A Public Health Oriented Approach to Opioid Management in BC

Recommendations for Developing Benefit Realization and Harm Reduction Policies and Strategies

Meghan Elizabeth Thorneloe

School of Public Administration

February 4th, 2013

Clients: Dr. Brian Emerson, Medical Consultant, British Columbia Ministry of Health and Mr. Warren O'Briain, Executive Director, Communicable Disease Prevention, Harm Reduction, Mental Health Promotion Branch, British Columbia Ministry of Health

Supervisor: Thea Vakil, Associate Professor and Associate Director, School of Public Administration, University of Victoria

Executive Summary

Throughout history, people have used opioids for medical purposes—to prevent pain—and for non-medical purposes—for pleasure and to alter consciousness. From the late 1800's to the 1920's, opium-based drugs such as morphine and heroin were widely used as over-the-counter drugs, even for minor pain, and were produced in mass amounts. The risks of these drugs were not seen until years later, and in the last 100 years opioids have become a significant component of drug related harms in Canada. The BC Ministry of Health (the Ministry) initiated this study to determine the public health significance of opioids and the public health role to support coordination of the health system, and other systems, to address opioids and related issues, and to answer the following research question:

Given that opioids are useful for pain management and other medical purposes, how can government best support effective and efficient management of the benefits and harms associated with opioids?

The Ministry and health system partners participate in the implementation and delivery of programs and services related to opioids. The Ministry's role is to provide leadership and direction to health authorities, agencies, and organizations to ensure that programs and services are available to all British Columbians. The Ministry has three divisions that work on different portions of opioid management, benefit optimization, and harm reduction—namely, the Population and Public Health Division, the Pharmaceutical Services Division, and the Health Authorities Division. Recognizing the risks associated with opioids, the Ministry has been involved in several initiatives to reduce the harms of substance use in BC.

Literature Review

The literature review revealed that the use of prescription opioids for both medical and non-medical use has substantially increased in Canada in recent years. The high problematic use potential of opioids puts them at risk of producing harms that have significant public health consequences. From a harm reduction perspective, by acknowledging that there are benefits as well as harms associated with opioids, population-based approaches can be developed that lessen negative effects without relying on costly enforcement-based approaches.

The review further found that a large amount of prescription opioids are not produced or distributed illegally, rather they are diverted from the medical system, calling into question the emphasis of Canada's current enforcement-based drug control policies on illegally produced substances. The unintended consequences brought on by enforcement of existing statutes and regulations have resulted in complex and persistent issues, such as the illegal market and limited access to essential opioid medications. Public health issues associated with those unintended consequences, such as increasing rates of addiction, HIV, and Hepatitis C, overdoses, and deaths

have sparked interest in the development of integrated harm reduction and enforcement initiatives in recent years.

There is divergence in the literature as to whether opioids are an appropriate treatment method for long-term non-cancer pain management. Most authors agree, however, that solutions must come from, and be implemented at, every level of society. The literature revealed that, with increasing demand for services, effective responses must be based on research and evidence, and they must consider drug use patterns in populations, the perspectives of a wide range of sectors and stakeholders, and both the universal and specific needs of whole populations and sub-groups.

Jurisdictional Scan

The jurisdictional scan found that harm reduction policies are becoming more widely accepted throughout the world. Canadian provinces, along with other jurisdictions, are moving away from enforcement, placing emphasis on four primary areas of harm reduction: prevention and early intervention; physician and patient education; a strong evidence base; and coordinated multi-agency efforts. Canada does not include harm reduction measures as one of the pillars of the national strategy. However, initiatives are in place which suggests that organizations and agencies with federal capacity recognize the limits of enforcement-based approaches.

The United States, the European Union, and Australia are minimizing the focus on supply reduction, and instead focusing on education, surveillance, and early identification of drug-related issues. The US and Australia have placed emphasis on proper use and disposal of medications, while Canada and the EU are beginning to focus on developing harm reduction interventions and public health training to reduce overdose deaths. At the supranational level, the EU is placing emphasis on cross-jurisdictional cooperation, though Member States are responsible for addressing drug-related issues within their jurisdictions. Australia has also begun to focus on having interventions available to reduce harms and provide safe and economically efficient outcomes, while also addressing the underlying causes of drug misuse.

Methodology

The research design for this project consisted of semi-structured open-ended interviews with individuals who have knowledge and expertise on opioids. Open-ended questions were used to enable respondents to answer questions in a way that reflects their perception of opioid related issues in BC. The questions were designed to promote extensive dialogue and allow for an in-depth exploration of the topic. Twenty-five interviews were conducted with health professionals from the provincial government and health partners, research groups, advocacy groups, regulatory bodies, and an independent statutory agency in British Columbia.

Findings

Interviewees' responses were generally consistent with the literature findings with respect to the primary issues surrounding opioid management, including prescribing, education, data

collection, and system coordination, all of which currently act as barriers to harm reduction. Views differed among participants and among researchers, however, on the safety and efficacy of opioid use, and ways in which to manage opioid related issues. Participants discussed a number of barriers to treatment, policy and program development and highlighted both systemic and ideological issues, such as stigma and enforcement-based approaches, which promote criminalization and hinder harm reduction initiatives. Participants emphasized the need for open communication between government, researchers, physicians, patients, advocacy groups, and the general public.

Interviewees noted that current educational practices contribute to opioid related harms. The tools available to manage opioid use and prescribing are insufficient in providing medical service providers with the knowledge they need to maximize safe and effective opioid use and leads to overprescribing. A lack of population-level data was mentioned consistently as a significant shortcoming in BC's current response to opioid related issues. This lack of data portrays an inaccurate view of opioid use in Canada and contributes to the development of policies and programs that are based on inconsistent and out of date information. Integrated services were a primary topic of discussion across interviews, with a significant number of respondents highlighting the connection between mental health and addictions issues, which require care services that address a comprehensive range of needs, but also include prevention. Broad harm reduction policies and longitudinal care were supported by the literature and interview findings.

Recommendations

Nine recommendations were developed based on a consideration of the literature, jurisdictional scan, and interview findings:

1. Develop an Opioid Toolkit for Health Professionals
2. Broaden Access to PharmaNet
3. Develop a Strategy to Reduce Policy, Service and Legal Barriers to Harm Reduction
4. Include Pain Counseling/Education as an Insured Medical Service
5. Explore Public Funding for Non-Drug Measures
6. Develop an Opioid Education Curriculum for Health Professionals
7. Explore the Potential to Better Use Healthcare Data
8. Explore Collaborative Opportunities to Develop a Stronger Evidence Base
9. Establish a Provincial Opioid Advisory Agency

They are organized into five sections which represent the broad policy goals that they are intended to fulfill. Recommendations one and two address the issue of overprescribing by providing decision support tools and increasing prescribing accountability for healthcare practitioners. To improve patient care, physicians must have the tools necessary to make safe and appropriate prescribing decisions.

Recommendation three addresses the need to encourage broad harm reduction practices by focusing on cross jurisdictional collaboration to reduce the legal barriers to harm reduction. Recommendations four, five, and six focus on increasing health professionals' and patients' knowledge levels regarding opioids. Specifically, recommendations four and five encourage physicians and patients to explore opioid alternatives by providing physicians with the ability to bill for time to counsel patients on the potential outcomes of opioid therapy, and offering patients the financial ability to choose other options. Recommendation six offers a solution to addressing the apparent lack of opioid education over the long-term. The development of core education and professional development options mitigates harms by increasing opioid related knowledge and confidence levels.

Recommendations seven and eight focus on strengthening the opioid evidence base by better using existing databases and developing a collaborative relationship between federal, provincial, and municipal governments. Collaboration and information sharing creates and understanding of what other organizations are doing and reduces duplication of work, resulting in cost savings and more efficient policy development. Lastly, recommendation nine addresses the need for strong leadership and system coordination to facilitate the safe and effective use of opioids in BC. This recommendation requires a long-term focus and encourages the development of clear policy goals, integrated services, and accountable decision making.

Conclusion

The research considered for this report indicated that harm reduction policies and strategies are crucial in developing efficient and effective healthcare services. The report emphasized the need for opioid education, a stronger evidence-base, system coordination, and reducing policy and legal barriers to facilitate harm reduction practices in BC. BC has a foundation of harm reduction policies and services to build on, and has the opportunity to build a comprehensive, holistic range of services for opioid users that prevent harms and enable the benefits of opioids to be realized.

Table of Contents

1. Introduction

Throughout history, people have used opioids for medical purposes—to prevent pain—and for non-medical purposes—for pleasure and to alter consciousness. In its most basic form, *opium* is the sappy substance that resides in the seed pods of *Papaver somniferum* (or the opium poppy). It contains *opiates*, or the natural alkaloids derived from the opium poppy (morphine, codeine, thebaine, and papaverine). More broadly, the term "opioids" refers to both naturally occurring opium alkaloids as well as synthetic or semi-synthetic substances that bind to opioid receptors and have the same, if not stronger, pharmacological effects (Booth, 1996; Canadian Centre on Substance Abuse, 2011). In other words, "opioids are a large family of biologically active peptides that bind to and activate receptors in humans and can reduce pain and induce euphoria" (Rosenblatt and Catlin, 2012, para. 1).

In the mid 1800's the Opium Wars broke out between Britain and China regarding the import, sale, and use of opium in China, and the Chinese Emperor's public condemnation of opium and the British East India Company. To end the fighting, the Treaty of Tientsin was created in 1858. Under the treaty China legalized opium and granted trading privileges to the British and other western countries, allowing the opium trade to flourish (Reasons, 2009, The Second Opium War section, para. 3). From the late 1800's to the 1920's, morphine and heroin were widely used as over-the-counter drugs, even for minor pain, and were produced in mass amounts to treat soldiers in the American Civil War and World War I (Booth, 2006, p.73). The significant risks of the drugs were not seen until years later. For the past century, opioid addiction "has been a core element of the illicit drug use problem in Canada" (Fischer, Rehm, Patra and Firestone Cruz, 2006, p. 1385).

1.1 Purpose of the Research

The BC Ministry of Health (the Ministry) has initiated the development of recommendations for a provincial opioid benefit realization/harm reduction strategy. The strategy will address the medical use of pharmaceutical opioids, the non-medical use of pharmaceutical opioids, and the (non-medical) use of illegal opioids (e.g. opium, heroin). Pharmaceutical opioids for mild to moderate pain include weaker prescriptions, such as codeine or tramadol, whereas severe pain requires stronger prescriptions, such as oxycodone/OxyContin™, hydromorphone/ Dilaudid™, or morphine, and in the most severe cases, fentanyl and methadone (McMaster University, 2012). This strategy will also consider the public health significance of opioids, and the public health role to support coordination of the health system, and other systems, to address opioids and related issues.

This project will address the following research question:

Given that opioids are useful for pain management and other medical purposes, how can government best support effective and efficient management of the benefits and harms associated with opioids?

This report is arranged into ten chapters. The first two chapters provide a history of opioids, discuss the purpose of the research, and describe the Ministry and its structure, mandate, and the challenges faced when addressing opioid management. Chapter three provides information on why this topic has emerged as a priority and describes the various Ministry initiatives currently underway to address substance use in BC. Chapter four is a summary and analysis of literature providing documented expertise on the subject of opioids and substance use management relying on both academic and professional literature. The research included in the literature review focuses on law enforcement and international drug conventions, harm reduction principles, benefits and harms of opioid use, pharmaceutical and public health perspectives, and their implications for public health outcomes. Following the literature review, the jurisdictional scan in chapter five provides an overview of international, national, and provincial strategies, and related research that serve to provide a broader context for the current state of opioid management in BC.

Chapter six describes the process of how this research was conducted. It explains the research design, how interview participants were recruited, how data was collected and analyzed, and the potential limitations that arise through the process of qualitative research. Chapter seven outlines the common themes that became apparent from the interview findings. Themes include barriers to policy and program development, education, managing opioid use and prescribing, and future program and policy considerations. The discussion in chapter eight provides an analysis of the literature and interview findings and explores areas for program and policy development to better serve the needs of those who use opioids. Chapter nine offers recommendations drawn from the discussion to inform a provincial strategy to improve opioid related outcomes in BC. Finally, chapter ten concludes the report by highlighting primary considerations brought forth in the research.

2. Background

2.1 Ministry of Health

For the purposes of this project, the Ministry is represented by Dr. Brian Emerson, Medical Consultant, British Columbia Ministry of Health, and Mr. Warren O'Briain, Executive Director, Communicable Disease Prevention, Harm Reduction, Mental Health Promotion Branch, British Columbia Ministry of Health. The Ministry of Health and health system partners (such as regional health authorities, the College of Physicians and Surgeons of British Columbia, the College of Pharmacists of British Columbia, and health service professionals) participate in the implementation and delivery of programs and services related to opioids. The Ministry's role is to provide leadership and direction to health authorities, agencies, and organizations to ensure that programs and services are available to all British Columbians, ranging from prevention initiatives to end-of-life care (BC Ministry of Health, 2012a).

The Ministry has three divisions that work on different portions of opioid management, benefit optimization, and harm reduction—namely, the Population and Public Health Division (PPH), the Pharmaceutical Services Division (PSD), and the Health Authorities Division (HAD) (see Appendix A for 2012 Ministry Organization Chart). However, many programs and services related to opioids offered by the Ministry are not "owned" by a particular division, resulting in coordination and integration challenges. The PPH Division has the responsibility of providing health promotion and protection through disease, disability, and injury prevention and harm reduction initiatives (BC Ministry of Health, 2012f).

PSD supports the development of strategies to optimize the use of prescription drugs for British Columbians. The division also coordinates publicly funded pharmaceutical programs in BC, with a focus on therapeutic approaches to pharmaceutical management (BC Ministry of Health, 2012d). HAD is a primary source of communication between the Ministry and health authorities in BC and works to advance the objectives of the Ministry's service plan, including the implementation of effective monitoring systems. HAD's mandate is to "ensure the public has reasonable access to coordinated acute, specialized, continuing, and community healthcare services, provided at an affordable and sustainable cost" (BC Ministry of Health, 2012e). From the Ministry perspective, "the challenge is to figure out what alternative policies and programs are needed to reduce prohibition related harms, while allowing for benefits and at the same time not precipitating other harms that might result from policies to legally regulate these substances" (B. Emerson, personal communication, March 7, 2012).

2.2 Project Objectives

The purpose of this project is to research, analyze, and report on current policies and programs in order to determine how initiatives related to opioid management can be planned for and implemented in a timely manner to improve outcomes. As there is currently no overarching framework for opioid management in BC or Canada, this project allows BC to lead by highlighting best practices from other jurisdictions to create a cohesive and comprehensive provincial health system strategy for opioid management that could inform a national framework. This research will provide the Ministry with an understanding of opportunities to address opioid harms and to develop effective policy mechanisms that connect programs and services to achieve improved health outcomes. The recommendations from this project will be used by the Ministry to inform strategies and actions to manage both beneficial and problematic uses of opioids.

The key research objectives are to:

1. Identify what is currently being done in BC
2. Identify key players in BC and determine their roles and responsibilities
3. Identify what other jurisdictions are doing related to opioid strategies
4. Identify the gaps in BC with regard to current policies and programs
5. Provide recommendations for actions to improve opioid related outcomes in BC

3. Context

3.1 OxyContin Related Challenges

On March 1st, 2012, the time-release formulation of the (generic) opioid analgesic oxycodone, OxyContin, was removed from the pharmaceuticals market Canada, raising questions within the Ministry as to what will come next with opioid management in BC. At twice the potency of morphine, oxycodone can alleviate even the most severe pain; when broken, dissolved, or crushed, however, the time-release formulation of the drug will rapidly release and absorb quickly into the body, resulting in a euphoric high and increasing the risk of a potentially fatal overdose (Purdue Pharma, 2011).

OxyContin is being replaced by OxyNeo™, a new formulation that is harder to crush, and is less likely to be diverted to the illegal market. British Columbia is one of seven provinces that will not cover OxyNeo under the PharmaCare program, except in extraordinary circumstances on a case-by-case basis. PharmaCare will continue to provide coverage to those receiving palliative care (BC Ministry of Health, 2012b). According to BC provincial legislation, OxyNeo cannot be substituted for an OxyContin prescription; therefore, individuals who have been using OxyContin will have to consult a physician to obtain a new prescription (BC Ministry of Health, 2012b). Recognizing the risks associated with opioids and the association between provincial prescription coverage and increasing overdose rates, the BC provincial government is being proactive in its decision not to cover OxyNeo, as it is seen as a product that is targeted by those who are addicted to opioids (BC Ministry of Health, 2012b).

3.2 Ministry/Health Authority Related Initiatives to Address Opioids in BC

Insite is a safe injection site in Vancouver, BC, and is the first legal supervised injection site in North America. Insite operates with a health and harm reduction focus by providing users with a safe, clean place to inject drugs and connect to other health services, from primary care and counseling, to addictions treatment and housing support. The goal of Insite is to decrease adverse health effects and economic consequences associated with drug use, without requiring abstinence. Since it opened in 2003, Insite has been allowed to operate under a temporary exemption of section 56 of the *Controlled Drugs and Substances Act* (Vancouver Coastal Health, n.d.), which justifies exemptions from the law if the initiative is "necessary for a medical or scientific purpose or is otherwise in the public interest" (*Controlled Drugs and Substances Act*, S.C. 1996, c. 19).

Though the Government of Canada called for the site to be shut down, a BC Supreme Court ruling in 2008 enabled Insite to remain open, stating that the *Controlled Drugs and Substances Act* was found to be unconstitutional as Insite offered lifesaving medical services to users. Therefore, denying access to those services would be in contravention of national law; specifically, the *Canadian Charter of Rights and Freedoms* (Bewley-Taylor and Jelsma, 2012).

The decision to keep Insite open was upheld by the BC Court of Appeal in 2010 and again in 2011 by the Supreme Court of Canada. However, the International Narcotics Control Board (INCB) continues to argue that "the provisions of internal law cannot be invoked to justify non-compliance with provisions of the international drug control treaties to which a State has become a party" and requested that all states "take the steps necessary to ensure full compliance with the international drug control treaties on their entire territory" (INCB Report, 2011, p. 39).

In 2006 the provincial government initiated a Conversation on Health, which included the input of over 6,000 British Columbians. Feedback from this consultation helped to develop themes for healthcare system improvement; principal among them was prevention, early intervention and resiliency building, peer mentoring, and addressing fundamental needs. Underlying these suggestions was a strategic direction which focused on harm reduction (Government of British Columbia, 2010). As a result of the consultation and other activities, a cross-government initiative was released in 2010, entitled *Healthy Minds, Healthy People: A Ten Year Plan to Address Mental Health and Substance Use in British Columbia.* Led by the Ministry of Health and the Ministry of Children and Family Development, *Healthy Minds, Healthy People* provides a multi-systems approach to substance use in BC to reduce the burden of problematic substance use and associated harms, and to improve the well-being of the population. The plan emphasizes substance use in BC as a significant problem which affects all British Columbians and leads to "personal suffering and interference with life goals" (p.2).

In 2009, the BC Ministry of Healthy Living and Sport conducted an evidence review which assessed the primary harm reduction strategies used to address illegal drug use and aim to reduce drug-related harms. The strategies reviewed include:

- Harm reduction interventions
    - Needle exchange
    - Prison-based needle exchange
    - Crack kit distribution
    - Safe injection sites
    - Supervised smoking facilities
- Opioid replacement therapy for addiction treatment
    - Methadone maintenance
    - Prison-based methadone
    - Heroin prescription
- Educational approaches
    - Outreach interventions

Overall, for efficacy, harm reduction, and the prevention of communicable disease, needle exchanges, both in communities and prisons, were given a Class A evidence rating (Kerr and

Wood, 2009)[1]. Methadone Maintenance Therapy was also given a Class A rating for efficacy and reducing drug-related harms, as was heroin prescription, which was found to be more effective than methadone based on the evidence reviewed. Outreach programs that target out-of-reach users who are at the highest risk of Human Immunodeficiency Virus (HIV) and Hepatitis C infection were given a Class A rating, with the caveat that the rating may not apply equally to all outreach interventions. Outreach interventions were given a Class A rating for promoting communicable disease control, and include providing sterile syringes, condoms, bleach kits, and information on the harms of drug use (Kerr and Wood, 2009).

Educational approaches were given a Class C to D rating due to significant variance in the quality of education delivered. While education proved to promote communicable disease control by reducing high-risk behaviour, the most effective education is provided by outreach workers, and is therefore not considered a simple educational intervention. Based on a lack of evidence, safer crack kit distribution and supervised smoking facilities were given a Class D rating for communicable disease control (Kerr and Wood, 2009). This evidence review found that the factors that influence the effectiveness of harm reduction approaches include: early intervention; the identification of emerging risk factors; interventions that target drug users and their intimate partners; a range of low and medium threshold services tailored to the needs of users; and involvement of the drug user population (Kerr and Wood, 2009).

3.2.1 PharmaCare

BC's PharmaCare program assists British Columbians with the cost of prescription drugs. The two main goals of the PharmaCare program are to "cover drugs that support the health and well-being of British Columbians" and "make sure that the drugs PharmaCare covers are affordable and give the best value for money" (BC Ministry of Health Services, 2010, p. 1). To reach those goals PharmaCare only covers pharmaceuticals with a record of safety and effectiveness, and compares each new drug to drugs that are already covered under the program that are prescribed for the same purpose. If there is more than one drug providing the same health outcomes, PharmaCare may only cover the one with the most value (BC Ministry of Health Services, 2010, p. 1).

To be covered under PharmaCare, a drug must first receive a Health Canada Notice of Compliance and go through the national Common Drug Review process through the Canadian Agency for Drugs and Technology in Health (CADTH), to assess the drug's safety, quality, efficacy, and value (BC Ministry of Health Services, 2010). Once those two steps are complete, PharmaCare conducts its own review of the drug to see whether the decisions from Health Canada and CADTH are right for BC. The BC process includes: gathering information and input on drug safety, value, and the potential impact on BC; review by the Drug Benefit Council to decide full or limited coverage; and a decision by PharmaCare, which considers the Drug Benefit

[1] Kerr and Wood authored an Evidence Review for the BC Ministry of Health.

Council's recommendation, PharmaCare policy and plans for this type of drug and any other Ministry programs, and whether PharmaCare has the resources to cover the cost of the drug (BC Ministry of Health Services, 2010, p. 2).

Since the 1970's PharmaCare has run the Restricted Claimant Program. This program aims to reduce misuse of pharmaceuticals by restricting patients who have difficulty managing their medications to a single prescriber and/or pharmacy when obtaining prescriptions with potential for misuse, including analgesics containing codeine, other narcotics, and sleeping pills. PharmaCare Audit monitors the program, although day-to-day operations are managed by Health Insurance BC (BC Ministry of Health, 2012c; BC Ministry of Health Services, 2004; BC Ministry of Health Services, 2010).

Under the Restricted Claimant Program, if the patient attempts to obtain or fill a prescription from a doctor or pharmacy outside of their restrictions, PharmaCare will not cover the cost of that prescription. Whether or not the prescription will be filled is up to the professional discretion of the pharmacist. In the case of an emergency, PharmaCare may make an exception for a one-day change in physician or pharmacy. Before a patient is eligible for such an exception, the pharmacist will be required to assess whether there is sufficiently good reason for the exception (e.g. if the patient's doctor is on vacation), and whether there is good reason the prescription must be filled at that time (e.g. serious health considerations). The Restricted Claimant Program does not retroactively cover prescriptions, nor does it cover the cost of lost or stolen medications (BC Ministry of Health Services, 2004).

The Ministry of Health and the College of Pharmacists of BC administer a province-wide network, PharmaNet, which links all of BC's pharmacies to a central data system. PharmaNet monitors every prescription dispensed in BC and flags potential drug interactions. In 2007, 47 million prescriptions were entered into PharmaNet, and 24 million were flagged (BC Ministry of Health, n.d. a). Health professionals and the public were consulted in the development of PharmaNet, which was designed to improve the safety of prescription dispensing and support prescription claim processing. Organizations that use PharmaNet include pharmacies, hospitals, emergency units, medical practices, the College of Pharmacists of BC, and the College of Physicians and Surgeons of BC (BC Ministry of Health, n.d. a).

3.2.2 Methadone Maintenance Therapy (MMT)

In BC, standard pharmacotherapy to manage opioid dependence involves oral solution methadone, a synthetic opioid agonist that is maintenance, rather than abstinence, oriented. Treatment can only be provided by specially-licensed physicians and consumed under direct supervision (Reist, 2010, p.2). Methadone services in British Columbia are complex and multifaceted as they link into health, social welfare, and criminal justice systems, and are integrated with services offered through health authorities, such as primary care, mental health,

or addictions services. Other providers and funders of MMT include private and non-profit organizations (Parkes and Reist, 2010). In partnership with the Pharmaceutical Services Division of the Ministry, the College of Physicians and Surgeons took-over responsibility for BC's Methadone Maintenance Program from the federal government in 1996. The College is responsible for physician training and licensing, and managing application processes related to methadone prescribing. Since 1996, system capacity for MMT has increased substantially (Parkes and Reist, 2010).

Currently, physicians are the only group in Canada with legal permission to prescribe methadone, although they require an exemption under the *Controlled Drugs and Substances Act*. To become a methadone prescriber, the College of Physicians and Surgeons of BC must first provide a recommendation to the Federal Minister of Health on behalf of a physician wanting a federal exemption. The physician must then complete a one day workshop and two half-days of practical training (Parkes and Reist, 2010). The College also audits the clinical practices of methadone prescribers and maintains a list of patients receiving MMT (Parkes and Reist, 2010). In most cases methadone maintenance treatment is covered by PharmaCare, BC's Medical Services Plan (MSP), and Health Authorities. PharmaCare pays for dispensing and drug costs for methadone, MSP covers payments to physicians, and health authorities are responsible for counseling services. Despite this coverage, some clients may have to pay user fees totalling $80 per month (Parkes and Reist, 2010, p. 8).

4. Literature Review

The literature review of opioid issues in Canada focuses on information from both academic and government sources. It provides a broad overview of regulations and harm reduction methods that govern the distribution, use, and management of opioids. As there are a variety of different perspectives and approaches that have been taken to address substance use in Canada, a broad overview of information was useful in assessing available sources to provide an accurate picture of the problem and identify current responses. A comprehensive search of peer-reviewed literature was conducted primarily using the University of Victoria and Ministry of Health library databases. Google Scholar was also used as a search tool for academic, peer-reviewed materials. Targeted searches of professional literature were also conducted to supplement peer-reviewed documents, primarily on the internet (Google). This search provided relevant websites, news articles, advocacy group information materials, and substance use strategies, including legislation and regulations on the control of opioids and the anti-drug strategies used to manage them.

The literature review is divided into five sections. The first section looks at the prevalence of opioid use in Canada, and it discusses specific populations that are prone to opioid misuse and dependence. The second section addresses the benefits and harms of opioids, including opioid use for chronic non-cancer pain[2] and the harms associated with the illegal use of opioids. The third section looks at the factors that contribute to health outcomes of populations, including regulations that govern the use of opioids, pharmaceutical industry influence on opioid use, and the impact of prescribing practices. The fourth section discusses barriers to effective and efficient programming. Lastly, the fifth section provides an overview of prevention and harm reduction methods. It looks at solutions and approaches that researchers recommend in order to balance the benefits and harms of opioids and create a coordinated system to properly manage the use of opioids in British Columbia.

4.1 Prevalence of Opioid Use in Canada

The prevalence of opioid use and associated harms demonstrates the significance of opioids as a public health issue in Canada. Studies have been published that discuss opioid use in specific populations and the prevalence of both prescription and non-prescription opioid misuse. In particular, a number of studies have been published on increasing rates of opioid misuse among youth, as well as those with mental illness, prison populations, and First Nations.

The use of prescription opioids for both medical and non-medical purposes has substantially increased in Canada in recent decades (Fischer, Rehm, Patra and Firestone Cruz, 2006).

[2] Chronic non-cancer pain has been defined by the Canadian Pain Society as "pain that has been present for at least six months or that has persisted longer than the expected time for tissue healing or resolution of the underlying disease process." It involves physical, psychological, social, and behavioural factors which may contribute to suffering, and therefore requires comprehensive, individualized treatment planning (Jovey, Ennis, Gardner-Nix, Goldman, Hays, Lynch, and Moulin, 2003, p. 4).

According to the Canadian Centre on Substance Abuse (CCSA) (2012a), opioids are the class of drug most likely to be used for non-medical purposes. While Canada is the second largest consumer of pharmaceutical opioids in the world overall (CCSA, 2012a), it remains the largest consumer of a number of different prescription opioid products per capita (Fischer, Rehm, Patra and Firestone Cruz, 2006).

A multi-city assessment of drug use in Canada, conducted between 2001 and 2005 (the OPICAN study), revealed that pharmaceutical opioids are the primary source of problematic opioid use across Canada—even more than heroin (Fischer, Rehm, Goldman and Popova, 2008; Fischer, Rehm, Patra and Firestone Cruz, 2006). The study also found that a large amount of prescription opioids that are used on the street are not produced or distributed illegally but rather diverted from the medical system (Fischer, Rehm, Goldman and Popova, 2008). These findings brought Canada's current enforcement-based drug control policy into sharp focus, as researchers emphasized the importance of targeting non-medical or inappropriate medical uses of opioids in more appropriate and effective ways that do not compromise access to medical uses (Grohol, 2009).

WorkSafeBC statistics show that between 2005 and 2008 there were 9,706 injured workers in BC using prescription opioids to manage pain resulting from a workplace injury. More than half of injured workers were prescribed opioids more than once, and 17 percent were prescribed opioids more than four times (Rothfels, Dunn, Nguyen, Martin, Pelman and Noertjojo, n.d.). WorkSafeBC's policy states that opioid prescription reimbursement is limited to eight weeks post injury, except in special circumstances. However, in 2007, more than 1,500 injured workers were prescribed opioids (stronger than codeine-based Tylenol 3) for longer than 12 weeks (Rothfels, 2008). Results from a preliminary study on the impact of opioids found that injured workers who were prescribed opioids during the life of their injury claim was correlated with an increase in days of wage lost, thus increasing the total cost of their claim (Rothfels et al., n.d.). While opioids were found to be necessary in many cases, this research suggests that opioid prescriptions are most effective, and carry the least risk, if they are prescribed aggressively and as early as possible to an acutely injured worker, as opposed to being prescribed on a continuous or long-term basis for chronic pain management (Rothfels et al., n.d.).

4.1.1 Opioid Misuse in High-Risk Populations

The occurrence of opioid misuse and associated harms is unequally distributed in Canada. A substantial portion of opioid related harms are experienced by socially disadvantaged, marginalized, and vulnerable populations, including youth, Aboriginal and prison populations, and those with mental illness (CCSA, 2005; Kahan, Wilson, Mailis-Gagnon and Srivastava, 2011b).

Gomes et al. (2011) carried out two population-based studies of non-palliative care patients aged 15-64 that had prescription drug coverage under the Ontario provincial drug program. All

participants were receiving opioids for chronic non-cancer pain from August 1st, 1997 to December 31st, 2006. Of the 607,156 individuals included in the study, 1,463 people died from opioid related causes, with 59 percent (863) being classified as accidental and 16.8 percent (246) classified as suicide. The remaining 24.2 percent (354) were undetermined. The study also found that in cases where death occurred due to opioid use, those individuals were more likely to have received other prescriptions such as sedatives, psychoactive drugs, methadone or benzodiazepines. They were also more likely to have problems with alcohol and obtain prescriptions from a number of different physicians and pharmacies. Two-thirds of opioid related deaths occurred in people in the bottom two income levels (Gomes et al., 2011).

The Canadian Alcohol and Drug Use Monitoring Survey (CADUMS) is an annual general population survey launched by Health Canada in 2008 to measure alcohol and drug use among those 15 and over in Canada (Health Canada, 2010b). In 2010, CADUMS found that opioids are the most commonly used pharmaceutical, and are the third most popular recreational drug among youth in Canada. Of the 13,615 people surveyed, 26 percent aged 15 and up report to have used psychoactive pharmaceuticals including opioid pain relievers, with 2.3 percent admitting to illicit use. Sixty-seven percent of youth who admitted to illicit opioid use reported taking the drugs from their home (CCSA, 2012c).

Among youth aged 15 to 24, illicit use of opioids was six times higher (8.5 percent) than those 25 and older (Health Canada, 2010b; 2011). While Health Canada has no specific percentage of heroin use alone, 1.8 percent of Canadians reported using either one or a combination of heroin, cocaine/crack, speed, ecstasy, or hallucinogens (Health Canada, 2011). Data collected by the McCreary Centre Society shows and increase in heroin use among youth from 2003 to 2008. In 2003 less than one percent of youth admitted to using heroin, while in 2008 a total of one percent admitted to heroin use. According to the study, this change indicates a statistically significant increase (Smith, Stewart, Peled, Poon, Saewyc, and the McCreary Centre Society, 2009).

The BC Alcohol and Other Drug (AOD) Monitoring Project, run by the Centre for Addictions Research BC (CARBC), surveys the drug use behaviours of high-risk populations in Victoria and Vancouver, BC, including street-involved youth, street-involved adults, and club-drug users (CCSA, 2010). The latest results of the study from July 27th, 2012 show that 39-40 percent of street-involved youth use heroin, while less than 20 percent of street involved adults reported use 30 days prior to the study, down from 40 percent in 2009 (CARBC, 2012). CARBC found that this upward trend in youth is statistically significant, and heroin use has been steadily increasing since 2011. One research participant stated that the popularity of heroin is increasing because it is "...cheap, available, and long lasting" (as cited in CARBC, n.d.). Of street-involved individuals currently on methadone maintenance, 64.4 percent reported heroin use, 30.5 percent reported using Dilaudid (hydromorphone), 47.5 reported using morphine, and 3.4 reported using oxycodone (CARBC, 2012). Needle sharing among street-involved adults was found to be

significantly more common in Victoria than in Vancouver. Most recent results from the study show a 15 percent rate of needle sharing rate in Victoria, compared to less than five percent in Vancouver (CARBC, 2012).

A five year study by the BC Centre for Excellence in HIV/AIDS (BC CfE), released in July 2012, found that a 74 percent of street-involved/homeless youth in Vancouver became regular drug users after experimenting with injection drug use. Sixty percent of those individuals began regular injection drug use after only a month of experimentation, and84 percent began injecting on a regular basis within one year of experimentation; . Findings from this study highlight progressing rates of street-involved youth injecting drugs. The increasing transition from drug experimentation to habitual injection drug use is described as surprising. Based on this research, Ravindran, (2012), states that the BC CfE is emphasizing the importance of early intervention methods and evidence-based treatment for prevention among youth.

Since 1998, the McCreary Centre Society has worked to produce information on Aboriginal youth in BC, and in 2012 released a report entitled *Raven's Children III*, which highlights findings McCreary's 2008 adolescent youth survey specifically in relation to Aboriginal respondents. Results show that illegal use of prescription drugs among Aboriginal youth doubled between 2003 and 2008, increasing from 11 to 22 percent. During that time, the use of heroin increased by four times from one to four percent (McCreary Centre Society, 2012).

A study by Milloy, Wood, Reading, Kane, Montaner, and Kerr (2010) conducted between 2001 and 2005 found that there were 909 opioid related deaths in BC. Of the 909 deaths, 11.4 percent (104 individuals) were First Nations. While the majority of opioid related deaths were not seen in First Nations populations, when adjusted for age, the mortality rates among First Nations people showed a "highly elevated burden of overdose mortality among individuals with First Nations status" (p. 1964). This study found that First Nations individuals experienced mortality rates almost three times higher than non-First Nations individuals. First Nations females exhibited mortality rates more than six times higher than non-First Nations females over the course of the study (Milloy, Wood, Reading, Kane, Montaner, and Kerr, 2010). Another study conducted by Craib, Spittal, Wood, Laliberte, Hogg et al., (2003) found that HIV incidence among Aboriginal injection drug users is double that of non-Aboriginal injection drug users. While Aboriginal people made up four to five percent of the general population at the time of this research, they represented 25 percent of the injection drug user population presented in this study (1,437 individuals), highlighting the serious potential for the spread of HIV among this population (Craib, Spittal, Wood, Laliberte, Hogg et al., 2003).

Approximately 67 percent of offenders in federal institutions have drug and alcohol abuse problems. Between 38 and 44 percent of those offenders are dependent on at least one psychoactive substance—ranging in severity—and nearly 20 percent have serious addiction

problems which require substantive treatment (CSC, 2003a; Thomas, 2005). People who are placed in correctional facilities are more likely to have engaged in high-risk behaviours, and continue to engage in high-risk behaviours once admitted into prison, including needle sharing for intravenous drug use (CSC, 2003a).

While co-occurring mental health and substance use problems may be unrelated, the prevalence of problematic substance use among those with mental health problems negatively impacts individuals, families, and communities, and is therefore a public health concern (BC Centre for Disease Control (BCCDC), 2011, p. 18). In a 2012 study, Grattan et al. found that individuals who experienced depression were more likely to use higher doses of prescription opioids, and use them for reasons other than prescribed, even if they have no history of problematic substance use. In these instances, depressed patients were more likely to use their prescription opioids for stress or insomnia, rather than the management of pain. Patients suffering from severe depression were found to be more likely to misuse opioids than those with moderate or no depression. Moreover, while the misuse occurred more often in those with depression, this study found that one third of patients—even those without depression—began misusing opioids when prescribed long-term (Grattan, Sullivan, Saunders, Campbell, and Von Korff, 2012; Rosenblatt and Catlin, 2012).

4.2 The Benefits and Harms of Opioids

Opioid benefits range from physical and psychological—including pain relief, aiding with sleep, relief of pain-related anxiety, and increasing performance in everyday life—to social and economic benefits, such as increased social interaction and increasing one's ability to work and generate income. Controlled release opioids can manage pain from 12-24 hours depending on the dosage and the severity of pain, and are convenient for those who rely on pain medication to function on a daily basis (Health Officers Council of BC, 2005, p. 8; Health Officers Council of BC, 2011). The biological need to minimize pain is exemplified by the human body's natural production of endorphins, which interact with opioid receptors to reduce pain. However, clarification is needed on the role that opioids should play when discussing chronic non-cancer pain, paying particular attention to the distinction between medical and non-medical use (Rosenblatt and Catlin, 2012).

On top of their analgesic, or pain reliving effect, opioids can cause sedation, dizziness, drowsiness, anxiety, mental clouding, mood changes, respiratory depression and irregular heart rate, and they can alter the endocrine and autonomic nervous systems (CCSA, 2011; Purdue Pharma, 2011). Opioids can also produce a feeling of euphoria and longer-term use can result in dependence and addiction (Booth, 1996; CCSA, 2011). Aside from the direct harms of substance use, such as toxic and pharmacological effects, there are indirect consequences, which include costs of and harms related to incarceration, reuse of contaminated injection equipment and the

spread of disease, and overdoses and deaths consequent to using illegally produced products of unknown concentration and composition (Health Officers Council of BC, 2011).

4.2.1 Opioids for Chronic Non-Cancer Pain

The severe impact of chronic non-cancer pain is well established in the literature (Gallagher, 2008; Nicholson, 2008; Von Korff, Kolodny, Deyo and Chou, 2011). Moderate to severe chronic pain affects approximately 25 percent of adults, and another ten percent experience disabling chronic pain, which impacts work and life activities. Chronic pain is a substantial health problem that results in reduced productivity and considerable health care costs. If left untreated, pain results in individual suffering and overuse of health and disability resources (Nicholson, 2008). Opioid analgesics can be crucial to the management of chronic pain for those suffering from its effects, including loss of sleep, reduced well-being and interference with daily life, a decrease in cognitive functions, and diminishing social relationships (Gallagher, 2008; Nicholson, 2008). Booth (1996) has argued that despite claims that opium has "invidiously corrupted human society to its very core" (p. 353), opioids have made immense contributions to mankind for millennia, and have saved millions of lives.

An American Pain Society survey found that chronic pain can result in a 45 percent decrease in physical health and a 23 percent decrease in mental health, thereby reducing the individual's ability to work and enjoy life (Nicholson, 2008). Almost half of the 800 survey participants reported that their pain was not properly controlled with sustained (long-acting) analgesics. When chronic pain is not properly managed, patients suffer from gaps in relief, or end-of-dose pain, and the consequences it brings (Nicholson, 2008).

Von Korff et al. (2011) conclude that the risks of using opioids for chronic non-cancer pain have not been sufficiently studied, and more evidence is needed to measure net benefit against the range of harmful effects. While opioids can be classified as exceptional analgesics, their usefulness for chronic pain is compromised by the development of tolerance to opioids. As tolerance develops, the body's sensitivity to pain, or hyperalgesia, also increases, and dose escalation becomes necessary to overcome tolerance in order to manage pain. As dosage increases, so do the severe risks associated with opioid use such as dependence, addiction, and respiratory depression which can be fatal (Whistler, 2012).

4.2.2 Harms Associated with Illegal Use of Opioids

Injecting is a common and risky form of using illegal opioids. The most recent available data estimates that there were approximately 125,000 injection drug users in Canada in 2001, most of whom were using heroin (Health Canada, 2001, as cited in Fischer, Rehm, Patra and Firestone Cruz, 2006). Injection drug users have been identified by the BC Provincial Health Officer (PHO) as a priority population because of the increased risk of blood-borne pathogen

transmission, such as HIV and Hepatitis C, resulting from sharing injection equipment (Kendall, 2011).

Every year in Canada there are between 2,000 and 3,000 reported positive HIV test results, though the total number of new infections every year is estimated to be between 2,300 and 4,300 (Health Canada, 2010a). As of 2010, injection drug use (IDU) was responsible for 16.8 percent of new HIV reports in adult males, and 30.1 percent for females (Health Canada, 2010a). Health Canada estimates that between 55 and 80 percent of injection drug users were positive for Hepatitis C in 2004 (Canadian HIV/AIDS Legal Network, 2005). The correlation between opioid use and injection raises concerns for public health as opioid use increases, not only because of the health risks to the population, but also because of the considerable strain on the healthcare system. A report from the BCCDC states that the cost of treating an injection drug user who has contracted a blood-borne pathogen far exceeds the costs of any harm reduction method (BCCDC, 2008).

4.3 Factors that Impact Health Outcomes of Populations

Determinants of health are conditions that individuals may have limited control over, though they have the ability to impact health. Population health involves both individual characteristics and broader social factors which impact the health of whole populations and sub-groups (CARBC, 2006). The formal healthcare system is limited in its control over the circumstances leading to increasing demand for substances (Health Officers Council of BC, 2011). Laws and regulations, the availability and accessibility of substances, product promotion, and social norms such as prescribing practices, all influence drug use patterns and have the potential to either mitigate or exacerbate the harms associated with substance use (Health Officers Council of BC, 2011).

4.3.1 Opioid Regulation

4.3.1.1 International Regulation

Throughout the world, laws and regulations make the unauthorized (i.e., non-medical and non-scientific) production and use of opioids a criminal offense. Opioids have been restricted through international drug control efforts since the 1912 Hague International Opium Convention, the first international treaty of its kind. Today, opioids are restricted exclusively to medical and scientific uses under the Single Convention on Narcotic Drugs, 1961, the Convention on Psychotropic Substances, 1971, and the Convention against the Illegal Traffic in Narcotic Drugs and Psychotropic Substances, 1988 (United Nations Office on Drugs and Crime (UNODC), n.d.).

These drug control conventions were designed to create a balance between the potential harms of opioids—especially dependence or addiction—and their therapeutic usefulness. The overarching goal of the conventions is to reduce both the supply of and demand for opioids, except for limited medical and scientific purposes. Over the last one hundred years, the international drug

control system has been successful in containing large-scale diversion of prescription drugs for illicit use, though it has not achieved its purpose of preventing illicit production and use of drugs and restricting use to the realm of medicine and science (UNODC, 2008). The implementation and enforcement of the near-universal drug control conventions have resulted in a chain reaction of unintended consequences—in particular, an illegal market economy (UNODC, 2008).

4.3.1.2 Opioid Regulation in Canada

In Canada, opioids are regulated by Health Canada through the *Controlled Drugs and Substances Act* , and the *Food and Drug Act*, which set parameters and establish regulations for opioid manufacture, importation, distribution, prescription, dispensing, and use. Under Section 4(1) of the *Controlled Drugs and Substances Act,* it is an indictable offense to possess substances listed in Schedule I of the Act without authorization from the Governor in Council, who may grant permission for the administration, sale, and possession of any controlled substance. The list of substances in Schedule I includes the opium poppy, "its preparations, derivatives, alkaloids and salts..." (*Controlled Drugs and Substances Act,* 1996).

In a shift away from the previous Federal Drug Strategy in Canada, which focused on education and prevention, treatment and rehabilitation, harm reduction, and enforcement (Collin, 2006), the Canadian federal government has taken an enforcement-based approach with the introduction of the 2007 National Anti-Drug Strategy. The strategy lays out increasingly strict anti-drug measures, which coincide with cuts in public health funding (Collin, 2006). In a document published by the Parliament of Canada, Collin (2006) discusses the failure of law enforcement efforts in reducing the prevalence of illegal drugs, and that the costs of enforcement exhaust funds that may be better used for health-related initiatives. Collin also highlights arguments against enforcement approaches, including the violence that results from the illegal drug trade, and the stigma that results from criminalization of drug possession.

Interest groups, local government representatives, and academics alike have criticized Canada's National Anti-Drug Strategy, raising concerns for the impacts of a criminal outlook on drug use (Geddes, 2012). Evidence shows that attempting to reduce drug problems by enacting tougher drug policies is ineffectual and in fact contributes to the problem, as they do not address the underlying causes or health effects of drug use, nor do they deal with the social ramifications of addiction (Drucker, 1999; Thomas, 2005). As a result, the cycle of unintended consequences continues, prison populations grow, and the harms associated with injection drug use in prison lead to significant public health risks (Thomas, 2005).

Moreover, when injection drug users are incarcerated there is potential for the spread of infectious disease, as increasing rates of HIV and Hepatitis C in prisons have been linked to syringe-sharing among inmates (Drucker, 1999). In 2001, between two and eight percent of the Canadian inmate population was infected with HIV, which is disproportionately higher than the infection rate in the general public by nearly ten times (1.8 percent of inmate populations tested

positive versus 0.2 percent for the non-incarcerated public) (CSC, 2003b; 2008). The rate of HIV infection amongst the offender population between 1989 and 2001 rose from 24 inmates to 223 inmates, exhibiting nearly a ten-fold increase of HIV rates within federal institutions over a 12 year period (CSC; 2003b; Perron, 2006). Other diseases such as Hepatitis C are also increasing, with 2,993 inmates testing positive in a 2001 study—up from 2,542 the year before; this increase exhibits and infection rate nearly 30 times higher than that of the general population (23.6 percent of inmates versus 0.8 percent of non-incarcerated individuals) (CSC, 2003b; Perron, 2006). When policies fail to address underlying determinants of health, users are often unable to find appropriate treatment options when needed, as resources are diverted to generate more and more enforcement-based initiatives (UNODC, 2008).

4.3.2 Pharmaceutical Industry Responsibilities and Influence on Prescribing

Research has shown that drug companies have significant influence on the prescribing habits of physicians through marketing, gift giving, and information skewed in favour of a particular drug (Katz, Adams, Benneyan, Birnhaum and Budman, et. al, 2007; Van Zee, 2009). Studies from Canada, the United States, New Zealand, and Britain show that between 85 and 90 percent of physicians have regular visits from pharmaceutical company representatives, despite evidence that the information they provide is skewed, even slightly, in favor of the drugs they promote, resulting in less appropriate prescribing habits (Lexchin, 1993). According to Katz et al. (2007, p. 108), "[t]he pharmaceutical industry, by the very nature of its activity, has product liability responsibilities for reducing the risks for opioid analgesic abuse and diversion." Next to drug safety, the industry's paramount responsibility is risk management. Drug companies must conduct risk-benefit analyses based on scientific evidence, and proactively apply evidence to both minimize harms and communicate drug risks to the general public (Katz et al., 2007). The risks of controlled substances such as opioids are even greater than uncontrolled street drugs when they are misrepresented and over promoted by pharmaceutical companies, and over prescribed by physicians (Van Zee, 2009).

One drug in particular has largely impacted both beneficial and problematic use of opioids in the last 15 years. Released onto the market in 1996, OxyContin was prescribed primarily to terminal cancer patients and individuals with severe and chronic pain. Soon after, advertisements in medical journals and drug representatives began aggressively marketing OxyContin and publicizing it as a safe alternative to over the counter pain relievers (Van Zee, 2009). Most significant to the success of OxyContin was Purdue's claim that its risk of addiction was minimal—below one percent. Purdue had originally stated that addiction to opioids was "very rare," and that delayed absorption would reduce risk of addiction (United States General Accounting Office, 2003; Van Zee, 2009). However, a review of number of other studies found that the risk of addiction for opioids used for chronic non-cancer pain ranges from zero up to 50 percent, depending on the research criteria and the population in question (Hojsted and Sjogren, 2007).

Between 1998 and 2010, OxyContin sales increased by $240 million in Canada, with non-cancer patients comprising 86 percent of users. This resulted in increasing rates of opioid addiction to "near-epidemic" proportions (Blackwell, 2011, para. 8; Van Zee, 2009). In a randomized double-blind study, the pain relieving effect of OxyContin was found to be comparable to other opioid prescriptions and offered no particular advantage, leading researchers to believe that the advertising and promotion of OxyContin led to its overprescribing and overuse (Van Zee, 2009).

Historically, political campaigns in the US have benefitted from generous donations from pharmaceutical lobbyists (Angell, 2004). These donations may influence drug legislation and policy development, as well as the design and reporting of clinical trials. Considering that government has control over whether certain drugs are covered under provincial medical coverage plans, financial influence may give the pharmaceutical industry an advantage over patient care, as drugs covered under health care plans are popular among patients and may be overprescribed for that reason (Angell, 2004). In fact, the addition of oxycodone to drug coverage programs in Canada was associated with increases in oxycodone-related mortality at a rate five times higher than it had previously been, with a 41 percent increase in opioid related deaths (Dhalla, Mamdani, Sivilotti, Kopp, Qureshi and Juurlink, 2009; Gomes, Juurlink, Dhalla, Mailis-Gagnon, Paterson and Mumdani, 2011).

The pharmaceutical industry also has the ability to influence individuals. Direct to consumer marketing is used to make consumers aware of pharmaceuticals, and may convince people that they have certain conditions that require long-term prescription treatment. This type of advertising has been shown to lead to patient requests for certain drugs, thereby increasing name-brand drug sales (Angell, 2004). Rather than focusing on transient conditions, drug companies invest money in the development of drugs for lifelong conditions such as chronic pain, as they lead to a steady flow of sales (Angell, 2005).

4.3.3 Prescribing Trends and Opioid Related Mortality

According to Fischer, Jones, Murray and Rehm (2011), substantial research efforts in both Canada and the US currently focus on the question of how to reduce opioid related harms while effectively managing pain. While improvements have been made to practice guidelines and risk assessments, research suggests that the quantity of opioids prescribed and dispensed is directly linked to levels of harms experienced from opioids. Von Korff, Kolodny, Deyo and Chou (2011) agree that increasingly common opioid prescribing results in greater availability of opioids in homes and communities, which has been linked to increases in their diversion and misuse, as well as dependence and fatal overdoses. The results of a study on variations of prescribing levels by Dhalla, Mamdani, Gomes, and Juurlink (2011) found that physicians who most frequently prescribe opioids are more likely to issue the final prescription for a patient's death, thus exhibiting an association between the volume of opioids prescribed and opioid related mortality (p. 96).

The past two decades have seen a steady increase in the prescribing of opioid analgesics, and corresponding increases in addiction and overdose rates and opioid related deaths. Between 1991 and 2007 oxycodone prescriptions (the main ingredient in OxyContin) increased by 850 percent in Canada, and addiction and overdose rates have increased accordingly (Dhalla, Mamdani, Sivilotti, Kopp, Qureshi and Juurlink, 2009). Between 2006 and 2010, prescription opioid availability increased overall, with the most significant increases being seen in oxycodone and hydromorphone prescriptions (Nosyk, Marshall, Fischer, Montaner, Wood and Kerr, 2012). Opioid related mortality appears to be correlated with more than a 50 percent increase in prescribed daily doses, and a shift towards long-acting prescription opioids, which contain a higher concentration of oxycodone (Kahan, Mailis-Gagnon, Wilson and Srivastava, 2011a; Kenan, Mack and Paulozzi, 2012; Yelaja, 2012).

4.4 Barriers to Effective and Efficient Opioid Management

Across Canada, regulations, limited physician education, limited access to services, a lack of sufficient data, and low quality evidence hinder the development of effective and efficient opioid management strategies (Adams, 2012; Bewley-Taylor and Jelsma, 2012; Buxton, Purssell, Gibson and Tzemis, 2012; Chou, Ballantyne, Fancuillo, Fines and Miaskowski, 2009; Miller, 2012). Regardless, policies and programs continue to be developed based on current practice, impacting health outcomes of populations and using valuable government resources. The following section discusses Canada's current position in relation to these barriers.

4.4.1 Enforcement and Legalisation

The United Nations (UN) drug control conventions limit the scope of harm reduction initiatives by discouraging programs which are not enforcement based and may be seen as facilitating drug use. As international conventions are not self-executing, states are responsible for incorporating treaty provisions into national laws while the UN maintains an indirect enforcement role. Consequently, the international treaties are interpreted by states in the development of national policy leaving relative flexibility for implementation. For example, the International Narcotics Control Board—an independent, quasi-judicial organization that oversees the implementation of the UN drug conventions (INCB, 2012)—reiterates that any state that permits injection sites is facilitating drug trafficking, and could be in contravention of the international drug control conventions. Such behaviour could be seen as aiding and abetting drug possession and use crimes, and potentially trafficking, as use at those sites is outside of medical and scientific purposes (Bewley-Taylor and Jelsma, 2012).

Some countries such as Germany (1993), the Netherlands (1996), and Australia (1999), have challenged the conventions in favour of safe injection sites. Major inquiries occurred in each of these jurisdictions as to the relevance of establishing injection sites in relation to rehabilitation and the reduction of human suffering, and their compatibility with the conventions. In all cases it was found that the sites did not contravene the conventions so long as the sale, purchase, or passing of drugs was not permitted (Bewley-Taylor and Jelsma, 2012). Canada has been seen as

challenging the conventions by allowing the operation of Insite, the safe drug injection site in Vancouver, BC for addicted drug users (Bewley-Taylor and Jelsma, 2012).

The *Controlled Drugs and Substances Act* restricts the availability of methadone in Canada. Methadone requires a prescription, and physicians must apply for an exemption under the law in order to be allowed to prescribe it (Adams, 2012). Methadone prescribing exemptions also require support from the physician's licensing body, as well as training and mentorship in the first year of prescribing to educate prescribers on how to appropriately prescribe and administer the drug (Adams, 2012). This type of training for methadone is necessary, as opioid related education is minimal in Canadian medical schools. Training on opioids is provided as an add-on for those interested in learning about it, and is not part of the mandatory curriculum (Dr. Anthony Levinson, McMaster University, as cited in Adams, 2012). However, these extra steps required to become a qualified methadone prescriber may be a barrier to meeting the needs associated with opioid dependence (Adams, 2012; College of Pharmacists of British Columbia, 2012).

Government officials, healthcare providers, and law enforcement are in agreement that a comprehensive national strategy is essential to the success of substance use management (CCSA, 2012a; Miller, 2012). However, privacy laws in Canada hinder some provinces from accessing real time patient information on prescription medications, leaving Canada without a national tracking system to monitor prescription addiction and mortality. According to Dr. Susan Ulan of the Alberta-based Coalition on Prescription Drug Misuse, Canada is lacking a coordinated approach that provides provinces with a framework to manage this issue (Miller, 2012).

4.4.2 Treatment

About 25 percent of people dependent on opioids are currently enrolled in a methadone maintenance program (CCSA, 2012a). Those living in rural and remote areas have extremely limited access to treatment programs, and the stigma attached to methadone prevents some dependent users from taking advantage of programs even if they are available. The Canadian Centre on Substance Abuse (2012a) states that a gap exists between research and practice with respect to opioid substitution treatments.

Regulations in Canada have created a "methadone first" approach to opioid substitution even though other drugs, such as buprenorphine or a combination of a buprenorphine/naloxone, exist that are equally as effective (CCSA, 2012a). Buprenorphine is a long-acting opioid antagonist that blocks the euphoric effects of opioids by preventing the drug from binding to opioid receptors, thereby relieving drug cravings (Wesson and Smith, 2010). Making buprenorphine available, according to the Centre for Addiction and Mental Health (CAMH), can improve access to treatment and can lead to substantive improvements in treatment-related outcomes.

Naloxone is a narcotic opioid antagonist that reverses respiratory depression and is used to treat overdose symptoms (Buxton, Purssell, Gibson and Tzemis, 2012). For the past 40 years naloxone has been approved for use in Canada, and is on the World Health Organization's (WHO) List of Essential Medicines. Naloxone has no abuse potential and does not result in any pharmacological effects unless reversing the effects of other narcotics. Europe, Australia and the US have implemented naloxone take-home programs for addicted drug users or those on opioid therapy, but Canada has yet to make naloxone widely accessible (Buxton, Purssell, Gibson and Tzemis, 2012). Product prices and policies that limit the availability of such drugs in Canada are barriers to the production and use of these treatment options (CCSA, 2012a).

4.4.3 Surveillance and Monitoring

Canadian studies that have reported spikes in illicit use of prescription opioids have often relied on limited and unsystematically collected data. A lack of crucial indicators and population level data prevent a definitive assessment of opioid misuse in the Canadian context (Fischer, Rehm, Goldman and Popova, 2008; Furlan, Reardon Dip and Weppler, 2010). According to Fischer, Rehm, Goldman and Popova (2008), the absence of data indicators which are used to assess and monitor definitive outcomes related to the issue of opioids is concerning, and continues to be a problem in Canada. This problem is exemplified in the CADUMS survey, which excludes data from the territories due to "methodological issues," (Health Canada, 2011, Reference Information section, para. 2), meaning that survey results lack specific population data. Moreover, the 2004 Canadian Addiction Survey did not ask questions pertaining to the non-medical use of prescription opioids. These studies are designed to assess the social costs of substance use, though insufficient data collection methods mean that a major component of the drug problem in Canada is missing from the estimations provided in these studies, (Fischer, Rehm, Goldman and Popova, 2008) leaving relevant and impactful data without consideration.

In Canada, emergency room (ER) reports are not designed to include the presence of opioid analgesics. Therefore, ER data does not reflect the opioid problem at a systematic level (Fischer, Rehm, Goldman and Popova, 2008). Furthermore, coroner's data in Canada does not isolate specific types of opioids when reporting drug-related deaths. Consequently, it is impossible to tell which types of opioids are causing opioid related mortality in order to identify trends and appropriately manage policy interventions (Fischer, Rehm, Goldman and Popova, 2008).

4.4.4 Evidence Base

In 2009, the American Pain Society and the American Academy of Pain conducted an evidence review of long-term opioid therapy. The review found that 21 out of 25 of the recommendations put forth regarding long-term opioid therapy were based on low-quality evidence (Von Korff, Kolodny, Deyo and Chou, 2011). The evidence review also found that no long-term studies have been able to determine whether analgesic efficacy is maintained during long-term opioid therapy (Von Korff, Kolodny, Deyo and Chou, 2011). Few physicians are aware that no evidence exists

from randomized controlled trials to support long-term opioid therapy. In fact, most trials run for less than 16 weeks, and exclude patients who are at high risk for adverse events. As a result, the findings from research studies on the safety and efficacy of opioids for chronic pain cannot be broadened for general practice (Dhalla, Persaud and Juurlink, 2011).

4.4.5 Physician Education

A review of Canadian medical schools found that pain management education in Canada is limited, and what does exist is fragmented (Von Korff, Kolodny, Deyo and Chou, 2011). Though the problem has been acknowledged and some schools have incorporated pain specialist accreditation, substantial gaps in knowledge with regard to safe and effective opioid prescribing continue to cause medical and psychological risks to patients. Although practice guidelines exist for opioid prescribing, they are insufficient in ensuring that physicians adhere to and understand the prescribing recommendations (Von Korff, Kolodny, Deyo and Chou, 2011).

4.4.6 Media-Based Prevention

The BC CfE conducted a review of the effectiveness of anti-illicit drug public-service announcements at educating the public and reducing illegal drug use (Werb, Mills, DeBeck, Kerr, Montaner and Wood, 2011). Service announcements are made through media campaigns (radio, internet, television) and they are generally directed at youth. Results show that there is limited evidence supporting the effectiveness of anti-drug campaigns in reducing drug use among target populations, and there is no evidence supporting any long-term benefits of these campaigns (Nielsen and Thompson, 2008; Werb et al., 2011). Primary prevention programs regarding drug use generally target a wide range of issues including alcohol and illicit drugs, rather than specific drugs and their associated outcomes. Prevention initiatives are difficult to apply to substances such as prescription opioids, as they have therapeutic usefulness in some instances (Nielsen and Thompson, 2008).

4.5 Prevention and Harm Reduction

CARBC lays out a comprehensive, prevention-focused approach to reducing the harms associated with the use of psychoactive substances, entitled *Following the Evidence: Preventing Harms from Substance Use in BC* (CARBC, 2006). Prevention measures reduce harms to individuals, families, and communities through targeted and broad population approaches. Harm reduction is an approach which acknowledges that substance use will continue to occur, but by acknowledging that there are benefits as well as harms associated with psychoactive substances this approach can lessen the negative effects without over reliance on costly and arguably unsuccessful enforcement-based tactics (CARBC, 2006).

4.5.1 Recommendations and Approaches to Harm Reduction from the Literature

Harm reduction is an essential component of a prevention strategy, as it not only decreases risk, but increases protection against substance-related harms (CARBC, 2006). Effective and efficient

prevention strategies require an understanding of the predictable risk factors that influence populations, and include changes at every level, from individuals and families to communities and governments, in order for the prevention of harms to be sustainable. *Following the Evidence* identifies five strategic directions for population health that have the greatest success at preventing substance-related harms. Strategies include influencing development from a young age, delaying the onset of use, reducing risky patterns of use, creating safer environments for users, and influencing the economic availability of substances (CARBC, 2006). From the harm reduction perspective, a prevention strategy would address the different patterns of opioid use with a particular focus on high-risk patterns. Whereas low risk use calls for harm reduction practices that may involve education to facilitate a better understanding of harms, high-risk use often requires a more radical approach, with a focus on reduction, and in some cases elimination, of use (CARBC, 2006).

4.5.1.1 Overdose Prevention and Substitution Therapy

To address barriers to opioid substitution therapy and overdose prevention, researchers suggest four options: peer training to increase community capacity to administer life-saving treatment such as naloxone; providing a take-home dose of naloxone to potential overdose patients; a provincial decision support toolkit for nurses to aid in decision making when providing naloxone; and adding naloxone to the PharmaCare formulary so that low income does not continue to be a barrier to appropriate services (Buxton, Purssell, Gibson and Tzemis, 2012). The Canadian Executive Council on Addiction has discussed buprenorphine as a treatment for opioid dependence as a lost opportunity. President of the Canadian Executive Council on Addictions, Beverly Clark, stated that "[f]urther review and consideration of buprenorphine as another option for patients should be considered" (as cited in Adams, 2012).

4.5.1.2 General Population Surveys and Evidence-Based Research

According to Fischer, Rehm, Goldman and Popova (2008), regardless of the measures taken to target problematic opioid use, key indicators for use and misuse are lacking in Canada and would benefit from prompt development of population level surveys, and systematic and regular collection of morbidity and mortality data (Fischer, Rehm, Goldman and Popova, 2008). Research also suggests that interventions and policy approaches should focus on evidence-based practices, including evidence relating to prescription diversion and harm reduction, while ensuring that problem displacement is not a consequence of policy implementation (Fischer, Rehm, Goldman and Popova, 2008; Von Korff, Kolodny, Deyo and Chou, 2011). A real-time electronic prescription monitoring program at the national level would be highly effective at identifying problematic prescription use. Such a program would create consistency in data across provinces so that numbers are comparable, and it would not limit the availability of pain treatment for those who need it (Fischer, Rehm, Goldman and Popova, 2008).

Those who experience chronic pain require pain management practices that are compassionate and consider all of the benefits and harms of opioids. However, research throughout North

America suggests that greater evidence is needed on the safety and efficacy long-term opioid therapy (Miller, 2012; Von Korff, Kolodny, Deyo and Chou, 2011; Fischer, Rehm, Goldman and Popova, 2008). Until the safety of long-term opioids use has been established, patient selection and the risk associated with opioids should be carefully considered. What is needed is knowledge sharing, a problem-centred approach, meaningful evaluation, clinical mentorship, and most importantly, educational resources (CCSA, 2012a). Gomes et al. (2011) emphasize a need for greater awareness of suggested limits listed in prescribing guidelines, and a greater understanding of the potency of long-acting opioids. These researchers suggest physician and pharmacist education programs for opioids regarding safety and dosing, as well as real-time medication use monitoring as initiatives that may assist in reducing the risks of opioid related harms (Gomes et al., 2011).

4.6 Summary of the Literature

The literature review provides an overview of the prevalence of opioid use in Canada and the significance of opioids as a public health issue, particularly in high-risk populations. Throughout the literature it was apparent that opioids have a high risk of producing harms. From a harm reduction perspective, by acknowledging that there are benefits as well as harms associated with opioids, population-based approaches can be developed that lessen negative effects without relying on costly enforcement-based approaches. The unintended consequences brought on by enforcement of existing statutes and regulations have resulted in complex and persistent issues, such as the illegal market and limited access to essential opioid medications. Public health issues associated with those unintended consequences, such as increasing rates of addiction, HIV and Hepatitis C, overdoses, and deaths have sparked interest in the development of integrated harm reduction and enforcement initiatives in recent years.

There is divergence in the literature as to whether opioids are an appropriate treatment method for long-term pain management. Most authors agree, however, that solutions must come from, and be implemented at, every level of society. The literature revealed that, with increasing demand for services, effective responses must be based on long-term research and evidence, and they must consider drug use patterns in populations, the perspectives of a wide range of sectors and stakeholders, and both the universal and specific needs of whole populations and sub-groups.

Throughout the literature, common themes emerged as recommendations for ways to better manage opioid related issues. Appendix B includes two detailed tables that were developed from those recommendations. The first table suggests general approaches through which government could best support effective and efficient management opioids in British Columbia. The second table highlights more specific suggestions from the literature, which are divided by their particular approach: education, prevention, treatment, surveillance, and enforcement.

5. Jurisdictional Scan

The jurisdictional scan provides an overview of national, provincial, and international strategies related to opioids and other substances. It includes academic and government sources to give a wide-ranging view of current substance use initiatives being undertaken in Canada and by governments abroad. The first section discusses drug policy in the Canadian context, and discusses the direction Canadian policy appears to be taking. The second section discusses the progressive strategy being carried out in the United States, which highlights a comprehensive national effort as an essential component for success. Section three addresses the European Union's drug strategy, which uses the experience of member states to develop public health harm reduction policies. Lastly, this chapter looks at Australia's national drug policy, which outlines an integrated strategy that focuses on individual characteristics and minimizing the use of prescription medications.

5.1 Canada

5.1.1 National and Federal Initiatives

On May 8th, 2007, the National Anti-Drug Strategy was given authority under the *Corrections and Conditional Release Act* (Government of Canada, 2007). The Anti-Drug Strategy drops harm reduction measures from its focus, which had been one of the four pillars of the Federal Drug Strategy prior to 2007. Under the former strategy, the harm reduction pillar supported the implementation of needle exchange programs, methadone maintenance, supervised prescription heroin, and supervised injection sites (Collin, 2006).

The 2007 National Drug Strategy resulted in $500 million spent on enforcement over five years, which ended in the spring of 2012 (Geddes, 2012). The next five year anti-drug plan has been drafted, and outlines a three-pronged approach, focusing on prevention, treatment, and enforcement. The prevention aspect focuses on preventing the use of illegal substance among youth, and aims to provide education to parents, educators, and health professionals. Innovative approaches to treatment and rehabilitation will be used for high-risk individuals and will include collaboration between governments to increase access to services. The enforcement portion of the plan aims to increase law enforcement's ability to prosecute drug crimes and combat drug production operations. Funding has been provided to expand drug enforcement programs, prosecution services, and investigators, while ensuring that mandatory minimum sentences are in place for serious drug crimes (Government of Canada, 2012a).

The new plan allocates another $500 million to enforcement and prosecution strategies, compared to $30 million for prevention, and $100 million for treatment efforts (Geddes, 2012; Government of Canada, 2012b). The new plan also cuts Health Canada's spending by 15 percent, while increasing federal enforcement funding by 22 percent. Health Canada's funding is used to run street-level drug treatment programs for addicted drug users. The plan also excludes

pharmaceuticals and alcohol from its focus, meaning that programs which do not focus on illegal drugs are ineligible for funding (Geddes, 2012).

An evaluation of the 2007 strategy confirmed a "necessary role" for the federal government to implement the three-pronged approach (Department of Justice Canada, 2010). The enforcement role is outlined in legislation, such as the *Criminal Code* and *Controlled Drugs and Substances Act*, and other international conventions. Prevention and treatment fall primarily under provincial jurisdiction, though the federal government plays an active role in prevention and treatment programs. The Department of Justice Canada (2010) states that evaluation and reporting for all three components of the Anti-Drug Strategy will be challenging due to a lack of baseline information, and difficulties identifying a causal relationship between outputs (strategy funding) and outcomes, particularly for initiatives with a long-term focus. The evaluation also confirmed a continued need for a coordinated and collaborative response to illegal drug use that includes prevention, treatment, and enforcement (Department of Justice Canada, 2010).

The Canadian Community Epidemiological Network on Drug Use (CCENDU), coordinated by the by CCSA, is a surveillance project that facilitates inter-agency networking at the local, national, and international levels regarding drug use trends (CCSA, 2012b). CCENDU is unique in that it collects data from organizations that serve high-risk, local populations so it can obtain timely data and act as an early warning system for substance-use professionals. CCENDU enables professional knowledge exchange at the community level, between different agencies that have unique experiences with the drug use population. Key findings from each participant organization are distributed at the national level to alert health care professionals across Canada of emerging issues, such as contaminated batches of drugs. At the international level, CCENDU acts as an early warning system in that it connects with monitoring systems throughout the world (e.g. the Community Epidemiology Working Group in the United States and the European Monitoring Centre for Drugs and Drug Addiction) to contribute information and to report international information back to communities (CCSA, 2012b).

The Correctional Service of Canada (CSC) recognizes the limitations of enforcement-based supply reduction practices and is integrating enforcement and harm reduction practices to lower the number of people with addictions within prisons, represented by a reduction in substance demand (CSC, 2003). The CSC has adopted a two-tier approach; the first tier is designed to stop the supply of substances within federal institutions by implementing searches on guards and visitors to minimize substances being brought in. The second tier was designed to stop the demand for drugs within the institution through harm reduction programming and providing inmates with a supportive environment, including bleach kits, MMT, drug use and HIV prevention education, as well as surveillance programs.

The CSC's approach is based on the following principles:

1. Recognize the problem
2. Retain a value-neutral view of the activity or the person
3. Focus on the problem
4. Understand that abstinence is the best goal but not immediately achievable for everyone (CSC, 2003a, p.4).

The CSC uses six key surveillance techniques to monitor drug use in a way other than self-reporting: direct observation by corrections staff, urinalysis, telephone conversation monitoring, video surveillance, drug testing kits, and confidential information reports from prisoners. While urinalysis testing has been allowed in corrections facilities since 1992, methods like telephone monitoring and video surveillance are restricted to adhere to privacy and confidentiality protocols. Drug testing kits are only utilized when unknown substances are discovered to identify classes of drugs being smuggled into institutions (CSC, 2012, Surveillance Techniques section).

On May 5th, 2012, the Canadian Government proposed *New Classes of Practitioners Regulations* which will allow health professionals other than physicians to prescribe controlled substances, including codeine and Fentanyl™ (opioids), and diazepam (a benzodiazepine first marketed as Valium™) , in the treatment of patients, providing that the province in which they practice authorizes them to do so under the law. Other health professionals include nurse practitioners, midwives, and podiatrists. Currently, the *Controlled Drugs and Substances Act* prohibits these practitioners from prescribing controlled substances, meaning that patients who receive care primarily from, for example, a nurse practitioner, may have to pay to see a physician to obtain a prescription for these drugs. The proposed regulations allow for these other professionals to fully practice their profession and treat patients in a more holistic way. Nurse practitioners will still be prohibited from prescribing heroin, and midwives and podiatrists will be prohibited from prescribing opioid dependence treatment, such as methadone and buprenorphine (Health Canada, 2012).

Developed as part of the *Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain,* the Opioid Manager is point-of-care tool used to provide essential information to prescribers. The Opioid Manager is comprised of four sections which physicians are encouraged to navigate in the process of prescribing opioids to chronic pain patients (McMaster University, 2011). Part A encourages physicians to explain the benefits and adverse effects of opioids, risks such as addiction and overdose, and provide the patient with information and education materials prior to beginning opioid therapy. If a patient is a high-risk candidate for addiction or overdose, the Opioid Manager provides steps for the doctor to take including tapering or introducing opioids at lower doses (McMaster University, 2012).

If the physician and patient agree to continue with opioid therapy, Part B of the Opioid Manager recommends a closely monitored trial, prior to initiation of long-term opioid therapy. If opioids are ineffective or abuse or addiction is suspected, opioid therapy should be tapered and discontinued. Part B includes a table that suggests the initial dose, time intervals before dose increase, and the suggested increase in dose. If a physician believes that a patient requires more than the suggested 200mg daily morphine equivalent, they are urged to reassess the patient to ensure opioids continue to be the appropriate therapy (McMaster University, 2012).

If the trial is successful, Part C introduces steps for maintenance and monitoring of opioid therapy, wherein the physician can record the patient's visits. If switching a patient from one opioid to another to increase efficacy, doses for the new opioid are suggested based on the dosage of the previous prescription. Part D provides a list of things to consider when stopping opioid therapy—that is, if the pain condition no longer exists, the risks outweigh the benefits, the drug is ineffective, or there are other medical conditions. Aberrant drug-related behaviours are also outlined in Part D to give physicians an indication of whether a patient is becoming dependent on opioids as a result of opioid therapy (McMaster University, 2012).

5.1.2 First Nations Related Initiatives

The National Native Alcohol and Drug Abuse Program (NNADAP) was developed in the 1970's to address the "urgent and visible nature of alcohol and drug abuse among First Nations people and Inuit" (Health Canada, 2006, Background and Activities section, para. 1).The program assists First Nations and Inuit communities with operating programs to reduce alcohol and drug abuse on reserve land. While the program is run by Health Canada, it is largely controlled by First Nations communities. NNADAP supports 52 residential treatment centres, with 700 treatment beds across Canada. NNADAP runs over 550 prevention programs—designed to fit the needs of individual communities—which are employed primarily by members of First Nations and Inuit communities (Health Canada, 2006). NNADAP initiatives fall into three categories: prevention activities, including public awareness campaigns, alcohol and drug abuse curriculums in schools, media and cultural events; intervention activities, including recreation activities for youth, social programs, and spiritual and cultural programs; and aftercare activities, including counseling, support groups, crisis intervention, treatment, detoxification, and social service referrals, and band service referrals (Health Canada, 2006, Background and Activities section, para. 3).

Under the *Canada Health Act*, provinces and territories are required to provide coverage to First Nations and Inuit people for insured services. The Non-Insured Health Benefits (NIHB) Program is a national benefit program that provides coverage for a range of medically necessary drugs, medical supplies and equipment, dental care, vision care, and mental health counseling, which are not covered through other insurance plans or programs (Health Canada, 2010c). The NIHB program aims to provide health benefits to registered First Nations and Inuit people that meet their unique health needs, improve overall health status equal to other Canadians, are cost

effective, prevent disease, and manage illness, injury, and disability. To be eligible for the program, one must be a registered First Nations or Inuit person who is a resident of Canada and is not currently covered under a separate federal, provincial, or territorial agreement. To ensure national consistency in the delivery of health benefits and services under the program, income level is not a factor for coverage. For both prescriptions and medical equipment, clients must obtain a prescription from an NIHB recognized prescriber (Health Canada, 2010c).

To ensure client safety, the NIHB program has put mechanisms in place to identify potential drug misuse and promote drug use optimization. If potentially dangerous drug interactions are identified, or if a drug is being refilled before the prior prescription should be finished, pharmacists are sent electronic rejection messages when filling prescriptions. Using the patient's drug history, rejection messages are also used to warn pharmacists of inappropriate drug therapy. Trend analysis of prescription drug use at the client and program level is conducted regularly to identify individual or program issues. The program consults with an external expert committee which provides regular input into program evaluation and improvements (Health Canada, 2010c).

5.1.3 Provincial Initiatives

The North American Opiate Medication Initiative (NAOMI) is a scientific study that was funded by the Canadian Institute for Health Research, which examined innovative ways of treating opioid addiction (Canadian Institute for Health Research (CIHR), 2008a). NAOMI was a "randomized controlled clinical trial," which commenced in 2005, and included injection opioid users who did not find success with other treatment programs such as methadone (CIHR, 2006, p. 3). The goal of the study was to determine whether injectable pharmaceutical grade heroin would provide benefits to those with opioid dependency if provided in a medically supervised environment. Originally run in three sites, Vancouver, Toronto, and Montreal, NAOMI was limited to Vancouver and Montreal only, as they have the largest heroin using populations in Canada (CIHR, 2008a). Of the initial 1,587 users who came in contact with the study, 251entered into full screening and provided informed consent. The study resulted in four primary conclusions:

1. Heroin assisted therapy is a safe and highly effective treatment for people with chronic, treatment-refractory heroin addiction
2. The NAOMI trial attracted the most chronic and marginalized heroin users who were outside the treatment system and continued to use heroin despite numerous previous treatment attempts
3. Contrary to pre-existing concerns, the treatment clinics appeared to have no negative impacts on the surrounding neighbourhoods

4. Participants on hydromorphone did not distinguish this drug from heroin. Moreover, hydromorphone appeared to be equally effective as heroin although the study was not designed to test this conclusively. If this were proven to be true, hydromorphone-assisted therapy could offer legal, political, and logistical advantages over heroin and could be made more widely available (CIHR, 2008b, p. 18).

The Ontario Harm Reduction Distribution Program (OHRDP) was provided with one-time funding in 2010-2011 to develop and coordinate a provincial overdose prevention training program which included the distribution of naloxone overdose prevention kits across Ontario (OHRDP, 2012). Naloxone kits include two syringes, two ampoules of naloxone, alcohol swabs for sterilization, a prescription identifier card, and an overdose response information pamphlet on administering naloxone (Shahin, 2012). As naloxone is a Schedule F drug under the *Controlled Drugs and Substances Act* (available by prescription only), it requires a medical directive to be widely distributed without direct physician-patient consultation. A medical directive allows individuals other than physicians to provide the substance and administer treatment, providing they have appropriate training and knowledge. The OHRDP has a medical directive, and as a result, the *Controlled Drugs and Substances Act* does not restrict the OHRDP from distributing naloxone to high-risk users (OHRDP, n.d.). Moreover, those who inject naloxone into someone who has overdosed are exempt from provisions in the *Regulated Health Professionals Act*, which restrict the administration of drugs to health care professionals, as the emergency situation calls for immediate action (Shahin, 2012).

As part of Ontario's Mental Health and Addictions Strategy, the Ontario Ministry of Health and the Ministry of Children and Youth Services are providing resources for services such as tele-medicine (providing medical information over the phone), overdose kits and training, and real-time surveillance. Surveillance information includes trends in drug use from harm reduction programs such as needle exchanges, opioid related ER visits, opioid related deaths, inquiries to the alcohol and drug abuse hotline regarding addiction treatment waitlists for opioid users, admissions of opioid dependent individuals into treatment programs, and demand for methadone maintenance treatment. Surveillance and monitoring increased in response to the withdrawal of OxyContin from the market on March 1st, 2012. As of June 29th, 2012, surveillance showed no increase in demand for treatment services in Ontario (Ontario Ministry of Health and Long-Term Care, 2012, Ongoing Monitoring and Updates section).

Nova Scotia was the first province in Canada to implement an academic detailing (AD) program. AD is a continuing medical education initiative in which healthcare professionals conduct one-on-one educational sessions with physicians on a specific topic. Opioids for chronic non-cancer pain were the topic of choice in Nova Scotia in 2010. Developed with objective, evidence-based research, AD is thought of as one of the most effective forms of physician education. Participation in AD is voluntary and confidential, but is available to all family physicians and

specialists. AD resources include a workbook, which discusses different types of opioids, the benefits and harms of opioid therapy for chronic non-cancer pain, and the efficacy differences between short and long-lasting opioids, and strong and weak opioids. Resources also include local resources for pain management, the Opioid Manager, and a chart of costs for different opioids (Dalhousie University, n.d.). Saskatchewan has also implemented an AD program, entitled RxFiles, which provides comparative drug information to physicians, pharmacists, and healthcare professionals. As in Nova Scotia, the focus of RxFiles is to provide non-commercial, evidence-based education for physicians (Bareham, n.d.).

The College of Physicians and Surgeons of Alberta (CPSA), in partnership with Alberta's pharmacists and dentists, developed the Triplicate Prescription Program (TPP) as a surveillance tool to monitor drugs that are prone to misuse. A triplicate prescription is a personalized prescription pad for physicians with three copies that include an imprint of their name, address, and unique prescriber number. The prescriber keeps one copy of the prescription, the pharmacist keeps one copy, and the remaining copy is forwarded to the CPSA, wherein the prescription is entered into a database to track the use of TPP prescriptions (CPSA, 2007, p.2). Each triplicate prescription must include the date, the patient's health care number, date of birth and full name, the patient's address, the drug and strength, quantity to be prescribed, and directions for use. All of these elements are necessary to ensure proper patient identification and minimize misuse and diversion (CPSA, 2007).

When the pharmacist dispenses the prescription, they must record the date dispensed, the prescription number, the drug identification number, the total quantity prescribed, the pharmacy license number, who the prescription was received by, and the pharmacist's signature and certification number (CPSA, 2007, p. 4). Pharmacists are required to forward TPP prescriptions to the CPSA on a weekly basis to keep the database up to date. Reports are generated monthly to monitor use rates and prescribing patterns. The program flags prescribers with high TPP prescribing rates and sends them correspondence on a monthly basis. The goal of the TPP is to provide timely and accurate data to prescribers in order to identify potential problems of misuse and address issues (CPSA, 2007).

5.1.4 British Columbia

To prevent forgeries and reduce inappropriate prescribing, the College of Physicians and Surgeons of British Columbia operates the Controlled Prescription Program (CPP), which requires that personalized, numerically recorded, duplicate prescription pads be used when prescribing controlled substances such as opioids. The prescriber keeps one copy, and provides the other copy to the patient to fill their prescription, which is kept by the pharmacist. Prescriptions for opioid substances will not be filled if they are not written on a duplicate pad (for more details, see Appendix D). Pharmacy involvement in the program is enabled under the

Pharmacy Operations and Drug Scheduling Act in BC (College of Pharmacists of British Columbia, 2011).

Participants of the program include:

- College of Pharmacists of BC
- College of Physicians and Surgeons of BC
- College of Dental Surgeons of BC
- BC Veterinary Medical Association
- Ministry of Health Services (PharmaCare Program) (College of Pharmacists of British Columbia, 2011, para. 3).

The CPSBC also runs the Prescription Review Program (PRP), which is a peer review program that assesses the prescribing of controlled substances. The CPSBC has access to the PharmaNet database, which provides next day information on controlled substance prescriptions in BC. Periodic reviews are performed to look for specific controlled substances, and risks of abuse, misuse, and diversion. Results are reviewed by the Prescription Review Committee, who may order a review of the prescribing patterns of a particular physician. Fundamentally, the PRP is an educational initiative rather than a punitive one. If a physician's prescribing habits are of concern, the Review Committee will correspond with the physician to educate them on appropriate prescribing. According to the CPSBC, the program's success comes from the collegial relationship between the Review Committee and the medical profession (CPSBC, n.d. b).

Toward the Heart is a pilot project of the BC Provincial Harm Reduction Program. The Provincial Harm Reduction Program acknowledges that BC faces unique challenges; while naloxone injection training can be provided by healthcare providers such as nurses, naloxone continues to be a prescription only medication—meaning that the prescription must be provided by a physician to a particular, named patient (BC Centre for Disease Control, 2012). The aim of the program is to identify barriers to broad access to naloxone in BC, and ways to break down those barriers and increase access to prevent opioid overdose and death. Initiatives under the project include peer training for the purpose of increasing capacity to administer naloxone at the community level, and providing overdose patients with a naloxone kit following their discharge from the hospital. The program also provides decision support tools for nurses, and is working toward having naloxone added to BC's PharmaCare formulary, so that income does not act as a barrier to life saving treatment (Buxton, Purssell, Gibson and Tzemiz, 2012). The project website provides recourses, such as a training manual, quiz, lifesaving tips, and sample prescription pad, to assist community organizations that wish to address overdose issues. The website addresses frequently asked questions and offers a program guide for the initiation and implementation of a naloxone distribution program (BC Centre for Disease Control, 2012).

WorkSafeBC's Compensation Practice and Quality Department developed Practice Directive C10-1 – *Claims with Opioids, Sedative Hypnotics or Other Drugs*, to provide guidance to WorkSafeBC's medical advisors on the proper prescribing of narcotic drugs and the management of injury claims where the injured worker is prescribed opioids (WorkSafeBC, 2012). Under section 21 of the *Workers Compensation Act*, injured workers are to be provided with healthcare benefits, including prescription medications that are necessary to lessen the effects of the injury. In cases where opioids are prescribed, a review is conducted after eight weeks. To approve coverage of opioid medications for a client beyond an eight week period, WorkSafeBC staff must consult with a medical advisor, who then discusses the situation with the prescribing physician. If opioids continue to be prescribed after the eight week period, the injured worker must sign a *Worker Opioid/Narcotic Agreement* and return the *Physician Response on Opioid Funding Extension Request* before payment is provided by WorkSafeBC. The funding extension request must describe the extenuating circumstances that require prolonged opioid use for a particular patient (WorkSafeBC, 2012).

Based on the information obtained from the physician, the WorkSafeBC medical advisor develops an action plan for the review of opioid entitlement for the following six months. The action plan may include a follow up review, a funding arrangement to wean the injured worker off of opioids, continued coverage of opioid prescriptions, working with the prescribing physician to transition the worker from short to long-acting opioids, funding a different treatment method, or providing a referral to a rehabilitation program, psychological consultation, or pain management specialist (WorkSafeBC, 2012, section E). In situations where a worker is prescribed opioids for longer than six months, that worker's claim will be reviewed on an annual basis.

5.2 United States

The 2012 United States National Drug Control Strategy was developed as a "21st century approach to drug policy," charting a new direction for the reduction of drug use and associated harms in the US (Executive Office of the President of the United States, n.d., p.1). The strategy includes prevention and early intervention initiatives, integrated mental health and substance use services, strengthening international partnerships, and improving data and information systems (Executive Office of the President of the United States, n.d., p.1).To be successful, President Barack Obama stated that the strategy must include a comprehensive national effort. Over 100 action items are stated in the US strategy, which includes collaboration between international, federal, and state agencies, as well as local governments and Aboriginal communities.

Expanding on the US National Drug Control Strategy, the Office of National Drug Control Policy (ONDCP) developed the Prescription Drug Abuse Prevention Plan (Prevention Plan). The plan consists of four action items: education for parents, youth, and patients on the dangers of opioids; prescription monitoring programs to reduce drug seeking and diversion; medication

disposal that is convenient and environmentally friendly, in order to reduce the supply of unused prescription drugs; and enforcement, ensuring that tools are available to prevent improper prescribing and production of prescriptions (ONDCP, n.d.). While aimed at a wide range of prescribed substances, the Prevention Plan primarily focuses on prescription opioid misuse, which is described as a "growing and often deadly problem" (Executive Office of the President of the United States, 2011, p. 1).

As part of the educational component of the Prevention Plan, the ONDCP put forth an action item which would require drug education to be funded by pharmaceutical companies (ONDCP, n.d.). In July, 2012, the US Food and Drug Administration (FDA) approved the "Risk Evaluation and Mitigation Strategy" (REMS), for "highly potent" extended-release and long-acting (ER/LA) opioids (FDA, 2012). Recognizing that the misuse of ER/LA opioids is a public health challenge, the new REMS strategy aims to reduce the risks associated with prescription drug misuse and improve the safety of opioid use while maintaining access to opioid medications for the treatment of pain. REMS is part of a coordinated multi-agency effort by the US Federal Government to address prescription drug misuse (FDA, 2012).

The goal of REMS is to ensure physicians are educated on safe opioid prescribing, and that patients are aware of proper uses, as well as the risks, of opioid medications (FDA, 2012). REMS requires pharmaceutical companies to provide accredited continuing education programs to prescribing physicians based on the FDA Blueprint for Prescriber Continuing Education. Education must include information on initiating, modifying or stopping opioid therapy, managing therapy, and it provides general information on the pharmacology of opioids. The Blueprint also requires that healthcare practitioners are provided with education that prescribers can use when counseling patients about the risks and benefits of opioid use. Companies can adhere to this obligation by providing education grants to educational organizations that create and deliver physician training. REMS also requires patient education on the safe use of opioids, which may be offered through educational materials that are approved by the FDA. The FDA will measure the success of the strategy by requiring the pharmaceutical companies to perform assessments of REMS implementation (United States Food and Drug Administration, 2012).

With reports of substantial problems related to the drug OxyContin, Purdue Pharma created the Researched Abuse Diversion and Addiction-Related Surveillance (RADARS) system to address industry requirements for risk management. The Denver Health Hospital Authority took over RADARS in 2006, transitioning the program into an independent, non-profit organization (Denver Health, Overview section, 2011). RADARS is a surveillance system that monitors the misuse and diversion of prescription drugs by collecting product and geographically-specific data, measuring the rates of misuse and diversion, and identifying trends in use over time to assist in the development of appropriate intervention approaches, which include misuse deterrent formulations of existing drugs. Data is provided to pharmaceutical companies and policy makers

on a quarterly basis to ensure timely identification of areas that are "signal sites" of misuse (Denver Health, Services and Benefits section, 2011).

On June 19th, 2012, the American Medical Association adopted a policy to "support further implementation of community-based programs that offer naloxone and other opioid overdose prevention services" (American Medical Association, 2012, Promoting Prevention of Fatal Opioid Overdose section, para. 1). The new policy also urges health care workers and opioid users to become educated on the use of naloxone to prevent overdose. Some US states, such as California, Massachusetts, New York, Washington, Wisconsin, and New Mexico, have developed legislation to allow for the prescription distribution of opioid antagonists, or overdose treatments (i.e. naloxone), to first responders, those at high-risk of overdose and their families and significant others. In response to the highest overdose rates in the US, particularly from opioids, North Carolina has initiated a pilot program called Project Lazarus, authorizing the prescription of naloxone for opioid users to take home in case of an overdose. The program includes both a prescription for take-home naloxone as well as an educational component. Educational materials and training are provided for those who are prescribed opioids as well as those who may have to administer treatment, such as friends and family (American Society of Addiction Medicine, 2010).

Project Lazarus is a non-profit organization that is based on the idea that communities are responsible for their own health and safety, and that overdose is a preventable drug-related outcome. They provide overdose prevention by offering technical training and assistance to community organizations and physicians using evidence-based practices to meet the needs of users and those with chronic pain (Project Lazarus, n.d.). Once a patient is identified as being high-risk by a Project Lazarus-trained physician, they may agree to participate in the program after watching an informational DVD. The DVD addresses patient responsibilities, pain management, proper storage and disposal of prescriptions, how to respond to overdose, and prescription misuse treatment options.

Educational materials provided by Project Lazarus do not differentiate between prescribed and illegal use of opioids; rather, straightforward messaging is used to maximize overdose prevention and minimize fatality. Community pharmacies from which patients can obtain a free naloxone kit are pre-arranged by Project Lazarus (Harm Reduction Coalition, n.d.). Results of Project Lazarus conclude that overdose deaths decreased by 69 percent in Wilkes County, North Carolina between 2009 and 2011. In 2011, there were no overdose deaths from prescription opioids in Wilkes County—down from 82 percent in 2008. A thorough evaluation is being conducted to see the extent to which Project Lazarus impacted these changes (Project Lazarus Blog, 2011).

In March 2012, the state of Illinois amended the *Alcoholism and other Drug Abuse Dependency Act* to add section 5-23 which allows for drug and overdose prevention treatment programs.

Under the Act, professional curricula may be developed for physicians, organizations, and individuals who want to learn about overdose and safe use. Also under the Act, programs may be established which prescribe, dispense, or distribute naloxone or an equally safe FDA approved overdose treatment drug (*Alcoholism and other Drug Abuse Dependency Act*, n.d.). The Act also states that messaging will continue to convey that drug use is illegal and abstinence is the healthiest choice. The Chicago Recovery Alliance has been distributing naloxone to its injection/HIV/AIDS health service since 2000, and provides instructions on overdose prevention and treatment (American Society of Addiction Medicine, 2010).

5.3 European Union

In 2009, European Union (EU) Member States reported 7,600 drug-overdose deaths with around 5,700 resulting from heroin use. Twice as many deaths in the EU are attributed to drug-related outcomes such as HIV/AIDS, Hepatitis C, violence, suicide, and other health issues resulting from drug use (EU Committee, 2012). While the EU does not have an opioid-specific policy framework, the EU Dugs Strategy is moving toward a public health, harm reduction approach, and offers information on the successes of various drug policies based on the experiences of Member states. The EU Committee, in the 26th Report of Session 2010-12, agreed that drug policies should primarily be left to Member States, and that the EU should complement and strengthen the actions of those states in addressing drug-related problems (EU Committee, 2012). The EU has also called for an increase in cooperation between local, national, and international authorities within their boundaries.

Former EU strategies involving strict supply and demand reduction were reviewed and were found to be too broad to guide a supranational policy. Supply and demand reduction will no longer be used as the EU Drugs Strategy framework from which Member States can develop their own national policies; moving forward, a more focused approach has been recommended using the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) to assist in the improvement of data collection, analysis, evaluation and broad distribution across and between Member States (EU Committee, 2012). The EMCDDA mission is to provide EU Member States with an evidence-based overview of the drug problems that exist in Europe, offering governments and policy makers the facts required to inform drug strategies and pinpoint best practices for future research. The core purpose of the EMCDDA is to provide the EU and Member States with comparable information. Data is collected through national drug monitoring surveys, which are then analyzed to provide a broad picture of drug-related issues (EMCDDA, 2010).

The EU Committee highlights the success of Portugal's public health based drug policy, and recommends that EU Member States adopt a similar harm reduction approach in their national policies (EU Committee, 2012). Both Portugal and the Netherlands have decriminalized "soft" drugs such as marijuana to reflect the growing desire for pragmatic harm reduction policies to

encourage drug users to utilize services. The Dutch policy is referred to as "toleration," which means one will not be subject to prosecution for possession or trafficking of soft drugs, though it is illegal (Government of the Netherlands, n.d.).

The experience of the Czech Republic has provided the EU with evidence to support the implementation of harm reduction focused policies (EU Committee, 2012). In 1998, the Czech Republic passed a bill to criminalize drug possession for personal use. A cost-benefit analysis was conducted after two years of policy implementation, which determined that, in its first two years of enforcement, the drug supply and demand increased analogous to the number of new drug users. Based on this analysis, the Czech Republic reversed the law in 2010 and decriminalized possession for personal use (EU Committee, 2012). Spain has also decriminalized drug possession for personal use (Hughes and Stevens, 2010), and has focused its 2009-2016 National Drug Strategy on prevention, harm and risk reduction, treatment and social integration, as well as improvement of scientific knowledge and international cooperation (Gobierno de Espana, 2009). As part of its harm reduction focus, Spain is supporting safe injection sites that integrate a range of survival services for marginalized drug users (Gobierno de Espana, 2009; Hedrich, 2004).

In March, 2012, delegates at the 55th Annual meeting of the UN Commission on Narcotic Drugs unanimously adopted a resolution to prevent opioid overdose within its Member States. Co-sponsored by Israel and Denmark, the Czech Republic introduced the resolution and endorsed public health training in overdose response as a global effort to save lives (Smith, 2012). Discussed at the meeting was an understanding of the need for drugs such as naloxone to be available as part of a comprehensive approach to harm reduction for opioid users (UN Commission on Narcotic Drugs, 2012).

5.3.1 Scotland

The 2009-10 National Forum on Drug Related Deaths in Scotland revealed that most drug-related deaths in Scotland are the result of accidental overdose from one or more drugs (Government of Scotland, 2010a). To address this problem, three key recommendations were made to reduce the number of drug related deaths: increase access to treatment services; continue to develop and improve services; and improve partnerships between emergency services, such as ambulance, prison, and acute care services (Government of Scotland, 2010a, p. 8-9). Following these recommendations, and after the successes of take home naloxone pilot programs, the National Naloxone Programme was established in Scotland (Government of Scotland, 2010a). This program allows for naloxone to be provided to those who are at risk of overdosing on opioids once they have completed appropriate training. Training is also available to family members and friends of those who are deemed high-risk. Central resources for this programme include support for the Scottish Prison Service, national training resources to develop local naloxone programs throughout Scotland, naloxone information materials, and a national

monitoring and evaluation initiative to assess the outcomes of the programme (The Government of Scotland, 2010b).

Scotland was the first country in the world to initiate a naloxone program, which began in November, 2010 (Carlowe, 2012). Between 2011 and 2012, 3,445 naloxone kits were distributed to those at high-risk of overdose in Scotland. The national coordination of this programme throughout Scotland is funded by the Scottish Government. Health Boards are also funded to deliver training on the use of naloxone in an overdose situation (Carlowe, 2012).

5.4 Australia

The Australian Government, Department of Health and Ageing, developed the National Strategy for the Quality Use of Medicines (QUM) strategy, which was designed to improve medication use by identifying drug misuse problems, underlying causes of drug problems, and having readily available interventions to improve medication use. According to the Australian Government, QUM is described as: selecting management options wisely by considering the place of medicines in maintaining health; choosing suitable medicines if a medicine is considered necessary so that the best available option is selected by taking into account the individual, their condition, and the risks and benefits of drug therapy; and using medicines safely and effectively to get the best possible results by monitoring outcomes and minimizing misuse (Australian Government, Department of Health and Ageing, n.d., p. 1).

The QUM strategy is situated within Australia's National Medicines Policy, which aims to address medication-related service needs for optimal health and economic outcomes. The four objectives of the policy are: timely access to necessary medications at an affordable price; pharmaceuticals that meet quality, safety, and efficacy standards; quality use of prescriptions; and maintaining a responsible pharmaceutical industry (Australian Government, Department of Health and Ageing, n.d., p. 3). The National Medicines Policy and the QUM strategy rely on one another for maximum function. For example, the QUM is not achieved if medications are not affordable, safe, and efficacious, and the goals of the National Medicines Policy are not achieved if medications are safe and available, but are not used appropriately. The interdependent nature of the policy and the strategy require an integrated and collaborative approach if they are to be implemented successfully (Australian Government, Department of Health and Ageing, n.d.).

5.5 Summary

The jurisdictional scan found that harm reduction policies are becoming more widely accepted throughout the world. Canadian provinces, along with other jurisdictions, are moving away from enforcement, placing emphasis on four primary areas of harm reduction: prevention and early intervention; physician and patient education; a strong evidence base; and coordinated multi-agency efforts. Canada does not include harm reduction measures as one of the pillars of the

national strategy. However, initiatives are in place which suggests that organizations and agencies with federal capacity recognize the limits of enforcement-based approaches.

The United States, the European Union, and Australia are minimizing the focus on supply reduction, and instead focusing on education, surveillance, and early identification and treatment of drug-related issues. The US and Australia have placed emphasis on proper use and disposal of medications, while Canada and the EU are beginning to focus on developing harm reduction interventions and public health training to reduce overdose deaths. At the supranational level, the EU is placing emphasis on cross-jurisdictional cooperation, though Member States are responsible for addressing drug-related issues within their jurisdictions. Australia has also begun to focus on having interventions available to reduce harms and provide safe and economically efficient outcomes, while also addressing the underlying causes of drug misuse.

6. Methodology

The research design for this project consists of semi-structured open-ended interviews with stakeholders in BC. Open-ended questions enable respondents to answer research questions in a way that reflects their own perception of a situation, rather than having responses imposed on them by the interviewer. This qualitative method works well in one-on-one interviews as it allows for an in-depth exploration of the topic at hand (Lewis-Beck, Bryman and Liao, 2004). Semi-structured open ended interviewing was used to promote extensive dialogue, allowing research participants to provide a broad range of knowledge and opinions. The objective of the interviews was to identify the roles and responsibilities of key stakeholders to find out what successes and challenges have been experienced through current opioid management programs andservices in BC, as well as to identify gaps and effective practices in current approaches to opioid management.

The original list of potential participants from the client included 20 people. Sixteen people were referred to the study by other participants, and contacted the researcher by email to participate. In total, 36 people were invited to participate in this study. Twenty five (69 percent) of the individuals agreed and interviews were conducted during July and August of 2012. The 11 individuals who did not participate in the study include individuals from BC provincial corrections, federal corrections, the Royal Canadian Mounted Police, federal Aboriginal program representatives, Ministry employees, patient advocacy groups, and academic researchers who address substance use.

The participation of both provincial and federal corrections (two individuals in total) required separate ethics processes, which could not be reviewed and approved before this study concluded. Federal Aboriginal program representatives that were contacted declined participation, stating that, while their programs were run in BC, their policies are managed nationally, and they could not see the value that they might add to a provincial strategy (two individuals total). After reviewing the interview questions, three potential participants declined participation, stating they could not provide adequate, relevant information to this study. Four potential participants were unable to participate due to scheduling conflict and the time constraints of the project.

This research was supported by an Advisory Group which consisted of Ministry of Health staff, including Brian Emerson**,** Warren O'Briain**,** Kenneth Tupper, and River Chandler. Advisory Group members committed to assisting in the research as key contacts throughout the course of the project to provide information and guidance as needed. They also participated in discussions which helped to develop broad questions for the interview process. The Ministry clients for this project (Dr. Brian Emerson and Warren O'Briain) identified several potential interview participants to provide expertise in different areas of opioid management. They also assisted in developing the interview questions, which were approved by the University of Victoria Human

Research Ethics Board. Interview questions were developed to obtain relevant information on specific areas of expertise (i.e., provincial level programs/services, public health/harm reduction programs, advocacy groups, prescribing physicians, or addictions and pharmaceuticals specialists etc.) and were designed to address the project objectives and findings from the literature review, as well as to capture information that may have been unknown to the Ministry prior to this study (see Appendix C for the Interview Questions).

6.1 Stakeholder Contacts

Organizations that participated in this study include:

- British Columbia Ministry of Health and Ministry Consultants
    - Office of the Provincial Health Officer
    - Population and Public Health Division:
        - Communicable Disease Prevention, Harm Reduction and Mental Health Promotion Branch
        - Business Operations and Surveillance Branch
    - Pharmaceutical Services Division
        - Drug Use Optimization Branch
        - Drug Intelligence Branch
- Office of the Chief Coroner
- BC Centre for Disease Control
- College of Physicians and Surgeons of British Columbia
- College of Pharmacists of British Columbia
- College of Dental Surgeons of British Columbia
- PainBC
- WorksafeBC
- Canadian Drug Policy Coalition
- Centre for Addictions Research BC, at the University of Victoria
- Women's Health Centre, British Columbia

The first step of the recruitment process consisted of an email, sent by the client, introducing the project to potential participants. Potential participants were then contacted with an invitation to participate, which provided details on the project and described their role should they agree to participate. Those who agreed to participate were provided with a Participant Consent Form, which outlined the project, the requirements for their participation, the risks involved, and the benefits of this research being conducted. Telephone interviews required the participant to sign and scan, or fax, their consent forms to the primary researcher, whereas those who interviewed in person were able to sign a hardcopy of the consent form at the time of the interview. Each participant was provided with an electronic copy of the consent form.

6.2 Data Collection

Of the 25 interviews 18 were conducted by phone and seven were conducted in person. All of the one-on-one interviews were conducted at the Ministry of Health in Victoria, British Columbia. Interviews ranged from 30 to 60 minutes with most interviews lasting approximately 45 minutes. During each interview, the researcher offered clarification on the study and provided participants with the opportunity to ask any questions that arose from the project synopsis or the participant consent form. Some participants provided supporting documents from their program area which were used to support interview responses.

Hand-written notes were taken during each interview and participants were informed that they may contact the researcher at any time with further questions pertaining to the research. Participants were also sent a copy of their interview responses to verify the information and clarify any information provided. Four participants reviewed their answers and returned them to the researcher with changes as needed.

6.3 Study Limitations

This study is constrained by the limited amount of evidence-based research (i.e. population data) available to support the perspectives introduced in this paper, as well as the inherent subjectivity resulting from qualitative analysis of the data. In some instances, it was difficult to get potential participants to understand the relevance of their expertise to the study, as it is a broad, policy-based topic that focuses particularly on a strategy for British Columbia. For example, minimal information was collected from research participants regarding Aboriginal issues and programming. Therefore, this research lacks the perspectives of individuals who work with Aboriginal communities, and there may be gaps in this study resulting from that missing information.

The broad and unstructured interview questions used in this study left room for interpretation by interview participants. Therefore, answers provided by participants may be inconsistent based on their individual interpretation, and/or may have led to misinterpretation by the researcher. Efforts were taken during the interview process to record precise statements, and clarification was requested when needed.

7. Stakeholder Interview Findings

This chapter provides an outline of the findings from 25 interviews conducted with individuals from government, health system partners, medical regulatory bodies, research groups, advocacy groups, and an independent statutory organization. All of the individuals who contributed to these findings provided knowledge on opioid programs or services, and the current state of opioid management in British Columbia. The findings are organized thematically to highlight common ideas and topics discussed by research participants. Interview responses were themed based on the context in which they were discussed to allow for comparison among participants with varied involvement and experience with opioid programs and services. The interview questions focused on roles and responsibilities, programs and services run by the organizations included in this study, potential gaps in current programs and services, and provincial policy considerations. Federal policy considerations were discussed by some participants, and are included in these findings. The findings are organized into four primary sections: Policy development and treatment barriers; education; managing opioid use and prescribing; and program and policy development considerations. Key findings from this research are presented in the summary of this chapter.

7.1 Barriers to Treatment, Policy and Program Development

Throughout the interview process, it became clear that government policies and programs involving opioids are developed primarily with the intent to decrease access to illegal opioids while increasing awareness of drug-related harms and access to addictions programming. However, barriers continue to emerge which negatively impact opioid related outcomes and perpetuate harms. If fundamental policy and program development barriers are not addressed, the efficacy of those policies and programs, and the services that stem from them, may continue to be called into question. The following section outlines the major barriers to the development of useful and effective policies and programs as discussed by interview respondents.

7.1.1 Resources

There was consensus among respondents that a lack of human and financial resources is a significant barrier to the development of efficacious policies and programs regarding opioids. Five participants noted that there are not enough resources to expand the scope of programs that monitor the prescription and use of opioids. Consequently, the amount of time dedicated to investigate and report problems related to opioid prescribing and misuse is limited. These participants stated that without appropriate human resources, policy outcomes cannot be strictly monitored, and the focus of programs and services cannot be properly evaluated.

Three respondents stated that resources for pain management in particular are lacking. As waitlists for pain specialists are currently over one year long, those who suffer from chronic pain are left without appropriate care. Two participants suggested that there should be more funding for pain research, while another participant suggested that more resources are needed to fund

research on non-drug measures to manage chronic pain. Respondents noted, however, that non-drug measures are seen as less desirable by patients as they are generally paid for out-of-pocket, as they are not insured. To mitigate the cost barrier to patients, respondents suggested that the Ministry look at alternate ways to cover non-drug measures for chronic pain sufferers to promote more holistic approaches and reduce the mentality of using opioids as a first response to pain.

Six interviewees stated that educational initiatives for healthcare providers should be a funding priority. In particular, these interviewees stated that increasing education-related funding would increase access to educational materials. Three of those respondents stated that by directing funding toward the development of educational materials, then prevention, rather than enforcement, becomes a priority. One respondent stated that, for prescribers, there is little else to offer patients with chronic pain aside from opioids. This respondent stated that, while opioids are prescribed to excess, little funding has been put toward anything else. One respondent suggested that educational materials be made available by the provincial government to pharmacists, nurses, palliative care and pain specialists, local communities, and health representatives in First Nations communities.

7.1.2 Stigma

Seven interviewees highlighted stigma as another significant barrier to efficacious policies and programs related to opioids in BC. Four individuals emphasized that the controversy surrounding opioid misuse hinders appropriate care for those who are opioid-dependent, and results in a lack of support for addiction programs. One of those individuals stated that health authorities do not often address the inherent stigma that occurs within their jurisdiction, as policies and red tape prevent those who are opioid dependent from being able to access services that are recommended to them. Two other respondents stated that an abstinence mindset within the healthcare system prevents opioid-dependent individuals from receiving appropriate care, such as methadone maintenance, as they are judged because of continued use. The abstinence mindset then acts as a barrier to drug tapering, according to one participant, because methadone patients are not allowed into programs that are detox and abstinence-based, as they are still considered users.

Two interviewees stated that stigma and negative ideologies create resistance to addressing opioids, as no one wants to take the lead in reducing opioid related harms. A polarized view of opioids and opioid use creates challenges around developing best practices for safe and effective use of opioids. Two other respondents stated that the stigma surrounding opioid use has created a focus on limiting the supply of drugs, rather than looking at the need for drugs to manage chronic pain. As a result, opioids may not be prescribed to those who need them, and the potential benefits of opioids are not acknowledged.

7.1.3 Fee-for-Service

Eight respondents identified the fee-for-service model as a particular barrier to the development of physician-patient relationships and the minimization of opioid overprescribing. Four respondents stated that fee-for-service prevents physicians from getting to know their patients, as it rewards doctors who see the highest volume of patients. As non-drug options take time to explain and discuss with each individual patient, some thought that fee-for-service deters prescribers from exploring alternative, and potentially safer, measures. For example, when exploring non-drug measures, physicians must discuss a variety of options with patients, such as counseling, physiotherapy, acupuncture, exercise or other lifestyle changes. Without developing a successful collegial relationship with patients, these respondents stated that it is less likely that prescribers will discover what a patient's particular needs are, potentially leaving them without appropriate treatment. Two participants suggested that pharmacists are the gatekeepers of prescription medications and should have the primary responsibility of reporting opioid overprescribing and potential misuse. One of those individuals acknowledged, however, that pharmacists are also paid for each prescription that they fill. By reporting potential misuse or overprescribing, they risk losing business, and may not be motivated to report.

Five respondents saw the lack of appropriate Medical Services Plan (MSP) billing codes as a barrier to proper patient care. According to these interviewees, as there are no billing codes for physician education on safe and appropriate opioid prescribing, chronic non-cancer pain counseling, or prescription counseling for patients, physicians have no way of billing their time for these functions, which, if available, may reduce harms and improve opioid related outcomes. Respondents outlined four potential consequences of insufficient MSP billing: prescribers may prescribe high volumes of opioids; prescribers may prescribe opioids without sufficient education and without using evidence-based practices if they cannot bill for them; patients may not receive proper education on the safe and effective use of prescription opioids if medication counseling is not included in MSP billing; and physicians will be unable to document all of the services they perform, as required by the BC College of Physicians and Surgeons, because they are not included in the fee-for-service model.

7.1.4 Regulation and Enforcement

7.1.4.1 Criminalization and Division of Powers

Criminalization was named by six respondents as the primary barrier to development of effective opioid-related programs and services. Three of those respondents stated that criminalization of opioid possession leads to barriers for opioid dependent individuals to access the services that they need. These respondents argued that the *Controlled Drugs and Substances Act* (the Act) creates significant administrative hurdles, as services such as MMT and Insite require exemptions under the Act to be legally provided. One respondent suggested changing the Act to decriminalize drug possession so that users do not enter the justice system.

Two respondents identified concerns about the international drug control regime, arguing that drug control creates and illegal market, changes the drug use demographic, and leads to violence and the creation of less pure forms of drugs for street use. One respondent suggested that federal legislation regarding drug criminalization requires an overhaul to achieve public health and safety outcomes. New legislation, according to this individual, must more explicitly address public health outcomes and must be based on evidence about what government can do to improve health outcomes, in order to balance public health goals with criminal justice goals.

Three interviewees noted that difficulties arise because of the division of powers between the federal and provincial governments. While the federal government maintains constitutional jurisdiction over drug control and criminalization of drug possession, these interviewees noted that the provinces bear the consequences imposed by federal policies, such as the illegal market and associated crime and violence, as well as increased prison populations and the harms associated high rates of drug use in prisons. These individuals also noted that health related matters are a provincial responsibility, and there are challenges in defining what the federal role is in provincial health matters. One participant suggested that the federal government should emphasize the public health/harm reduction perspective at the international level to influence the UN prohibition oriented conventions on drugs, as these often lead to unintended consequences.

7.1.4.2 Regulatory Oversight

Five respondents discussed the fact that there is no regulatory body with disciplinary power, and little regulatory oversight, for physicians prescribing opioids. According to these respondents, BC does not have mandatory requirements or systematic reporting for harms related to opioids. All of these individuals stressed that prescribing accountability is needed. One stated that there should be a tougher stance on prescribing and that the BC College of Physicians and Surgeons should more strictly deal with physicians who are overprescribing. The other respondents agreed that law enforcement in particular is not the answer.

7.1.5 Opioid Alternatives

7.1.5.1 Non-Pharmacological Methods

Seven interviewees expressed concern at the lack of available alternatives to the prescription of opioids—in particular, non-pharmacological measures. Two respondents stated that, due to a lack of alternatives for pain management, physicians continue to refer patients to pain clinics when they do not know what else to do. Three respondents stated that non-pharmacological methods are not often tried prior to prescribing opioids for chronic pain, and that opioids should not be used as a first response. These respondents also stated that physicians are not provided with tools, other than prescribing, to treat pain in order to get people off drugs.

One respondent suggested reconceptualising chronic pain as a chronic disease and beginning to look at how to better manage chronic pain through chronic disease measures such as self-care.

This participant also stated that self-care education would teach patients how to manage their own care by teaching them to recognize different types of pain, such as breakthrough pain (when medications start to wear off), so they understand how to take medications responsibly "as needed". According to another participant, opioid alternatives require a more comprehensive approach to pain management with a focus on prevention measures, which must include an agreed upon definition of prevention and whose role it is.

7.1.5.2 Harm Reduction

Three respondents stated that a lack of harm reduction measures poses further problems for individuals who have become opioid-dependent. Two of those individuals stated that, aside from MMT, there are no tactics to reduce the harms associated with opioid dependence, and with a lack of supervised injection sites, further health problems emerge as users engage in high risk behaviour such as needle sharing. One interviewee suggested that greater investment in broader harm reduction, including supervised consumption sites, may reduce the risks associated with opioid use. Another interviewee suggested focusing resources toward harm reduction services, including the distribution of bleach kits and clean needles, harm reduction in prisons, and scaling up other services such as supervised injection.

7.1.6 Surveillance and Monitoring

7.1.6.1 Population-Level Data

Twelve respondents commented on the lack of population level data available in BC to identify and understand the scope of illegal use of opioids. Three participants stated that most of the available data is regarding overdose/mortality rates and does not provide real-time information or early indicators of opioid misuse in different populations in situations where overdose or death did not occur. One respondent stated that, despite this issue, BC is still ahead of most provinces in terms of tracking opioid misuse. Another respondent stated that opioid prescribing in BC is lower than in other provinces, but noted that there is no hard data to support this claim. Coroner's data was mentioned by two respondents as valuable information in pinpointing opioid related harm demographics and identifying potentially lethal batches of opioids released for street use. Two participants acknowledged that coroner's data does not disaggregate between illegal, prescription or non-prescription opioids, and one stated that, as a result, it may be difficult to get an accurate picture of the type of problematic use that is occurring.

7.1.6.2 Research and Evaluation

Three respondents emphasized the lack of research on the long-term use of opioids. Two of those individuals noted that most research on the use of opioids for chronic pain averaged from five to 16 weeks in length and one stated that high-risk patients, such as those with mental illness or individuals taking other substances, are excluded from research studies. Another respondent

suggested that a long-term research plan should be developed to collect concrete evidence on opioids for future program and policy planning.

Five respondents said that there is no system of measurement to assess the outcomes of policy and program initiatives in terms of how many people they are helping. One respondent posited that, as life expectancy increases, people will be on pain medications for longer and at increasingly high doses, and suggested that more work needs to be done to collect data in a systematic way. Two respondents emphasized the need for federal government investment in surveillance systems, suggesting that improved monitoring and data collection be included as part of the federal budget.

7.1.6.3 Evidence-Based Decision Making

The National Opioid Use Guideline Group (NOUGG) guidelines (i.e. the *Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain*) were mentioned by five respondents as a go-to resource for program and policy development. However, three participants indicated that the prescribing guidelines are generally based on the consensus of NOUGG members rather than on research and evidence. One respondent stated that the NOUGG guidelines are upsetting, as they suggest that physicians should closely watch patients only when their opioid prescription reaches the 200 milligram morphine equivalent watchful dose. This respondent urged that dependence or addiction will likely already exist at that point, and beyond 120 milligrams morphine equivalent there is virtually no improvement in function for chronic pain sufferers, though side effects increase. From 80-120 milligrams morphine equivalent, this respondent stated that the likelihood of overdose and death increase exponentially. This respondent suggested rethinking 200 milligrams as a watchful dose.

Four respondents expressed concern at the lack of evidence and clinical trials to support how opioids should be prescribed. Two respondents noted that the equi-analgesic dose (i.e. a dose of one prescription that is equal to another analgesic in terms of pain relief) is not standardized. As doses are different for chronic and acute pain, these respondents expressed concern that chronic pain may be over-dosed, and that switching between drugs may cause overdose as the morphine equivalent, or equi-analgesic dose, is not equal across drug formulations. Another respondent suggested that more evidence is required to change prescribing practices in order to maximize opioid related outcomes and minimize harms.

7.2 Education

There was consensus among interview respondents that education on opioids is significantly lacking at every level. Physician education and support was the primary concern for most respondents, while others focused on pain education and a lack of public awareness regarding the benefits and harms of opioids. In total, 17 respondents mentioned education in their interviews; their responses are explored in the following section.

7.2.1 Physician Education

Six respondents discussed the lack of training provided to physicians in medical school regarding opioid prescribing and the biomechanics of pain and addiction. Two respondents stated that education on pain and prescribing exists, though it is not mandated. Therefore, many professionals may not have sufficient knowledge of the medications they prescribe unless they choose to pursue further education. Two respondents acknowledged the availability of prescribing guidelines for physicians but expressed concern that, without education, prescribers may know *what* to do but not *how* to properly implement those guidelines. One respondent stated that education should also include when not to prescribe opioids, and should focus on prevention rather than treatment.

According to three of the participants, a lack of education may lead to overprescribing, or medical professionals may not prescribe opioids to those who could benefit from them. One participant stated that if pain management is not properly understood, medical professionals will shy away from opioids, despite their benefits, due to a lack of understanding. Another respondent stated that, as much as possible, education and guidelines should provide bottom line answers for physicians with regard to opioid prescribing to address alignment issues; that is, to prevent overprescribing or a fear of prescribing opioids. A lack of education, according to one participant, is dangerous as physicians may not know how to properly mix medications, switch from one type of opioid to another, or appropriately taper a patient off of opioid therapy.

Two interviewees highlighted the fact that most physician education around opioids is sponsored by the pharmaceutical industry and may be biased, though it is often the only option available to those who would like to pursue opioid education. One participant also stated that advocacy programs are often funded by industry and may also be biased. Three respondents suggested extra training for physicians on prescribing and overdose prevention. One respondent suggested that because methadone education and training is helpful for physicians, this type of training should be generalized to all opioids.

One participant discussed the importance of education so that physicians do not refer patients to pain clinics when it is not necessary, which results in increased wait times, leaving patients without proper care. Two participants discussed developing education that would teach prescribers that prescribing does not necessarily mean they are helping a patient, and urge them to ask critical questions when administering opioid therapy; i.e. is the drug improving function? Is it doing more *to* the person than it is *for* them? Another participant suggested that universities include in their research budgets funding to support pain research, as pain research is underfunded. It was also suggested that academic experts be invited to sit on professional education committees, and that an official mentorship program be initiated to increase knowledge transfer between prescribers and researchers.

7.2.1.1 Support Tools for Medical Service Providers

Ten respondents discussed the lack of support for physicians regarding opioid prescribing. In particular, four respondents were in agreement that prescribers need decision support services, including prescribing aids and practice tools that advise them on how to properly implement opioid therapy, and educational handouts to provide to patients. Conversely, one respondent noted that minimal support services do exist but, for the most part, are unfunded and are operated on a mentorship basis.

Three interviewees mentioned that the waitlists for pain clinics are too long, leaving physicians with nowhere to send patients that are assessed as high-risk for opioid misuse. According to one participant, some physicians have requested a resource list as they are unsure where to send pain patients to receive care. The doctor-patient contract (i.e. Pain Treatment Agreement) for opioid therapy was discussed by one participant who stated that physicians do not find this to be a useful tool, and suggested that more practical tools are required to assess patient use (see Appendix E). Another participant suggested that guidelines should be developed not just for prescribing opioids, but for healthcare practitioners and pharmacists so they know when and how to report potential abuse.

7.2.2 Pain Education

Five interviewees stated that there is little expertise among physicians about pain. One participant stated that the individuals who deal directly with pain (i.e. doctors, nurses, hospital workers) have no chronic pain education. Two respondents suggested that there is too much focus on addiction and addiction services, and noted that addiction specialists are not equipped to manage chronic pain. Moving forward, one of those respondents suggested that pain education should become a policy priority. Two respondents made a clear distinction between the harms of opioids and the harms of chronic pain. One of those respondents stated that, as the body builds up a tolerance to opioids, patients may experience a loss of hope resulting from their continued pain. In total, 14 respondents mentioned the potential dangers of long-term opioid therapy in the treatment of chronic pain, whereas three emphasized their usefulness in reducing the harms brought on by living with chronic pain.

7.2.3 Patient and Public Awareness

Five respondents suggested that there is not enough public awareness or education on the limited benefits and long-term effects of opioids. One respondent stated that opioids should not be seen as a panacea for pain. Another individual stated that most information that is provided to the public regarding opioids targets illegal users, and stated that information needs to target opiate-naive people, because the general public and those on prescription opioids will not listen to information regarding illegal use, as they may not see themselves as illegal users. Two respondents suggested that prescribers should educate patients on the negatives of opioids prior to initiating opioid treatment in order to manage patient expectations regarding the effects of

opioids, and improve knowledge on pain, addiction, and the safety of having opioids in the household.

Proper opioid messaging was discussed by four respondents. Two respondents mentioned that it is important to share with patients that not all pain needs a pill, while another suggested using poison control information, telling patients that one pill can kill. One respondent made a clear distinction on the three types of pain—including acute, palliative, and chronic non-cancer—and, along with another respondent, stated that there is no such thing as a pain killer for chronic pain. Two respondents mentioned that evidence for chronic pain shows that only 30 percent of chronic pain patients respond to opioid therapy, and in those that do, there is only a 30 percent decrease in the pain they experience. When balancing this against harms, these respondents suggest that the risks of opioid therapy for chronic pain may outweigh the benefits. One respondent suggested improving school-based approaches to drugs, as they are currently too moralistic and do not reach youth who most need the education. This participant proposed changing the theme of school-based education from an exclusive focus on abstinence to include harm reduction.

7.2.4 Academic Detailing (Education Outreach)

Four respondents discussed BC's opioid academic detailing efforts—wherein pharmacists visit physician's offices on a voluntary basis to provide one-on-one education. Obtaining agreement on opioids as a topic for AD was mentioned by two respondents as a success of the program. Another respondent stated that AD generally leads to a decrease in prescribing by four to six percent, and credited the AD program's educational materials with that success, which provide key messages about the benefits and harms of each featured drug.

All four respondents who discussed academic detailing mentioned its limitations. Three respondents mentioned that, with limited resources and a limited scope, AD can only focus on chronic pain and excludes issues such as palliative care, acute pain, and addiction. One respondent mentioned that AD does not address non-opioid pain measures, such as physiotherapy or massage, and another stated that without being able to obtain information on individual prescribers (i.e. through PharmaNet), it is difficult to tailor AD messaging—that is, to know whether to promote or discourage opioid prescribing to each individual physician.

7.3 Managing Opioid Use and Prescribing

When asked about the gaps and successes of current policies and programs regarding opioid management in BC, interview participants were varied in their responses depending on their experience and area of expertise. While some respondents focused on treatment options to manage the use of opioids, others focused on the administrative tools used to monitor prescribing. The following section outlines the responses provided by participants and it discusses the tools that are most commonly use to manage opioid use and prescribing in BC.

7.3.1 Treatment and Overdose Support Services

7.3.1.1 Methadone

In total, 11 respondents mentioned methadone as a positive treatment option for individuals who are opioid-dependent. Four of those individuals stated that there are not enough methadone prescribers, though there was no consensus on the reasoning behind this. Two individuals stated that doctors find it a hassle to become certified as a methadone prescriber, as it requires an exemption under the *Controlled Drugs and Substances Act*. One individual suggested that physicians shy away from prescribing as methadone patients are difficult to deal with, while another individual suggested that the extra time and effort required to obtain a license to prescribe methadone is too much effort if methadone is not their primary focus.

Three individuals discussed the 2008/09 critical review of BC's methadone system as a positive, highlighting a number of improvements as a result of the review, including guidelines for physicians and pharmacists when dispensing methadone. According to these respondents, the review also resulted in an action item in BC's *Healthy Minds, Healthy People* initiative, to "enhance and improve B.C.'s methadone maintenance treatment system (including medical, pharmaceutical and psychosocial support components)" (Government of British Columbia, 2010, p. 33). However, three individuals argued that there is still a need for additional substitution therapy options, and stated that BC is behind on new approaches such as heroin prescription and buprenorphine/naloxone (Suboxone^{TM}), which have been used in other jurisdictions.

Three respondents discussed the issues faced by First Nations communities regarding methadone maintenance treatment, in particular, limited access to methadone in remote and rural communities. Two individuals stated that First Nations individuals in remote areas are forced to travel long distances to receive appropriate care and services. One respondent stated that there are about 20 remote communities in BC that have trouble accessing both physicians and pharmacies, and are unable to get the care or medication that they need close to home. One respondent also stated that methadone, and other opioids used to treat chronic pain, are overprescribed in First Nations communities at rates higher than the general public. As these populations are often underserved, this respondent indicated that the problem of overprescribing and overuse is all the more complex. Another respondent noted that MMT in Canadian prisons is not currently an effective program and needs to be scaled up. This respondent stated that MMT services are not private, so inmates may not access it if they think they will face scrutiny from prison staff.

7.3.1.2 Naloxone

Seven respondents suggested increasing awareness of naloxone as a prevention tool for those at risk of opioid overdose. One respondent highlighted the need for overall awareness, so that pharmacists have naloxone available and in stock, and patients know to request the drug if they are concerned about an overdose. Two respondents mentioned the potential cost savings of using

naloxone, as it would prevent the need for emergency and acute care services in some situations. Three respondents mentioned BC's involvement in an overdose management pilot program, which distributes naloxone. One of these respondents stated that education through pilot programs such as this can reduce mortality rates, although the program needs more buy-in. Another respondent stated that the pilot is not designed to reach all demographics, such as opioid users in the prison system.

One respondent stated that BC is looking at pre-written orders for naloxone to be provided when an opioid prescription is issued. While one respondent stated that co-prescribing naloxone with opioid prescriptions would reduce the stigma associated with naloxone use, two others noted the legal liability that occurs when administering a dose of naloxone to someone who has overdosed. These participants noted that other jurisdictions, including Washington, New York, and California, among others, have implemented Good Samaritan laws, which exempt individuals from criminal charges if they call 911 for someone who has overdosed and are in possession of drugs. Two individuals stated that the jurisdictional and legal liabilities for naloxone, and how it is scheduled and approved, should be changed to enable over-the-counter access to the drug, as the current therapeutic drug directorate does not allow pharmacists to prescribe naloxone.

To increase access to naloxone, one respondent suggested instituting medical directives to allow physicians to designate people to distribute naloxone. However, another respondent emphasized the challenge of getting stakeholders (e.g. government, medical colleges) on the same page. Aside from a lack of availability, this respondent identified time as a barrier to the successful implementation of programs and services regarding naloxone. This respondent stated that a particular barrier for naloxone is its generic status; because the patent has run out, drug companies are not interested in manufacturing it, and because it is generic, it will not be covered under PharmaCare without a specific request to have it added to the formulary. This participant did note that efforts are currently being put toward adding naloxone to the PharmaCare formulary. .

7.3.2 Prescription Monitoring

7.3.2.1 PharmaNet

Nine interviewees spoke to the success of PharmaNet as a tool for tracking and monitoring prescriptions in BC. Three interviewees noted that the problem of opioid misuse in BC happens on a much smaller scale when compared to other provinces, such as Ontario, because of the PharmaNet system. One respondent mentioned that PharmaNet has led to a reduced ability to cheat the system, as each prescription that is filled in BC must be entered into the PharmaNet database, regardless of whether the drug is covered under PharmaCare or not.

Two respondents indicated that PharmaNet is useful because it is used to assess prescribing issues such as mixing prescriptions and overprescribing. To make the system even more

effective, one respondent suggested the development of a PharmaNet alert system, which would notify BC's medical colleges (Pharmacists, Physicians and Surgeons, and Dentists etc.) if a prescription was presented to a pharmacist that raised red flags based on key indicators. Key indicators, as stated by this respondent, may include geographic region, multiple prescriptions for the same drug, multiple pharmacists used by one person, number of pills obtained by an individual per year or at one time, number of pills prescribed by one physician, or one person filling opioid prescriptions for a number of other people.

Three individuals noted the success of PharmaNet via the Prescription Review Program, run by the College of Physicians and Surgeons of BC, which uses PharmaNet to look at the individual prescribing habits of physicians. One respondent identified that there are still gaps to be filled, and suggested that physicians should be required to have direct access to the PharmaNet database so they have real-time information on patients to who may be filling a number of prescriptions. Another respondent stated that, aside from the College of Physicians and Surgeons and the College of Pharmacists of BC, no other regulatory body has access to PharmaNet data, meaning that real-time data on inappropriate prescribing is unavailable for other regulatory bodies to take action against inappropriate prescribing and use.

7.3.2.2 Duplicate Prescription Pads

Three respondents mentioned duplicate prescription pads during their interview, though there was no consensus on their effectiveness. Two individuals argued that duplicate prescription pads were one of the successes leading to lower rates of opioid prescribing and misuse in BC. One respondent stated that the duplicate prescription program is useless, as it is simply a form of data collection rather than action. This participant stated that little is being done with the data that is collected, and suggested that real time information is needed for reviews of prescriptions to provide a useful and current analysis of opioid prescribing.

7.4 Future Program and Policy Development Considerations

Respondent's views about the future direction of opioid related policy in BC were an essential component of this research. In discussing the way forward regarding program and policy development, there was consensus among participants on general themes such as leadership, communication and information sharing, and the need for integrated services. However, while some participants emerged as proponents of a national strategy, others urged that one strategy would be unable to manage both provincial and federal needs. Generally, participants agreed that some form of federal involvement is crucial, though the federal government's capacity to manage the issue at the provincial level is limited. The following section explores policy and program development considerations for more targeted and effective initiatives, as discussed by interview participants.

7.4.1 Provincial Leadership

Six participants discussed the notion that the BC provincial government should take a leadership role in developing a comprehensive opioid management strategy. One respondent suggested that the province take the lead on a provincial pain strategy with opioids as a major topic. Another respondent emphasized that, regardless of the specific focus of a provincial strategy, new policies should not limit the availability of opioids, but acknowledge their benefits and minimize harms. Four of these six respondents suggested the establishment of a provincial agency, or central group that would coordinate opioid related issues and solutions. According to one individual, this agency would be tasked with program development for harm reduction and treatment, and would provide knowledge and leadership. Two individuals argued that such an agency should remain separate from BC's health authorities, as each health authority has its own priorities so programs may get lost between them. Another individual stated that such an agency would require a clear mandate to monitor issues related to substance use and that the agency must be adequately resourced.

7.4.1.1 Federal Involvement

Three respondents proposed federal-provincial partnerships in the development of an opioid strategy. Two participants recommended that the provinces and territories work together towards a national strategy using other jurisdictions as models for policy and program development. One of those individuals recommended setting up national centres, which would be responsible for epidemiological research that is shared between provinces. This individual argued for independent data collection/research agencies and stated that these centres should not be run by the Public Health Agency of Canada.

7.4.2 Communication and Information Sharing

There was general consensus among interview participants that communication and information sharing are key components of a successful opioid management strategy. Ten interviewees described the importance of communication between agencies and service providers to allow for opportunities to learn from one another and encourage knowledge exchange between professions on all aspects of opioid use. Communication between provincial and federal agencies was named specifically by two individuals as an important next step in combating opioid misuse. One of those participants acknowledged that, due to privacy laws, the federal government (i.e. Health Canada) is unable to share information regarding opioid misuse and diversion even if data is available. This participant also posited that sharing information and intelligence between the provincial and federal governments could cut costs in half because work would not have to be duplicated. One respondent highlighted the importance of transparent information, acknowledging that information is sometimes shared between organizations unofficially, but policies cannot be developed with unofficial information.

Five individuals indicated that a collaborative approach would be useful in facilitating open communication between organizations regarding what is already being done with respect to

opioids and ensuring that trends in opioid use are known. Two individuals stated that they were unaware of any data available specific to opioids, and expressed that they would like access to coroner's and police data, and any other available information through a central location. One participant described that lack of available information on pain and addiction clinics, and stated that information on what community services exist should be available and easily accessible.

Two individuals brought up the need for more communication between pharmacists and the College of Physicians and Surgeons of BC in reporting potential misuse or overprescribing. One individual mentioned the need for increased collaboration between government and law enforcement agencies, noting that police failure to properly plan may result in opioid dependent individuals receiving jail time rather than treatment services, which will increase harms. Four respondents acknowledged that their organization or program area only addresses one piece of a much larger problem, and that working in isolation will not serve to improve opioid related outcomes.

Three respondents specified that government needs to ensure the inclusion of all necessary stakeholders in policy and program development considerations. One respondent noted that nurse practitioners should be included in general practice information sessions and should be provided with the same tools and resources as physicians, especially since nurse practitioners will be able to prescribe opioids to patients in 2013. Two participants stated that, while BC has been successful in indirectly supporting First Nations (i.e. through the Tripartite Framework Agreement on First Nations Health), First Nations must continue to be consulted as policies are discussed.

One participant noted that, as well as First Nations, patient perspectives must also be included in policy discussions, and that forums for public discourse must be created to enable open discussions on the harms of criminalization and how to improve health and social justice systems. This respondent urged that the social determinants of health must be addressed, and that public discourse that focuses on public health issues may instigate more effective responses to opioid dependency. This respondent also noted that public health and public safety issues increasingly call for approaches with concrete deadlines that track progress and measure outcomes. Another participant commented that there are efforts to create a government policy framework that looks at substance use and creates a platform where all of the systems that are responding to opioid dependence and the factors that surround it (e.g. the *Controlled Drugs and Substances Act*) can collaborate.

7.4.3 Integrated Services

Participants agreed that integrated services should be a primary focus of future provincial policy initiatives. Seven respondents stated that a full suite of harm reduction and chronic pain services should be available to those being prescribed opioids for chronic pain, which would focus on an array of health needs and de-emphasizes drugs. Three respondents stated that individuals with pain as well as dependency issues may not have their needs met, as pain and addiction services

do not currently work in conjunction with one another. Two respondents emphasized the need for better contact and overlap between pain and addiction services to achieve effective pain management for patients while minimizing the potential for harms.

Eight respondents suggested the creation tertiary care facilities that integrate mental health and addictions services. These respondents suggested in and outpatient services including substitution therapy and counseling/psychotherapy, with access to pain specialists, addiction specialists, and nurse practitioners. Three participants mentioned coordinated and interdisciplinary care that is longitudinal, from youth to elderly care, which spans from prevention to treatment and involves general practitioners. Another individual suggested developing community-based opioid prescribing clinics, which would be based on referrals from pain specialists, to lessen the demand on walk-in clinics and pain clinics simply to fill prescriptions. According to one participant, pain clinics should not be about drugs.Rather, they should explore alternatives to find the most appropriate pain management techniques for each individual patient, with psychological counseling as a primary tool. Two respondents suggested that these services be integrated with health authorities and housing services to address the comprehensive set of needs that arise with chronic pain, opioid use, and dependency.

There was consensus among participants regarding the challenges involved in the development of integrated services. One respondent noted the federal requirements around methadone prescribing which make it difficult to integrate MMT services into other services, while another respondent noted the difficulties in getting local government buy-in for MMT, as municipal bylaws prevent MMT doctors from opening practices in some communities. Four other interviewees discussed the idea that addiction support services are disjointed from public policy and that the disciplines that are involved in addiction services are currently working in isolation. Two of the four respondents highlighted differing viewpoints as a barrier to integration of services, and a lack of a big picture view for the system to support continuity. Lastly, two participants identified the difficulties that arise for continuing care services, as high-risk individuals and street populations have complex care needs and are not able to reach services on a regular basis. One of those respondents stated that there are no primary health care providers available for people on the street, and another individual noted that most street drug users are on multiple drugs, so services designed specifically to deal with opioid use would be ineffective in providing proper care.

7.5 Summary of Findings

This chapter thematically outlined the findings from 25 interviews with physicians, policy makers, researchers, and other individuals to provide an overview of common conceptions of opioid management in BC. The interviews provided respondents the opportunity to discuss their ideas for the development of future programs and policies, keeping in mind the gaps in current practice. Participants acknowledged that, while the scope of this issue is significant, systemic

barriers can be addressed to better serve the needs of British Columbians with regard to the opioids.

Participants discussed a number of barriers to treatment, policy and program development and highlighted both systemic and ideological issues, such as stigma and enforcement-based approaches, which promote criminalization and hinder harm reduction initiatives. Participants emphasized the need for open communication between government, researchers, physicians, patients, advocacy groups, and the general public. While federal involvement in policy development was discussed, a provincial leadership structure that includes a central coordinating agency was the primary focus of most participants who highlighted this as a priority.

There was recognition amongst participants that current educational practices contribute to opioid related harms, and that the tools available to manage opioid use and prescribing are insufficient in providing medical service providers with the knowledge and assistance that they need to maximize safe and effective opioid use. Educating pain patients, as well as the general public, on the potential dangers of opioids was discussed by a number of respondents, so that critical information reaches everyone that may come in contact with opioids, rather than those individuals who may be considered drug users. A lack of population-level data was mentioned in a number of interviews as a significant downfall in BC's current response to opioid related issues, as it not only portrays an inaccurate view of the current situation, but contributes to the development of policies and programs that do not focus on the right issues and populations. Participants continually stressed the importance of data collection to pinpoint specific issues so that they can be properly addressed in a time-efficient manner.

Integrated services were a primary topic of discussion across interviews, with a significant number of respondents highlighting the connection between mental health and addiction issues. These respondents suggested that the correlation between mental health and addiction, and the complex care needs that occur as a result, require care services that address a comprehensive range of needs, but also include prevention. While the exact nature of these proposed services was not agreed upon (i.e. independent or integrated into health authorities), there was broad support for care facilities that would establish a primary location for all the needs required by opioid patients and users, from basic education to chronic pain and dependency services for youth, adults, and the elderly.

8. Discussion

The purpose of this report is to determine how government can best support effective and efficient management of the benefits and harms of opioids. The previous chapters of this report have identified the prevalence of opioid use in Canada, the barriers that prevent effective and efficient opioid management, and suggestions for potential solutions as provided in the literature. This chapter presents a discussion of the stakeholder interview findings in relation to the literature, and consists of two primary sections which consider the most commonly discussed themes that are the most relevant in the BC context. The first section discusses the attitudes of professionals relating to opioid use. Specifically, it discusses how opioid related harms can stem from gaps in knowledge and education, and how the health system can contribute to harm through limited services and inadequate data collection. The second section discusses primary considerations for policy development, and considers regulatory frameworks and mechanisms that can be used to facilitate harm reduction with a focus on British Columbia. The resources highlighted in the discussion emphasize a harm reduction approach in order to maximize the benefits of opioid use while minimizing and mitigating harms, and incorporates interview responses to consider opportunities for future policy direction.

8.1 Attitudes of Professionals towards Opioids

While there are varying philosophies on what is considered appropriate opioid use throughout this research, the idea that the harms associated with opioid use are a significant problem in Canada is supported by both the interview findings and the literature (CCSA, 2012a; Fischer, Rehm, Patra and Firestone Cruz, 2006). No single issue was identified as being primarily responsible for increases in opioid harms in recent years. However, a number of issues were discussed which contribute to opioid misuse and related harms. The following section provides a discussion of the primary issues resulting in opioid misuse and negative health outcomes from the perspective professionals in the health field. Such issues include overprescribing, limited research and evidence-based practice, and a lack of system coordination.

8.1.1 Prescribing

Opioids are crucial in managing chronic non-cancer pain, which can result in a decrease in physical as well as emotional health and well-being (Booth, 1996; Gallagher, 2008; Nicholson, 2008). Interview participants did not dispute the usefulness of opioids in lessening severe pain, but stated that prescribing accountability is needed, and suggested that public health consequences may arise if there are no mechanisms to increase safe prescribing. As opioid use continues, an individual's tolerance builds, leading to increasing doses and increasing health risks (Whistler, 2012). With 50 percent of patients reporting that long-acting analgesics do not properly control their pain (Nicholson, 2008), the efficacy of opioid therapy, particularly over the long-term, is questionable.

The views on opioid use and prescribing varied in both the interviews and the literature depending on the discipline and context in which opioids were discussed. Medical practitioners

and researchers primarily discussed opioids in the context of treatment for chronic non-cancer pain, particularly with regard to their efficacy over time, except for instances involving injury-related acute pain, in which case aggressive, short-term opioid use is said to be the most effective and carry the least risk (Rothfels et al., n.d.). Policy makers focused primarily on opioid regulations, programs and services, and guidelines that have been developed to facilitate safe prescribing when administering opioid therapy. However, researchers argued that, while there have been improvements to practice guidelines, the number of opioids being prescribed has not decreased, and there is no way to ensure that prescribers adhere to or understand the guidelines (Fischer, Jones, Murray and Rehm, 2011; Von Korff, Kolodny, Deyo and Chou, 2011). The most successful initiatives, according to the interview findings, are ones with measureable outcomes and a foundation built on evidence.

In general, there was agreement that opioids are overprescribed in BC. Increases in opioid prescribing and dosage amounts result in increases in misuse and associated health consequences, including death (Dhalla, Mamdani, Gomes and Juurlink, 2011; Kahan, Mailis-Gagnon, Wilson and Srivistava, 2011; Kenan, Mack and Paulozzi, 2012; Von Korff, Kolodny, Deyo and Chou, 2011). Though perspectives differed on how opioids should be used to manage pain, if at all, there was no question that risks of long-term opioid use have not been sufficiently studied. To successfully minimize opioid prescribing, greater accountability is needed for prescribers, and further evidence is required to weigh benefits against risks (Von Korff et al., 2011).

As the system linking BC pharmacies to a central database, PharmaNet has the capacity to flag potential drug interactions, but is not set up to flag potential overprescribing or overuse by a particular individual (BC Ministry of Health, n.d. a). While there was agreement among interviewees that PharmaNet is a vital component in identifying potential overprescribing and overuse, interview respondents felt that PharmaNet would be more effective if it used key indicators to flag potentially inappropriate or excessive prescriptions. Used as part of the Prescription Review Program, PharmaNet helps to identify questionable prescribing habits of physicians. However, access to the database is currently limited.

Both the literature and the interview data suggest that addressing opioid overprescribing and identifying a level of safe and effective use is needed to decrease misuse and reduce opioid related harms (Von Korff, Kolodny, Deyo and Chou, 2011). While there was no consensus regarding a particular way to address overprescribing, there was general agreement that overprescribing and misuse of opioids occurs for a number of different reasons, including a lack of education, minimal decision support tools, a lack of available opioid alternatives, and a limited evidence base for prescribers (Von Korff, Kolodny, Deyo and Chou, 2011).

8.1.1.1 Physician Education, Support, and Evidence-Based Practice

Opioid education is lacking at every level. There was agreement between the researchers and the interviewees that opioid pharmacology and pain management education is minimal in Canadian

medical schools. Interview findings highlighted that current approaches in BC place too much emphasis on addiction, resulting in little to no expertise among physicians about pain. A lack of education may lead to overprescribing, or a fear of prescribing opioids, causing risk to patients and resulting in improper patient care (Adams, 2012; Von Korff, Kolodny; Deyo and Chou, 2011). Interview respondents further stated that a lack of education leads to patients being referred to pain clinics unnecessarily, placing undue hardship on medical services.

The need for physician education on opioids is exemplified by the numerous prescribing guidelines which have been developed to assist physicians in administering opioid therapy. However, the equi-analgesic dose for opioids is not standardized and there continues to be a lack of agreement among researchers on the appropriate dosage, and for how long opioids should be prescribed. The majority of recommendations for opioid use and prescribing are based on low quality evidence and no long-term studies have been conducted in order to assess the efficacy of opioids over time (Dhalla, Persaud and Juurlink, 2011; Von Korff, Kolodny, Deyo and Chou, 2011). Safe and appropriate doses are different for chronic and acute pain. If opioid therapy is not properly administered, chronic pain may be over-dosed, leading to health consequences for patients. Interview participants generally agreed that accessible, bottom-line educational materials on opioids are needed for prescribers. However, there was no agreement on whether opioids are appropriate for long-term use in patients with chronic pain, or whether the 200mg morphine equivalent is a safe and appropriate threshold to manage pain while minimizing harms.

A shared concern in the literature and interview data is that, other than prescribing, physicians are not provided with tools to assist patients in managing pain. Educational materials, such as a decision support tool kit, would be useful for healthcare professionals to administer opioid therapy (Buxton, Purssell, Gibson and Tzemis, 2012) and should be available to all healthcare practitioners to educate their patients. Support tools such as the Opioid Manager—which includes how to initiate and taper opioid therapy—exist to assist prescribers with opioid therapy initiation, maintenance, and discontinuation (McMaster University, 2012). Interviewees agreed that the Opioid Manager is a useful tool, though not all participants were aware of its existence, and others questioned the inclusion of 200mg morphine equivalent as an appropriate watchful dose. There was disagreement among participants regarding what tools are most important for prescribers. Whereas some discussed support tools such as prescribing aids and educational materials, others suggested guidelines for reporting potential opioid abuse and overprescribing. Participants and researchers generally agree, however, that if education on the safe and effective use of opioids is made a priority, then prevention becomes a policy focus.

The pharmaceutical industry influences the way healthcare practitioners prescribe, as they are a primary source of education and information on prescription drugs for prescribers (Katz et al., 2007; Lexchin, 1993; Van Zee, 2009). While other jurisdictions such as the US have mandated the pharmaceutical industry to fund continuing (optional) education on opioids for physicians, researchers and experts in BC suggest that industry sponsored education is biased (Angell,

2004), and the optional nature of education that is available does not ensure that prescribers will engage in opioid education.

8.1.1.2 Prevention: Patient Education and Opioid Alternatives

In both the literature and the interview findings, emphasis was placed on developing healthcare practitioner education, as these individuals are not only responsible for prescribing opioid medications, but also for educating patients on appropriate use, dosage, and storage of prescriptions. However, opportunities for opioid education must not only be provided to health professionals, but also to patients in order to raise awareness and effectively minimize opioid related harms (Kerr and Wood, 2009; Von Korff, Kolodny, Deyo and Chou, 2011). The interview findings suggest that healthcare practitioners should be teaching their patients self-care techniques. Self-care education would enable patients to identify different types of pain so they understand how to take medications responsibly.

Due to inconsistencies in quality, patient education on opioid use appears to be inefficient (Kerr and Wood, 2009). Interview respondents and the literature described the inconsequential nature of educational approaches that are targeted at illegal users and not those who use opioids as prescribed, but may still be at risk of dependence (Kerr and Wood, 2009). Interview respondents expressed further concern at the lack of patient awareness and education on the limited benefits of opioid medications for chronic pain. In their view, the goal of patient education is to manage patient expectations of the potential outcomes of opioid therapy and increase the safetyof having opioids in the household. Researchers and interviewees agreed that in order to increase the efficacy of educational approaches and maximize harm reduction, healthcare practitioners need to discuss the risks and benefits of opioid use with their patients, and must not only focus efforts on high-risk individuals.

Prevention and delaying the onset of drug use is one of the pillars of harm reduction (CARBC, 2006). According to the interview findings, one way to encourage prevention and reduce opioid related harms is to increase the knowledge base on opioid alternatives and non-drug measures for patients. However, there are few mechanisms in place to encourage non-drug measures, as limited effort has been invested in developing non-drug options for pain management. Although researchers questioned the efficacy of opioid use for chronic non-cancer pain, there was no commentary on the use of non-drug measures. Participants emphasized concerns regarding a lack of opioid alternatives, citing the fee-for-service model as a primary barrier to increasing opportunities for patients to explore non-drug measures with their physicians.

Participants suggested that the fee-for-service model deters prescribers from exploring alternatives by encouraging volume over quality of care. Potentially safer measures are less likely to be explored because finding an appropriate and successful alternative requires the time to get to know each patient, exploring their lifestyle, and explaining the options available to them to suit their particular needs. As part of the fee-for-service issue, interview findings also addressed the absence of MSP billing codes as a significant barrier to patient care, as physicians

are unable to bill their time for prescription counseling, pain counseling, and exploring opioid alternatives. Pain management requires compassionate care that considers all of the benefits and harms of opioids (Fischer, Rehm, Goldman and Popova, 2008; Miller, 2012; Von Korff, Kolodny, Deyo and Chou, 2011). However, participants indicated that when physicians are unable to bill for the services they provide, there is no incentive to explore alternatives and potentially safer options. They further suggested that non-drug measures are less desirable for many patients who cannot afford to pay out-of-pocket for alternative services not covered under their healthcare plans. The lack of resources put towards opioid alternatives for pain management encourages high prescribing rates and undermines harm reduction efforts.

8.1.2 Data Collection and Information Sharing

Gaps in knowledge, resulting from limited research and an inadequate evidence base, contribute to opioid related harms (Chou, Ballantyne, Fancuillo, Fines and Miaskowski, 2009; Fischer, Rehm, Goldman and Popova, 2008; Miller, 2012; Von Korff, Kolodny, Deyo and Chou, 2011). A lack of population-level data prevents proper assessment of the scope and severity of opioid use in Canada (Fischer, Rehm, Goldman and Popova, 2008; Furlan, Reardon Dip and Weppler, 2010) creating challenges when developing policies and interventions. Although BC is ahead of most provinces in researching opioid issues, the interview findings support the literature in suggesting that, by focusing on building a stronger evidence base with regard to opioids, BC would be in a better position to maximize the benefits of opioids while minimizing risk and mitigating harms.

The literature revealed very little research on the prevalence of opioid use in First Nations communities in BC, and the prevalence of prescription opioid misuse among youth. The findings agreed, acknowledging the lack of specific population data, but argue that limited resources prevent the expansion of programs that monitor opioid use. The interview findings also suggest that a long-term research plan is needed to assist in future program and policy development.

The development of population surveys and regular collection of morbidity and mortality data would paint a more accurate picture of opioid use in BC (Fischer, Rehm, Goldman and Popova, 2008). Currently, data collection in BC, such as coroner's data and emergency room reports do not disaggregate illegal or prescription opioids, and cannot identify prescriptions that have been diverted for street use (Fischer, Rehm, Goldman and Popova, 2008), except when inferring such information from death investigations. Without knowing what types of opioids are resulting in overdoses and deaths, it is difficult to identify the sources of opioid related problems and implement appropriate interventions. CARBC's AOD monitoring project isolates specific types of opioids for high-risk, street-involved individuals (CCSA, 2010), but there is no research currently being conducted that isolates opioid use across populations to identify and compare trends throughout BC.

8.1.3 Communication and System Coordination

Overprescribing and overuse of opioids results in negative health outcomes for individuals and populations which are multi-faceted and require multi-system collaboration and intervention. Comorbidity is a public health concern because of the prevalence of drug use among those with mental health issues, as those individuals are more likely to use prescriptions for reasons other than prescribed (BCCDC, 2011). A successful opioid management strategy, then, is one that considers the relationship between mental health and substance use, and integrates an array of services to address these issues. Interview findings indicated that health system coordination includes increasing access to services for opioid dependent individuals, which include high-risk patients and are not abstinence-focused.

The literature revealed minimal information on collaboration and information sharing across organizations, though the interview findings highlighted this as a significant issue. Though certain information on opioid use is collected by various agencies, such as BC's regional health authorities, coroners, and the Ministry, it became apparent through the interview findings that this information is not always actively shared across organizations. Rather, drug research and patient data are pursued independently by different organizations, acting as a barrier to problem identification and intervention development.

Participants supported federal involvement in coordinating health systems through financial means, but suggested restricting policy implementation and service delivery to provincial authorities. There was agreement among interviewees that a lack of data sharing and data coordination between organizations leads to duplicated work and increasing health system costs. Participants further stated that communication across agencies would allow for knowledge exchange, promote collaboration, increase access to available information, and minimize duplication of work. Large scale coordination of health system data would require strong leadership to set priorities and manage program and policy development.

8.1.3.1 Integrated services

Public health issues that arise due to increasing opioid use have sparked interest in the development of integrated pain and addiction services. BC is establishing a foundation for integrated services related to opioids, as seen in the delivery of MMT, which is integrated with primary care, mental health and addictions services (Parkes and Reist, 2010). Interview findings suggest taking this a step further by offering a range of harm reduction services that de-emphasize prescription drug use. For illegal users and those who become opioid dependent, integrated mental health and addictions services such as tertiary care facilities that address multiple drug use and include substitution therapy and psychotherapy options appear to be a preference among interviewees. Both the literature and the findings noted the importance of care that includes all age groups and is prevention as well as treatment focused.

The literature revealed that other jurisdictions such as the United States and Australia have developed policies which encourage the development of integrated services and, as part of a risk

assessment, take into account the characteristics of each individual to decide whether prescriptions are the best available option (Australian Government, Department of Health and Ageing, n.d.; Executive Office of the President of the United States, n.d.). However, interview findings indicated a number of challenges in developing similar integrated services in BC, such as federal government requirements and regulations, local government buy-in, and access to services for high-risk individuals such as the homeless. In particular, high-risk individuals require integrated services that include housing and other social services to receive the care necessary to address opioid misuse and its health consequences. Further challenges arise due to differing viewpoints, creating barriers between disciplines and services. Whereas physicians work on the front line with patients experiencing pain on a day-to-day basis, policy makers and addictions service workers look at the population outcomes of drug use, often focusing on abstinence and discontinuation of drug use rather than acknowledging the benefits of harm reduction methods.

8.2 Broad Policy Considerations

For harm reduction to be successful, regulation and policy development must focus on prevention and education (Fischer and Rehm, 2009). However, a polarized view of opioids and opioid use creates challenges for developing best practices for safe and effective use. The following section provides a discussion of the literature and interview findings in relation to harm reduction and enforcement mentalities. It discusses the environment required to successfully implement harm reduction initiatives, and Canada's current direction with regard to drug policy.

8.2.1 Harm Reduction versus Enforcement

A consistent theme in the literature and interview findings was the idea that enforcement-based approaches are insufficient and create unintended consequences. International drug control conventions have not been successful in preventing illicit use (UNODC, 2008). Rather, they limit harm reduction services by encouraging enforcement-based approaches, and put forth the notion that harm reduction services facilitate drug use (Bewley-Taylor and Jelsma, 2012). However, while harm reduction aims to minimize drug use in those who fall into the low risk category, it attempts to eliminate drug use in high-risk users (CARBC, 2006). Taking this information into consideration, harm reduction does not condone drug use, but looks at ways to reduce harms to individuals who continue to use drugs despite regulatory and enforcement efforts.

Facilitating harm reduction and de-emphasizing enforcement has become the primary goal in a number of other jurisdictions such as the United States and the European Union. However, in spite of evidence against enforcement-based approaches and the apparent limitations seen in international law, Canada's National Anti-Drug Strategy is moving away from education and prevention toward stronger enforcement. This is exemplified by the implementation of stricter drug laws and harsher prison sentences for drug users. Proponents of the strategy speak to the federal government's efforts to establish and maintain prevention and treatment options for drug

users (Collin, 2006; Geddes, 2012) though the literature and interview findings indicate that cuts to public health funding speak volumes as to its true intentions—to strictly enforce regulations and decrease supply. However, in 2013 Canada will be enabling health professionals such as nurse practitioners to prescribe opioid medications (Health Canada, 2012). This may decrease the pressure on physicians and walk in clinics to prescribe opioids and provide patients with a more holistic approach to their care. Furthermore, as nurse practitioners are not paid on a fee-for-service basis, they may be better equipped to counsel patients on opioid alternatives.

A number of regulatory concerns were addressed by researchers and respondents, including privacy laws that prevent information sharing across jurisdictions (Miller, 2012), and the negative health and economic outcomes that occur as a result of broad, enforcement-based, federal policy. Whereas BC supports harm reduction initiatives such as Insite, which aims to reduce harms related to injection drug use and connect users with other health services (Vancouver Coastal Health, n.d.), the federal government's attempts to shut Insite down exemplify the divergence in policy goals and approaches to drug use in Canada. While this may support the idea of a national approach to streamline policy within Canada, interview findings indicate that population differences require targeted provincial and population-based approaches to opioid misuse.

There was consensus among participants that the *Controlled Drugs and Substances Act* creates barriers to harm reduction as it looks at dependence and addiction as a legal issue rather than a health issue, creating barriers to service for drug users and perpetuating harms (CCSA, 2012a). Further, regulations limit the availability of maintenance drugs such as methadone, and life-saving drugs such as naloxone and buprenorphine (Adams, 2012; CCSA, 2012a; College of Pharmacists of British Columbia, 2012). Participants support the literature in stating that availability of these drugs would increase access to treatment and improve health related outcomes (Buxton, Purssell, Gibson and Tzemis, 2012). Researchers have argued that an enforcement mentality creates stigma around opioids and opioid use, encouraging a focus on limiting supply and resulting in individual as well as broad public health consequences associated with high-risk drug use when users are put in prison (Collin, 2006; Thomas, 2005). However, the broad scope of regulations that create barriers for harm reduction cannot be addressed at once.

8.3 Summary

This chapter has discussed the findings from participant interviews in relation to relevant literature. There was general agreement between researchers and interviewees on the primary issues surrounding opioid management. Views differed among participants and among researchers, however, on the safety and efficacy of opioid use, and ways in which to manage opioid related issues. The primary issues discussed in this chapter include prescribing, education, data collection, and system coordination, all of which currently act as barriers to harm reduction.

Further, this chapter explored the differences between harm reduction and enforcement-based policy approaches in managing opioid related outcomes in BC. The majority of issues discussed in this chapter present the notion of a broad harm reduction perspective in BC. Canada's federal drug strategy, on the other hand, is encouraging enforcement methods, thereby maintaining the distance between provincial and federal policy goals. The concepts highlighted in this discussion form the basis for the recommendations presented to the Ministry in the following chapter.

9. Recommendations

This chapter presents recommendations developed for the British Columbia Ministry of Health, to answer the research question:

Given that opioids are useful for pain management and other medical purposes, how can government best support effective and efficient management of the benefits and harms associated with opioids?

Nine recommendations were developed based on a consideration of the research outlined in this report and the themes presented in the discussion chapter. They are organized into five sections which represent the broad policy goals that they are intended to fulfill. The recommendations are presented in order of increasing complexity. Together, these recommendations propose a strategy to address opioid misuse in British Columbia, with the goal of resulting in program and policy development that yields positive, impactful, and sustainable long-term health outcomes.

While it may not be possible at this time to implement all of these recommendations, recommendations two, six, and seven (shown with an asterisk below) would likely have the greatest impact in reducing opioid related harms in BC and could be given priority. These three recommendations were chosen because they address the primary issues discussed in this research, including overprescribing, a lack of education, and limited data. Recommendations two and seven also build on already existing mechanisms for addressing opioid related issues, thereby saving limited government resources.

Facilitate Appropriate Prescribing and Reduce Overprescribing

Recommendation 1: Develop an Opioid Toolkit for Health Professionals

As an extension of BC's Provincial Academic Detailing program (PAD), the Ministry could develop a toolkit that would provide all available and relevant information for the safe and effective prescribing and use of opioids. The toolkit would include:

- Decision support tools for administering opioid therapy including:
    - Physician-patient contract templates (for optional use)
    - Opioid prescribing guidelines
    - The Opioid Manager
    - Protocols for poly-drug use
    - Opioid conversion and drug mixing chart
    - A list of opioids covered under the Medical Services Plan
- Options for tapering or restricting opioid therapy, such as:
    - Information on the Restricted Claimant Program
- Information on opioid alternatives and referrals to services, such as:
    - Workshops for chronic pain

    - Physiotherapy, massage therapy, acupuncture, chiropractic services, naturopathic care
    - Contact information for mental health services
- Patient education support tools such as:
    - Strategies for counseling patients about the risks and benefits of opioid use and their responsibilities for proper use and storage

Toolkit design and implementation could be combined with the current development of the PAD program. The toolkit would be distributed to all physicians who participate in the PAD program, as well as being available online through the Ministry of Health website. Other channels of communication for distribution would also include health authorities, media, regulatory colleges, and word of mouth. Release of the toolkit could be targeted for spring, 2014.

***Recommendation 2: Broaden Access to PharmaNet**

The Ministry could broaden access to PharmaNet to include all medical professions in BC with opioid prescribing ability, including dentists, nurse practitioners, midwives, and podiatrists. As medical practitioners/physicians are currently allowed to register for access to PharmaNet providing they are in good standing with the CPSBC, the CPSBC could set a standard of practice which would require these individuals to establish direct PharmaNet access in their healthcare setting. PharmaNet complies with the *Freedom of Information and Privacy Protection Act*, and any health information obtained by physicians and medical practitioners is subject to the same privacy conditions as all health information. However, an additional Privacy Impact Assessment would be done to ensure broader access does not put patient information at risk.

Broadening access to PharmaNet for prescribers would improve patient care and promote safety by mitigating potentially dangerous drug interactions and duplications prior to a prescription being issued. Broader PharmaNet access would also increase prescribing accountability, as prescribers would have an up-to-date tool to assist them in deciding whether to provide opioid medications. Implementation of these changes could be targeted for winter, 2014.

Encourage Broad Harm Reduction Practices

Recommendation 3: Develop a Strategy to Reduce Policy, Service and Legal Barriers to Harm Reduction

The production, prescribing, and use of opioids are subject to multiple layers of regulatory oversight by the federal, provincial, and municipal governments. The Ministry could develop a strategy to facilitate the development of opioid-specific harm reduction services in BC. The strategy would lay out objectives and timelines for the implementation of opioid related services, with the goal of addressing regulatory gaps and reducing barriers to harm reduction.

The strategy would operate as part of the *Healthy Minds, Healthy People* initiative run by the Ministry to ensure that the development of opioid related services is in line with the Province's

long-term health goals. Specifically, the strategy would build on the goals presented in *Healthy Minds, Healthy People,* including improving the quality and accessibility of services for those with mental health and substance use issues, and reducing the current resulting economic burden.

Additionally, the strategy would encourage federal, provincial, and local government collaboration to facilitate communication and minimize jurisdictional barriers to policy and program development. This would include working groups and conferences, placing emphasis on the regulatory and jurisdictional barriers that impede harm reduction practices. For effective programs and services to be developed, there must be an understanding of the environment and boundaries in which they operate. By having a clear understanding of each jurisdiction's legal and health-related goals, the Ministry and its partners will be able to take the necessary steps to plan appropriate strategies that consider potential barriers to success. The development of this strategy would include consultations with the public, including First Nations. The targeted implementation date for this strategy would be November 1st, 2013, which coincides with the release of the annual progress report on *Healthy Minds, Healthy People,* to ensure that the outcomes of this strategy are monitored.

Increase Health Professionals' and Patients' Knowledge Levels

Recommendation 4: Include Pain Counseling/Education as an Insured Medical Service
The Ministry could consider remunerating physicians for their time spent providing opioid and opioid alternative education to pain patients by adding pain education as an insured medical service. This would increase the likelihood that physicians will educate patients on the safe and effective use of opioids, opioid alternatives, and self-care.

The Ministry and the BC Medical Association negotiate the schedule of benefits to be paid under the Medical Services Plan on a regular basis, as needed. Section 51 of the *Medicare Protection Act* (the Act) provides authority to specify the services rendered by healthcare providers that are considered benefits under the Act. A negotiation to add pain education as an insured service could be targeted for summer, 2013, to be in force by 2014. This time frame allows for consultations with the BC Medical Association as well as the development of a communications plan to alert physicians to the change.

Recommendation 5: Explore Public Funding for Non-Drug Measures
In an effort to encourage opioid alternatives, the Ministry could consider re-evaluating its Medical Services Plan to include coverage for non-drug therapy options for those with chronic non-cancer pain. Alternative services may include physiotherapy, acupuncture, counseling, chiropractic services, massage therapy, or naturopathic care. This option would require consultations between the Ministry and service providers to identify alternative therapies which may be covered, and would be presented to the Health Minister for approval.

This recommendation may relieve pressure on medical services in BC, particularly walk in clinics and pain clinics, as it is prevention focused and removes the sole responsibility for pain

management away from prescribers. The targeted completion date for these consultations would be fall, 2014, and the program could be targeted for release by the beginning of the 2015 fiscal year.

***Recommendation 6: Develop an Opioid Education Curriculum for Health Professionals**
The Ministry could work with universities, the BC Medical Association, Health Insurance BC, and the Ministry of Advanced Education, to improve opioid related education in BC's medical schools. Improvements would require modifying medical program curricula to include mandatory education on the pharmacology of opioids, opioid benefits and harms, and chronic pain management. Education may also include practical skills, such as how to address concerns of potential misuse with patients. Medical school curricula would also be modified to increase awareness of opioid alternatives, and how to counsel patients on alternatives and self-care measures.

This recommendation also includes a continuing education component, as professional development is an obligation for healthcare practitioners in Canada. The Ministry could work with medical colleges such as the College of Family Physicians of Canada (for general practitioners), the Royal College of Physicians of Canada (for specialists), and the College of Registered Nurses of British Columbia, so that medical service providers who are currently practicing medicine can obtain the education necessary to safely and confidently prescribe opioid medications. The Ministry and stakeholders could form a steering committee which would determine the scope of opioid education required for health professions and the appropriate delivery method. Implementation of the curriculum would be targeted for the fall of 2015.

Improve the Evidence Base and Surveillance Capacity with Regard to Opioid Issues

***Recommendation 7: Explore the Potential to Better Use Healthcare Data**
The Ministry could explore the system capacity to make the best use of various healthcare and health related databases, including Regional Health Authorities, the Provincial Health Services Authority, BC Stats, and BC Corrections, in an attempt to obtain a comprehensive view of opioid related problems within the populations monitored by these organizations. This initiative would include liaising with the coroner's office to discuss the implementation of measures that would contribute to more effective and detailed data collection; specifically, disaggregating between illegal, prescription, or non-prescription opioids in overdose/death situations. Together, these organizations would be responsible for assessing the system's capacity to create consistent data indicators across regions, and ensuring that goals and outcomes of provincial data collection are aligned. To obtain this data, a Privacy Impact Assessment would be conducted to ensure that personal information is managed in accordance with the *Freedom of Information and Privacy Protection Act*.

This recommendation promotes data sharing for the purposes of preventing overlap and duplication of work, facilitating an understanding of what other organizations are doing, and providing a centralized system that includes common indicators that are defined and calculated in the same way. The target date to form the steering committee could be spring, 2014, while the target for database completion could be the beginning of the 2015-2016 fiscal year.

Recommendation 8: Explore Collaborative Opportunities to Develop a Stronger Evidence Base

The Ministry could initiate discussions with Health Canada and the Public Health Agency of Canada (PHAC) to facilitate collaborative efforts to increase the evidence-base on opioids through epidemiology research. As Canada's leading federal research agency, the Canadian Institutes of Health Research (CIHR) would also be included in research development discussions. Together, these organizations could develop a long-term research plan which would include population surveys and clinical trials that evaluate the safety and efficacy of opioids in longer-term use for chronic pain. The research plan would also identify goals and define specific health indicators to be measured. Discussions could begin as early as the summer of 2013, while the initiation of research could be targeted for the fall of 2015.

Better Coordinate and Manage Opioid Related Activities

Recommendation 9: Establish a Provincial Opioid Advisory Agency

The Ministry could facilitate the coordination and implementation of opioid related programs and services by establishing a Provincial Opioid Advisory Agency, specifically to coordinate programs and services that promote and facilitate the safe and effective use of opioids. The primary focus of the Agency would be the development of integrated services that address the needs of high-risk populations and consider multiple drug use. The Advisory Body would allow for independent decision making, and would operate under a clear mandate to ensure that provincial opioid resources are accessible to the public and stakeholder organizations. This group would serve eight distinct functions:

1. Provide expertise, knowledge, leadership, and advice in the development of opioid related policy and the delivery of programs
2. Examine the production, use, and prescribing of opioids to develop strategies for mitigating harms and minimizing use
3. Examine consumption of opioids in particular populations and advise government on trends and required actions
4. Oversee the implementation of government's priority recommendations, including engaging with stakeholders such as patients, First Nations communities, and health partners and organizations
5. Coordinate opioid related mental health and addictions services to maximize harm reduction and ensure comorbidity needs are addressed
6. Coordinate and administer core opioid education for prescribers

7. Liaise with national committees to share information and identify best practices
8. Collaborate with law enforcement, probation officers, and correctional services to increase access to services for those involved in the criminal justice system

The Agency would be accountable to the Ministry and the Legislature through an annual reporting requirement. As this Agency would not be tied to individual health authorities or run by a particular branch within the Ministry, it could ensure consistency in research, program, and policy development and implementation across sectors and organizations. This type of agency would operate at arm's length from government to ensure that it can act with the flexibility needed to administer priority projects free from political constraints. The agency itself would be funded by government, but would have the responsibility of identifying alternative funding opportunities for the programs and services that it develops as part of its function. The implementation of the Provincial Opioid Advisory Agency should be explored over the long-term; therefore, a specific implementation date is not suggested.

10. Conclusion

This report was completed for the BC Ministry of Health, Population and Public Health Division to determine ways in which the Ministry can best support effective and efficient management of the benefits and harms of opioids in BC. In particular, the report identified harm reduction strategies related to opioid management and investigated issues that act as barriers to harm reduction, as well as ways to address those barriers. To answer the research question, a review of academic and government agency literature from Canada and other jurisdictions was completed. Additionally, interviews were conducted with professionals in the health field who have knowledge and expertise on opioids and opioid programs and services. Participants included representatives from the Ministry and other government departments, health partners, medical regulatory bodies, research organizations, advocacy groups, and an independent statutory agency.

Implementing harm reduction policies and strategies is crucial in developing effective and efficient healthcare services. The research and findings in this report emphasize the need for opioid education, a strong evidence-base, system coordination, and information sharing as part of a strategy to facilitate harm reduction while ensuring benefits in BC. The report also suggests that collaboration within and between jurisdictions would bridge policy and regulatory gaps in order to develop strategies that are sustainable, and can withstand legal and other challenges that hinder harm reduction. While BC is fortunate to have a foundation of harm reduction initiatives to build on, there is still work to be done in developing a comprehensive, holistic range of services for users of both legal and illegal opioids, which prevent harms and enable the benefits of opioids to be realized.

11. References

Adams, J. (January 27th, 2012). Too many addicts, not enough treatment. *Capital News Online.* Retrieved from http://www.capitalnews.ca/index.php/news/canadas-drug-problem

American Medical Association. (2012). *AMA adopts new policies at annual meeting.* Retrieved from http://www.ama-assn.org.ezproxy.library.uvic.ca/ama/pub/news/news/2012-06-19-ama-adopts-new-policies.page

American Society of Addiction Medicine. (2010). *Public policy statement on the use of naloxone for the prevention of drug overdose deaths.* Retrieved from http://www.asam.org/docs/publicy-policy-statements/1naloxone-1-10.pdf?sfvrsn=0

Angell, M. (2004). Excess in the pharmaceutical industry. *Canadian Medical Association Journal, 171*(12), 1451-1453. Retrieved from http://www.cmaj.ca.ezproxy.library.uvic.ca/content/171/12/1451.full.pdf+html

Angell, M. (2005). The truth about the drug companies: How they deceive us and what to do about it. New York, NY: Random House.

Australian Government, Department of Health and Ageing. (n.d.). *The national strategy for quality use of medicines*. Retrieved from http://www.health.gov.au.ezproxy.library.uvic.ca/internet/main/publishing.nsf/content/CA777524C860DFF2CA256F1800468B61/$File/natstrateng.pdf

Bareham, J. (n.d.). *LTC project overview.* Retrieved June 20th, 2012, from http://www.rxfiles.ca/rxfiles/uploads/documents/ltc/Project%20Information/General%20Project%20Overview.pdf

BC Centre for Disease Control. (2008). *Best practice for British Columbia's harm reduction supply distribution program.* BC Harm Reduction Strategies and Services. Retrieved from http://www.bccdc.ca/NR/rdonlyres/4E145403-D047-49CA-A592-768FEBF6025A/0/BestPractices.pdf

BC Centre for Disease Control. (2012). *Toward the heart.* Retrieved October 2012, 2012, from http://towardtheheart.com/naloxone/

BC Ministry of Health. (2012a). *2012/13 - 2014/15 service plan.* Retrieved June 5th, 2012, from https://gww.health.gov.bc.ca/pdf/service-plan.pdf

BC Ministry of Health. (2012b). *BC changing coverage for OxyContin.* Government of British Columbia. Retrieved from http://www2.news.gov.bc.ca/news_releases_2009-2013/2012HLTH0017-000208.htm

BC Ministry of Health. (2012c). *BC PharmaCare newsletter - February 29th* (12-004 ed.) Government of British Columbia. Retrieved from http://www.health.gov.bc.ca/pharmacare/newsletter/news12-004.pdf

BC Ministry of Health. (2012d). *Pharmaceutical services [ministry of health intranet]*. Retrieved June 14th, 2012, from https://gww.health.gov.bc.ca/division-ps/ps.html

BC Ministry of Health. (2012e). *Health authorities (HA) division [ministry of health intranet]*. Retrieved June 14th, 2012, from https://gww.health.gov.bc.ca/division-had/had.html

BC Ministry of Health. (2012f). *Population and public health [ministry of health intranet]*. Retrieved June 6th, 2012, from https://gww.health.gov.bc.ca/division-pph/pph.html

BC Ministry of Health. (n.d. a). *PharmaNet.* Retrieved June 8th, 2012, from http://www.health.gov.bc.ca/pharmacare/pharmanet/netindex.html

BC Ministry of Health Services. (2004). *PharmaCare newsletter - September 24th* (04-008 ed.) Government of British Columbia. Retrieved from http://www.health.gov.bc.ca/pharmacare/newsletter/04008news2.pdf

Bewley-Taylor, D., and Jelsma, M. (2012). *The UN drug control conventions: The limits of latitude.* Retrieved from http://dl.dropbox.com/u/64663568/library/limits-of-latitude-tni-idpc_0.pdf

Blackwell, T. (2011, November 12). The selling of OxyContin. *National Post*. Retrieved from http://news.nationalpost.com/2011/11/12/the-selling-of-oxycontin/

Booth, M. (1996). *Opium: A history*. New York, NY: Thomas Dunn Books.

Buxton, J., Purssell, R., Gibson, E., and Tzemiz, D. (2012). Increasing access to naloxone in BC to reduce opioid overdose deaths. *BC Medical Journal, 545*, 231-251.

Canadian Centre on Substance Abuse. (2005). *National framework for action to reduce the harms associated with alcohol and other drugs and substances in Canada.* Retrieved from http://www.nationalframework-cadrenational.ca/images/uploads/file/ccsa0113232005_e.pdf

Canadian Centre on Substance Abuse. (2011). *Opioid overview*. Retrieved June 21st, 2012, from http://www.ccsa.ca/Eng/Topics/SubstancesAndAddictions/Opioids/Pages/OpioidsOverview.aspx

Canadian Centre on Substance Abuse. (2012a). *Addressing prescription drug misuse in Canada [national dialogue summary report]*. Retrieved from http://www.ccsa.ca/2012%20CCSA%20Documents/2012-Prescription-Drug-Misuse-in-Canada–Summary-Report-en.pdf

Canadian Centre on Substance Abuse. (2012b). *Canadian Community Epidemiology Network.* Retrieved from http://www.ccsa.ca/Eng/Priorities/Research/CCENDU/Pages/default.aspx

Canadian Centre on Substance Abuse. (2012c). *Prescription drug misuse in Canada: Towards a balanced approach*. Retrieved from http://www.ccsa.ca/2012%20CCSA%20Documents/2012-Prescription-Drug-Misuse-in-Canada%E2%80%93Summary-Report-en.pdf

Canadian HIV/AIDS Legal Network. (2005). *Injection drug use and HIV/AIDS.* Retrieved August 20th, 2012, from http://www.aidslaw.ca.ezproxy.library.uvic.ca/publications/interfaces/downloadFile.php?ref=769

Canadian Institute for Health Research. (2008). *North American opiate medication initiative: Status report*. Retrieved from http://www.naomistudy.ca/documents.html

Carlowe, J. (2012). *Opiate overdose kits distributed throughout Scotland.* Retrieved August 15th, 2012, from http://www.onmedica.com/newsarticle.aspx?id=2cb77824-a637-41d7-ae81-00514bd13ac9

Centre for Addictions Research of BC. (2006). *Following the evidence: Preventing harms from substance use in BC*.

Centre for Addictions Research of BC. (2012). In Vallance K., Martin G., and Chow C. (Eds.), *CARBC community event: Latest results of the high risk populations monitoring study.*

Centre for Addictions Research of BC. (n.d.). *Substance use by street-involved youth.* Retrieved from http://www.carbc.ca/AODMonitoring/ProjectComponents/tabid/94/agentType/View/PropertyID/78/Default.aspx

Chou, R., Ballantyne, J., Fanciullo, G., Fine, P., and Miaskowski, C. (2009). Research gaps on use of opioids for chronic non-cancer pain: Findings from a review of the evidence for an American pain society and an American academy of pain medicine clinical practice guideline. *The Journal of Pain, 10*(2), 147-159. doi: 10.1016/j.jpain.2008.10.007.

College of Pharmacists of British Columbia. (2011). *Controlled prescription program.* Retrieved from http://library.bcpharmacists.org/D-Legislation_Standards/D-4_Drug_Distribution/5015-ControlledPrescriptionProgram.pdf

College of Physicians and Surgeons of Alberta. (2007). *Triplicate prescription program.* Edmonton, AB. Retrieved from http://www.cpsa.ab.ca/Libraries/Pro_TPP/TPP_Info_for_Pharmacist_with_Drug_List_Jan_11_2007.pdf

College of Physicians and Surgeons of British Columbia. (n.d. a). *Pain Treatment Agreement.* Retrieved from https://www.cpsbc.ca/files/u6/Prescription-Review-Program-Sample-Pain-Treatment-Agreement.pdf

College of Physicians and Surgeons of British Columbia. (n.d. b). *Prescription review program.* Retrieved from https://www.cpsbc.ca/node/107

Collin, C. (2006). *Substance abuse issues and policy in Canada: Canada's federal drug strategy*. Parliament of Canada. Retrieved from http://www.parl.gc.ca/Content/LOP/researchpublications/prb0615-e.pdf

Controlled Drugs and Substances Act (S.C. 1996, c. 19).

Correctional Service of Canada. (2003a). *Correctional service of Canada: Specific guidelines for methadone maintenance treatment.* Retrieved from http://publications.gc.ca.ezproxy.library.uvic.ca/collections/Collection/JS82-103-2003E.pdf

Correctional Service of Canada. (2003b). *Infectious disease prevention and control in Canadian federal penitentiaries 2000-01.* Retrieved from http://publications.gc.ca.ezproxy.library.uvic.ca/collections/Collection/JS82-104-2001E.pdf

Correctional Service of Canada. (2012). *Substance abuse treatment modalities: Literature review.* Retrieved June 28th, 2012, from http://www.csc-scc.gc.ca.ezproxy.library.uvic.ca/text/pblct/litrev/treatmod/lit6e-eng.shtml

Craib, K., Spittal, P., Wood, E., Laliberte, N., Hogg, R., Li, K., and Schechter, M. (2003). Risk factors for elevated HIV incidence among aboriginal injection drug users in Vancouver. *Canadian Medical Association Journal, 168*(1), 19-24.

Dalhousie University. (n.d.). *Academic detailing service.* Retrieved June 20th, 2012, from http://cme.medicine.dal.ca.ezproxy.library.uvic.ca/ADS.htm

Denver Health. (2011). *RADARS system.* Retrieved from http://www.radars.org

Department of Justice Canada. (2010). *National anti-drug strategy implementation and evaluation [final report]*.

Dhalla, I., Mamdani, M., Gomes, T., and Juurlink, N. (2011). Clustering of opioid prescribing and opioid-related mortality among family physicians in Ontario. *Canadian Family Physician, 57*(3), 92-96. Retrieved from http://www.cfp.ca.ezproxy.library.uvic.ca/content/57/3/e92.full.pdf+html

Dhalla, I., Mamdani, M., Sivilotti, M., Kopp, A., Qureshi, O., and Juurlink, D. (2009). Prescribing of opioid analgesics and related mortality before and after the introduction of long-lasting oxycodone. *Canadian Medical Association, 181*(12), 891-896. doi: 10.1503/cmaj.090784.

Drucker, E. (1999). Drug prohibition and public health: 25 years of evidence. *Public Health Reports, 114*, 14-29. Retrieved from http://www.ncbi.nlm.nih.gov.ezproxy.library.uvic.ca/pmc/articles/PMC1308340/pdf/pubhealthrep00029-0016.pdf

European Monitoring Centre for Drugs and Drug Addiction. (2010). *Mission - background.* Retrieved August 29th, 2012, from http://www.emcdda.europa.eu.ezproxy.library.uvic.ca/about/mission

European Union Committee. (2012). *The EU drugs strategy.* Retrieved from http://idhdp.com/media/14863/eu_drug_strategy.pdf?utm_campaign=IDHDP%20Newsletter%20April%2012&utm_source=emailCampaign&utm_medium=email

Executive Office of the President of the United States. (2011). *Epidemic: Reposing to America's prescription drug abuse crisis.* Retrieved from http://www.whitehouse.gov/sites/default/files/ondcp/policy-and-research/rx_abuse_plan.pdf

Executive Office of the President of the United States. (n.d.). *The 2012 national drug control strategy: Building on a record of reform.* Retrieved from http://www.whitehouse.gov/sites/default/files/ondcp/2012_national_drug_control_strategy_executive_summary.pdf

Fischer, B., Jones, W., Murray, K., and Rehm, J. (2011). Differences in over-time changes in levels of prescription opioid analgesic dispensing from retail pharmacies in Canada, 2005-2010. *Pharmacoepidemiology and Drug Safety, 20*(12), 1269-1277. doi: 10.1002/pds.2190.

Fischer, B., Jürgen, R., Goldman, B., and Popova, S. (2008). Non-medical use of prescription opioids and public health in Canada: An urgent call for research and interventions development. *Canadian Journal of Public Health, 99*(3), 182-184. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/232006536?accountid=14846

Fischer, B., Jürgen, R., Patra, J., and Firestone Cruz, M. (2006). Changes in illicit opioid use across Canada. *Canadian Medical Association Journal, 175*(11), 1385-1387. Retrieved from http://www.canadianmedicaljournal.ca/content/175/11/1385.full.pdf+html

Furlan, A., Reardon Dip, R., and Weppler, C. (2010). Opioids for chronic non-cancer pain: A new Canadian practice guideline [peer commentary on the paper" Canadian guideline for safe and effective use of opioids for chronic non-cancer pain" by the national opioid use guideline group (NOUGG)]. *Canadian Medical Association Journal, 182*(9), 923-930. doi: 10.1503/cmaj.100187.

Gallagher, R. (2008). Opioid analgesia: Managing risks and obtaining benefits. *Pain Medicine, 9*(2), 143-144. doi: 10.1111/j.1526-4637.2008.00485.x. Retrieved from http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/j.1526-4637.2008.00485.x/pdf

Geddes, J. (2012). Harper's anti-drug strategy gets a little less compassionate. *Macleans.Ca*. Retrieved from http://www2.macleans.ca/2012/07/25/drug-money/

Gobierno de Espana. (2009). *National drug strategy: 2009-2016*. Ministerio de Sanidad y Politica Social.

Gomes, T., Juurlink, D., Dhalla, I., Mailis-Gagnon, A., Paterson, M., and Mamdani, M. (2011). Trends in opioid use and dosing among socio-economically disadvantaged patients. *Open Medicine, 5*(1), 13-22. Retrieved from http://www.ncbi.nlm.nih.gov.ezproxy.library.uvic.ca/pmc/articles/PMC3205807/?tool=pmcentrez

Government of British Columbia. (2010). *Healthy minds, healthy people: A ten-year plan to address mental health and substance use in British Columbia.*

Government of Canada. (2007). In Government of Canada [National Anti-Drug Strategy]. (Ed.), *Speech for the right honourable Stephen Harper, prime minister.* Retrieved from http://www.nationalantidrugstrategy.gc.ca/sp-dis/2007_10_04.html

Government of Canada. (2012a). *National anti-drug strategy.* Retrieved from http://www.nationalantidrugstrategy.gc.ca/

Government of Canada. (2012b). *National anti-drug strategy action plans: Prevention.* Retrieved from http://www.nationalantidrugstrategy.gc.ca/prevention.html

Government of Ireland. (2001). *Building on experience: National drugs strategy 2001-2008.* Retrieved from http://www.drugsandalcohol.ie/5187/1/799-750.pdf

Government of Ireland. (2009). *National drugs strategy.* Retrieved from http://www.drugsandalcohol.ie/12388/1/DCRGA_Strategy_2009-2016.pdf

Government of the Netherlands. (n.d.). *Drugs.* Retrieved from http://www.government.nl/issues/alcohol-and-drugs/drugs?ns_campaign=Thema-alcohol_andl_drugs&ro_adgrp=Drugs&ns_mchannel=sea&ns_source=google&ns_linkname=netherlands%20drug%20policy&ns_fee=0.00&gclid=CNWs3OiyjrICFSXhQgod4xkAIg

Grattan, A., Sullivan, M., Saunders, K., Campbell, C., and Von Korff, M. (2012). Depression and prescription opioid misuse among chronic opioid therapy recipients with no history of substance abuse. *Annals of Family Medicine, 10*(4), 304-311.

Grohol, J. (2006). OPICAN study in seven Canadian cities reveals prescription opioid abuse more prevalent than heroin. *Psych Central.* Retrieved from http://psychcentral.com/news/archives/2006-11/cioh-osi111706.html

Harm Reduction Coalition. (n.d.). *Project Lazarus.* Retrieved from http://harmreduction.org/issues/overdose-prevention/tools-best-practices/naloxone-program-case-studies/project-lazarus/

Health Canada. (2006). *National native alcohol and drug abuse program.* Retrieved from http://www.hc-sc.gc.ca.ezproxy.library.uvic.ca/fniah-spnia/substan/ads/nnadap-pnlaada-eng.php

Health Canada. (2010a). At a glance - HIV and AIDS in Canada: Surveillance report to December 31st, 2010. Retrieved from http://www.phac-aspc.gc.ca.ezproxy.library.uvic.ca/aids-sida/publication/survreport/2010/dec/index-eng.php

Health Canada. (2010b). *Canadian alcohol and drug use monitoring survey: Summary results for 2009.* Retrieved from http://hc-sc.gc.ca.ezproxy.library.uvic.ca/hc-ps/drugs-drogues/stat/_2009/summary-sommaire-eng.php

Health Canada. (2010c). *Pharmacy and medical supplies and equipment benefit: Non-insured health benefits.* Retrieved from http://www.hc-sc.gc.ca.ezproxy.library.uvic.ca/fniah-spnia/alt_formats/pdf/nihb-ssna/provide-fournir/pharma-prod/med-list/pharma-ms_e-em_fm-eng.pdf

Health Canada. (2011). *Canadian alcohol and drug use monitoring survey: Summary results for 2010.* Retrieved from http://www.hc-sc.gc.ca.ezproxy.library.uvic.ca/hc-ps/drugs-drogues/stat/_2010/summary-sommaire-eng.php#psycho

Health Canada. (2012). *New classes of medical practitioners regulations.* Retrieved from http://www.hc-sc.gc.ca.ezproxy.library.uvic.ca/ahc-asc/media/nr-cp/_2012/2012-71bk-eng.php

Health Officers Council of British Columbia. (2005). *A public health approach to drug control in Canada*. Retrieved from http://canadianharmreduction.com/sites/default/files/BC%20Hea%20Off%20Coun%20-%20Pub%20Hea%20Approach%20to%20Drug%20Cont%20-%202005.pdf

Health Officers Council of British Columbia. (2011). *Public health perspectives for regulating psychoactive substances.*

Hedrich, D. (2004). *European report on drug consumption rooms.* European Monitoring Centre for Drugs and Addiction.

Hojsted, J., and Sjogren, P. (2007). Addiction to opioids in chronic pain patients: A literature review. *European Journal of Pain, 11*(5), 490-518. Retrieved from http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1016/j.ejpain.2006.08.004/abstract;jsessionid=56A3E34362267DF3849864E6880A3154.d03t04

Hughes and Stevens. (2010). What can we learn from the Portuguese decriminalization of illicit drugs? *British Journal of Criminology, 50,* 999-1022.

International Narcotics Control Board. (2011). Report of the international narcotics control board for 2011. Retrieved from http://www.incb.org/pdf/annual-report/2011/English/AR_2011_English.pdf

International Drug Control Board. (2012). *Mandate of INCB.* Retrieved from http://www.incb.org/incb/mandate.html

Jovey, R., Ennis,J., Gardner-Nix, J., Goldman, B., Hays, H., Lynch, M., and Moulin, D. (2003). Use of opioid analgesics for the treatment of chronic noncancer pain – a consensus

statement and guidelines from the Canadian pain society, 2002. *Pain Research and Management, 8,* 3-14.

Kahan, M., MailisGagnon, A., Wilson, L., and Srivastava, A. (2011a). Canadian guideline for safe and effective use of opioids for chronic non-cancer pain: Clinical summary for family physicians. part 1: General population. [clinical review]. *Canadian Family Physician, 57,* 1257-1266.

Kahan, M., Mailis-Gagnon, A., Wilson, L., and Srivastava, A. (2011b). Canadian guideline for safe and effective use of opioids for chronic non-cancer pain: Clinical summary for family physicians. part 2: Special populations. [clinical review]. *Canadian Family Physician, 57,* 1269-1276.

Katz, N., Adams, E., Benneyan, J., Birnbaum, H., Budman, S., Buzzeo, R., and Lande, S. (2007). Foundations of opioid risk management. *The Clinical Journal of Pain, 23*(2), 103-118.

Kenan, K., Mack, K., and Paulozzi, L. (2012). Trends in prescriptions for oxycodone and other commonly used opioids in the united states, 2000-2010. *Open Medicine, 6*(2). Retrieved from http://www.openmedicine.ca.ezproxy.library.uvic.ca/article/view/503/456

Kendall, P. (2011). *Decreasing HIV infection among people who use drugs by injection in British Columbia*. Office of the Provincial Health Officer, BC Ministry of Health. Retrieved from http://www.health.gov.bc.ca/library/publications/year/2011/decreasing-HIV-in-IDU-population.pdf

Kerr, T., and Wood, E. (2009). *Communicable disease (harm reduction).* (Evidence Review). Retrieved from http://www.health.gov.bc.ca/public-health/pdf/Communicable_Disease_Harm_Reduction_Evidence_Review.pdf

Lewis-Beck, M., Bryman, A. and Liao, T. (Eds.). (2004). *The SAGE encyclopedia of social science research methods* (2nd ed.). Thousand Oaks: California: SAGE Publications Inc.

Lexchin, J. (1993). Interactions between physicians and the pharmaceutical industry: What does the literature say? *Canadian Medical Association Journal, 149*(10), 1401-1407. Retrieved from http://www.ncbi.nlm.nih.gov.ezproxy.library.uvic.ca/pmc/articles/PMC1485922/pdf/cmaj00278-0043.pdf

McCreary Centre Society. (2012). *Raven's children: Aboriginal youth health in BC.* Retrieved from http://www.mcs.bc.ca/pdf/Ravens_Children_III.pdf

McMaster University. (2011). *Opioid manager.* Retrieved from http://nationalpaincentre.mcmaster.ca/opioidmanager/

McMaster University. *Opioid manager*. (2012). [Video/DVD]. Retrieved from http://nationalpaincentre.mcmaster.ca/opioidmanager/opioid_manager_video.html

Miller, A. (2012). National strategy urged to halt legal-drug woes. *The Chronicle Herald*. Retrieved from http://thechronicleherald.ca/canada/116192-national-strategy-urged-to-halt-legal-drug-woes

Milloy, M., Wood, E., Reading, C., Kane, D., Montaner, J., and Kerr, T. (2010). Elevated overdose mortality rates among first nations individuals in a Canadian setting: A population-based analysis. *Society for the Study of Addiction., 105*, 1962-1970. Retrieved from http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/doi/10.1111/j.1360-0443.2010.03077.x/pdf

Nicholson, B. (2008). Benefits of extended-release opioid analgesic formulations in the treatment of chronic pain. *World Institute of Pain, 9*(1), 71-81. doi: 10.1111/j.1533-2500.2008.00232.x

Nielsen, S., and Thompson, N. (2008). In Australian Drug Foundation (Ed.), *Prevention of pharmaceutical drug misuse*. Retrieved from http://www.druginfo.adf.org.au.ezproxy.library.uvic.ca/attachments/343_PRQ_08Dec_pharmaceuticals_web.pdf

Nosyk, B., Marshall, B., Fischer, B., Montaner, J., Wood, E., and Kerr, T. (2012). Increases in the availability of prescribed opioids in a Canadian setting. *Drug and Alcohol Dependence*, doi: 10.1016/j.drugalcdep.2012.03.010.

Office of National Drug Control Policy. (n.d.). *Prescription drug abuse.* Retrieved August 15th, 2012, from http://www.whitehouse.gov/ondcp/prescription-drug-abuse

Ontario Harm Reduction Distribution Program. (2012). *Community-based naloxone distribution.* Retrieved from http://issuu.com/ohrdp-guidancedocument/docs/guidancedocfinalweb-_13/1

Ontario Ministry of Health and Long-Term Care. (2012). *Update on OxyContin partnership strategy.* Retrieved from http://www.health.gov.on.ca/en/news/bulletin/2012/hb_20120404_1.aspx

Pain BC. *Changing pain. Changing minds. Strategic plan 2010-2013.* Retrieved from http://www.painbc.ca/sites/default/files/images/PainBC_StrategicPlan_2010-13.pdf

Parkes, T. and Reist, D. (2010). *British Columbia methadone maintenance treatment program: A qualitative systems review - summary report*. Victoria, BC: University of Victoria Centre for Addictions Research BC.

Perron, C. (2006). *Overview of the health services provided to inmates by the federal prison system.* Retrieved from http://www.capahc.com/PDF/rapport_carceral_en.pdf

Project Lazarus. (n.d.). *About Project Lazarus. A.* Retrieved from http://projectlazarus.org/about-project-lazarus

Purdue Pharma. (2011). *OxyContin*. Pickering, ON: Retrieved from http://www.purdue.ca/files/OxyContin%20Tablets%20PM%20EN-R.pdf

Ravindran, M. (2012). Experimenting with injection drugs leads to regular use for many youth: BC study. *The Vancouver Sun*.

Reasons, C. (2009). In Greene, H. and Gabbidon, S., Encyclopedia of Race and Crime. (Ed.), *Opium wars.* Thousand Oaks, CA: Sage.

Reist, D. (2010). *Methadone maintenance treatment in British Columbia, 1996-2008.* Centre for Addictions Research BC and the BC Ministry of Healthy Living and Sport. Retrieved from http://www.health.gov.bc.ca/library/publications/year/2010/Methadone_maintenance_treatment_review.pdf

Rosenblatt, R., and Catlin, M. (2012). Opioids for chronic pain: First do no harm. *Annals of Family Medicine, 10*(4), 300-301. Retrieved from http://annfammed.org.ezproxy.library.uvic.ca/content/10/4/300

Rothfels, P. (2008). Opioid/narcotic medications and the injured worker. *BC Medical Journal, 50*(10), 572-577. Retrieved from http://www.bcmj.org.ezproxy.library.uvic.ca/sites/default/files/BCMJ_50Vol10_worksafe.pdf

Rothfels, P., Dunn, C., Nguyen, T., Martin, C., Pelman, G., and Noertjojo, K. (n.d.). *Effect of early opioid prescribing on disability outcome in workers compensation in BC - a preliminary study.* Retrieved from http://www.worksafebc.com.ezproxy.library.uvic.ca/health_care_providers/Assets/PDF/poster-presentations/EffectOfEarlyOpioidPrescribing2009.pdf

Shahin, S. (2012). *How to develop a peer-based naloxone program: Legal, liability and prescription issues.* Retrieved from http://www.ohrdp.ca/wp-content/uploads/pdf/NaloxoneLegal.pdf

Smith, A., Stewart D., Peled, M., Poon, C., Saewyc, E. and the McCreary Centre Society. (2009). *A picture of health: Highlights from the 2008 BC adolescent health survey.* Vancouver, BC: McCreary Centre Society. Retrieved from http://www.mcs.bc.ca/pdf/AHSIV_APictureOfHealth.pdf

Smith, P. (2012). *UN anti-drug body supports overdose prevention measures.* Retrieved from http://stopthedrugwar.org/chronicle/2012/mar/16/un_antidrug_body_supports_overdo

The Government of Scotland. (2010a). *National forum on drug related deaths in Scotland: Annual report 2009-10.* http://www.scotland.gov.uk/Resource/Doc/320254/0102413.pdf

The Government of Scotland. (2010b). *National naloxone programme.* Retrieved from http://www.scotland.gov.uk/Topics/Justice/law/Drugs-Strategy/drugrelateddeaths/NationalNaloxone

Thomas, G. (2005). *Assessing the need for prison-based needle exchange in Canada: A situational analysis.* Canadian Center on Substance Abuse.

Single convention on narcotic drugs, 1961, as amended by the 1972 protocol amending the single convention on narcotic drugs, 1961.

United Nations Commission on Narcotic Drugs. (2012). *Promoting measures to prevent drug overdose, in particular opioid overdose*. United Nations Economic and Social Council. Retrieved from http://daccess-dds-ny.un.org.ezproxy.library.uvic.ca/doc/UNDOC/LTD/V12/517/01/PDF/V1251701.pdf?OpenElement

United Nations General Assembly, *Universal Declaration of Human Rights*, 10 December 1948, 217 A (III).

United Nations Office on Drugs and Crime. (2008). *2008 world drug report.* Retrieved from http://www.unodc.org/documents/wdr/WDR_2008/WDR_2008_eng_web.pdf

United Nations Office on Drugs and Crime. (n.d.). *Chronology: 100 years of drug control.* Retrieved from http://www.unodc.org/documents/wdr/WDR_2008/timeline_E_PRINT.pdf

United States Food and Drug Administration. (2012). *FDA introduces new safety measures for extended-release and long-acting opioid medications.* Retrieved from http://www.fda.gov/drugs/drugsafety/informationbydrugclass/ucm163647.htm

United States General Accounting Office. (2003). *Prescription drugs: OxyContin abuse and diversion and efforts to address the problem.*

Van Zee, A. (2009). The promotion and marketing of OxyContin: Commercial triumph, public health tragedy. *Health Policy and Ethics, 99*(2), 221-227. Retrieved from http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2007.131714

Vancouver Coastal Health. (n.d.). *Supervised injection site.* Retrieved August 15th, 2012, from http://supervisedinjection.vch.ca/legal_status/

Von Korff, M., Kolodny, A., Deyo, R., and Chou, R. (2011). Long-term opioid therapy reconsidered. *Annals of Internal Medicine - American College of Physicians, 155*(5), 325-329.

Werb, D., Mills, E., DeBeck, K., Kerr, T., Montaner, J., and Wood, E. (2011). The effectiveness of anti-illicit-drug public-service announcements: A systematic review and meta-analysis. *Journal of Epidemiology and Community Health, 65*, 834-840. Retrieved from http://jech.bmj.com.ezproxy.library.uvic.ca/content/65/10/834.full.pdf+html

Wesson, D., and Smith, D. (2010). Buprenorphine in the treatment of opiate dependence. *Journal of Psychoactive Drugs, 42*(2), 161-175. Retrieved from http://web.ebscohost.com.ezproxy.library.uvic.ca/ehost/pdfviewer/pdfviewer?sid=cc0e5881-3937-4f42-9068-300de6e91f66%40sessionmgr13&vid=2&hid=19

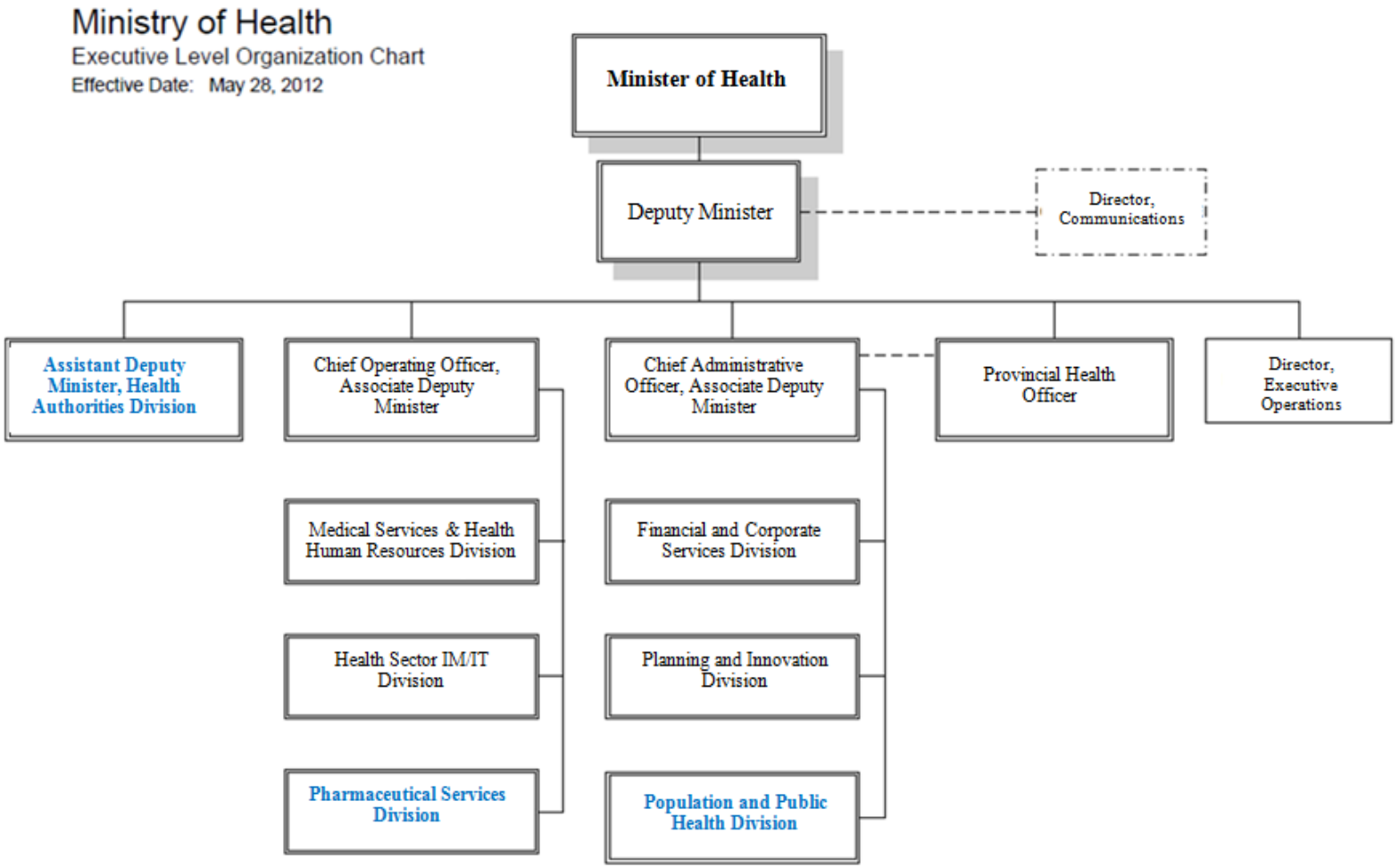
Whistler, J. (2012). Examining the role of mu opioid receptor endocytosis in the beneficial and side-effects of prolonged opioid use: From a symposium on new concepts on mu-opioid pharmacology. *Drug and Alcohol Dependence,* doi: 10.1016/j.drugalcdep.2011.10.031.

WorkSafeBC. (2012). *Claims with opioids, sedative-hypnotics or other drugs of addiction prescribed.* Retrieved May 25th, 2012, from http://www.worksafebc.com.ezproxy.library.uvic.ca/regulation_and_policy/practice_directives/compensation_practices/assets/pdf/C10-1.pdf

Yelaja, P. (2012.). OxyContin replacement may not solve abuse. *CBC News*. Retrieved from http://www.cbc.ca/news/canada/story/2012/02/27/oxycontin-new-formulation.html

12. Appendices

Appendix A: Ministry Organizational Chart



Appendix B: General Recommendations from the Literature

Address Human Rights and Underlying Causes of Problematic Substance Use	• Address stigma and discrimination to build an inclusive and accessible healthcare system • Incorporate harm reduction methods into enforcement practices to respect personal choice and self-management of users • Acknowledge the unique burden of substance use problems when developing treatment plans for Aboriginal people
Maximize Intervention Options	• Ensure lines of communication remain open across sectors • Develop evidence-based best practices that reflect the needs of individual populations • Take advantage of multi-disciplinary approaches through multi-sectoral collaboration • Involve community and health partners when making decisions on planning and implementing care • Focus on public health interventions and preventative measures • Develop interventions with performance monitoring capabilities to inform a whole-system change
Prioritize Policy and Program Goals	• Find an appropriate balance between whole-population and targeted initiatives • Link harm reduction and primary care services, and assist users with referrals to primary care • Expand services to offer a wider range of harm reduction services to increase prevention and reduce the spread of disease
Involve the Target Population and Other Community Stakeholders	• Include community development and capacity building in harm reduction program/service planning • Involve all sectors that are impacted by, or accountable for opioid issues • Focus intervention efforts on particular sub-populations (including gender, age, and ethnicity) that are at particular risk of opioid related harms

Discipline Specific Recommendations from the Literature

Enforcement	• Control the supply of opioids while considering the determinants of health, needs for pain management, and the underlying causes of drug use • Continued bi-lateral agreement between countries regarding border policies and drug enforcement • Integrate enforcement and harm reduction practices • Ensure that enforcement practices are not causing more harms than the problems caused by opioids misuse
Treatment	• Allocate resources to workforce development for outreach and treatment • Increase availability of naloxone • Ensure that street-level programs for addicted drug users are adequately resourced to meet the treatment needs of marginalized population • Develop a continuum of treatment (i.e. from prison to community) • Facilitate access to opioid treatment options (by amending regulations)
Surveillance and Monitoring	• Track opioid use by type in order to identify appropriate interventions • Encourage physicians to closely monitor (real-time) opioid and concurrent drug prescriptions based on patient-specific needs and doses • Develop a national surveillance system to monitor addiction and mortality • Continue to monitor prescribing practices of physicians
Prevention	• Increase access to services through outreach and peer distribution • Implement early screening and intervention initiatives • Address different patterns of opioid use with a focus on high-risk patterns • Influence development from a young age to delay the onset of use • Create safer environments for users • Encourage physicians to be more selective in prescribing opioids, ensuring that patients receiving prescriptions will benefit from opioid use • Focus on primary as well as secondary prevention initiatives
Education	• Educate the public and inform the health system to increase awareness harm reduction approaches, programs, and services • Educate physicians on how to weigh the benefits and harms of opioids compared to other treatment options • Educate the general public on the direct harms of substance use, such as toxic and pharmacological effects • Educate drug users on harm reduction measures such as clean injection equipment and MMT • Develop physician and pharmacist education programs for opioids regarding safety and dosing, as well as real-time medication use monitoring as initiatives • Increase awareness through research and knowledge transfer • Create a forum for open dialogue on the effects of drug use

Appendix C: Interview Questions

1) What is your current role and responsibilities related to the topic of opioids (i.e. opioid management, programs/services)?

2) What have been the successes of your organization/program for reducing opioid related harms, and/or ensuring opioid benefits are realized?

3) What do you see are the challenges or gaps with your current program/approach to opioids and opioid management (if any)?

4) What (if any) models, frameworks, or important resources have your organization used in the development of opioid management strategies/approaches?

5) What ideas do you have for improving your organization's/program's approach to opioid management?

6) What better could be done at the provincial or federal level to improve opioid related outcomes?

Appendix D: College of Physicians and Surgeons of British Columbia (2011), Controlled Prescription Program

CPP requirements for dispensing are as follows:

- Prescription forms are personalized and numerically recorded and cannot be exchanged between prescribers
- More than one medication or strength of medication can be included on one Controlled Prescription Program form, provided the orders are legible
- "Part-fills" are not encouraged but are acceptable, subject to the usual legal and recordkeeping requirements. The total quantity of drug being prescribed, the quantity to be dispensed on each "part-fill" and the interval of time to be observed between these fillings must be specified
- Outpatient prescriptions written at hospital emergency and outpatient departments for a monitored drug must be written on a Controlled Prescription Program duplicate form
- Prescriptions for long-term and extended-care facility patients do not require the use of Controlled Prescription Program forms.
- "Void after 5 days" means that the prescription cannot be honoured after midnight of the fifth day following the date of issue. Therefore, a prescription written on January 10th can be accepted for filling or logging on after midnight January 15th.
- Locum physicians receive a pad of blank forms at the time of registration from the College of Physicians and Surgeons. These are to be completed by the physicians with their name and CPSBC ID number, plus the name, address, and telephone number of the employing physician.
- Physicians working in a permanent capacity as a locum will have their names printed on the prescription forms and are obliged to print or stamp the name, address and telephone number of the employing physician.

Appendix E: College of Physicians and Surgeons of British Columbia (n.d. a), Pain Treatment Agreement

I,_____ agree that Dr._____ will be the only physician prescribing opioid pain medication for me. I will not seek opioid medications from other doctors.

I will give written consent for ongoing access to my PharmaNet profile by my doctor as a condition of prescribing. PharmaNet is an important tool in ensuring opioids are used safely.

I will not take opioid medication in larger amounts or more frequently than as prescribed.

I will not give or sell my medication to anyone else, including family members; nor will I accept any opioid medication from anyone else. I agree to be responsible for the secure storage of my medication at all times. I understand that lost or stolen medication may not be replaced.

I will not use over-the-counter codeine containing medications such as 222®'s and Tylenol #1® (codeine compounded with caffeine, ASA or acetaminophen).

I will attend all reasonable appointments, treatments and consultations as requested by my physician.

I understand that the long-term use of opioids to treat chronic pain will often result in physical dependence on this medication, and that sudden decreases or discontinuation of the medication will lead to the symptoms of opioid withdrawal. I understand that opioid withdrawal is uncomfortable but not life threatening.

I understand that there is a risk that I may become addicted to the opioids I am being prescribed. My physician may require that I have additional blood or urine testing and/or see a specialist in addiction medicine should a concern about addiction arise during my treatment. I will comply with all requests for laboratory tests including random urine drug screens ordered by my physician.

I understand that the use of any mood altering substance, such as tranquilizers, sleeping pills, alcohol or illicit drugs (such as cannabis, cocaine, heroin or hallucinogens), can cause adverse effects or interfere with opioid therapy. Therefore I agree to refrain from the use of all of these substances without prior agreement from my physician.

I consent to open communication between my doctor and any other health care professionals involved in my pain management, such as pharmacists, other doctors, and emergency departments. This includes reviewing information available from PharmaNet.

I understand that if I break this agreement, my physician reserves the right to stop prescribing opioid medications for me.

I comply with requests by my physician to attend at the office for a pill count between scheduled visits.

Patients Signature: _____

Physicians Signature: _____

Date: _____

Appendix F: List of Acronyms Used

AD – Academic Detailing

BCCDC – BC Centre for Disease Control

BC CfE – BC Centre for Excellence in HIV/AIDS

CADTH – Canadian Agency for Drugs and Technology in Health

CADUMS – Canadian Alcohol and Drug Use Monitoring Survey

CAMH – Centre for Addiction and Mental Health

CARBC – Centre for Addictions Research BC

CCENDU – Canadian Community Epidemiological Network on Drug Use

CCSA – Canadian Centre on Substance Abuse

CIHR – Canadian Institute for Health Research

CPP – Controlled Prescription Program

CPSA – College of Physicians and Surgeons of Alberta

CPSBC – College of Physicians and Surgeons of British Columbia

CSC – Correctional Service of Canada

EMCDDA – European Monitoring Centre for Drugs and Drug Addiction

ER – Emergency room

ER/LA – Extended-release and long-acting

EU – European Union

FDA – Food and Drug Administration

HAD – Health Authorities Division

HIV – Human Immunodeficiency Virus

IDU – Injection drug use

INCB – International Narcotics Control Board

MMT – Methadone Maintenance Therapy

MSP – Medical Services Plan

NAOMI – North American Opiate Medication Initiative

NIHB – Non-Insured Health Benefits

NNADAP – National Native Alcohol and Drug Abuse Program

OHRDP – Ontario Harm Reduction Distribution Program

ONDCP – Office of National Drug Control Policy

PHO – Provincial Health Officer

PRP – Prescription Review Program

PSD – Pharmaceutical Services Division

PPH – Population and Public Health

QUM – Quality Use of Medicines

RADARS – Researched Abuse Diversion and Addiction-Related Surveillance

REMS – Risk Evaluation and Mitigation Strategy

TPP – Triplicate Prescription Program

UN – United Nations

UNODC – United Nations Office on Drugs and Crime

WHO – World Health Organization