overdose deaths.

Chapter 1.

Introduction

British Columbia recorded 308 unintentional fatal drug overdoses in 2013 (BC Coroners Service, 2014). This is the highest yearly total since 1998. Overdose deaths have been trending upward for several years now, and are an issue increasingly in need of a public policy response (BC Coroners Service, 2012). Since 2009, overdose deaths have increased 43% (BC Coroners Service, 2013). Overdose deaths are currently the third leading cause of accidental deaths in British Columbia (BC Coroners Service, 2012).

Most fatal drug overdoses in the province occur as a result of the use of illicit drugs such as heroin, in which the user is unaware of the potency or purity of the drug, or opioid pain killers such as fentanyl or morphine. This research will focus on users of prescription opioid pain killers, such as oxycodone, fentanyl, and hydromorphone, as well as street-level opioids like heroin. Although pain killers are available by prescription, legally prescribed medications are diverted to people who use them illicitly (Royal Canadian Mounted Police, 2010). Some drugs, like fentanyl are illicitly manufactured and imported into Canada from abroad.

People often overdose as a result of injection drug use, but other methods of administration are increasingly associated with overdose. Persons who use drugs (PWUDs) are defined in this research as any person who uses illicit drugs, or who misuses prescribed medication, whether by altering the route of administration (such as injecting drugs rather than taking them orally) or by using a higher dosage than they were prescribed, or by taking prescription opioids that they were not prescribed. A fatal drug overdose can be defined as the unintentional misuse of a substance that results in the death of the user (accidental death).

An opioid overdose occurs when a person takes more of a substance than their body can tolerate. In response, the central nervous system loses ability to regulate vital functions for life such as breathing and body temperature, and the person becomes unresponsive. Breathing will slow to 10 to 12 breathes per minute. The resulting lack of oxygen results in blue discoloration of a person's lips or skin, snoring sounds, cold and clammy skin, seizures, and muscle spasms. Without enough oxygen, the heart will stop beating and the individual will die. Typically, the period of unconsciousness before a person dies is several hours, although some deaths have been reported in as soon as a few minutes (United Nations, 2013).

Opiate use does not often lead to overdose or death. In fact, the human body naturally produces its own opioid-like substances and uses them as neurotransmitters. Substances like endorphins, enkephalins, and dynorphin are known collectively as the endogenous opioids that occur naturally within the human body. These opioids serve to modify our reactions to physical pain. They also regulate vital functions such as hunger and thirst, and are involved in mood control and immune response (McGill University, 2012).

The reason that opioids such as heroin produce a euphoric affect in PWUDs is that they are pharmacologically very similar to the endorphins that the human body produces naturally (McGill University, 2012). Because they are so similar in chemical composition, opioid drugs are non-toxic to the human body, and the most prevalent side effects of their use include constipation, drowsiness, and impotence. In the case of an illicit drug like heroin, the negative consequences of their use occur as a result of the user either taking too much of the drug or being unaware of the quantity and potency of the drug they are using, or of frequent and habitual use. Due to the prohibition of drugs, the potency of illicit substances are unregulated, which leads to unsuspecting PWUDs to overdose. Method of administration can also impact health outcomes for the user. For example if a drug user is unable to access clean injecting equipment, they are more likely to contract Hepatitis or HIV. The aforementioned drug-use harms are examples of how structural barriers beyond the control of the PWUD can impact their health and wellbeing.

When the body is receiving an opioid drug, the receptors that produce endorphins endogenously are unable to do so. This results in PWUDs having symptoms of physical and psychological withdrawal, also known as “dope sickness” when they are unable to use the drug, as their bodies are temporarily unable to produce endorphins. These symptoms can range in severity, but often include anxiety, depression, suicidal thoughts, vomiting, nausea, and diarrhea. The duration of these symptoms can vary from 3 days to two weeks, depending on the drug(s) that the PWUD is withdrawing from.

People who report having experienced trauma, abuse, or physical or mental illness have been found to have a higher likelihood of developing a problematic relationship with a substance. One study suggests that 60% of substance abusing women experienced sexual abuse in childhood, 55.2% experienced physical abuse, and 45.9% experienced emotional abuse (Medrano, et al. 1999). Comparatively, studies indicate a prevalence of child sexual abuse in women with estimates ranging from 9 to 28% in the general population (Douglas & Finkelhor, 2005). Another study found similar results among a population of substance abusing men and women, where 44% reported emotional neglect and 65% reported sexual abuse (Medrano, et al 2002). ‘

Research on mental health suggests that attention deficit hyperactivity disorder (ADHD) is a significant predictor of substance abuse (Biederman, et al. 1995). Illomaki et al. found that over 50% of adolescents with phobic (anxiety) disorders developed substance dependence within three years of the onset of symptoms (2004).

Despite histories of trauma and mental illness, stigmatization often leads PWUDs to avoid substance dependency treatment. Discriminatory attitudes among the general population and non-specialist professionals represent a significant barrier to treatment access (Lloyd, 2013). PWUDs, particularly PWUIDs, are often perceived as dangerous, amoral, and criminally active. Terms such as “junkie” or “fiend”, contribute to a sense of alienation among this demographic. Surveys suggest that the general population attach a high degree of blame to PWUDs for their drug use and its negative consequences. They also suggest a greater degree of stigmatization compared to those with mental illness (Lloyd, 2013). Stigmatization also extends to family members, who report a sense of shame and a fear of others blaming them for a PWUD’s behavior (Lloyd, 2013).

Likelihood of overdose is impacted by many factors. Using opiates with other drugs, particularly, benzodiazepines or alcohol, having a history of injection drug use, using after abstaining for a period of time and being unaware of the symptoms of overdose all increase the likelihood of an overdose, or of an overdose becoming fatal (United Nations, 2013). Using alone, or using after starting or tapering another opioid drug can also increase the likelihood of an overdose. When prescription opioid drugs like OxyContin are delisted, or reformulated to lower abuse potential (see Ontario case study), this can have the unintended consequence of turning PWUDs to other substances to compensate (Carter & Graham, 2013). In some jurisdictions, this has led people that formerly used prescription opioids to use heroin (Lankenau et al. 2011). This is problematic because the potency of heroin purchased illicitly can vary greatly. PWUDs have no way of determining how strong the drug they're using is, which increases the risk of overdose. These factors contribute to the preventable nature of each overdose death.

This paper is divided into sections. Chapter 2 will give the reader an understanding of the background regarding this issue in British Columbia, successful policy interventions enacted in other jurisdictions, and barriers to overdose prevention. Chapter 3 will describe the methodology that this research utilizes. Chapter 4 includes three jurisdictional case studies focused on overdose prevention. Chapter 5 describes the qualitative findings of the paper. Chapter 6 describes the quantitative findings of the paper. Chapter 7 will illustrate the potential policy options that will inform the policy recommendations. Chapter 8 focuses on criteria and measures that will be used to evaluate each policy option. Chapter 9 is an evaluation of the policy recommendations. Chapters 10 and 11 provide final recommendations and conclusions.

This research will answer the following questions:

- What role can public policy in British Columbia play in reducing drug overdose deaths?
- Have policies in other jurisdictions successfully reduced overdose deaths?
- How can legislative changes reduce fatal drug overdose deaths?

- Are street-level people who use drugs aware of the Vancouver Police Department's policy of not responding to drug overdose 911 calls unless they are fatal? Does awareness of this policy influence behavior?

Chapter 2. Background.

2.1 An Overview of the Response to Overdose Deaths in Vancouver.

During the 1990's, British Columbia could average up to 417 drug overdose deaths per year, many of which occurred in Vancouver's downtown Eastside (DTES). At its peak, overdose became the leading cause of death among British Columbians aged 30 to 49 (Millar, 1998). Comparisons to Canada's largest city, Toronto, illustrate the differences in the severity of this epidemic. Although both cities comprise the largest populations of street-level PWUDs in Canada, PWUDs in each jurisdiction differ in crucial ways. Vancouver has a highly visible concentration of street-level PWUDs that smoke crack cocaine, but also inject heroin and cocaine. Toronto's drug scene is highly dispersed, with oral use of pain killers and crack smoking being the most predominate drug activities. In 1998, 35 fatal overdoses per 100,000 residents were reported in Vancouver, while Toronto averaged about 5 fatal overdoses per 100,000 residents. Provincially, British Columbia averaged 10 fatal overdoses per 100,000 people, while Ontario averaged 5 per 100,000 (Fischer, et al. 2006).

Estimates suggest that fifteen thousand British Columbians regularly injected drugs during this era, 25% of which were HIV positive and 88% of which had Hepatitis C (Campbell, Boyd & Culbert, 2009). In the early to mid-1990s, at the height of the overdose crisis, Vancouver's DTES became a hotbed for community activism. PWUDs expressed their feelings of exclusion and alienation in public demonstrations. Bud Osbourne, a drug user, became politically active and spoke on behalf of DTES residents. Osbourne started the Political Response Group, which was outspoken about the living conditions in the DTES. He was appointed to Vancouver's Health Board and convinced it to declare a public health emergency because of the high rates of HIV/AIDS and overdose fatalities in the DTES (Campbell, Boyd & Culbert, 2009).

Ann Livingston started Vancouver's first supervised injection site in 1995. Along with Osbourne, she organized DTES PWUDs into a politically active coalition called the Vancouver Area Network of Drug Users (VANDU). She also founded PIVOT legal society in 2002. Livingston and Osbourne's efforts entered BC's policy agenda and led to new strategies to reduce deaths within this population, including the Insite safe injection room in Vancouver, the Vancouver Police Department's policy of not responding to overdose 911 calls, and heroin-assisted treatment trials (HAT) (Campbell, Boyd & Culbert, 2009).

Insite and HAT have both been responsible for reductions in overdose fatalities and HIV contractions, as well as an overall increase in the living standards of the PWUDs utilizing these programs. Both of these programs contribute to a sense of dignity and self-respect among their participants. They are the most efficient way to connect PWUDs to health and social services in the greater Vancouver area.

After falling for several years in the early 2000s, fatal overdoses have once again become an increasingly common cause of death in the province. Despite the fact that most overdose deaths are preventable, it is the third leading cause of accidental death in British Columbia (23.5%), after motor vehicle accidents (27.1%), and slip and falls (28.5%) (BC Coroners Service, 2009).

Between 2002 and 2010, 75.6% of all overdose deaths were males. In 2010, the Metro Vancouver area had the highest amount of fatal drug overdoses, at 7.6 per 100, 000, the Interior region had a rate of 5.8 deaths per 100, 000, the Fraser region had a death rate of 4.94 per 100, 000, while the Island and Northern regions of the province had the lowest, at 2.91 and 2.15 per 100, 000, respectively (Vallance, et al. 2012).

Among three high-risk groups of PWUDs, including street-level youth and adults, as well as recreational PWUDs, 54% of adults, 49% of youth, and 43% of those who use recreationally reported ever having overdosed. When asked if they had experienced an overdose within the last six months, street-involved youth indicated that they were almost twice as likely compared to street-involved adults, or recreational PWUDs (Valance, et al. 2012). Among injection PWUDs, heroin was the most frequently identified substance involved in the most recent overdose. Street-involved youth in

Victoria and Vancouver report receiving hospital or paramedic care in only 43% of overdose events, despite being in the presence of another person 91% of the time. While adults indicated receiving medical care in 66% of overdose events, despite being in the presence of someone else 73% of the time (Valance, et al. 2012).

2.2 Economics of Overdose

Deaths related to poisonings (which were overwhelmingly drug overdoses) in BC in 1998 were responsible for a \$216 million economic burden (see appendix). Indirect costs denote the majority of economic damages, representing \$201 million. Indirect costs are the losses that result from an individual's inability to perform their economic activities, and are measured through foregone or lost income (Smart Risk, 2001). These costs do not capture a sense of loss of the psychological and social wellbeing of affected families or communities, and should be considered a conservative estimate. Direct costs are the healthcare costs that occur when an overdose victim is hospitalized, and represent \$15 million of the reported costs (Smart Risk, 2001).

In a narrow economic sense, research based on Insite, Vancouver's supervised injection facility suggests each overdose death in BC costs the economy approximately \$660, 000 (Andresen & Boyd, 2010). These numbers only take into account tangible costs such as loss of income, as well as medical costs. The number is based off the average income of a BC resident, measured by the province's GDP per capita, at \$33, 640 per year. The average age of an Insite user is 35 years old, assuming retirement at age 65, a prevented overdose death is measured by GDP per capita, multiplied by the remainder of the average Insite user's potential timespan to work, 30 years. Future earnings are discounted at 3 per cent, and this adds up to \$660, 000 per prevented overdose death (Andresen & Boyd, 2010). In 2013 there were 301 fatal drug overdoses, for a total economic cost of \$212.5 million. However these costs do not include the increased levels of stress, anxiety and depression for the friends and family of the deceased. Each of these external costs amounts to an economic, psychological and emotional burden for the province of British Columbia to carry.

A study by Inocencio et al. that measured the economic costs of a drug overdose concluded that one drug overdose costs \$37, 274 (2013). Direct costs come in the form of emergency department visits and inpatient hospitalizations. The average cost of a single ER visit was \$1, 832, while an ER visit that included a hospital stay afterward cost an average of \$9, 732. Lost productivity and mortality due to drug overdose were considered to be indirect costs. These costs were estimated using the human capital method, which measures lost productivity in terms of lost potential earnings. Indirect costs amounted to \$33, 267 (Inocencio, et al. 2013).

2.3 Prescription Opioids

Usage of pharmaceutical opioids represent a large portion of overdose deaths in BC. In 2010, licit, prescription usage of opioids were responsible for 53 unintentional or undetermined overdose deaths. This number does not include deaths associated with the illicit use of pain killers. In the interior region of the province, rates of pain killer-related overdose deaths are identical to the rate in which BC residents die in alcohol-related vehicle fatalities (Barss, et al. 2012).

One of the most common reasons for the prescription of high strength opioids is chronic pain. Chronic pain is defined as “an unpleasant emotional or sensory experience that persists beyond the expected timeframe for healing or that occurs in disease processes in which healing may never occur” (Ospina & Harstall, 2002, p. ii). Research suggests that anywhere from 16 to 41% of Canadians experience chronic pain, depending on the sample and definition of chronic pain that is used. Schopflocher, et al. report that 21.8% of BC residents suffer from chronic pain (2011). Chronic pain is commonly identified as a reason for prescription, and over half of Canadians with chronic pain have to wait at least six months to see a pain specialist (Ulan, Davison, & Perron, 2013).

Due to these wait times, primary care physicians write the vast majority of pain killer prescriptions in the country. However, physicians are often not properly trained in chronic pain and addiction management (Ulan, Davison, & Perron, 2013). Improper prescribing practices are often the result of a lack of education and awareness on how to

properly treat chronic pain. This has created a lack of understanding of pre-existing treatment options for those suffering from chronic, non-cancer pain. This issue was serious enough to develop the Canadian Guideline for Safe and Effective Use of Opioids for Chronic, Non-Cancer Pain which was created on behalf of prescribers (Ulan, Davison & Perron, 2013).

In response to an increasingly severe epidemic, tighter restrictions were placed on one pharmaceutical drug commonly associated with abuse and overdose, OxyContin (see Ontario case study). As prescriptions written for OxyContin fell after OxyNEO's introduction in 2012, prescriptions for stronger opioids increased (see Table 1). Prescriptions written for fentanyl increased in both BC and Ontario, as did prescriptions for hydromorphone (Fischer, Jones & Rehm, 2014). Usage of fentanyl was responsible for 50 overdose deaths in 2013, and is already responsible for 27 deaths in the first four months of 2014 (BC Coroners Service, 2014). Although fentanyl is made available through prescription, most of the overdose fatalities related to the drug are from people who obtained or used the drug illicitly. Drugs sold as OxyContin or heroin within the province are often made illicitly with fentanyl being the active ingredient (Canadian Centre on Substance Abuse, 2013). Fentanyl sold on illicit markets is typically diverted from legal medical prescriptions, or produced in clandestine laboratories when the drug is sold as OxyContin or heroin. In October 2014, a powdered form of fentanyl that was sold as heroin was responsible for a record 31 overdoses over two days at Vancouver's safer injection site, Insite (Hume, 2014). This sudden increase in overdoses punctuates the need for swift policy intervention, but also how macro-level policy decisions can impact PWUDs and their communities.

The increasing popularity of fentanyl is alarming for several reasons. Primarily, the drug is extremely potent. Fentanyl is approximately 80 to 100 times stronger than a similar opioid drug, like morphine. Typical doses of the drug are not measured in grams, like cocaine, or milligrams, like a typical pharmaceutical drug. Doses of the drug are active at extremely small amounts, and pharmaceutical indications measure an active dose of the drug in micrograms. To illustrate, one dose of prescribed morphine would be 50 milligrams, whereas one dose of prescribed Fentanyl would be closer to 50 micrograms, an amount one hundred times smaller. With doses active in such small

amounts, it becomes incredibly difficult for PWUDs to determine the amount of the drug that they are using, and this increases the risk for overdose (Canadian Centre on Substance Abuse, 2014).

Most prescriptions of fentanyl are written for patients over eighty years old. Prescriptions for fentanyl are often dispensed in the form of transdermal patch. This means that the drug is placed on the patient's skin, and is absorbed into the bloodstream in a time released manner. Since fentanyl is extremely potent, it is typically utilised in patients with a pre-existing opioid tolerance, or patients with the inability to swallow (National Health Service Australia, 2006). An Australian study indicates that most deaths related to fentanyl were in men under 47 years old, 54% of which had a history of injection drug abuse (Roxburgh et al, 2013). Since many elderly patients have longer histories of opioid prescription, as well as difficulty swallowing, the drug is commonly prescribed to this demographic.

2.4 Environmental Impact on Drug-Related Harms

Traditionally, the institutional approach to drug abuse places the blame on the PWUD for the harms (overdose, criminal activity) related to their usage (Rhodes, 2009). However, this approach hampers the ability of institutions to respond and reduce the harms associated with drug use. The impetus is on the PWUD to change behaviour, with no acknowledgement of the social and political context in which they exist. In this framework, individuals and communities are blamed for the harms related to drug use. The social and political institutions that PWUDs live their lives within are not considered to be relevant to their behavior or their circumstances (Rhodes, 2009).

A risk-environment framework acknowledges the everyday risks and circumstances that a PWUD lives within. It widens the scope of understanding risk-related harms by including the social, political, legal and economic context of drug use, both at the individual-based micro level, and at the macro level (Rhodes, 2009). For example, in some jurisdictions, street-level PWUDs resort to injecting drugs in alleyways, with used equipment that increases their likelihood of contracting HIV or Hepatitis C. The risk environment framework looks beyond the user to the legal and policy context of their

actions (Rhodes, 2009). Depending on the jurisdiction, PWUDs may have to pay for syringes, or access to them may be severely hampered by laws or policy. This leads some PWUDs to reuse or share injecting equipment, leading to increased risk of contracting disease (Avert, 2013).

2.5 Concerns of Police Response Among PWUDs

Fear of police involvement and arrest due to the legality of the substance being used is frequently identified as the primary barrier to PWUDs phoning 911 in an overdose emergency. The legality of the substance being used also impacts the likelihood of 911 being called. A Canadian survey cited that 58% of PWUDs suggested that the criminal justice system was a barrier to calling 911 in the event of an OD. 24% said that losing custody of children was a barrier, with a much larger proportion of female respondents with children indicating this as a potential barrier (73%). 24% of the overall study said that negatively effecting a relationship with an employer was a barrier, with 38% of employed people suggesting this as a reason (Follett, et al. 2012).

Despite most PWUDs being aware of the symptoms of an overdose, many PWUDs may not realize the symptoms are life threatening and do not contact 911 as a result. Research suggests that brief trainings with PWUDs can increase recognition of overdose symptoms and increase the likelihood of bystanders to respond appropriately (Jones et al. 2014). Research by Tobin, et al., suggests that having ever experienced an overdose and having four or more bystanders independently at the scene of an overdose decreased the odds that 911 would be called (2005). When too many people are present at the scene of an overdose, people feel less responsibility to personally intervene (Tobin et al, 2005). Having a female at the scene and having previously witnessed an overdose increased the likelihood of calling 911 (Tobin et al 2005). Because of the fear of police intervention, some PWUDs prefer to leave the victim in a visible public place rather than telephone 911 (Tobin et al. 2005).

Analyzing the apprehension of PWUDs to call 911 within the environmental risk framework helps us understand the greater structural barriers (fear of police involvement) that worsen drug use-related harms (fatal overdose). What makes this

issue even more problematic is the rarity in which PWUDs are actually arrested at the scene of a drug overdose. In a survey of King County, Washington police officers, only 1% of officers arrested someone at the scene of an overdose, although 25% confiscated drugs or paraphernalia (Banta-Green et al, 2013).

Vancouver's Police Department implemented a policy in response to PWUD fears of police involvement. This policy can be characterized as a structural-level intervention designed to reduce the barriers that inhibit PWUDs from calling 911 at the scenes of overdoses. VPD's overdose prevention policy reduces their attendance at overdose scenes by mandating that the VPD only respond to overdose 911 calls when they involve violence, the death of the PWUD, or responding paramedics request that the VPD attend (See chapter 6 quantitative findings).

2.6 Naloxone

One intervention that has been increasing in popularity across the world is the distribution of naloxone, a drug that reverses the effects of an opioid drug overdose. The drug is not psychoactive and does not cause any intoxication. The drug can be administered intramuscularly (injected into a muscle), intravenously (injected into a vein), or intranasally (inhaled through the nose). After being administered, the drug takes between 2 and 8 minutes to take effect. The drug reverses the effects of other opioids because it has a stronger affinity to opioid receptors in the brain, and thus it temporarily reverses the effects of an overdose. The drug lasts between 60 and 90 minutes, and it is possible for overdose symptoms to return after the drug has worn off. Because of this, naloxone kits typically include two doses of the drug (Toward the Heart, 2015).

Naloxone is on the World Health Organization's List of Essential Medicines, which is a list of the most important medications needed in a healthcare setting (World Health Organization, 2013). It has been proven to be a cost-effective intervention to prevent fatal drug overdoses. Coffin and Sullivan ran a cost-effectiveness model of distributing naloxone to 20% of heroin users in comparison to no distribution of the drug at all (2009). The authors use a baseline cost of \$25 for each Naloxone kit, \$3 for other costs, and \$10 for staff time and other distribution costs. An incremental cost of the

intervention of less than \$50, 000 is considered cost effective by policymakers per each life year gained. Naloxone distribution programs amounted to an incremental cost of \$438 per life year gained, well below the \$50, 000 threshold for cost-effectiveness (Coffin & Sullivan, 2009). Even at the most conservative estimates, with an incremental cost of \$14, 000 per life year gained, the drug is well below the cost-effectiveness threshold (Coffin & Sullivan, 2009).

26.2% per cent of drug users report participating in a treatment program within thirty days after suffering an overdose (Pollini et al. 2006). Thus, having access to naloxone can also be a potential facilitator for drug users to enter treatment services. Overdose awareness training typically accompanies naloxone distribution, and drug users report using skills learned at the trainings at a greater rate post-training (Tobin, et al. 2009).

One issue is that after training, fewer PWUDs report calling 911. Prior to training, 35% of PWUDs indicated that they would rather administer naloxone than call 911. Post-training, this number increased to 62% (Tobin et al. 2009). Interaction with health services can be a crucial opportunity to get drug users to enter treatment or receive healthcare.

Many jurisdictions are implementing overdose education and naloxone training (OENT) programs in order to reduce fatal drug overdoses. British Columbia's OENT program shows promising results for the use of this drug in reducing fatal overdoses. Research suggests that the product is easy for the layperson to use. In British Columbia, 836 kits have been given out to PWUDs, 85 of which have been used to reverse drug overdoses (Banjo et al, 2014).

Structural barriers inhibit widespread distribution of naloxone, which increase the harms related drug use and overdose. In British Columbia, naloxone is only available by prescription, this is based on Health Canada regulations at the Federal level of government. In order for service providers to participate, they must have the cooperation of a prescriber, a trainer, and a dispenser, as well as approval from local health authorities. In order to obtain a kit, drug users must participate in a training seminar that explains the symptoms of overdose, and how to prevent and respond accordingly.

Friends, family members and service providers can also participate in the training, but a prescription to naloxone can only be written for someone with a history of opioid use (Banjo et al. 2014). Often times the person who is suffering the overdose is unresponsive and unable to use naloxone on themselves. If they are living with concerned family members or friends who are unaware of where the naloxone kit is stored, an overdose can potentially turn fatal.

Other jurisdictions have overcome this obstacle by issuing a “standing order”, which essentially means that the authority of a physician is extended to other healthcare workers when certain criteria are met (see case studies). In North Carolina, any healthcare worker who is trained can dispense naloxone to drug user, friend, family member, or “other person in a position to assist a person at risk of experiencing an opiate-related overdose” (North Carolina Public Health, 2014). This broadens access to essentially anyone willing to participate. Other jurisdictions have expanded access to this drug, including to fire fighters, police, and EMS. In Massachusetts, communities that participate in the state’s take home naloxone program have lower rates of fatal drug overdoses compared to those that do not (Davis et al, 2014).

2.7 Conclusion

Drug overdose is a leading cause of preventable death in British Columbia. Current restrictions on Overdose Education and Naloxone Training, as well as naloxone distribution inhibit the reduction of overdose fatalities in British Columbia.

Structural barriers also make it more difficult for drug users to call 911 at the scene of an illicit overdose. The stigma that can characterize the lives of illicit drug users is manifesting itself in new ways,

Chronic pain diagnoses lead to increased opioid prescription, and increased diversion of these medications to illicit markets. Both illicit and licit drug users need to be targeted with OENT.

Chapter 3. Methodology

A mixed methods approach was taken to investigate the research questions. Four methods comprised the mixed method approach:

- 1) Literature review
- 2) Survey of People with UD's.
- 3) Semi-structured interviews
- 4) Case studies including assessment of grey literature (eg government documents and media articles), academic literature and semi-structured interviews with key informants.

The following table outlines the research methods used to address specific research questions:

Table 3.1. Methodology Outline

Research Question	Methodology
How can Public Policy Reduce Fatal Drug Overdoses in BC?	<i>Literature Review to organize and understand which policy options would be appropriate for BC. Semi-structured interview with representative from the BC Centre for Disease Control.</i>
How can legislative measures reduce fatal drug overdoses in BC?	<i>Literature Review to understand how legislation can alter public health outcomes specific to drug overdoses. Semi-structured interviews with American representatives experienced with the implementation of state-level overdose prevention legislation. (representatives from NAMSDL and Northeastern University) Semi-structured interview with Pivot Legal Society</i>
Are PWUDs aware at the local Vancouver level of the Police department's policy of not responding to overdose Calls unless they are fatal? Would awareness of this Policy influence their future behavior?	<i>Informational interview with representative from Vancouver Police Department for policy clarification. Quantitative survey with illicit, street-level PWUDs in Vancouver's downtown Eastside</i>
How have other jurisdictions reduced fatal drug overdoses?	<i>Three case studies based on the hypothesis that jurisdictions with expanded access to naloxone have reduced rates of fatal overdoses.</i>

3.1 Literature Review

The literature review was conducted between June and November 2014. The review was based on identification and review of Canadian, American, other international academic and grey literature sources. Academic peer reviewed sources were located through Google Scholar and SFU Library online. Grey literature sources were found through Google's search engine. Search terms for both the academic and

grey literature were: “drug overdose education”, “good samaritan laws”, “public health law”, “drug overdose prevention”, “naloxone”, “naloxone statistics” and “policy”.

3.2 Case Studies

This sections focuses on using grey literature (government documents and news articles) as well as peer reviewed published research articles to describe how overdose prevention initiatives were established in other jurisdictions, if they were successful in reducing overdose fatalities, and how they distributed naloxone. Due to the fact that naloxone distribution programs have become increasingly common in North America, jurisdictions with these policies were specifically targeted. Outside of British Columbia, there are no North American jurisdictions that have implemented heroin-assisted treatment or supervised injection programs. These are examples of overdose prevention initiatives that could not be considered because no programs existed for comparative analysis.

Stakeholders interviews were utilised for one case study (North Carolina), under an identical recruitment process as described in section 3.3. Questions for these interviews were the same as those used for Appendix E. However, interview participants for this section were also asked by the interviewer to provide an overview of their program, describe how their program was implemented, and the barriers and successes of their program.

An additional brief, strictly informational interview was also conducted with program representatives from Learn2Cope in Boston, Massachusetts. This interview was conducted to provide an overview and history of their program, which combines OENT, as well as peer-based support for concerned family members of PWUDs. Ontario’s case study was pieced together from media reports and journals articles, along with a personal email correspondence with a representative from Waterloo, Ontario’s Crime Council. Furthermore, personal correspondence with a representative from Waterloo, Ontario’s overdose prevention program was conducted to clarify issues mentioned in the case study documents.

Data analysis of this material followed the general principles of thematic analysis (Braun and Clarke, 2006) in which familiarity, categorisation and thematisation were all undertaken (see above section 3.3)

Table 3.2. Case Study Methodology Overview

Jurisdiction:	Grey literature documents	Peer reviewed documents	Interview Guide:
Massachusetts	<p>Government documents:</p> <p>Massachusetts Department of Public Health (2014). Findings of the Opioid Task Force and Department of Public Health Recommendations on Priorities for Investments in Prevention, Intervention, Treatment and Recovery.</p>	<p>Davis C, et al. (2014). Expanded Access to Naloxone Among Firefighters, Police, and EMTs in Massachusetts.</p> <p>Walley et al. (2013). Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: interrupted time series analysis.</p> <p>Powerpoint presentation:</p> <p>Walley, A (2013). Preventing Opioid Overdose with Education and Naloxone Kits. Presentation.</p>	<p>Informational interview with representative from Learn2Cope.</p>
Ontario	<p>Media articles:</p> <p>Boyle, T (2014). A methadone dispute and a system in trouble.</p> <p>Diebel, L (2012). Critics allege OxyNEO was introduced in Canada because of impending patent expiry.</p> <p>Gallant, J (2013). Drug addiction: Ontario buys naloxone, an overdose life-saver, then locks it up.</p> <p>Jeffrey, T (2013). Heroin drug abuse on the rise in the past year.</p> <p>Ogilvie, M (2012). OxyContin replaced by explosion of small-town heroin use.</p> <p>Paperny, A (2014). UPDATED: Opioids killing more Ontarians than ever, coroner's numbers show.</p> <p>Werb, D (2015). Oxy Town.</p>	<p>Albion, C (2010). Contributing Factors to Methadone-Related Deaths in Ontario.</p> <p>Cicero, T & Surrat, H (2012). Effect of abuse-deterrent Oxycontin.</p> <p>Fischer B, Jones W, Rehm J (2014). Trends and changes in prescription opioid analgesic dispensing in Canada 2005-2012: an update with a focus on research interventions.</p> <p>Gomes, et al. (2014). The burden of premature opioid-related mortality.</p> <p>Gomes, et al. (2012). Reformulation of Controlled-Release Oxycodone and Pharmacy Dispensing Patterns Near the US-Canada Border.</p> <p>Guthrie, K. & Marshall, C. (2011). Peer Naloxone: a harm reduction approach to overdose prevention.</p>	<p>Personal correspondence with a representative from Waterloo, Ontario's overdose prevention program.</p>

		Sproule et al. (2009). Changing Patterns in Opioid Addiction.	
North Carolina	N/A	Whitmire J & Adam G (2010). Unintentional Overdose Deaths in the North Carolina Medicaid Population: Prevalence, Prescription Drug Use and Medicaid Services.	Interviews with two representatives from North Carolina Harm Reduction Coalition. Appendix E

3.3 Semi-Structured Interviews

Design: This section of the research was conducted for several different reasons. For interviews conducted with provincial participants, the major goal was understanding how public policy can reduce overdose fatalities in British Columbia. The interview schedule for this section of the research is included in Appendix D. A semi-structured interview schedule was utilized to allow for more complete and less brief, close-ended responses from participants. Talking freely about the issues enabled participants to reveal their own perspectives and give more nuanced information to inform the research. As such, the interview schedules were used simply to facilitate rather than closely direct the interviews.

Questions were derived from a review of the existing literature the literature. For example, questions regarding institutional barriers to overdose prevention were derived from Rhodes (2009) risk reduction framework which proposes that institutional barriers can worsen drug-use harms. Questions regarding policy intervention were focused broadly on overdose efforts, but also specifically on naloxone. Both were included to consider various methods of addressing the issue of drug overdose, specifically on disregarding potential solutions that were not previously considered during the literature review. Other questions were posed based on overdose prevention presentations that I attended hosted by the University of British Columbia's School of Public Health. Attending these presentations allowed me to ask focused questions on aspects of the program that I had previously learned about.

Sample and Recruitment: Representatives from the following organizations participated in stakeholder interviews:

- British Columbia Centre for Disease Control
- British Columbia's Ministry of Justice
- Pivot Legal
- Harm Reduction Coalition
- National Alliance for Model State Drug Laws
- Northeastern University

American stakeholder interviews were based on interviewing participants from jurisdictions with Good Samaritan laws, or national bodies responsible for the drafting of Good Samaritan laws. Jurisdictions at the state level in the United States commonly utilize legislative action to address overdose deaths. For example Good Samaritan overdose prevention and naloxone distribution laws are becoming increasingly common at the state level in the United States. Questions for this section were derived from several different presentations I witnessed at the National Harm Reduction in Baltimore in October 2014, see Appendix F for questions. This conference was focused on harm reduction and overdose prevention policy in the United States.

The inclusion criteria for qualitative stakeholder interviews is based on the participant's experience in relation to overdose prevention related topics, particularly with Good Samaritan and naloxone legislation.

Most interview participants were emailed to ask if they were willing to participate. However, some participants were approached at the National Harm Reduction Conference that occurred in October 2014. Each participant was sent an email indicating the request for the interview, and a request for a scheduled time acceptable to both parties. If the prospective participant agrees to be interviewed, they are sent a consent form outlining the interview process, including how the participant's information will be stored, how the interview will be conducted, the risks and benefits of participating and how consent will be communicated.

Procedure and Data Handling: Each interview was completed over landline telephone, and was recorded on the researcher's cellphone. This information was then

transferred to the researcher's laptop and deleted from their cellphone. Each interview was then digitally transcribed by the researcher on Microsoft Word.

Data Analysis: Transcribed interview data were analysed using the key steps outlined in Braun and Clarke (2006). Firstly, I familiarised myself with the data by reading the transcripts several times. Then I grouped data with the same or similar meanings into categories. These were then combined into groups denoted by specific themes. For example if an interview spoke about barriers to overdose prevention, these responses would be categorized within the theme "OD prevention barriers". From there, these responses were categorized into subcategories depending on the qualitative aspects of the barrier. For example barriers that are associated with a lack of awareness for overdose prevention policy among PWUDs were subcategorized under "lack of awareness-PWUDs".

3.4 Survey with Persons Who Use Drugs

Design: The survey was designed to measure awareness of Vancouver Police Department's "do-not respond" policy when receiving 911 drug overdose calls. The purpose was to explore awareness of the policy among street-level PWUDs, and if awareness of the policy influences a PWUD to call 911 to report a drug overdose. A 'street survey' was deemed to be the best design in order to ask the appropriate population, given the relative vulnerability of the population and the level of suspicion they can hold towards official representatives. This reduced the time during which the survey could feasibly be conducted to under five minutes. The survey was designed to be very direct, asking only one demographic question (to ensure respondents were not concerned about privacy issues) and one question regarding emergency service attendance at the overdose scene. Due to the sensitive nature of law enforcement policy, I contact the Vancouver Police Department to receive clarification on the policy. I met with a VPD representative who explained that the police will respond to an overdose if the following circumstances occur: a) If the overdose turns fatal. b) If the overdose scene involves violence. c) If paramedics request that the police secure the scene. To improve the accuracy of responses, the policy was briefly explained in the survey, prior

to questions on it being posed. This also ensured that respondents understand that the VPD will respond to overdose 911 calls under the aforementioned circumstances.

If respondents indicated that they were unaware of the policy, they were asked how their future behaviour would change based on newfound policy awareness. In order to determine how frequently the police attend the scene of drug overdoses, survey respondents were also asked to specify which emergency services arrived at the scene of the last overdose that they witnessed. This question was included based on the suggestion of the Executive Board of the Vancouver Network of Drug Users, who told me that many of their members reported VPD attendance at overdose calls, despite the overdose prevention policy being in effect.

The survey also included questions that asked participants to write in their responses, rather than circle an answer on a pre-constructed answer scale. These questions were used to have respondents elaborate further on previous responses. For example, here is one section of the survey questions that illustrates this:

3) If you answered yes, did awareness of this policy influence your decision to call 911 the last time you witnessed a drug overdose?

Yes

No

Don't Know

4.) Please explain your answer further here:

The final survey instrument is included in Appendix C.

Recruitment and Procedure: I was granted permission by VANDU's board of directors to solicit members of the organization within the building's lobby area. I approached VANDU members by introducing myself and asking if they were willing to participate in survey research regarding their experiences with the Vancouver Police Department and drug overdoses. Respondents were offered an incentive for participating (Tim Horton's donuts). If they indicated that they were willing to, I handed

them a copy of the survey, and contact information for supports within the community. I approached approximately 50 people in order to receive 28 survey responses (success rate of 56%).

Each survey was self-administered by participants. The drawback to this approach was that I was not able to clarify any arising issues related to the questions if participants were confused by them, and I was unable to ask follow up questions that may have come up based on their written responses. Due to the small number of questions, the survey typically took under 5 minutes for respondents to complete.

Data Analysis: Basic descriptive statistics were used to produce frequency and percentage information in relation to each closed response question. With respect to open ended questions, these responses were grouped by similarity. Responses which suggested that respondents would call 911 regardless due to the urgent nature of the situation were coded as “Emergency-would call 911 regardless”. Participants that indicated they would not call 911, because they knew how to revive someone without the need for help were coded as “Doesn’t call 911- response educated”. I coded and analyzed the survey data by hand, and did not use quantitative or qualitative computer software to assist me. Due to the small volume of completed surveys (n=28), this process was minimally time consuming, and using quantitative software to complete regression analysis was unnecessary with so few variables.

Ethical considerations: As this presented respondents with a sensitive topic that could potentially trigger feelings of anxiety, depression, and stress, informed consent was achieved and ensuring respondent safety was paramount. In this respect, contact information for culturally relevant support services was included with the survey. Additionally, I also had to ensure my own safety because of my experience as an ex-drug user. Vancouver’s downtown Eastside has a reputation for illicit drug use in public places, and working in this section of the city could potentially lead to drug cravings. I made sure that if drug-related feelings arose, I would have access to recovery-based supports in the nearby area. Additionally, representatives from VANDU were aware of my status and enquired frequently to ensure my safety.

Chapter 4. Case Studies.

The following case studies were selected based on the respective jurisdiction's implementation and delivery of an OENT program. The Massachusetts case study highlights a program that has been established for a longer period of time (since 2006). It has also been innovative in efforts to distribute naloxone to non-drug using groups such as police and concerned family members. This case study was informed by research articles as well as a brief informational interview regarding the state's peer-based support program for family members of PWUDs. Ontario's program has encountered legislative barriers, and the issues that led to its development illustrate an important lesson for policymakers. This case study was informed by peer-based research as well as media reports. North Carolina's program utilizes a distinct method of distributing and prescribing naloxone, and is included as a case study for this reason. The North Carolina case study was informed by interviews with two representatives from North Carolina's Harm Reduction Coalition, as well as several media reports about the organization.

4.1. Massachusetts

In response to overdose rates increasing 90% from the year 2000, from 5.1 deaths per 100,000 to 10.1 deaths per 100,000, in 2012, the state of Massachusetts implemented an Overdose Education and Naloxone Distribution (OEND) program (Massachusetts Department of Public Health, 2014). The program addresses overdose by educating those at risk for an overdose as well as concerned bystanders like friends or family. Participants are trained to recognize the signs of an overdose, seek help, rescue breathe, use naloxone, and stay with the person who is overdosing.

The Massachusetts OEND program began in 2006, when two community public health agencies began providing overdose prevention training. Naloxone is distributed

by a written, “standing order” authorized by the Massachusetts Department of Public Health that allows the drug to be distributed by designated people, such as harm reduction or social service providers. It authorizes approved trainers that have completed a four hour training course to possess and distribute nasal naloxone to PWUDs, service providers, friends and family. This proved to be a successful method of disseminating awareness of the program to at-risk populations.

The standing order authorizes participants to use naloxone on a person experiencing a drug overdose without fears of legal recourse. Massachusetts uses a formulation of naloxone that is administered through the nasal cavity, referred to as intranasal (IN) naloxone. The standing order forms the basis of Massachusetts’ OEND program, prior to legislative changes that proceeded in 2012 (Massachusetts Bureau of Substance Abuse Services, 2013). Legal changes now allow any person acting “in good faith” to be prescribed, possess, and administer naloxone. The success of the OEND program led to the legal changes that now exist in Massachusetts.

From 2006 until 2012, 10,742 individuals have been trained in the OEND program, 7, 220 (67.2%) of which are PWUDs, while 3, 522 (32.7%) are non-PWUDs. Throughout the history of the program, there have been 1301 overdose reversals, with an average of 30 per month (Walley, et al. 2013). Naloxone has reversed overdoses in 99.5% of reported cases, with seven reported deaths (Walley, et al. 2013). Massachusetts has made an effort to enroll non-users (particularly the parents of PWUDs) through peer-led support groups for the families of PWUDs. Learn2Cope, a group formed to give support to the parents of PWUDs has been pivotal in training parents in overdose education and prevention. These trainings occur at the group’s weekly support meetings. In order to reduce stigma, and emphasize how common drug abuse is, meetings are held at locations not affiliated with drug use. Meetings are held in the community rooms of hospitals and high schools typically. To date, Learn2Cope has provided 1,563 concerned parents with OEND, with 40 reported drug overdose reversals (Learn2Cope interview, 2015).

Expanded Access to First Responders

Massachusetts standing order allows emergency medical technicians (EMTs), police officers, and fire fighters to carry and administer the drug (Davis, et al 2014). In response to an increase in overdose calls, EMTs obtained special permission from Massachusetts office of Emergency Medical Services (EMS) to carry the drug. Previously only paramedics were allowed to carry and administer the drug. But in the state's largest city, Boston, emergency medical technicians staff 19 of the city's ambulances, while paramedics staff only 5 of them. There was a need for naloxone access to be expanded because so few of the city's first responders had permission to carry the drug (Davis, et al. 2014).

Massachusetts further expanded access to the drug by altering the state's pre-treatment protocol to allow municipal emergency medical services (EMS) directors to allow EMTs to administer Naloxone under the state's standing order. In 2013, Boston's EMS service responded to 1207 overdose calls, and its EMTs administered naloxone in 458 cases (Davis et al 2014).

In Revere, Massachusetts fire fighters often arrive to the scene of overdoses before the city's private EMS service. Thus Revere became the first fire department in the state to join the OEND program. All firefighters were trained on how to use naloxone and all fire trucks were equipped with the drug. Between 2010 and 2013 firefighters in Revere reversed overdoses 114 times (Davis et al, 2014).

Quincy, Massachusetts is another jurisdiction that benefitted from the expanded access to Naloxone. Quincy is a town of 90, 000 people on Massachusetts coastal region. The city's local ambulance service has only two stations in the city. Quincy's police are more numerous and mobile, and have a larger presence in the city. They are typically Quincy's first responders to an overdose call. All of the city's officers were trained on administering the drug and all police cars are equipped with it, and the drug is stored in the glove compartment of each vehicle. As of 2013, the police in the city have reversed 201 overdose deaths (Davis et al, 2014).

Conclusion

These results need to be considered within the context of Massachusetts healthcare. These cities greatly benefitted from their first responders carrying naloxone because of the privatized nature of their first responder services. However, even without the exceptional circumstances of these jurisdictions, equipping police with naloxone is beneficial. For example, Vancouver's Police Department has a policy of ensuring unconscious persons in public places are transported to hospital immediately (Vancouver Police Department, 2014). Ensuring that police carry naloxone would reduce the amount of time between the overdose and the appropriate intervention.

Massachusetts has programming focused entirely on the families of PWUDs. One of the deficits of BC's overdose programming is the lack of participating non-users in overdose education training. This jurisdiction provides a blueprint for British Columbia to increase participation rates of non-users.

Section 4.2 focuses on a jurisdiction that responded to an epidemic of prescription opioid abuse with OENT.

4.2. Ontario.

Throughout the last two decades, OxyContin usage has become increasingly common in Ontario. OxyContin is frequently diverted from the person it was prescribed for and sold illicitly on the street. One Ontario study of people with histories of pain killer abuse suggested that 37% of patients received their prescription from a physician, 26% obtained their drugs from both a physician and from illicit sources, and 21% of patients obtaining their drugs entirely from illicit sources (Sproule, et al. 2009).

As a result, drug overdoses became an increasingly common occurrence in Ontario. During the time period when OxyContin became increasingly prescribed, deaths related to the use of opioids increased 242% in Ontario (Gomes, et al. 2014). Aggressive marketing practices led to negative publicity and criminal charges for the drug's manufacturer, Purdue Pharmaceuticals (Werb, 2014). As criminal sanctions and

negative publicity impacted the company's public image, Purdue Pharmaceuticals introduced a form of the drug that was more difficult to inject or inhale nasally, reducing its abuse potential. The reformulated drug was called OxyNEO. This policy change was implemented first in the United States in August 2010.

Research suggests that this reformulation has the unintended consequence of shifting users to other drugs, as the number of people using heroin doubled in one study (Cicero, et al. 2012). Stronger pharmaceutical opioids such as fentanyl and hydromorphone as well as street-level heroin have all become more popular since the formulation change in the United States (Cicero, et al. 2012). Despite the policy change occurring only in the United States, Canadian towns that share a border with the country saw an influx of OxyContin dispensed by its pharmacists (Gomes et al, 2012). OxyContin prescriptions dispensed within 3 kilometres of the Windsor-Detroit tunnel quadrupled in amount shortly after OxyNEO was introduced in the United States. This increase was attributed to Americans with prescriptions for the original formulation of the drug crossing the border into Canada to get their prescriptions refilled (Gomes et al, 2012). This research highlights how macro-level policy change in the supply of a drug can impact the demand of a drug in another nation state.

OxyNEO was then introduced in Canada in 2012 with critics alleging that the reformulation was introduced because Purdue's patent on OxyContin was due to expire (Diebel, 2012). Anecdotally, there is some suggestion that municipalities in Ontario are seeing an influx of heroin since the reformulation (Ogilvie, 2012). Heroin's increased demand in Ontario underscores how alterations in the supply of one substance (OxyContin) through policy change can increase demand for another substance (heroin).

Police in Sarnia, Ontario announced the city's first heroin seizure in its history in 2012, after the reformulation occurred (Jeffrey, 2013). The next year they announced an even larger bust, worth approximately \$45, 000 (Jeffrey, 2013). Heroin is such an uncommon occurrence in the city that the drug was initially believed to have been cocaine, and only upon further analysis from Health Canada was it determined to be heroin (Jeffrey, 2013). To date, no research has established whether or not heroin use has increased in Ontario's communities as a result of the OxyContin reformulation.

As part of the province's strategy to deal with the negative externalities of the reformulation change, an OENT program was implemented. Access to naloxone in Ontario is through a medical directive written by a physician, which extends the prescribing authority of a physician to other healthcare workers when certain criteria are met. For example, Toronto's naloxone program was created by a medical directive, which allows nurses from the city's public health unit or other authorized agency to dispense the drug as long as the following criteria are met (Guthrie & Marshall, 2011):

- The person being prescribed the drug has a history of opioid use or is currently using opioids.
- The person is willing to take overdose training
- The person is willing to complete follow-up evaluations
- The person has no previous hypersensitivity to naloxone

These restrictions prevent concerned family members or friends without a history of opioid use from obtaining the drug. Additionally, trainings and distribution of naloxone can only occur at needle exchanges contracted by the province's public health units or provincially funded Hepatitis C programs. Many users of opioids in the province are not PWUIDs, and are unlikely to visit these services. Other services such as methadone clinics and primary clinics are ineligible to dispense naloxone (Gallant, 2013).

The implementation of Ontario's naloxone distribution program encountered significant barriers. Shortly after its inception, the province abruptly stopped distributing the drug due to "regulatory and other challenges". Prior to the stoppage, the province had distributed about 459 naloxone kits. During the stoppage, 1, 800 kits sat in storage (Gallant, 2013). Public health units in the province were critical of the program's implementation, arguing that residents were being deprived of a potentially lifesaving medication (Gallant, 2013). This stoppage illustrates how regulatory barriers can impact the livelihoods of PWUIDs in Ontario.

Another barrier to access is that naloxone is not covered by the Ontario Drug Benefit Plan, which makes it prohibitively expensive for some PWUDs, with kits ranging between \$25-\$35. Most pharmacies in the province only access the drug through a special order, which means users have to wait in order to receive their kits (Gallant, 2014). To date, approximately 1330 naloxone kits have been sent to public health units across the province.

Comparatively, Ontario's methadone maintenance program has 39,640 patients (Boyle, 2014). Methadone is a drug that is used as an opioid substitute. People with opioid addictions access the drug in specialized clinics. The drug is prescribed as an alternative to the opioid that the patient was using. When patients develop a tolerance to methadone, the euphoric effects of other opioids are greatly reduced. This is known as a cross-tolerance, which means that when patients are using methadone, the potential to use other opioids recreationally is reduced, although it is still possible (Boyle, 2014). The large disparity between the amount of patients on Ontario's methadone program (39,640) and those being prescribed naloxone (1,330) illustrates how an expansion of Ontario's OENT program could save lives. One study suggested that 54 fatal drug overdoses in Ontario were attributed to methadone (Albion, et al. 2010). However, this study was based upon data from 2004, and Ontario's methadone program has expanded since this time period (Albion, et al. 2010).

After OxyNEO was introduced, Ontario experienced a record year for fatal drug overdoses in 2013, with 489 residents dying of opioid overdoses, and an additional 112 dying of a combination of alcohol and opioids, for a total of 601 overall deaths (Paperny, 2014). Meanwhile, structural barriers at the level of provincial government prohibited the distribution of naloxone, which has been proven to reduce overdose deaths. OxyContin's reformulation change illustrates an important lesson for policymakers to learn. Removing opioid drugs from the pharmaceutical marketplace or restricting their supply can have the unintended consequence of transitioning users to street-drugs or more potent pharmaceuticals. This can create further problems and exacerbate the user's risk of suffering a fatal overdose, as they attempt to replace their use of one drug with another. As prescriptions written for OxyContin fell after OxyNEO's introduction in 2012, prescriptions for stronger opioids increased (Fischer, et al. 2012). Prescriptions written

for fentanyl increased in both BC and Ontario, as did prescriptions for hydromorphone (Fischer, et al 2012).

Conclusion

Ontario's OENT program was created in response to the reformulation of an addictive drug, OxyContin, which was anticipated to increase drug overdoses. Regulatory issues were not properly addressed prior to the program's implementation. This led to an abrupt stop to the program, with large amounts of the life-saving medication left in storage. This is an example for policymakers in BC to consider. Ensuring that every regulatory and policy hurdle is overcome if naloxone and overdose prevention programs are expanded is important. Additionally, removing opioid drugs from the market can exacerbate existing overdose problems. Policymakers in BC should be cautious about delisting or removing drugs from the pharmaceutical marketplace. Removing opioid drugs from the marketplace is not a "magic bullet" solution to the problem of drug abuse and increases overdose deaths. Access to OENT is hampered in Ontario due to regulations that prohibit it from being distributed at locations attended by PWUDs. Expanding OENT access to methadone clinics and detox centres would reduce overdose fatalities in British Columbia.

The next jurisdiction studied, North Carolina, operates a distribution model also based on a directive, however, access to naloxone is greatly expanded.

4.3. North Carolina

OENT in North Carolina is primarily handled by the North Carolina Harm Reduction Coalition (NCHRC). Prior to focusing on overdose prevention, the group ran syringe exchanges and focused on getting care for people with HIV and Hepatitis. After dialogue with NCHRC's clientele, the group realized that North Carolina was facing an increasingly severe epidemic of fatal drug overdoses. Despite word-of-mouth being difficult to ignore, the epidemic was not spoken of politically or publically within the state

(NCHRC interview, 2014). Between 1999 and 2011, the overdose rate in North Carolina increased by 300% (Whitemire & Adams, 2010).

With the finite resources of the NCHRC (the group currently has only two paid employees), priorities of the group were reassessed. NCHRC changed their mandate to focus on OENT. One of the NCHRC's primary responsibilities was testing for Hepatitis and other diseases. Due to the growing concern of fatal drug overdoses, resources previously dedicated to Hepatitis testing were reallocated to overdose prevention. NCHRC started an overdose prevention dialogue with the state's government, legislative and law enforcement communities. NCHRC's responsibilities initiated advocacy efforts focused on the state's political institutions. Additionally, the NCHRC started reaching out to family members who had lost someone to a drug overdose for their perspective and input into advocacy efforts (NCHRC interview, 2014).

The group's first efforts were aimed at North Carolina's child fatality task force. The task force is a legislative study commission which makes recommendations to the General Assembly and the Governor, regarding any issues surrounding child fatality. The group's advocacy ensured that overdose prevention became part of the task force's priorities, which in turn increased public legitimacy (NCHRC interview, 2014).

Finding support from law enforcement was a vital part of NCHRC's advocacy efforts, particularly from North Carolina's association of sheriffs. State politicians almost always consult the association for advice for crime or drug related legislation. Initially, the NCHRC were hopeful to have the association stay neutral, but much to their surprise the organization supported their measures (NCHRC interview, 2014).

"It's a human issue."- NCHRC's representative.

Reducing overdose-related deaths was an issue that overcame political divisions. It was relatively easy to convince stakeholders, whether left-leaning or right-leaning. In order to expand its acceptability the issue was framed accordingly. For religious-minded conservatives, the NCHRC framed the distribution of naloxone as a "pro-life" intervention that would be in alignment with morally Christian values. During overdose prevention hearings on the House floor, a representative recounted the Biblical parable of Lazarus,

in which Jesus Christ restored life to a man four days after he had died. For small-government libertarians, the issue was framed from the perspective of reduced government intervention, and increased autonomy for drug-using individuals. It also was framed as a reduction in government inefficiency, as law enforcement would have reductions in response time. Finally, North Carolina was spending approximately \$100 million per year on drug overdoses, and having Naloxone readily available would reduce those costs (NCHRC interview, 2014).

By 2013, North Carolina passed a combined Naloxone/Good Samaritan Overdose prevention bill. The Good Samaritan portion of the Bill provides immunity from charge or prosecution for those who call 911 at the scene of an overdose. Only specific charges relating to the possession of small amounts of certain drugs, as well as drug paraphernalia are eligible for immunity. People found at the scene of an overdose can still be arrested, however. NCHRC representatives suggest that police in North Carolina were not willing to lose their primary means of determining if a person has outstanding warrants (NCHRC interview, 2014).

Prior to the Bill's passage, naloxone was only available from a doctor by prescription. This led to inefficiencies as many doctors were unwilling to prescribe the medication, and many of the people who needed it were unable to locate a doctor that would prescribe it to them. The Bill expanded access to naloxone by utilising a "standing order" method of distribution, which allows a doctor to prescribe the drug to a third party other than a patient with a history of drug use within the state. Essentially, the standing order means that a doctor does not have to be present or write a prescription for a naloxone kit to be dispensed. The standing order became the cornerstone of overdose prevention legislation in North Carolina. This allows NCHRC, or anyone volunteering, working or affiliating themselves with the organization to dispense and distribute naloxone kits (NCHRC interview, 2014).

"We have the most cost-effective model in the country."- NCHRC's representative.

NCHRC then takes the additional step of procuring the kits from local pharmacies, manufacturing the kits, training potential users, and distributing the kits. The

NCHRC's approach reduces barriers to accessing naloxone as much as possible. Due to the large size of the state, NCHRC has established volunteers who act as dispensers across North Carolina. Consolidating the entire process has meant that the NCHRC has distributed over 5000 kits, at a fraction of the cost of more restricted models that require a prescription. An NCHRC representative experienced in running overdose prevention programs in other jurisdictions suggested that with a greatly reduced budget, at approximately 25% of other overdose prevention programs, the standing order model allows NCHRC to accomplish many times the amount of distribution. Physicians do not have to be present to prescribe, so the costs of hiring a physician for an hour (typical length of time required to train a group) are saved. Since the program's inception NCHRC has ran 554 naloxone outreach events, in which trainings and kits are distributed to the community (NCHRC, 2014). In other programs, a doctor would have to be present for each of these training sessions. Quantifying a doctor's time at \$150 per hour, this would cost \$83, 100 in additional physician fees.

User-level awareness of North Carolina's naloxone program, and of the state's Good Samaritan law continue to be an issue. NCHRC's outreach efforts take them to 65% of the state's methadone clinics, and the group has also founded drug user unions that help disseminate knowledge to users who are unaware of overdose prevention efforts. Additionally, the group helps publish several hundred news articles each year. They are able to do this by connecting journalists that wrote stories about their program with sources and community members who could attest to the lifesaving potential of the program. Their approach ensures that any journalist willing to write a story about the NCHRC is immediately connected to sources (NCHRC, 2014).

Conclusion

North Carolina's overdose prevention program has reduced, as much as possible, the structural barriers (restrictions on naloxone prescription) that limit access to naloxone. Using the "standing order" model of prescribing and distributing naloxone would enhance access to the drug in British Columbia. NCHRC provides very low-threshold access to naloxone. Instead of participants having to attend training in one location and having to go to another in order to have the drug prescribed, utilizing a

standing order could mean that all three steps could be combined into one, increasing efficiency and reducing costs. Section 5 features stakeholder interviews with representatives within BC and the United States, to determine how to expand access to naloxone within the province.

4.4. Dispensing Naloxone Kits

See Appendix A for a per-capita measure of each jurisdiction's distribution of naloxone.

Chapter 5. Key Themes about Overdose Prevention

This section presents the results of on interviews conducted with overdose prevention program representatives, researchers and policymakers from Canada and the United States. This section is divided into two categories. The first portion is based on interviews with representatives within British Columbia. While the second portion (section 5.2) is based on interviews conducted with policymakers, researchers, and overdose prevention program representatives from the United States. These interviews were conducted in order to understand the potential role that public policy and provincial legislation could play in reducing fatal drug overdoses, as well as the barriers and challenges that current programs face in their delivery.

5.1. British Columbia

The following themes were derived from interviews with a representative from the British Columbia Centre for Disease Control (BCCDC) that was conducted in November 2014, as well as a brief informational interview that was conducted with a representative with the Ministry of Justice in October 2014 and Pivot Legal in March 2015.

5.1.1. Increasing program comprehensiveness

- **Educating Non-PWUDs:** BCCDC's representative expressed concern that the province's overdose education program is not accessible enough to non-PWUDs such as family members, friends, licit PWUDs (users of prescription opioids) and service providers. Extending services to these groups would improve OENT efforts.

- **Naloxone is not a “magic bullet”:** Evidence suggests that PWUDs who are educated on the factors that increase the risk of overdose are less likely to overdose at all. BCCDC’s representative felt that portraying naloxone as a “magic bullet” solution to fatal drug overdoses is problematic. They felt that this perception should be challenged. OENT efforts add another “string to our bow”, further developing a comprehensive response to the problem of overdose fatalities.
- **Naloxone access should be expanded to include more emergency first responders:** Establishing a comprehensive response includes expanding OENT to the province’s police and fire fighters. These groups frequently arrive at the scene of overdoses, particularly those that occur in public places, but are not equipped with naloxone to respond effectively.
- **Over-the-counter Naloxone:** Adding naloxone to British Columbia’s prescription drug formulary would enable pharmacists to train people and dispense the drug without a physician’s prescription, making the drug easily available from participating pharmacies.

5.1.2. Provincial Structural Barriers to Overdose Education and Naloxone Training and Naloxone Availability

Interview respondents identified a number of barriers to overdose prevention including:

- **Lack of prescribing directive:** BCCDC’s representative suggested that the largest barrier inhibiting naloxone access is the lack of a prescribing directive at the provincial level. This is the ability of a physician to delegate their authority to healthcare professionals to distribute and dispense naloxone, without the need of having a prescription or prescribing physician present (see North Carolina case study).
- **Inefficiency:** Due to Federal Canada Health regulations, naloxone in British Columbia can only be prescribed by a medical physician and dispensed within a

medical facility such as a clinic, health unit, or pharmacy. This can make acquiring a naloxone kit a time-consuming process. For example an OENT participant may get trained to use naloxone at one location, then be required to visit a physician at another location, and then have to visit a third location (pharmacy) to have the medication dispensed.

- **Lack of Access to Intranasal (IN) Naloxone:** Vancouver's Police Department has expressed support for their officers carrying naloxone, but not with the drug's current formulation. Only the intramuscular formulation is available in Canada. The police are supportive of their officers carrying the intranasal formulation of the drug. The intranasal formulation works similarly, but it is administered through the nasal cavity, and there is no need for an injection. They feel it is less invasive for the officers to use, it will reduce negative interactions with the police, and it is easier to use. However, the IN formulation of the drug has not been approved for use by Health Canada.
- **BC's fire departments are prohibited from carrying naloxone:** Allowing British Columbian fire departments to carry the drug would also contribute to having a comprehensive overdose prevention program. Under current guidelines however, fire fighters are not allowed to use any sort of injection medication, including an epipen. Injections are not included under current fire fighter scope of practice guidelines, making British Columbia's fire departments ineligible to carry the drug.
- **Rural areas of the province are most impacted:** Regions of the province where paramedics have the slowest response times, particularly in remote regions of the province, are most impacted by the lack of expanded first-responder access to naloxone.
- **Stigmatization:** Naloxone is perceived as a medication solely for illicit PWUDs. Public acceptance would be greatly enhanced if the drug was widely distributed to people without a history of illicit drug use. This includes parents, other family members and friends of the user, but also those who are prescribed opioids

legally. For instance, senior citizens with a history of chronic pain are also at a potential risk for an overdose. This illustrates a need for training and educating these groups of people. As well as reducing the perception that overdose only happens to “illicit” PWUDs.

- **Fears of Liability:** BCCDC indicates that they received the expert opinion of the Ministry of Justice prior to the implementation of the program that confirmed that the medication is safe enough for the layperson to administer British Columbia has a “Good Samaritan law” that covers immunity to criminal charges for administering drugs to a person in medical need. Although, this law does not cover immunity to drug charges when a person intervenes by calling 911 when they witness an overdose.

5.1.3. Potential for a “Good Samaritan” Overdose Prevention Law at the provincial level

A representative from Pivot Legal Society suggested the following about the potential for a Good Samaritan law:

- Drug possession is in contravention of Canada’s Controlled Drugs and Substances Act (CDSA). This statute is enacted at the federal level, and thus, the provincial government does not have the legal authority to advance legislation that would be considered “ultra vires”, or beyond the powers, of the provincial government. The separation of powers is enshrined in Canada’s Constitution Act of 1867. The Constitution grants the power to make criminal law to Canada’s Federal government which means that the province would not be able to legislate a GS law.

Good Samaritan (GS) laws provide immunity from prosecution and arrest from drug charges for any witnesses at the scene of a drug overdose when they call 911. These laws reduce the structural barriers that inhibit PWUDs from calling 911 at the scene of an overdose.

5.2. Out of province interviews

To better understand how to administer and implement a Good Samaritan law an interview was conducted with a Good Samaritan legislation researcher from Northeastern University in Boston, Massachusetts. Good Samaritan related information comes from a presentation that this professional conducted at the National Harm Reduction conference in 2014, as well as a phone interview conducted in December 2014.

5.2.1. Best Practices for Good Samaritan Laws

Research from the United States suggests the following best practices to follow when drafting Good Samaritan legislation:

- **Provide immunity from alcohol and drug possession charges:** Initially, GS laws provided immunity from prosecution from basic drug possession charges. However, lawmakers then realized that people were still fearful of calling 911. Possession charges for all illicit drugs should be included for immunity purposes.
- **Immunity for bystander and overdose victim.** Both the witness to the drug overdose and the person suffering the drug overdose should both be immune to prosecution.
- **Include Parole and Probation Violations.** Many PWUDs are fearful that if police respond to an overdose call, they will be cited for parole and probation violations and then sent back to prison. The most effective GS laws provide immunity for both parole and probation violations, so that users are more likely to call 911.

5.2.2. Worst Practices for Good Samaritan Overdose Prevention Legislation

The following practices have negatively impacted the utilization of GS laws:

- **Lack of awareness:** To date, no state that has enacted these laws has earmarked funding to disseminate awareness to PWUDs or to police departments and prosecutors. In some jurisdictions, this has led to PWUDs being arrested and prosecuted. In these instances, neither the user, the arresting officers, nor the prosecuting attorney were aware that these laws have been enacted in their state.
- **Lack of evaluation:** Along with the funding deficit for awareness and implementation measures, evidence regarding the efficacy of these measures is scant. State governments have not earmarked funding to determine the effectiveness of these interventions. This makes it difficult to determine whether a GS law is a viable option for British Columbia, as well as other jurisdictions.

5.2.3. Misconceptions about Naloxone Usage

An interview with the National Alliance for Model State Drug Laws (NAMSDL) conducted in November 2014 suggested that the following misconceptions were held by political leadership and policymakers in some American jurisdictions:

- **Naloxone Enables More Drug Use:** Having naloxone available will enable citizens to engage in riskier behaviours, such as taking larger amounts of drugs. As the interview participant suggested, this has not been indicated by any research that has been conducted on naloxone and overdose prevention.
- **Liability Fears:** Some jurisdictions have expressed concern that a layperson could unintentionally injure an overdose victim by improperly administering naloxone.

5.2.4. Finding the Champion

NAMSDL's representative suggested the following:

- **Public Support from Celebrities:** Jon Bon Jovi's daughter suffered a heroin overdose in her college dormitory. Subsequently, he publically stated his support for greater overdose prevention in New Jersey. His endorsement of overdose legislation in New Jersey was seen as pivotal and led to greater public acceptability for OENT. He was even present for the official signing of New Jersey's Overdose Prevention Act.
- **Public Support from Family Members of Overdose Victims:** In other jurisdictions, legislation has passed under the names of overdose victims. For example "Steve's Law" in Minnesota was unanimously passed by both Houses of the State's congress. The law was named after a man who died from a heroin overdose.

Summary:

These interviews illuminated how legislative and policy-based action can remove structural barriers to overdose prevention.

Chapter 6. Quantitative Findings

28 respondents were asked survey questions about their awareness and behavior regarding the Vancouver Police Department's "do not respond" policy. This policy seeks to increase the number of bystanders who call 911 at the scene of a drug overdose, by reducing real or perceived fears of calling 911. Previous studies suggest that many bystanders are fearful of calling 911 at the scene of an overdose because of a perceived fear that they will be arrested, prosecuted, or sent back to jail because of a probation or parole violation.

This survey asked participants about which population group they self-identified as. Then, participants were asked if they were aware of the Vancouver Police Department's policy of not responding to drug overdose 911 calls unless the following circumstances occurred: 1.) The overdose scene involved violence. 2.) The overdose turned fatal and the victim died. 3.) Paramedics requested that police attend the scene of the overdose.

If participants indicated that they were aware of the policy, they were asked if awareness influenced their decision to call 911 during the last overdose they witnessed. If they indicated that they were not previously aware of the policy, they were asked if their awareness of the policy would influence their future behavior the next time they were at the scene of an overdose. Finally participants were asked to indicate which emergency services arrived at the scene of the last overdose that they witnessed.

Among this sample, 13 (46.4%) of respondents self-identified as Aboriginal, 13 (46.4%) self-identified as white or Caucasian, 1 (3.5%) of respondents self-identified as Chinese, and 1 (3.5%) of respondents self-identified as West Asian.

Table 6.1. Survey Participant’s Responses to demographic question.

Which population group below best describes you? (Please choose one.)	
Aboriginal	46.4% (n=13)
Caucasian/White	46.4% (n=13)
West Asian	3.5% (n=1)
Chinese	3.5% (n=1)

Awareness of the VPD’s policy, (those who circled “yes” on the questionnaire) represented 6, (26.9%) of respondents. Of these respondents, 3 (50%) suggested that awareness did not influence them to call 911. Two of these respondents suggested that they had witnessed overdoses where the police had attended, and because of this, the policy did not make any difference to them, because they had seen the police respond to other overdose calls, they were less convinced that the police would not respond. Although they did not specify the circumstances in which the police attended the scene of the overdose. One of these respondents felt that the police would show up regardless of the circumstances of the overdose, and because of this, felt that they needed to “lie” to 911 emergency services to send an ambulance.

The remaining 50% (n=3) participants suggested that the policy did not influence them to call 911, due the urgent nature of the situation, and fear of police was not an obvious concern.

Table 6.2. Awareness of VPD Overdose Prevention policy

Were you aware of the Vancouver Police Department's Policy? (abbrev.)	
Yes	26.9% (n=6)
No	73.1% (n=22)

This behavior was common among the population being surveyed. Among the 19, (73.1%) of respondents who were not previously aware of the policy, 7 (37%) participants suggested that they would call 911 regardless of awareness of the policy, suggesting that awareness had no effect on their behavior. 12 (63%) participants suggested that after becoming aware of the policy they are “very likely” to call 911 the next time they are at the scene of an overdose. The second most common answer was “no change in opinion”, indicating that awareness of the policy would not influence future decisions to call 911 at the scene of an overdose.

Most participants suggested that although awareness of the policy would make them more likely to call 911, it was not an issue for them to call 911 previously to being made aware of the policy. 2 participants (10.5%) stated specifically that they were not worried about the police showing up at the scene of an overdose. An additional 2 participants (10.5%) stated specifically that they were more comfortable calling 911 after hearing about the policy.

Lack of educational awareness was an issue for one participant, who suggested that they would not call 911 at the scene of an overdose because they knew how to appropriately respond. When asked how they would respond, they suggested that they would perform CPR on the overdose victim. The literature suggests that performing CPR is not an adequate response for overdose reversal, and that calling 911 or administering naloxone is also required. This indicates the misperception of how to appropriately respond among some PWUDs, findings reiterated by an interview conducted with a representative from BCCDC.

Interactions with Participants

Generally, researchers are expected to reveal as little information about themselves as possible to research participants. However, due to the fact that I have worked at VANDU and attended several board meetings there, some participants were already aware of me. Small talk before and after with participants often led to questions about my motivations for conducting this research. I identified that my experiences as a former drug-user were in large part my motivations for pursuing overdose education in research.

After participants were aware of my history as a drug-user, interactions took a different tone. I was still perceived to be a policy researcher, but participants seemed to be more at ease when we conversed. I was told several times that researchers are sometimes viewed as suspicious by those living in the downtown Eastside. Some participants spoke of instances when they felt alienated and disappointed by researchers that they had come to trust.

Although I was still considered to be a researcher, participants became noticeably more relaxed upon hearing about my experiences. I was considered to have awareness of drug use, and perhaps participants felt that I would be less judgemental about their own experiences and history. This allowed me to talk freely with VANDU members and establish a stronger rapport.

Discussion

Results suggest that most street-level PWUDs, although being unaware of the policy, still call 911 when at the scene of a drug overdose. However, after being made aware of the policy, 63% of participants suggested that they were “very likely” to call 911 at the scene of an overdose. One of the issues with the policy is the interaction between street-level PWUDs and the Vancouver Police Department. Two different participants suggested that paramedics didn’t attend to the scene of public overdoses in the downtown Eastside unless the VPD had secured the area. In response to this, implementing a Good Samaritan style law at the provincial level may serve two purposes. Police would be able to attend the scene of an overdose, and PWUDs could

feel safe in knowing that they would not be arrested or prosecuted for drug charges (see section 5.1.3 for more discussion of Good Samaritan laws).

Overall, 20.8% (n=5) of respondents that were unaware of the policy indicated that the police arrived at the most recent overdose they were present at. 41.6% (n=10) of respondents indicated that Vancouver’s Fire Department attended at the last overdose they witnessed. Often times the VFD arrives in conjunction with paramedics. Both of these services currently do not carry naloxone, and since they arrive at the scene of overdoses so frequently, it would make be beneficial for both groups to have access to the drug. Compared to other jurisdictions that have implemented similar policies, such as in Melbourne, Australia, where police have been reported to respond at 12% of drug overdoses, this number is considerably higher (20.8%) (Dietze, Cvetkovksi, Rumbold, & Miller, 2000).

Table 6.3. Emergency services arrival at overdose among those previously unaware of VPD policy

The last time that you witnessed a drug overdose and 911 was called, which of the following services arrived at the scene?
Fire Department 41.6% (n=10)
Vancouver Police Department 20.8% (n=5)
Paramedics 100% (n=19)

One intriguing finding was the reaction of PWUDs to hearing the description of the policy. Upon being asked about their awareness of the policy three different respondents suggested incredulity at the police not responding to overdose calls.

“To me VPD don’t do a good job of “serving and protecting” so I’m not surprised at this policy.” –Anonymous survey participant.

“I think their policy is absolutely ridiculous! Obviously they are hoping addicts will just drop dead and be done with it.”- Anonymous survey participant.

Upon clarification, they understood the rationale behind the policy. It is suggested that giving the policy a clarifying title may help users understand the reasons for the policy, and that the policy was implemented in order to prevent overdose-related deaths.

Awareness of the policy was considerably low among this population group at 26.9%, (n=7). Being that the policy is already in place, it makes sense that awareness of the policy should be disseminated along with further drug overdose education efforts. Although this population group has fewer issues calling 911 at the scene of the overdose, other subpopulations should be targeted in awareness efforts of the policy.

BCCDC’s interview participant suggested that based upon their own research, one of the groups of people less likely to call 911, are those living in private residences. VANDU’s (where the survey was conducted) clientele is largely comprised of persons living in SROs. Future research should be directed at overdoses occurring in private residences to understand the effect of the policy on this subpopulation. Surveys should be conducted in other parts of the province to understand if fear of police involvement prevents PWUDs from calling 911.

Policy Options.

The following policy options were derived from the preceding case studies, stakeholder interviews and survey results. The objective of these options are to enable access to overdose education and naloxone, with the implicit goal of reducing overdose deaths. Similar to how British Columbia’s overdose prevention program can be divided into prevention and response components, the following policy options are divided into two categories.

Overdose Education and Naloxone Training (OENT) policy options focus on disseminating awareness about the risk factors of overdose, signs of drug overdose, the proper use of naloxone, and how to appropriately respond to an overdose.

Naloxone distribution policy options focus on how the drug is dispensed and distributed throughout the province. These policy options deal specifically with naloxone distribution.

6.1. Overdose Education and Naloxone Training

6.1.1. OENT Option #1.

Overdose education and naloxone training (OENT) campaign aimed at family members, friends, licit PWUDs and those who work professionally with PWUDs. This option is based off of comments that BCCDC's representative made regarding the lack of overdose education and naloxone training of concerned family members and licit PWUDs. The basis of this option is providing overdose education and naloxone training in environments not associated with illicit drug use such as medical clinics and health units.

The following is the basic curriculum that will be delivered:

Overdose prevention: Participants will learn about variables that increase the likelihood of overdose. Examples include: using after periods of abstinence, mixing with other drugs or alcohol.

Recognizing the symptoms of overdose: Slowed respiration, blue lips or fingers, gurgling noises, shallow breathing.

Responding to an overdose: Using naloxone, placing individual into the recovery position, calling 911.

Trainings help to ensure that there is a dialogue between the drug user and the concerned party. If a drug user is living with someone who does not use drugs, the concerned relative and the user can formulate a plan about what they will do in case of an overdose. Due to current regulation, non-users cannot be prescribed naloxone. In order to overcome these barriers, naloxone kits are placed in an area where any family member with the necessary training has access to it. These trainings provide an

innovative response to a barrier that prohibits those without a history of opioid abuse in the province from obtaining naloxone.

Because of current restrictions, these meetings will take place at medical facilities. Local health units, community rooms in hospitals, and clinics are all viable options and also provide ideal sites to recruit participants. These meetings will serve to train bystanders on OENT and how to appropriately respond, but also reduce stigma surrounding PWUDs and accordingly their families. The meetings will not be conducted at areas associated with drug use, to reduce preconceptions about individuals who do use drugs. This option is modelled after a similar program in Massachusetts called Learn2Cope. Learn2Cope has proven to be successful in training parents on OENT, with approximately 1563 trainings since the program's inception in 2011 (Learn2Cope interview, 2015).

Awareness of the program will be established by social media networking (establishing a website and Facebook page), as well as advertising the program at local health units. Websites such as www.fgta.ca (From Grief to Action) and www.heretohelp.bc.ca provide resource-based support for families coping with substance abuse. These websites help families discover important dependency related services across the province and can advertise overdose education seminars. Additionally, support groups for family members (Parents Forever and Nar-Anon) will be targeted in order to disseminate awareness by word-of-mouth.

OENT trainings will occur monthly at health units across British Columbia. When the training is completed, each participant will be provided with a questionnaire asking them specific questions about the overdose training related to each of the three areas of the aforementioned curriculum. A pilot project partnered with the Parents Forever support group will be implemented in Vancouver, based on Learn2Cope's model of providing OENT as well as peer-based support.

6.1.2. OENT Option #2.

Targeted effort aimed specifically at locations not previously engaged with overdose education and naloxone training (OENT).

This option emphasizes the potential that street-level PWUDs have to communicate with other PWUDs, and their ability to increase the amount of OENT participants. This program's recruitment would be peer-based, and would provide financial incentive for street-level PWUDs that have been previously trained on overdose prevention, to engage with their communities and find individuals who have not been previously trained. This option uses dual-incentives, meaning that qualified users will be offered a financial incentive (\$5/ per person) for every individual they recruit into pre-scheduled overdose trainings. Each recruited individual will also be given a \$5 stipend. This option is based on a chain-referral form of peer-based recruitment.

The setting for these trainings will be opioid substitution and recovery based facilities. Currently, very few methadone clinics and detoxification centres provide OENT services. Providing this service at these locations is crucial because people are more likely to overdose after periods of abstinence (such as after leaving detox) or when mixing with other drugs (mixing prescription methadone with other opioids). 70% of individuals relapse into using opioids within one month of completing detoxification (Chutuape, Jasinski, Fingerhood & Stitzer, 2001).

PWUDs have a stronger rapport and legitimacy within their communities, particularly long term users. As BCCDC's representative suggests, long term users frequently believe they are unlikely to overdose. Utilizing street-level PWUDs to train other users provides greater legitimacy to the likelihood of their overdosing. This is a key message underlying OENT, which attempt to dispel myths and misconceptions about drug use and overdosing. Post-training, participants will be given pamphlets with scheduled times for upcoming overdose education trainings. They will be asked to give pamphlets to potential participants and told that they can bring individuals into the pre-scheduled trainings to receive a stipend of \$5 per participant. The incentive for recruiting new users will have a per training cap (for example \$5 per recruitment, with a maximum of recruiting five participants per training for a total of \$25). Funding for trainings and recruitments will be taken from British Columbia's Centre for Disease Control's harm reduction budget.

6.2. Naloxone Distribution

The basis of each response option is an expansion of naloxone distribution within British Columbia. Each option focuses on reducing barriers to acquiring naloxone. Current federal regulations only allow naloxone to be prescribed to those with a history of opioid use. In order for those regulations to change, an application has to be made by the drug's manufacturer. This application will include information on the drug's safety, quality, and efficacy. It will also require research studies on consumers to determine if patients can properly read the label of the drug and properly understand how to use the drug, as well as properly identifying an opioid overdose.

Each policy option will initially operate under current Health Canada guidelines, which means that only those with a history opioid use will be dispensed naloxone in the province. Until Health Canada guidelines are changed, non-opioid users will not be prescribed naloxone.

6.2.1. Naloxone by Pharmacists' prescription.

This option adds naloxone to British Columbia's provincial drug formulary. Currently, this drug is classified as a Schedule 1 substance according to the *Pharmacy Operations and Drugs Scheduling Act*. This means that naloxone is only obtainable by prescription after diagnosis by a physician. Adding the drug to the province's formulary would entail rescheduling the drug to Schedule 4, which would make it a drug that can be prescribed by a pharmacist within guidelines approved by the BC College of Pharmacists. Naloxone would then be available by pharmacist prescription. The drug would then covered by Fair PharmaCare, the province's pharmaceutical insurer program, reducing costs for anyone purchasing a naloxone kit.

Participating pharmacists will be trained on how to conduct OENT as well as dispensing the drug. Due to a lack of staff resources, these trainings are focused specifically on how to administer the drug, and are not comprehensive trainings on overdose prevention and education. The trainings will typically last less than five minutes, to ensure that pharmacies are available to efficiently serve their client base.

Naloxone must be stored within a pharmacy's "professional service area" (PSA), which is the area of the pharmacy without public access, and without the patient's ability to self-select medication. PSAs are distinct from other areas of a pharmacy, in that the public is unable to access them.

6.2.2. Nurse's Prescription based on Decision Support Tool (DST).

This option issues the equivalent of a prescribing directive from participating physicians to pre-trained nursing staff. It would extend the ability to prescribe naloxone to nurses across British Columbia and provide low-threshold access to naloxone via the BCCDC's street nursing outreach program.

In British Columbia, nurses are able to dispense some medications without a physician's prescription, most notably in the case of Sexually Transmitted Infection (STI) medications. For example, nurses trained as Sexual Assault Nurse Examiner (SANE) in the province are able to provide comprehensive healthcare to survivors of sexual assault, including the dispensing of STI medications (Provincial Health Services Authority, 2013). The SANE program has developed a "decision support tool" (DST) which instructs the nurses on how to appropriately dispense medications. In order for the province's nurses to dispense naloxone, a decision support tool will be developed to instruct nurses on how to appropriately train and dispense naloxone.

The DST will be developed in collaboration with British Columbia's College of Nurses and British Columbia's Centre for Disease Control. BCCDC administers a street nurse outreach program which provides harm reduction-based services to homeless individuals such as STI diagnosis and condom distribution. After a DST is created, naloxone prescribing would be added to these services. Between 2007 and 2013, alcohol and drug overdose was the leading cause of death among homeless British Columbians (BC Coroners Service, 2014). Participating nurses must have the consent of their employers. Medical organizations including local health, harm reduction facilities, and HIV/AIDS clinics are targeted for their nurse's participation in the program.

The DST outlines the parameters in which a nurse can prescribe and dispense naloxone, the clinical features of an opioid overdose, when naloxone should and should not be administered, as well as precautions, adverse effects, and drug interactions.

6.3. Other Potential Policy Options

Vancouver's heroin-assisted treatment (HAT) research trial has only recently transitioned into a program. For long term PWUDs that have not responded to other methods of treatment, HAT has been very successful in increasing the standard of living of its patients. Research also suggests that HAT is more cost effective than methadone maintenance treatment for street-level PWUDs. HAT patients typically stay in treatment longer than their counterparts on methadone and relapse less often, contributing reduced criminal activity and reduced healthcare costs (Nosyk, et al. 2012). Since HAT only officially became a program in late November, the direction of this project was already oriented toward naloxone and overdose education, which is the reason for HAT's exclusion as a policy option.

Establishing more supervised injection sites across the province is also a very important consideration. Not only has Insite been responsible for thousands of overdose reversals, it also serves as a pivotal access point for PWUDs into drug treatment services. However, legislation being passed by Canada's current Federal government (Bill C-2) will likely make establishing more supervised injection sites more difficult. Supervised injection requires a section 56 exemption from Canada's Controlled Drugs and Substances Act (CDSA), which can only be granted by Health Canada. Bill C-2 revises the exemption process to make it more difficult. To date, there has not been an approval granted to any supervised injection site application under Bill C-2's revised application process. Due to the inability to determine if a supervised injection facility would actually be approved under the revised application process, supervised injection is considered to be "out of scope" of this research project.

An interview with a representative from Pivot Legal suggested that there was little viability for a "Good Samaritan" law at the provincial level. Drug charges are a responsibility of the federal government, which mean that the provincial government has

no authority under the constitution to legislate on this matter. Thus, this policy option was considered to be “out of the scope” of this report, which focuses on the provincial level.

Equipping police and fire departments with intranasal naloxone has been shown to increase overdose reversals in other jurisdictions (see Massachusetts case study). However, due to current Health Canada regulations, intranasal naloxone cannot be used within the country (Girling, 2014). This option was also considered to be “out of scope” of this research.

Research has suggested that PWUDs are more likely to overdose immediately after they receive social assistance payments (Zlotorzynska, et al. 2014). It has been suggested that staggering social assistance cheques so PWUDs receive payments at different times of the month will reduce overdoses (Zlotorzynska, et al. 2014). However, it has not been empirically proven that “staggering” social assistance cheques will reduce overdose fatalities. Research is being undertaken to determine the potential of this option.

Chapter 7. Criteria and Measures

Similar to dividing policy options into two distinct categories, the criteria and measures used to evaluate these options are also divided into OENT and naloxone distribution categories. Each category requires different methods of measurement in order to determine which options are expected to be most successful. Table 7.1 Outlines the objectives that the criteria and measure are based on.

Table 7.1. Criteria and Measures for OENT Policy Options.

Major Objective	Criteria	Measures
Effectiveness	Ability of the policy option to communicate overdose awareness and prevention education	Post-training questionnaires.
Equity	Accessibility of program to as many stakeholders as possible	Greater proportional representation of subpopulations impacted by drug overdose (in %)
Stigma Reduction	Ability of policy option to empower PWUDs	Reduced enacted, indirect, or self-stigma.
Government Objectives		
Implementation	Length of time to establish program.	Length of time required (months, years etc).

7.1. Ranking of Objectives

Although all of the criteria are important, the most pivotal is the ability of the policy option to disseminate overdose education and awareness to concerned groups

that have not been previously contacted by current overdose prevention initiatives. Thus, the equity option will be weighted as double.

7.2. Measures

Policy options receive either a low, medium, or high score for each sub-criterion. “High” options receive a green colour, “Medium” options receive an orange, and “Low” options receive a red colour.

Table 7.2. Measures of Policy Effectiveness

Possibility of achieving objective	Colour
Low (1 point)	Red
Medium (2 points)	Yellow
High (3 points)	Green

7.2.1. Effectiveness

Effectiveness means communicating knowledge of risk factors of overdose, administering naloxone properly, and being able to successfully manage the scene of an overdose. Additionally, communicating awareness of existing policies is considered part of the primary objective. Research evidence suggests that people who are provided overdose education treatment are less likely to overdose in the first place, and are more likely to respond appropriately at the scene of an overdose (Bennett and Holloway, 2012; Gaston et al., 2009).

Measurement is taken by providing trainees with a questionnaire after the training has been completed (see Table 8.1). The questionnaire briefly asks participants about three different categories of knowledge: Risk factors of overdose, signs of an overdose, and actions to take in the event of an overdose. Measures of effectiveness

are based on overdose education programming that tests knowledge learned at training. Scores of 80% or higher are suggested to be significant indicators of training success (Gaston, et al. 2009).

Table 7.3. Measure of Effectiveness for Overdose Education and Naloxone Training (OENT)

	Effectiveness of Overdose Prevention Training
	Low= Trainee is unable to use naloxone kit and cannot identify signs of overdose.
	Medium= Trainee is able to use naloxone kit appropriately, with limited gaps in their knowledge of overdose symptoms, and factors that increase the likelihood of overdose, as well as managing the scene of an overdose scoring 70% or higher on questionnaire.
	High= Trainee is able to respond similarly to a trained medical professional in an overdose situation, as indicated by scoring 80% or higher on questionnaire.

7.2.2. Equity

One of the challenges with current overdose education is that it is primarily targeted toward illicit PWUDs. In order to better serve the province, trainings should be as inclusive as possible, and increase the representativeness of concerned groups. For example, only 9.8% of OD prevention trainings are with concerned friends or family members currently (Banjo, et al. 2014). Demographic representation will be measured by asking which group an individual identifies with (drug user, family member, friends, service provider), when they attend OENT. Comparably, the most successful program in training non-users, Learn2Cope, has trained 1,563 family members since its inception in 2011 (Learn2Cope interview, 2015). Massachusetts provides OENT to an average of 2700 people per year (see appendix A), making Learn2Cope responsible for approximately 20 per cent of trainings throughout the span of the program. Thus, a program developed in British Columbia would ideally be able to increase representativeness to a similar level.

Table 7.4. Equity Measurement for Overdose Prevention

Representativeness for non-illicit PWUDs.	
Low= 0 to 5% increase in overall representativeness for non-illicit PWUDs.	
Medium= 5- 10% overall increase in representativeness for non-illicit PWUDs.	
High= 10- 15% overall increase in representativeness for non-illicit PWUDs.	

7.2.3. Stigma Reduction

This criteria is based the ability of the PWUD to play an important role or multiple roles in delivering peer-driven support services to fellow PWUDs. The term “indirect opportunity” refers to the potential that stigma reduction can have for an illicit drug user. For example, one of the policy options seeks to increase the representation in overdose education of friends, family members and licit PWUDs that society may not associate with drug overdose. This may have an impact on the perception of illicit PWUDs as being the only group impacted, along with the potential that they have to intervene when someone overdoses in their presence.

Direct impacts represent opportunities for illicit PWUDs to impact their communities in a positive way. Some illicit PWUDs have been critical of service provision in their communities for following a “top down” perspective (White, 2001). They feel that their status as current PWUDs inhibits them from taking an influential role in the programming that is designed to help their communities (White, 2001). Opportunities PWUDs to help their communities by recruiting other users into overdose education programs.

Table 7.5. Reduced Stigma Objectives Measurement

Reduced Stigma	
Low= Provides illicit PWUDs with limited, indirect opportunity to engage with their communities in a meaningful way.	
Medium= Provides an indirect reduction in stigma.	
High= Provides illicit PWUDs with direct reductions in either self-stigma or enacted stigma.	

7.2.4. Program Implementation

a. This criterion describes the ease of implementation for each policy option, using time as a proxy for ease. This includes length of time for immediate implementation, as well as length of time required to meet the policy's primary stated goal. Immediate implementation means the length of time required to start a program's operations, including overcoming any regulatory barriers.

b. The other aspect of implementation is defined as the length of time required to meet the policy's societal objectives. This measure is based on comparisons to other OENT programs. This policy's major societal objective is increasing the overall representativeness of OENT to include non-illicit drug using populations. This program will be compared to Learn2Cope, Massachusetts support group for family members of PWUDs.

Table 7.6. Implementation Criteria Measure

Initial Implementation	Achieving Societal Objectives
Low= 3 to 5 years	Low= 3 to 5 years
Medium= 2 to 3 years.	Medium= 2 to 3 years.
High= 1 to 2 years.	High= 1 to 2 years.

7.3. Objectives and Measures- Naloxone Distribution Policies

Table 7.7. Objectives and Measures- Naloxone Distribution Policies

Major Objective	Criteria	Measures
Health and Safety	Ability of the policy option to reduce drug overdose deaths.	Measured by amount of overdose reversals.
Efficiency	Reducing barriers related to obtaining naloxone kit. Amount of naloxone kits dispensed	The number of healthcare or social service visits required to obtain a naloxone kit. of naloxone kits dispensed
Government Objectives		
Cost Efficiency	Does the policy option reduce the costs associated with implementing an overdose prevention program.	Projected monies saved
Stakeholder Acceptability	Ensuring prescriber concerns are sufficiently addressed (liability issues, etc) Ensuring drug user concerns are sufficiently addressed	Expected reaction Expected reaction
Program Implementation	Length of time required to implement program	Measured in months/and years.

7.3.1. Health and Safety

Reducing overdose fatalities is the primary objective of this research and because of this, will be weighted at double the amount of the other objectives. The measure that will be used to determine policy success will be the number of requests for new naloxone kits after an old kit has been used. In order to receive a new naloxone kit users must return a used kit in exchange.

This measure is based on jurisdictions with the broadened access to naloxone. For example, North Carolina’s overdose prevention program has reported 352 overdose reversals (as of February 27, 2015) within the “standing order” model in which they operate (North Carolina Harm Reduction Coalition, 2015). North Carolina has the most expansive distribution of the drug within the jurisdictions studied, so increasing overdose reversals to a similar level would illustrate the effectiveness of expanding access to the drug. A meta-analysis of 19 different naloxone programs measured the effectiveness of using the drug in the form of survival rates (Clark et al. 2014). 11 of the studies indicated a 100% survival rate while the rest of the studies had survival rates that varied between 83% and 96% (Clark et al. 2014).

Table 7.8. Health and Safety Measure

Number of Overdose Reversals	
Low (1) = Minimal increase in overdose reversals.	Red
Medium (2) = Moderate increase in overdose reversals.	Yellow
High (3) = Large increase in overdose reversals comparable to jurisdictions with the most access to naloxone.	Green

7.3.2. Efficiency

As suggested by the BCCDC interview participant, program participants often make several trips to obtain their naloxone kit. This could mean making separate trips for the training, prescription, as well as the kit being dispensed. Each additional trip provides a barrier to naloxone distribution. The secondary goal of this research is to try to reduce the amount of trips needed to acquire naloxone. Ideally, the prescribing, training, and dispensing of the drug all occur at the same time and location. This criterion will be

measured by the estimated amount of separate healthcare visits that would be required to obtain a naloxone kit.

Additionally, the amount of naloxone kits that have been dispensed will serve as measure for the drug’s expanded access (see Table 8.2). The measure for this criterion is based off section 4.4 in the case study section. In each jurisdiction, the amount of naloxone distributed is divided by the population in order to understand how many naloxone kits have been dispensed on a per capita basis. Jurisdictions with the most expanded access to naloxone (such as North Carolina) have measures of 0.51 naloxone kits per 1, 000 people, while jurisdictions with very strict access to naloxone have measures of 0.1 per 1, 000 people or less (Ontario).

Table 7.9. Efficiency for Overdose Response Options

Efficiency potential	
Low= Participants must make three or more separate healthcare visits to receive naloxone kit.	
Medium= Overdose trainings, naloxone dispensing and prescribing are completed in two or more trips.	
High= Overdose education and naloxone dispensing/prescribing are completed in one trip.	

Table 7.10. Amount of Naloxone Kits Dispensed

Number of Naloxone Kits Dispensed	
Low= Naloxone kit per capita similar to current rate: 0.3 to 0.4 per 1, 000 people.	
Medium= Naloxone kit per capita population increases to 0.4 to 0.5 per 1, 000 people	
High= Naloxone kit per capita similar to programs with broadest access to Naloxone ie North Carolina .5 per 1, 000 people or above.	

7.3.3. Cost Efficiency

This determines how each option will reduce or increase costs associated with an overdose prevention program. For example, providing pharmacists with the ability to

prescribe and dispense naloxone may reduce overhead costs associated with a patient having to get a doctor's prescription. Similarly, if a nurse can prescribe naloxone, then that may also reduce physician fees. This measure is not based on the cost savings of a prevented overdose death, hospitalization, or employment of a potential overdose victim. These options are based on an expansion of an already existing program, and the measurement is based on cost savings related to the original program.

Table 7.11. Cost Efficiency for Overdose Response Options

Cost efficiency potential	
Low= Physician is still required to write prescription	
Medium= Healthcare professional involvement is still required, but a physician is not required (nurse or pharmacist is used as an alternative)	
High= Physician, pharmacist or other healthcare participation is not required, eliminating the need to pay a medical professional to train participants, dispense naloxone, or write a prescription for naloxone.	

7.3.4. Stakeholder Acceptability

Each policy options allows new groups of professional (pharmacists, nurses) the ability to prescribe or dispense naloxone. These groups need to be ensured that any liability concerns will be addressed. Additionally, each group's concerns will be addressed through the appropriate licensing body (College of Nurses, College of Pharmacists). This will be measured by expected reaction based on prior communication with licensing bodies, or media reports stating their position.

Those who use illicit drugs are the group most likely to access naloxone. This group's safety, privacy, and financial needs must be considered. Expected reaction is based on whether the policy inhibits or interferes with aspects of the drug-users life related to safety, privacy or financial needs, thereby reducing the amount of PWUDs that are willing to obtain naloxone kits.

Table 7.12. Stakeholder Expected Reaction to Policy Change

Expected Reaction	
Low= Stakeholder is not receptive to policy change.	
Medium= Stakeholder is indifferent to policy change.	
High= Stakeholder is receptive to policy change.	

7.3.5. Program Implementation

This criterion describes the ease of implementation for each policy option, using time as a proxy for ease. This includes length of time for immediate implementation, as well as length of time required to meet the policy’s primary stated goal. Immediate implementation means the length of time to actually implement the program and start its operations. This includes the length of time that all regulatory and policy-related barriers are overcome. The other aspect of implementation is defined as the length of time required to meet the policy’s societal objectives.

Table 7.13. Program Implementation Scores

Initial Implementation	Achieving Societal Objectives
High (3)= 1 to 2 years	High= 1 to 2 years.
Medium= 2 to 4 years.	Medium= 2 to 4 years.
Low= 3 to 5 years.	Low= 3 to 5 years.

Chapter 8. Policy Evaluation

8.1. OENT Option #1


8.1.1. Effectiveness

Expanding access to OENT will also mean that they are conducted with larger groups of participants. In large group settings, trainers have less time to spend with each participant to gauge their understanding of OENT. Trainings are less customized to participants when group sizes increase. Also, it becomes difficult to determine what amount of knowledge participants have retained post-training. An interview conducted with the BCCDC suggests that non-users have significantly less knowledge of the symptoms of overdose and how to appropriately respond. Because of this, overdose education training is particularly helpful in increasing risk factors, knowledge of the symptoms of overdose and how to appropriately respond.

Research suggests that brief trainings in heroin users can increase recognition of overdose symptoms and increase use of naloxone (Jones et al. 2014). Many non-PWUDs do not have the same experiences or confidence in using naloxone. Thus trainings are scheduled to take an hour, in order to address questions and concerns of participants.

This option allows concerned family members and friends to be confident in their ability to act appropriately if a loved one overdoses in their presence. It will also teach them about factors that can increase the likelihood of an overdose. All of this information can be disseminated to PWUDs as well, if they are unwilling to participate in overdose education. It helps non-users to overcome a major barrier of current policy, which makes ineligible to be prescribed naloxone.

Effectiveness Score:

High (3)= Trainee is able to respond similarly to a trained medical professional in an overdose situation, as indicated by scoring 80% or higher on questionnaire.	
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8.1.2. Equity

This policy option expands the potential for trainings to occur amongst non-illicit PWUDs across the province. One of the largest groups with an increase in overdose fatalities in the province are people who are using opioid medications as prescribed (licit PWUDs) (Corneil, 2014). Additionally, concerned friends, family members, and social service providers and support workers are all potential interveners at the scene of an overdose.

An additional impact of this goal is the reduction of stigmatization among both licit and illicit PWUDs. Many licit PWUDs, namely those on high dose pain killers, wrongly believe that they are unlikely to overdose. This is the major rationale in featuring the trainings at local health units. These facilities host a wide array of health services. Licit PWUDs feel uncomfortable receiving training at syringe exchanges and other harm reduction facilities. However, utilizing a facility already used for other health services increases the receptiveness of licit PWUDs to be trained. It's also more convenient for a population that already utilizes local health units.

For the parents and family members of PWUDs, conducting meetings at locations not associated with illicit drug use helps to dispel myths regarding PWUDs as well as their family members. Health units can also provide family members with a variety of resources related to addiction treatment. This option receives an overall score of High because of its ability to increase the overall representativeness of OENT.

Overall Score:

High (3)= 15- 20% overall increase in representativeness for non-illicit PWUDs of all overdose education trainings conducted.	
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8.1.3. Stigma Reduction

This option places a stronger emphasis on the training of non-illicit PWUDs. Indirectly, there is potential for reduced stigmatization as the proportion of illicit PWUDs being trained decreases. Societal perceptions regarding overdose prevention and naloxone usage may change over the long term, and may not be defined solely as issues impacting illicit PWUDs.

Otherwise, this option focuses primarily on the family members of illicit PWUDs, as well as licit PWUDs. Their perception of the PWUD may also change because of these trainings. Family members may understand the potential that an illicit drug user has to intervene when a peer overdoses. Research suggests that PWUDs who have used naloxone to save someone's life have gotten positive reinforcement from paramedics and police officers, along with fellow PWUDs (Wagner, et al. 2014).

Overall, this option only indirectly impacts the liberty of illicit PWUDs, by changing the perception of populations impacted by drug overdose.

Resulting Score:

Medium (2)= Provides indirect reduction in stigma.	
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8.1.4. Program Implementation

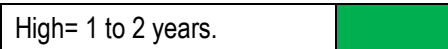
Initial Implementation

Implementing a program of this scope across the entire province will have to start with engaging health units in a dialogue to determine their receptiveness to overdose training. Additionally, engaging parental support groups in the implementation of an OENT program is also important. Approaching these groups has the benefit of establishing a support base for the program immediately. However, some support groups emphasize abstinence from using drugs, and may not be receptive to OENT.

Establishing the groups across other parts of the province will follow the same blueprint. British Columbia's take home naloxone program has expanded to feature naloxone training sites across the entire province in its first two years of existence.

Implementation of this program will require a similar length of time. Due to the expected length of time for implementation being 2 years, this options receives a “High” score.

Resulting Score:



Achieving Societal Objectives

Increasing the overall representation of other groups impacted by drug overdose will require an extended period of time. Awareness of the program has to disseminate throughout the province. Comparable programming in other jurisdictions took approximately three years to increase the representation of concerned friends and family members (source, Learn2Cope interview). However, this organization already had a far-reaching network of support meetings throughout their jurisdiction that started in 2004. When they introduced overdose trainings to their meetings in 2011, they had already amassed a large infrastructure of support meetings across Massachusetts. British Columbia does have a network of Nar-Anon support meetings throughout the province, but each is self-sustaining and fundamentally autonomous. Learn2cope is essentially a “chain” of peer-based support meetings.

Resulting Score:

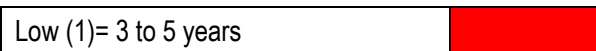


Table 8.1. Summary Evaluation for Policy Option 1

Major Objective	Criteria	Measures	Score
Effectiveness	Ability of the policy option to communicate overdose awareness and prevention education	Post-training questionnaires. And 3 month followup	2
Equity	Accessibility of program to as many stakeholders as possible	More proportional representation of subpopulations impacted by drug overdose (in %)	3 (double weighted for a total of 6)
Liberty	Ability of policy option to empower PWUDs	Financial Compensation for PWUDs.	1
Government Objectives			
Implementation	Length of time to establish program.	Length of time required (months, years etc) for initial implementation.	3
		Length of time required to meet societal objectives.	1
		Total Score:	13

8.2. OENT Option #2 Evaluation

8.2.1. Effectiveness

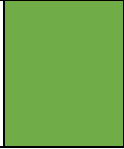
This option engages specifically with those who have experience with illicit drug use. Many long term users have overdose education founded on myths. For example, some users believe that slapping or punching someone is an appropriate way to revive someone from an overdose, according to BCCDC's representative. OENT eliminates these misconceptions by providing an empirically validated education.

Allowing more PWUDS to provide outreach and recruitment of fellow PWUDs provides greater legitimacy to OENT efforts. Participants can engage in dialogue surrounding these myths and misconceptions in a manner that may not be possible with a professional trainer. Utilizing PWUDs as recruiters allows the program's message to be disseminated by voices with experience and empirically validated knowledge.

Despite misconceptions, the knowledge base of illicit PWUDs is larger than non-users, according to BCCDC's representative. Trainings can be shorter with no reduction in knowledge retention. Additionally, research suggests that many users engage in "secondary trainings", in which they train other illicit PWUDs throughout their communities (Gaston, et al. 2009). In one study, one-third of participating users reported that they trained significant others in overdose education (Gaston, et al. 2009). Another study suggests that users are able to successfully retain the information they learned when surveyed three months later (Strang, et al. 2008).

Additionally, this option seeks to engage recovery related services like detox centres, methadone clinics and rehabilitation centres to provide overdose education. One of the factors that increases the likelihood of an individual to suffer an overdose is an extended period of abstinence (Chutuape, Jasinski, Fingerhood & Stitzer, 2001). Users that leave detox centres and rehabs and return to active drug use after periods of abstinence are susceptible to overdose. Providing OENT to these individuals will reduce this risk.

Resulting Score:

High (3)= Trainee is able to respond similarly to a trained medical professional in an overdose situation, as indicated by scoring 80% or higher on questionnaire.	
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8.2.2. Equity

This option will increase the representation of illicit PWUDs within the province’s OENT program. Targeting facilities like methadone clinics will increase the program’s ability to provide OENT to users not previously reached by existing efforts. Abstinence from other drugs is not a prerequisite for participation in methadone maintenance, and many users take illicit drugs along with their methadone. Mixing drugs increases the likelihood of overdose, so reaching this group of users is an important step in reducing overdose fatalities.

The policy provides OENT to those who are currently on the province’s methadone maintenance program, which currently has approximately 13, 894 patients (Office of the Provincial Health Officer, 2013). Methadone patients often take their medication home in the form of “carries”. A carry is one or several daily doses of methadone that a patient can bring home to use rather than taking at a pharmacy. Methadone is poisonous to anyone who has not developed a tolerance to opioid use, so there is a risk that a friend or family member could unknowingly take this medication and potentially overdose. One of the benefits of this policy is that it provides OENT to this demographic of PWUDs on how to appropriately respond if this were to occur.

This option places its focus on illicit PWUDs who have not been previously engaged in OENT measures. For that reason, this policy option will not increase the representativeness of other groups of people within the province who require OENT. However, it does increase the representativeness of illicit PWUDs by engaging those who are on the province’s methadone maintenance program.

Overall Score:

Low (1) = 0 to 5% increase in overall representativeness for non-illicit PWUDs.	
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8.2.3. Stigma Reduction

This option provides illicit PWUDs with the opportunity to work as OENT recruiters. It gives PWUDs ability to engage with their communities. Utilizing illicit PWUDs as recruiters gives them a stronger input and role to play in service delivery. Rather than an entirely “top-down” approach to service delivery, this policy ensures that PWUDs are engaging with their communities. It serves as a method of reducing stigma to illicit PWUDs. This group of people will be trained on how to respond appropriately to a drug overdose in the same manner that a trained nurse or physician would be. Potentially, they will be saving the life of a fellow drug user. Implicitly, this is an empowering role for a drug user to embrace.

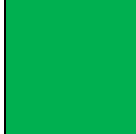
PWUDs are marginalized in several different aspects of their lives (Luoma, et al 2008). Enacted stigma impacts this group in their potential for employment, housing, and social relationships (Luoma, et al. 2008). PWUDs evoke negative societal perceptions to a larger degree than mental illness, including schizophrenia. In one study of the general public, participants rated cocaine addiction as the least controllable among a variety of mental ailments (Corrigan et al. 2000). This study included mental illnesses such as schizophrenia which is thought to be one of the most debilitating mental illnesses, when sufferers do not receive proper psychiatric treatment (Corrigan, et al. 2000).

Stigma also stems from the user themselves, in the form of self-stigma. This is defined as shame, evaluative thoughts, and fear of enacted stigma that can result from self-identification with a marginalized group, which in this case, is illicit PWUDs. Self-stigma can serve as a barrier to pursuing life goals. For example, former and current users might avoid applying for jobs or pursuing intimate relationships, due to an underlying fear of rejection or discrimination. Research suggests that self-stigma is associated with decreased mental health, self-esteem, and a lower quality of life (Luoma, et al. 2012).

PWUDs that have reversed potentially fatal overdoses have reported empowering feelings such as heroism and pride (Wagner, et al. 2014). For each drug user that receives OENT, a reduction in enacted stigma may also be possible. For

example due to current regulations, many SRO (Single Room Occupancy) hotels are unable to have their staff equipped to use naloxone. SROs overcome this barrier by ensuring residents with histories of drug use have received OENT. PWUDs with overdose training within these buildings play an important role in preventing fatalities. Additionally, with increasing public recognition of the role that PWUDs can play in preventing deaths, will come the potential for dialogue between PWUDs and larger society (Wagner, et al. 2014).

Resulting Score:

<p>High (3)= Provides illicit PWUDs with a direct opportunity to engage with their communities in a meaningful way through peer-recruitment, overdose education trainings, speaking engagements etc.</p>	
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8.2.4. Program Implementation

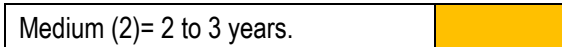
Initial Implementation

Since there is already an established harm reduction infrastructure across the province in the form of needle exchange sites, supervised injection sites, and Hepatitis and HIV resource centres, the initial implementation of the policy will be minimal. There are approximately 233 harm reduction providers across the province (BC DOAP Report, 2014). A survey of harm reduction service clients suggests that 88% of them live within the same community as a harm reduction site. The median travel time to reach one of these sites is 10 minutes across the entire province. Although 30% of respondents suggested it took them 30 minutes or greater. However, this may due to the fact that 64% of respondents indicated that their primary means of transportation to reach the site is by walking (Ishiguro et al. 2014).

However, difficulties may arise in engaging detox centres, methadone clinics, and other recovery related institutions. Since equity is the major objective of the set of prevention overdose responses, these organizations must be considered in the implementation of such a program. As BCCDC’s representative suggested, many of these organizations feel that overdose training condones illicit drug use. The representative suggested the example of detoxification centres. These centres provide a

safe environment for drug users to go through the first period of rehabilitation, namely drug withdrawals. Many of these organizations feel that providing illicit PWUDs with overdose education or naloxone is sending a message that condones further substance use. Initial reluctance on engaging methadone clinics and detox centres increases the length of time required for implementation, reducing this option to a score of “Medium”.

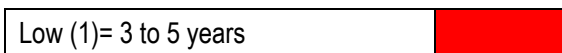
Resulting Score:



Achieving Societal Objectives

This option does little to expand overdose education access to non-illicit PWUDs. Trainings will be conducted at facilities that provide services mostly to illicit PWUDs. Because of this, the likelihood of expanding access to other groups in a timely manner is minimal. However, increasing the liberty of PWUDs who participate may take a smaller amount of time, because the infrastructure already exists, as a location to train them. However, since increasing the representativeness of the province’s overdose education efforts is weighted as being twice as important, this option’s resulting score is reduced even further.

Resulting score:



8.3. OENT Policy Evaluation Summary

Table 8.2. Overall Evaluation of OENT Options

Major Objective	Criteria	Measures	OENT Option #1 Score	OENT Option #2 Score
Effectiveness	Ability of the policy option to communicate overdose awareness and prevention education	Post-training questionnaires.	3	3
Equity	Accessibility of program to as many stakeholders as possible	More proportional representation of subpopulations impacted by drug overdose (in %)	3 (double weighted for a total of 6)	1 (double weighted for a total of 2)
Liberty	Ability of policy option to empower PWUDs	Financial Compensation and employment opportunities for PWUDs.	2	3
Government Objectives				
Implementation	Length of time to establish program.	Length of time required (months, years etc) for initial implementation.	3	2
		Length of time required to meet societal objectives.	1	1
		Total Score:	14	11

8.3.1. Summary

The tradeoffs between these two options are mainly between the populations that they will serve. The first option focuses its efforts mainly on licit PWUDs, concerned friends and family members, and social service providers. These groups have been underrepresented demographically in overdose education efforts thus far. Aside from licit PWUDs, current regulations make them ineligible to be prescribed naloxone. OENT provides concerned friends and family members the confidence in knowing how to appropriately respond in an overdose situation.

Overall Result:

Policy Option #1 is the recommended OENT option.

8.4. Naloxone Distribution Policy Options

Overdose response options are focused on the distribution of naloxone, rather than overdose education.

8.4.1. Health and Safety


One of the stronger benefits of this policy is the accessibility of naloxone to PWUDs who have either witnessed overdoses several times or experienced them personally. Research suggests that PWUDs who have overdosed are more likely to overdose again in the future, as well as being less likely to call 911 (Tobin, et al 2005). Rather than having to visit a doctor to receive an additional kit, they can visit a local pharmacy. This option reduces the barriers for this group of individuals to obtain follow up naloxone kits, increasing the accessibility of the program to the group of people who are most likely to overdose, and overdose more frequently, thereby increasing the likelihood of further overdose reversals. Other subpopulations of PWUDs will also find it easier to receive a naloxone kit.

Most of the province's methadone patients receive their medication from their local pharmacy, making it convenient to dispense naloxone to them at the same time.

Those being prescribed high-dose opioids (licit PWUDs) would also be able to obtain naloxone along with their prescription. Overdoses among licit PWUDs are becoming more common across British Columbia, but particularly in the province's interior regions (Cornell, 2014). This policy increases naloxone access to this group of individuals, increasing overdose reversals.

Adding naloxone to the province's formulary means that each prescription is recorded into PharmaNet, the province's centralized prescription database (PharmaNet, 2015). PharmaNet is used by healthcare professionals to prevent prescription duplication and fraud, and to prevent medication dosing errors. PWUDs may be hesitant to have their naloxone prescription registered into the PharmaNet system (PharmaNet, 2015). There may be concern that their physician may increase surveillance over their drug use, require them to attend treatment, or force them to find another physician. This may have the unintended impact of decreasing the amount of potential overdose reversals if illicit PWUDs avoid pharmacies to receive their naloxone kits. This is the major drawback of this policy option.

Overall Result:

High (3) = Large increase in overdose reversals comparable to jurisdictions with the most access to naloxone.	
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8.4.2. Efficiency

Naloxone by pharmacist's prescription will include a reduced in scope training component. Pharmaceutical trainings are reduced in length (5 minutes or less) and focused on administering the naloxone kit. Lay people (family members, friends, licit PWUDs) will have to attend trainings at a separate facility to receive a full training seminar on overdose education (see OENT policy option #1).

Illicit PWUDs will also have to attend training elsewhere, but many of them have a better understanding of overdose prevention, and brief (5 minutes or less) trainings have proven to be effective with this group. Overall, this option does remove the additional step of consulting a physician for a naloxone prescription, and reduces the length of trainings for those who do not wish to attend pre-scheduled trainings. This

option is less cohesive with the selected overdose prevention option (see section 9.3) as well. Training participants must take a trip to a second location in order to obtain the kit, instead of receiving the training and their naloxone kit at one location.

In remote regions of the province, this option reduces the need to conference with a healthcare professional via Telehealth. It also reduces lengthy travel times that many rural citizens require to access healthcare services.

Resulting Score:

Medium (2) = Overdose trainings, naloxone dispensing and prescribing are completed in two or more trips.	
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8.4.3. Cost Efficiency

Under this option pharmacists are able to replace the role of a prescribing physician, reducing cost inefficiencies associated with physician visits. After conducting OENT seminars, physicians write naloxone prescriptions for large groups of trainees, which require meetings with each participant to assess their need for naloxone. Post-training prescribing reduces physician availability for other tasks and increases healthcare costs.

This option makes naloxone available from pharmacies, where drugs are already being dispensed. The ability to prescribe and dispense naloxone is given to pharmacists as part of their basic job duties. It removes a burden from primary care physicians to write prescriptions. Despite increasing efficiencies related to the operation of British Columbia’s primary healthcare system, this option still requires participation from a healthcare professional. Because of this, it receives a score of “Medium”.

Resulting Score:


Medium (2)= Healthcare professional involvement is still required, but a physician is not required (nurse or pharmacist is used as an alternative)	
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8.4.4. Stakeholder Acceptability

Acceptability among governing body (College of Pharmacists)

According to BCCDC’s representative, the College of Pharmacists has stated their approval for their pharmacists prescribing naloxone. Their acceptance is based on the demonstrated success of BC’s current OENT program. However, their approval is contingent on naloxone being added to the prescription drug formulary, which would make naloxone eligible for Blue Cross Health insurance coverage. Blue Cross is one of the province’s largest health insurers, and this would make the drug effectively free for its customers. Since this option is based on adding naloxone to the provincial formulary, the anticipated reaction from the College of Pharmacists is positive.

Resulting Score:

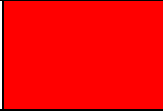
High (3)= Stakeholder is very receptive to policy change.	
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Acceptability among PWUDs

Acceptability among this group has not been expressed publically, but anticipated reaction will be negative. For PWUDs who are on methadone, or being treated by physicians who are aware of their drug use, fears of their physician

Having a centralized pharmaceutical database provides information for healthcare professionals on their patient’s prescribing patterns. Healthcare professionals can recommend drug treatment options based on their awareness of their patient receiving OENT. However, many jurisdictions that have implemented these programs have seen no decrease in overdose mortality or overall opioid consumption (Paulozzi, Kilbourne, & Desai, 2011). In some instances, patients are taken off high-dose opioid medications as a result of “double doctoring” (Paulozzi, Kilbourne, & Desai, 2011). This is when a patient visits two or more doctors to obtain the same prescription. This has the unintended effect of moving some of these patients to obtain drugs illicitly or to start using heroin.

Resulting Score:


Low (1)= Stakeholder is not receptive to policy change.	
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8.4.5. Program Implementation

Initial Implementation

Before naloxone is placed on the provincial drug formulary, a British Columbia Ministry of Health-initiated review must be undertaken to determine if this is an acceptable policy change. According to BCCDC’s representative this could take between 1 and 2 years.


Overall Score:

High (3)= 1 to 2 years	
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Implementation to Achieve Societal Objectives

Health Canada regulations restrict naloxone from being prescribed to non-opioid users. Jurisdictions with the broadest access to naloxone have made the drug available to non-opioid users. The process for naloxone to be made available to non-opioid users must be completed by Health Canada. Thus, the length of time required to meet the societal objectives will have to include the Health Canada approval process. However, this does not mean that either policy option will not serve to increase overdose reversals and increase the amount of naloxone kits that are dispensed, as access to the drug is expanded.

Overall Score:

Low (1)= 3 to 5 years.	
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8.5. Naloxone Distribution Policy Option #2

8.5.1. Health and Safety

Overdose is the leading cause of death among homeless British Columbians (BC Coroners Service, 2014). Among a sample of 560 homeless youth, 41.1% reported injection drug use (Kerr, et al. 2009). 2014's homelessness count indicated 2, 777 homeless individuals living in the Metropolitan Vancouver area, although this number is thought to be conservative due to homelessness that is not publically visible (Greater Vancouver Regional Steering Committee on Homelessness, 2014).

British Columbia's outreach nurses focus on serving this population directly but are not allowed to prescribe naloxone. This option removes all barriers to dispensing naloxone to B.C.'s street-level PWUD population. As suggested in an interview with NCHRC, additional barriers reduce the amount of naloxone kits being dispensed. Street outreach nursing provides a low-threshold access point to OENT.

This option extends prescribing privileges to one group of healthcare professionals (nurses), whereas other jurisdictions (North Carolina) have expanded prescribing privileges to anybody working or volunteering for an organization focusing on overdose prevention. In these jurisdictions, the increased ability to prescribe and dispense naloxone kits contributes to an increase in overdose reversals in greater amounts.

Overall Score:

Medium (2) = Moderate increase in overdose reversals.	
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8.5.2. Efficiency

One of the strengths of this option is its cohesiveness with the recommended overdose prevention option. Nurses can train large groups of people and then prescribe and dispense naloxone kits to an entire group, reducing the amount of healthcare visits effectively to one.


Participants that do not attend group trainings will have to schedule appointments with a nurse to receive their naloxone kit. This provides an additional barrier compared to receiving a naloxone kit from a pharmacist, although overdose education can also be completed during these appointments. Comparably, only basic naloxone administration would be completed during a pharmacy visit to obtain a naloxone kit under naloxone distribution option #1.

In rural and remote regions of the province patient access to healthcare resources is sometimes difficult. One study of rural aboriginal British Columbians suggested that 45% of the study's participants had traveled to another community for healthcare (Wardman, Clement & Quantz, 2005). Those who live on reservation were more likely to indicate a need to travel to another community for healthcare. This effect was more pronounced in regard to accessing mental health and dental services (Wardman, Clement & Quant, 2005).

In response to this many healthcare services in rural areas are delivered via Telehealth (Ministry of Health, 2014). This program uses video conferencing to connect patients to healthcare professionals across long distances. This option allows nurses to prescribe naloxone instead of physicians, reducing a healthcare burden on rural populations. However, when the Telehealth option is not available, some rural residents will be required to travel extensively to obtain a naloxone kit.

The potential of this option is stronger under revised Health Canada guidelines that allow naloxone to be prescribed to non-opioid users. Overdose education seminars that are focused on non-using family members would act as an ideal setting to dispense naloxone to many people once the training session has been completed.

Overall Score:

High (3)= Overdose education and naloxone dispensing/prescribing are completed in one trip.	
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This option is similar in nature to overdose prevention programs in Massachusetts, which feature a delegated prescriber program that relies on trainings and dispensing at medical facilities. Because of British Columbia's large homeless

population, providing outreach nurses with the ability to prescribe naloxone will expand access to the drug among this population. Under this policy, this demographic will represent the largest increase in naloxone kits.

Overall Score:

Medium= Naloxone kit per capita population increases to 0.4 to 0.5 per 1, 000 people	
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8.5.3. Cost Efficiency

This option reduces healthcare costs associated with utilizing a physician to write a prescription. Nurses are authorized to prescribe naloxone, which relieves time constraints on physicians. However, one barrier to this approach is the ability for users to return and receive follow-up naloxone kits is time consuming and expensive. Each time that a person needs a naloxone kit, they must consult with a medical professional and make separate appointments. At this point the option becomes a proxy for requiring a physician’s prescription. Separate healthcare visits need to be scheduled to obtain a kit, and healthcare resources that could be utilized for other issues are instead being focused on unnecessary follow up visits. This factor reduces the potential for cost efficiency of this option.

In rural regions of the province, requiring a nurse to prescribe naloxone still requires usage of Telehealth services when a healthcare professional may not be available for a face to face meeting. Naloxone distribution option #1 eliminates the need for consultation with a nurse, physician, as well as utilization of Telehealth services.

Overall Score:


Medium (2)= Healthcare professional involvement is still required, but a physician is not required (nurse or pharmacist is used as an alternative)	
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8.5.4. Stakeholder Acceptability

Acceptability of Governing Body (College of Nurses)

British Columbia's College of Nurses was initially reluctant to consider allowing their nurses to prescribe naloxone, but after seeing the initial program implementation they have since become receptive to this policy option.


Overall Result:

High (3)= Stakeholder is receptive to policy change.	
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Drug User Acceptability

This option does not make naloxone any more difficult to acquire. The major difference is that a nurse will prescribe it rather than a physician, which will reduce wait times for appointments, increasing anticipated acceptability among this population. Since naloxone is not being rescheduled, prescriptions will not be added to BC's PharmaNet database. Street-level PWUDs can be dispensed naloxone without having to visit a physician separately, which greatly reduces barriers to accessing this population. In some remote regions of the province, PWUDs have to access healthcare services in locations proximal to police stations. This may make some PWUDs more hesitant to acquire naloxone if it is required (Peters & Self, 2005).

Resulting Score:

High (3)= Stakeholder is receptive to policy change.	
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8.5.5. Program Implementation

Initial Implementation

BCCDC's representative suggests that creating a DST that would enable nurses to prescribe would take less than a year. Once the DST has been written, it must be approved by the College of Registered Nurse of British Columbia. This is expected to

take several months, according to BCCDC’s representative. One of the benefits of this option is the short length of implementation required for its initial implementation.

Overall Score:



Achieving Societal Objectives

This option will take a lengthier amount of time to implement due to constraints at the federal level that inhibit naloxone’s prescription to non-PWUDs.

Resulting Score:



8.6. Naloxone Distribution Policy Evaluation

Table 8.3. Naloxone Distribution Policy Evaluation

Major Objective	Criteria	Measures	Naloxone Distribution Option #1	Naloxone Distribution Option #2
Health and Safety	Ability of the policy option to reduce drug overdose deaths.	Measured by amount of overdose reversals.	High (6) double-weighted score of 3.	Medium (4) double weighted score of 2.
Efficiency	Reducing barriers related to obtaining naloxone kit	The number of healthcare or social service visits required to obtain a naloxone kit.	Medium (2)	High (3)
Efficiency	Amount of naloxone kits dispensed	# of naloxone kits dispensed	High (3)	Medium (2)
Government Objectives				

Cost Efficiency	Does the policy option reduce the costs associated with implementing an overdose prevention program.	Projected monies saved	Medium (2)	Medium (2)
Stakeholder Acceptability	Ensuring prescriber concerns are sufficiently addressed (liability issues, etc)	Expected reaction	High (3)	High (3)
Stakeholder Acceptability	Ensuring drug user concerns are sufficiently addressed	Expected reaction	Low (1)	High (3)
Program Implementation (Initial)	Length of time required to implement program	Measured in months/and years.	High (3)	High (3)
Program Implementation (Achieving Objectives)			Low (1)	Low (1)
		Overall Score:	21	21

Summary:

Each naloxone distribution option is more cost-effective than dispensing by physician.

Chapter 9. Recommendations

OENT and naloxone can further reduce overdose fatalities in British Columbia. Below are the recommended options on how to pursue this course of action.

Expand OENT to friends, family, licit PWUDs: Establish overdose education programs at health units across the province aimed at those who are prescribed opioids (licit PWUDs), as well as concerned family members and friends, as well as service providers. This option will enable lay people to receive OENT until Health Canada regulations change and this group can be prescribed naloxone.

Establish a Pilot Project between Parental Support Groups and BCCDC: Build a pilot project between Parents Forever (a local Vancouver support group) and the BCCDC to provide both peer-based support and OENT.

Expand access to naloxone: Add naloxone to Schedule 4 of British Columbia's *Pharmacy Operations and Drug Scheduling Act*. This will make naloxone available by a pharmacist's prescription.

Develop a DST so that nurses can prescribe naloxone: This option will make dispensing naloxone to street-level PWUDs much easier.

Post-implementation, providing naloxone by pharmacist's prescription will become the primary method of distributing the drug across the province. This option's potential is enhanced if Health Canada regulations regarding who can be prescribed naloxone are altered to include non-opioid users, underscoring how structural barriers can inhibit the full distribution of a lifesaving drug.

Enabling nurses to prescribe naloxone will provide low-threshold access to the province's homeless residents. Essentially, outreach nurses will be able to provide the

lowest-threshold access to naloxone. Otherwise, naloxone will be prescribed by pharmacists rather than physicians.

9.1. Future Considerations

Expand access to HAT (Heroin-Assisted Treatment): HAT serves a “small but important role” in providing opioid maintenance to PWUDs who have not responded to other forms of treatment. Expanding HAT to non-treatment responsive PWUDs will increase their standard of living and reduce the likelihood of their contracting HIV/AIDS or overdosing.

Reduce waitlists to drug treatment/rehabilitation services: An overdose is a pivotal time for a drug user to enter drug rehabilitation, but long waitlists prohibit many of them from being able to enter treatment in a timely fashion.

Bystander Protection: Recommend to provincial police forces to adopt a policy similar to the VPD’s “do not respond” policy to reduce the structural barriers inhibiting PWUDs to calling 911.

Avoid drug reformulations: Reformulating prescription opioids can have the unintended consequence of moving some users to illicit markets to obtain drugs, increasing overdose fatalities.

Integrate PWUDs into policymaking: As the methadone to methadose transition has shown, not including PWUDs into policymaking can have negative health outcomes.

Improve access to drug treatment among aboriginal populations and remote regions of BC: Provide better access to treatment services to remote regions of the province. Many remote communities are hesitant to implement harm reduction measures because they feel that the services required to rehabilitate PWUDs are not available in their communities. Thus, services are directed toward reducing the harms

related to drugs but not rehabilitating users and getting them off drugs. This makes these communities hesitant to implement harm reduction measures.'

Staggered Dispensing of Social Assistance Cheques: Research is being conducted to determine if this is a viable option of reducing overdose deaths.

9.2. Methodological Limitations

The survey reached only a small number of people. This was due to lack of resources to incentivize the survey.

Because of the sensitivity of the subject matter, the vulnerability of the population and the location of the survey(VANDU), the survey length was intentionally created to be very short. As such, basic information was achieved, but this is restricted to a small population answering very direct questions. The nuances of information relevant to creation of policy in this area was not gained, however, such nuances were identified in the case studies and interviews undertaken. The survey was primarily conducted with street-level drug users, many of whom use crack cocaine, and less intravenous drugs, which means they may be less likely to witness an opioid overdose. Because of time restrictions (concerning the capstone deadlines and lengthy time required to achieve ethical approval), it proved too difficult to survey those in private residences. Time constraints translated into a small and highly specific (VANDU related) sample which could mean that the survey results are not widely applicable to the broader illicit drug taking population.

9.3. Future Research

Ideally, a longitudinal and more nuanced survey study would best measure the success of the Vancouver Police Department's survey. Surveying people from other parts of the province to see if PWUDs are fearful of law enforcement would also be important.

Chapter 10. Conclusion

Overdose is an entirely preventable cause of death. Naloxone is proven to be an effective, safe, lifesaving medication. Expanding its access to as many people as possible will reduce overdose fatalities in British Columbia. OENT focused on PWUDs and their families serves as a preventative measure, reducing the need for someone to even use naloxone. It's a timely response to the inability of non-users to be prescribed naloxone.

This project forced me to confront the perception that society has of illicit PWUDs. It focuses on reducing the likelihood of an overdose turning fatal. Essentially, it focuses on policy interventions at the stage of the overdose occurring. This is an important facet of drug policy. However, many PWUDs in this province are unable to receive stable housing, healthcare, or access to rehabilitation treatment. Preventing an overdose from turning fatal will not solve these issues. When a drug user suffers an overdose, this represents an opportunity for healthcare services to intervene and offer drug treatment services. Many PWUDs are unable to access these services and are put on lengthy waitlists, missing the critically important timing aspect of drug rehabilitation. Providing naloxone will not solve this issue. Many PWUDs feel misplaced shame related to their drug use, which prevents them from being able to speak about their experiences or seek help. Good Samaritan laws will not solve this issue. Change needs to occur at a more basic level, societal perceptions of illicit PWUDs need to be transformed.

From the policy perspective, reducing the emphasis on top-down program delivery would be helpful not just to the PWUD but also for program delivery and implementation. PWUD end-user input is often disregarded during program implementation. The most recent example of this manifesting itself is the methadone to methadose medication transition (MacNeil et al. 2015). This regulatory change meant that BC's 15,000 methadone patients had the formulation of their medication changed

without prior consultation from the provincial government. Many patients reported that this switch in methadone led them to using heroin (MacNeil et al. 2015). Including PWUDs prior to this regulatory change could have improved these outcomes.

This illustrates how altering regulatory frameworks can also alter treatment outcomes. PWUDs played a minimal role in the policy change process, this change is inadvertently brought PWUDs back to using heroin. Including PWUDs within the process could have meant that many of the negative externalities of this policy change were avoided. This means further problems for policymakers in the form of HIV contraction and prohibited income generation (PIG) (MacNeil et al 2015).

Policymakers need to consider the structures already in place that worsen drug-related harms. In essence, we need to look at ourselves and our institutions to understand how we are hindering our own progress

HAT and supervised injection facilities have the strongest potential to serve as access points to the services that PWUDs require in order to live healthier, safer lives. But structural barriers at the Federal level have thus far inhibited new supervised injection sites across the province. These services contribute to a reduced sense of stigmatization among their client bases, and are responsible for community reductions in crime, overdose death and HIV/Hepatitis contraction.

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Appendix A. How I Got Here. (Reflexivity)

*“The Big Three killed my baby/No money in my hand again/ Oh the Big Three killed my baby/ Nobody’s comin’ home again”- The White Stripes
“Big Three Killed My Baby”*

My motivation for choosing this topic stems from my lived experience as a former drug user. The circumstances that I describe in the Ontario case study were ones that I experienced and witnessed personally.

I do not feel that the reasons for my drug use are relevant to this paper, simply because each individual’s reasons are different and are hard to generalize. Thus, I will not describe them for you. Additionally, this paper focuses on how public policy can reduce overdose deaths, but also how it can act as a barrier to overdose prevention, as well as the health and wellbeing of drug users. This section will focus on how policy and economic changes at the macro level impacted the experiences of myself and other drug users, how my experiences led me to focusing on overdose prevention as a thesis topic, and how my experiences informed my research.

Ontario faced a severe recession in late 2008 and the city that I was living in was greatly impacted by this. At its worst, unemployment rates climbed to 13.8% (Windsor Star, 2009). The structural changes that Windsor’s economy has undergone since this recession have meant that 20% of its population live in relative poverty according to the Low-Income Measure (LIM), compared to 13% of Canada (Brennan, 2014). Much of Canada has stabilized post-recession, with an average unemployment rate of 6.8%, while Windsor’s unemployment rate is currently 11.1%, the highest in Canada (The Windsor Star, 2015). In 2011, 58, 000 Windsorites lived in poverty, almost doubling 2006’s number of 34, 000 people (Brennan, 2014).

Windsor’s economy was strongly tied to automobile manufacturing. Since this recession, Windsor’s manufacturing sector has reduced in size and many people find themselves underemployed and unable to transition into new employment sectors. Manufacturing jobs can be physically demanding. Many assembly line workers that I knew were prescribed opioids for pain related to their employment. For some, selling

their opioid medications became an economic solution to the income they lost with unemployment.

Periods of economic transition are related to increased suicide rates, mental health disorders, and drug abuse and the effects of the recession on Windsor manifested in similar ways. People started selling their medications for economic reasons, but others started using these medications as a coping mechanism for life stressors related to unemployment.

*"I feel like I'm walkin' a tightrope without a circus net/I'm poppin' Percocet/
I'm a nervous wreck/I deserve respect/But I work a sweat for this
worthless cheque." Eminem "Rock Bottom"*

Cancer rates in the Windsor area are higher than Ontario's average. In the neighborhood I grew up in, lung cancer rates are double the provincial average. This amounts to 24 new incidences of lung cancer between the years 2000 and 2009, in one neighborhood in Windsor, Ontario (Windsor Essex County Health Unit, 2015). The pollution from Windsor's industrial sector, as well as the city's geographic position, downwind from the manufacturing and industrial breadbasket of the United States (Michigan and Ohio) all contribute to the high incidence of cancer in the region. Again, this underscores how the environment that people find themselves using drugs in can be impacted by macro-level economic and industrial factors. These factors influence the availability of prescription opioids by proxy of increasing cancer rates. Often times, strong prescription opioids like OxyContin or fentanyl are prescribed to cancer patients undergoing chemotherapy. With so many cancer patients in the area, some of these prescriptions are diverted and sold illicitly.

*"Sittin' on porches of abandoned houses/Or sitting on the field in bed bug
ridden couches/It's like they all forgot man nobody care about us." Danny
Brown "Fields"*

However, I would argue that the availability of opioid drugs is not the most pressing issue. I used pills as a coping mechanism. Having a close family member or friend with a cancer diagnosis is deeply stressful (similar to unemployment), and losing your job during the same time period is doubly so. I witnessed these circumstances occur over and over again. People turned to drugs to cope. One theorist suggested that

“drug harms... are a feature of a political economy of social suffering”, in retrospect, this seems an appropriate description for what I experienced during my time as a drug user.

As Windsor dealt with high cancer rates and unemployment, OxyContin was reformulated in 2012 and removed from the province’s pharmaceutical insurance plan. Prices for illicitly-purchased prescription OxyContin doubled, and fentanyl prices were even higher, while the abuse-reduced alternative, OxyNEO, was being sold at a price point comparable to the original formulation. Since OxyNEO was released in the United States prior to its introduction in Ontario, online tutorials already existed to show people how to process the pills into a powder that could then be injected or snorted. Thus, the reformulation introduced OxyNEO at a cheaper price point. For the first time since I started using drugs, I could buy heroin in Windsor now.

Meanwhile, fentanyl was taking OxyContin’s place as the drug most frequently sold from prescription sources, which meant that people were overdosing in greater numbers, as fentanyl is one hundred times stronger than OxyContin.

Heroin became more easily available than OxyContin was prior. OxyContin was diverted from prescription sources. This meant that after a person’s prescription had been sold off or diverted it could be difficult to find more of the drug to buy. Heroin was much more available because drug dealers were able to meet the level of demand. In a community that was having a commonly abused and diverted painkiller removed from the marketplace, that demand was very high. Heroin dealers never have to wait to get a prescription refilled, they just buy more heroin.

Structural changes at the macro-level that led to OxyContin being removed from Ontario’s prescription drug market contributed to an influx of heroin into Windsor. Heroin became more easily available than prescription drugs were previously. Along with heroin’s availability came the unpredictability of its potency. With prescription OxyContin each dose was predictable, every 40 milligram pill had exactly 40 milligrams of the active ingredient, which was oxycodone. The potency of heroin that I was buying changed with every purchase.

Overdoses among people I knew became a common occurrence. Other PWUDs would talk about being charged with a crime if the police arrived at the scene of an overdose, some were reluctant to call 911. This always stuck with me, and gave me interest in studying Good Samaritan laws, which granted immunity for drug users who called 911 at the scene of a drug overdose.

Whereas the drug scene that I personally experienced prior to OxyContin's reformulation was mostly peaceful, afterward it became increasingly violent. Studying Rhodes' risk reduction framework for this paper gave me a greater understanding that forces completely out of the control of myself and other drug PWUDs deserved at least some of the blame for the increase in robberies, overdoses, and violent assaults that were becoming commonplace. Those forces included policy changes at the level of provincial government (OxyContin no longer being insured) and internationally (Purdue pharmaceuticals, a large multi-national pharmaceutical company reformulating OxyContin into OxyNeo).

With more heroin being sold in Windsor, people I knew became more fearful of police intervention. Among some of the long term users I knew, it was commonly believed that the police would not interfere if you're only selling prescription opioids, despite many people abusing them. I was told that the reason heroin was so difficult to find in Windsor up until that point was because police were hyper-vigilant about its presence in the community. Heroin and crack-cocaine dealers were raided frequently. Aside from that, everyone I knew was fine using either OxyContin, morphine or fentanyl, it didn't seem like there was any demand for it. This all changed after the OxyContin reformulation. As OxyContin and fentanyl supplies increased in price and became increasingly rare, heroin filled the demand. This brought the attention of law enforcement

The experiences that I had also gave me a strong interest in stigma, and stigma reduction. Having a drug problem during school means living two separate lives. At times people saw me as an "upwardly mobile" university student. I remember receiving a scholarship to attend a conference that featured guest speakers including the governor of the Bank of Canada. I couldn't use drugs before I left so I was suffering withdrawal symptoms throughout the event. I remember being in the same room with people

workings in politics and policy that were responsible for Canada's governance and future, meanwhile I was struggling through some of the hardest moments of my life. While the issues being discussed and debated at this conference were important, I remember feeling that they had no relevance to my everyday life whatsoever. I felt ashamed and never expressed my perspective, something I regret.

Experiences like this planted a seed in my mind that eventually ended up in me writing this paper. The sense of "otherness" that I was feeling at this conference, and the feeling that there were not enough people in politics and policy that understood what drug users experienced and how deeply their policy decisions could impact them never quite left me. I was attending this conference directly after the OxyContin reformulation began to impact myself and other drug users. Thus, I'd be withdrawing next to the Governor of the Bank of Canada, the next day I'd be back home and things were still difficult.

Stigma exists between drug using groups also. It was a common rationalization for myself and other people I knew that as long as you didn't start injecting drugs you were safe, and you didn't really have a drug problem. Many non-injection users felt this way. Injection drug use was considered a "point of no return" and PWUIDs I knew were perceived as being different from those of us who weren't injecting. I knew several people who have overdosed, died, were sentenced to jail or prison without ever having used a needle though.

I felt paranoid and exhausted. This led me to stop using drugs for the final time in October 2012, and I finished my last semester of undergraduate in December 2012. Shortly afterward, the person I was buying heroin from was raided. When a regular dealer is raided, their customers are left to scramble to find other sources for drugs. Many users experience withdrawal symptoms that lead them to impulsive and risky behaviors such as robbery. Although I was off drugs at this time, I kept hearing about people I knew breaking the law and scamming other people for drugs. Law enforcement's response to heroin's availability in Windsor led to more robberies and violence. As Rhodes risk environment framework suggests, this raid exacerbated the

harms related to drug use, which were contingent on the Windsor Police Department's reaction to heroin dealing in their community, as well as Canada's federal drug laws.

I applied to Simon Fraser's Master of Public Policy program shortly after I stopped using drugs in December of 2012. For the very short period of time I would not be in school, I took this opportunity to apply for an outpatient rehab program. I was waitlisted for approximately 5 months before I started the program. Although the care that I received at this rehab was excellent being waitlisted for five months meant that I was in drug rehab up until I started graduate school. This can be problematic, as many people who leave rehab services are emotionally fragile and still coping with past trauma, meanwhile graduate school is competitive, intense, and social interactions can be acrimonious. It can be a frightening contrast. Especially since I moved across the country, and had very few of my social supports this was a difficult time.

I started graduate school in September 2013, just after finishing an outpatient rehab program. I told nobody about my former experience as a heroin or painkiller user. I needed to find likeminded people who could understand. Finding your place in a new city is difficult. Many VANDU members perceived me as different, again that sense of self-stigma reoccurring. I remember thinking it ironic that just a few months ago I was in rehab and now VANDU members perceived me as a non-drug user. Or, more accurately, that I was an undercover agent of law enforcement.

"I think he's a cop..."- VANDU member

Nonetheless I frequently attended VANDU board meetings and volunteered there. When it came time to start my thesis I approached VANDU's board and presented my proposal, they were receptive of the idea. They suggested that I add a question regarding how often the police attend the scene of overdose calls, because many VANDU members said that it was so common, despite the VPD's policy.

Being around VANDU gave me an appreciation for what they did. Many people think that drug users are incapable of running a large scale activist group, which VANDU does quite effectively. Their Board is made up of entirely drug users. It's an important idea.

When I first started the surveying process, a meeting of the British Columbia Association of People on Methadone (BCAPOM) was being held at VANDU. BCAPOM is a union of methadone users that works to protect the rights of methadone users. For example, they were instrumental in protesting the province's decision of transitioning methadone users into using a new drug, called methadose. These are types of activities that give them street-level PWUDs the change to influence public policy.

I feel that VANDU represents the most immediate access point to influence policy change for street-level drug users within Vancouver. VANDU is the only place where a drug user will be ensured that they are treated on an eye-to-eye level in an executive board room. For the PWUD, this is very self-empowering. In order for policymakers to reduce the "top-down" style of policymaking, having further partnership with organizations such as VANDU would be beneficial.

My experience at VANDU always reminds me that drug-users are as capable as any other group of people. Most of my time spent as an undergraduate university student I would be perceived as a "drug addict", but I was able to perform well enough academically to attend graduate school. I would guess that there are a lot of people with similar stories to mine, but being open about having a history of drug use can be difficult for career reasons but also because so many feel shame about their drug use.

Slowly, we're seeing people who have a history of drug or alcohol use holding positions of power. The Head of the United States Office of Drug Control is open about being a recovering alcoholic. He also implemented Massachusetts naloxone overdose prevention program. This is one of the reasons that I decided to be open about what I had experienced as a former drug user. I started to feel that my experiences as a drug user were an asset to working in drug policy rather than a hindrance, and it's in part because people in positions of power were honest about their experiences. I believe that this is the attitude that policymakers should embrace when considering the perspective of drug users.

However I worry that with more former drug users might come a renewed emphasis on abstinence-based drug policies. Since Narcotics Anonymous (NA) is the major treatment for people coping with substance abuse, it seems likely that people

coming out of NA programs are more likely to feel that public policy should emphasize abstinence-based policy. I feel that recovery should not be considered a “one size fits all” solution, thus I think we need to keep an open mind and consider drug policy from every perspective.

Appendix B. Per Capita Measure of Naloxone Distribution

Table B1 below is a per capita measure of how much naloxone has been distributed in the four aforementioned jurisdictions: British Columbia, North Carolina, Massachusetts and Ontario. Rather than measure distribution within a specific subpopulation of drug users, this measure uses each jurisdiction's entire population as a starting point. For example, North Carolina's statewide population is 9.94 million, and the number of naloxone kits distributed thus far is 5400. Dividing the amount of kits by the state's population brings us to 0.54 naloxone kits distributed per 1000 North Carolina residents.

Using statewide population as a measure has several benefits. Firstly, the amount of drug users within a jurisdiction can be variable, with users entering and leaving drug use frequently. The second reason for this is that in many jurisdictions, friends, family members, police and other first responders all have access to naloxone. The third reason for using jurisdictional estimates is a belief that broadened access to the drug could provide a greater benefit to society in general. Psychological research suggests that opioid users are more likely to overdose when they are using in a new or novel environmental context.

One famous study that injected rats with heroin in different environments attests to this. Rats injected with heroin in a new environment (placing the rat in a different room) meant that rates of overdose climbed from 32% to 64%, in effect doubling (Siegel, Hinson, Krank & McCully, 1982). Celebrity deaths illustrate this phenomenon, examples ranging from Corey Montieith, who overdosed in a hotel room in Vancouver, to Phillip Seymour Hoffman, who overdosed in an apartment he had moved into just weeks earlier. Thus, providing access to as many members of society as possible, including hotel staff, would be beneficial for society. The other benefit to broadened access is less tangible, but is also important. With overdose rates increasing in many jurisdictions, enabling access to the drug could reduce stigmatization, and provide an opportunity for community dialogue and stakeholder engagement for effected jurisdictions.

Table B1. Amount of Naloxone per capita (per 1,000 people) in BC, Ontario, North Carolina and Massachusetts.

Jurisdiction	Distribution Method	Naloxone Kits Dispensed	Kits per 1,000 persons	Overdose Reversals	Highlights
North Carolina	Standing Order	5400	0.54 kits per 1000 people	350	Cost effective. Broadest access to naloxone. Low barrier.
Massachusetts	Standing Order	22,000 (total) (2750 yearly average)	0.41 kits per 1000 people	1300	Uses intranasal naloxone. Learn2cope provides OENT to family members. Police carry naloxone.
Ontario	Directive	1,330	0.10 kits per 1000 people	120	Restricted Access Implementation issues stopped program.
British Columbia	Physician's prescription	2083	0.30 kits per 1000 people	200	Comparative purposes only.

Appendix C. Survey

I am a Simon Fraser University student who is conducting a survey to measure awareness among people who use drugs about the Vancouver Police Department's policy of not responding to drug overdoses unless they are fatal.

1) Which population group below best describes you? (Please choose one.)

- White
- Chinese
- South Asian (e.g., East Indian, Pakistani, Sri Lankan, etc.)
- Black
- Filipino
- Latin American
- Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, etc.)
- Arab
- West Asian (e.g., Iranian, Afghan, etc.)
- Korean
- Japanese
- Aboriginal
- Other

2) The Vancouver Police Department has a policy of not responding to drug overdose 911 calls unless they involve violence, the death of the overdose victim, or if paramedics request that the police attend. If you call 911 when someone overdoses, the police department will not respond to the call, but they will send an ambulance/emergency personnel. Were you aware of this policy?

Yes/No/Don't Know

3) If you answered yes, did awareness of this policy influence your decision to call 911 the last time you witnessed a drug overdose?

Yes

No

Don't Know

4) Please explain your answer further here:

5) Now that you know about the Vancouver Police Department's policy of not responding to drug overdose 911 calls unless they are fatal, how likely would you be to call 911 in the future if you are at the scene of a drug overdose? Please circle the answer

- Very Unlikely
- Somewhat Unlikely
- No change in opinion
- Somewhat likely
- Very likely

6.) Please explain your answer further here:

7) The last time that you witnessed a drug overdose and 911 was called, which of the following services arrived at the scene? Please circle all that apply.

Vancouver Police Department

Vancouver Fire Department

Paramedics

Any other police department

Any other fire department

Appendix D. BC Stakeholder Interview Schedule

How do you think the provincial government could further contribute to fatal overdose prevention?

What barriers need to be considered by policymakers to enhance fatal overdose prevention?

How can policymakers broaden access to naloxone?

What are the challenges you faced in the implementation phase of your program?

Why does the program use only intramuscular Naloxone? Is there a difference in price?

How should fears of prescriber liability be addressed?

How did you spread awareness for your program to the community? And to drug users?

Were there parts of the province that implementation proved to be more difficult? What about awareness?

Police perceptions of nasal naloxone?

Appendix E. Out of Province Stakeholder Interview Schedule

What role does your organization play in drafting drug legislation?

How can government response be improved in this area?

Which interventions do you believe were most successful in reducing fatal drug overdoses in your region? Throughout the nation?

Can you elaborate on possible improvements for more recent drug legislation. IE good Samaritan laws, Naloxone access etc.

Focusing on legislation that targets fatal overdose prevention, how does budgetary allocation affect the health outcomes of these laws?