

## **Responding to Canada's Opioid Crisis**

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## Background

### *Nature and Scope of the Problem*

Canada is the second highest per capita consumer of opioids worldwide (1). In 2016, more than 21 million opioid prescriptions were dispensed in Canada (2). While opioid prescriptions have risen over the last 25 years (3), the rate of opioid related overdose has skyrocketed. It is estimated that 4,000 people died of an opioid overdose in 2017 alone (4). The increase in opioid prescribing and misuse carries a heavy burden for patients and for the broader health care system. Opioid overdose now results in an average of 16 hospitalizations per day in Canada which corresponds to a 53% increase in hospitalizations due opioid poisoning over the last 10 years (5).

Much of the current opioid crisis originated from the development and malicious marketing of slow release oxycodone (6) —also known as *OxyContin<sup>TM</sup>*—which was approved by Health Canada in 1996 (7). Oxycodone was marketed as a non-addictive opioid with little potential for abuse; however, it was soon discovered that the slow release properties were diminished when the pills were crushed. This led to the realization that the over-prescribing of oxycodone and its misuse was harmful, and oxycodone was subsequently removed from the Ontario Drug Benefit Formulary in 2012. Oxycodone was then reformulated to OxyNeo, which was less accessible than its predecessor. At this point, however, the liberal prescribing of oxycodone had resulted in many people becoming opioid dependent iatrogenically. A second subset of the opioid dependent population—those using non-prescribed opioids—were also affected by its removal from the market, as oxycodone was often being diverted and misused. The major unintended consequence of the transition from oxycodone to OxyNeo was a skyrocket in opioid use, as the removal of oxycodone drove opioid users—non-prescribed and prescribed alike—to seek illicit alternatives, such as heroin (8). Additionally, there was also a subsequent increase in the prescribing of hydromorphone (9) —*Hydromorph Contin<sup>TM</sup>*—which altered the primary route of consumption amongst opioid users from oral and snorting to intravenous injection drug use. This transition accompanied an increase in morbidity—such as infective endocarditis (10)—as well as an increase in opioid overdose.

More recently, a different trend in opioid use has emerged, which has particularly affected those using non-prescribed opioids. One of the biggest sources of overdose death is the emergence of synthetic opioids—such as fentanyl and carfentanil—which are often used to contaminate drug supplies to unknowing consumers (11). These drugs are incredibly potent: fentanyl is approximately 100 times more potent than morphine and carfentanil is approximately 100 times more potent than fentanyl (12). With a potency of 10,000 greater than morphine, trace amounts of carfentanil can be lethal. In the last five years, some provinces have seen more than a 10-fold increase in emergency department visits due to synthetic opioid poisonings alone (5).

It can be said that the transition from oxycodone to more potent synthetic opioids—such as carfentanil—has profoundly changed drug use patterns. This has ultimately driven the trend to higher overdose death rates. While there is an understanding of how the opioid epidemic developed, where to go from here is not as clear.

### ***How has the problem been addressed in the past & at present?***

One early step that has been taken to address the opioid crisis was the release of the First Do No Harm: Responding to Canada’s Prescription Drug Crisis report in 2013 by the Canadian Centre on Substance Abuse (CCSA). The report established 58 recommendations to address the growing harms associated with prescription drugs, including opioids. Recommendations included developing and promoting risk-reduction programs, reviewing the effectiveness of take-home naloxone programs, developing clinical decision-support tools in areas such as addiction, mental health and pain management, and implementing evidence-informed education programs on prescribing practices and linking these programs to prescription monitoring programs (13). The First Do No Harm report and its recommendations laid the foundation for Canada’s response to the opioid crisis.

In November 2016 former Federal Health Minister Jane Philpott, held an Opioid Summit in response to the drastic increase in opioid related deaths over the previous years. The objective of the summit was to bring multiple care organizations and governments together to provide a collective response to the opioid crisis and identify specific actions. The result of this summit was the Joint Statement of Action (JSA). The JSA laid out the commitments and goals each organization had established to address the opioid crisis.

It has now been over a year since the release of the JSA. Reflecting on progress to-date, the CFMS has identified five key areas that require sustained or increased attention: prescription monitoring programs, access to multidisciplinary pain care, integrating mental health and substance use disorder resources, continued support and availability of harm reduction measures, and increased education for medical students, residents and physicians on pain, opioid treatment and addictions.

#### **i.) Prescription Monitoring Programs**

Prescription Monitoring Programs (PMPs) are state-run systems that allow for the collection and distribution of data on prescriptions and distribution of substances that have the potential for abuse. Since the beginning of the opioid crisis, Canada has recognized the importance of developing PMPs to better recognize and monitor prescription opioid use and misuse. In 2013, the First Do No Harm report identified that data collection was hindered by the fragmentation across different provincial PMPs, each with different terminology, list of drugs evaluated, and target populations. Chief among its goals within the 10-year strategic plan was the proposal of a pan-Canadian national surveillance system to allow for ongoing collection,

analysis, and dissemination of information to better inform policies and practices to address the opioid crisis (13). In April 2015, the CCSA released a report that endorsed PMPs, identified a list of best practice recommendations for establishing PMPs and encouraged “...information sharing and standardization of data collection across jurisdictions in Canada...”(14). The Canadian Medical Association (CMA) conducted a survey of e-Panel members in May 2014 and found that 94% of respondents indicated that PMPs are a significant contributor to optimal opioid prescribing, highlighting their important role (15). Unfortunately, progress has been slow. The assembly of a task force, called the Monitoring and Surveillance Team, in 2014 sought to establish the fundamental components of a national surveillance system by creating PMPs in every province and territory, each with standardized data streams, terminology, and indicators (16). In the 2016 JSA report, all provinces except Quebec committed to increasing or establishing a PMP and British Columbia specifically mentioned supporting a national surveillance hub and sharing of information nationally (17). It was not until 2017 that the federal and provincial governments all agreed upon common terminologies for opioid-related harms surveillance, and there has yet to be such consensus on the prescription monitoring data. Furthermore, the Northwest Territories, Nunavut, and Quebec all lack PMPs (18).

## **ii.) Access to Multidisciplinary Pain Care**

Multidisciplinary care involves practitioners from multiple modalities adopting a biopsychosocial approach to treatment, which has shown to be more effective for chronic non-cancer pain care when compared to unidimensional care (27-30). Several organizations have added their voice in support of multidisciplinary pain care. In a 2015 report, the CMA noted that a “...lack of supports and incentives for the treatment of complex cases, including availability and funding for treatment options for pain and addictions” is a contributing factor to increased opioid prescribing (34). The 2010 Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain recommended referring patients with long-term opioid use and under-managed pain to multidisciplinary pain programs based on the improved outcomes observed. In addition, the 2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain strongly recommends referring patients to multidisciplinary programs, but cites limited access as a significant barrier.

In addition to the creation of multidisciplinary pain clinics, broad consensus amongst policy makers, stakeholders and researchers in Canada has emerged recognizing the need to: 1) building a patient registry of publicly available aggregate data to advance knowledge on current services offered and to improve service delivery, 2) develop a national pain network to coordinate regional centres for support on clinical decision making and education, and 3) optimize funding models to support quality, yet efficient care tailored towards patients with chronic pain (35). To this end, a Canada-wide effort has been established to engage researchers, clinicians, and patients in accomplishing these overarching goals, called the

Canadian Pain Strategies for Patient Oriented Research (SPOR) Network funded by CIHR (36). This has been supported by the CMA and the Canadian Pain Coalition (CPC)(17).

### **iii.) Integrating Mental Health and Substance Use Disorder Resources**

Traditionally, mental health resources and substance use disorder resources—such as harm reduction—have been separate entities, referred to as a parallel treatment approach. However, there is strong evidence to support an integrated treatment (IT) approach for treatment of these comorbidities (19-22). Integrated treatment is defined as the combination of mental health and substance use disorder treatments and supports provided under the same care team to deliver consistent explanations and prescribing practices(22). This approach is also supported by several prominent stakeholders, including those in government, mental health, and healthcare. Mental health authorities, namely organizations such as the Centre for Addiction and Mental Health (CAMH) and the Canadian Mental Health Association (CMHA), have advocated for an integrated treatment approach for mental illness and substance use disorder (23). In addition, the Canadian Psychiatric Association (CPA) and the College of Family Physicians of Canada (CFPC) issued a joint position paper on collaborative mental health care in Canada, which refers to integrating mental health and addictions services in primary care (24). Politically, there has recently been a shift in momentum towards integrated treatment. The 2016 Interim Report and Recommendations on the Opioid Crisis in Canada by the Standing Committee on health proposed two recommendations echoing the integration treatment approach – namely Recommendation 29 and 30 – which call for the Federal Government to collaborate with provinces and territories “to ensure treatment for active drug users is available to address the underlying mental health issues that may contribute to or exacerbate drug addiction,” and secondly “to develop a national strategy to provide better training and mental health services for front-line workers and first responders” (25). The feasibility of this proposal is bolstered by the 2017 Liberal government’s budget that pledged a \$5 billion investment over 10 years to support mental health initiatives, including addictions specifically (26). However, there is currently no evidence of any action taken with regards to Recommendations 29 and 30 and significant need remains. For example, among at-risk injection drug users in the greater Vancouver area, mental health comorbidities are associated with self-reported inability to access social and health services, and only 13-15% had received mental health services despite over 90% having a mental health comorbidity (44).

### **iv.) Support and Availability of Harm Reduction Services**

In the setting of the opioid crisis, harm reduction refers to policies and programs that reduce individual and societal harm, without requiring abstinence or reduction in addictive behaviour (37). Harm reduction has been a large part of Canada’s approach to the opioid crisis. Firstly, the federal government and all provinces have supported increased access to naloxone (17, 38). Secondly, in 2017 the federal government passed Bill C-37, which amended the

Controlled Drugs and Substances Act to streamline the application process for safe injection sites (SISs) (39). This has led to the approval of 24 new SISs across Canada (40). The federal government has also amended Health Canada's Special Access Program to allow the prescription of diacetylmorphine (41). Despite the support of harm reduction efforts, more people continue to die every year from the opioid crisis. In 2017, 92% of those deaths were accidental (42). This highlights the need to continue to expand harm reduction services such as naloxone, as well as increase accessibility, particularly in First Nations and rural communities who are disproportionately affected. First Nations people are five times more likely to experience an overdose event and three times more likely to die due to an overdose than non-First Nations individuals (69).

#### **v.) Education for Medical Students, Residents and Physicians on Pain, Opioid Treatment and Addictions**

As previously mentioned, inappropriate prescribing practices by physicians contributed to the development of the opioid crisis. This highlights the need for clinical education regarding pain, opioid treatment, and substance use disorder for physicians, residents and medical students. The College of Family Physicians of Canada (CFPC) in partnership with the Pan-Canadian Collaborative on Education for Improved Opioid Prescribing has compiled a list of links and resources for physicians to access on their website (43) This is considered part of a family physician's Continued Professional Development but is not considered mandatory. The 2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain established by the Pan-Canadian Collaborative is a comprehensive, evidence-based guide intended for those who prescribe opioids. The guidelines address non-cancer pain management and best prescribing practices but do not address management of opioid use disorder. The Association of Faculties of Medicine of Canada (AFMC) released the Final Report on the AFMC Response to the Canadian opioid crisis. In this report, the AFMC identified that there are inconsistencies in time allocation across Canadian medical school curricula with regards to education on substance use disorder and pain management. The AFMC has committed to the federal government's 2016 JSA and is currently working to update the curricula to ensure that medical students and residents receive the training they need to properly manage patients in the context of the opioid crisis.

#### ***Relevance to medical students***

The opioid crisis impacts medical students across all stages of training and into their professional career, underscoring the importance of medical learner engagement on this issue. Though medical students are not yet prescribers, prescribing proficiency begins with the principles of pain management, the science of analgesia and understanding the models of dependence in medical school. Medical students need to be well-educated on the issue, as they

will be in charge of managing patients affected by the opioid crisis and their diverse and complex comorbidities. As learners, medical students interact with these patients regularly in the context of a system that does not adequately address their needs. Medical learners will meet those suffering from chronic pain and substance use disorder on clerkship rotations, electives, observerships, and placements, and witness the harms of the opioid crisis on the front lines. They must be prepared to provide appropriate care: knowing when opioids are (and are not) indicated, recognizing patterns of misuse, and helping patients treat substance use disorder and manage chronic pain. It is important that students act appropriately while doing no additional harm. Medical students also have a duty to be accurately informed as they will soon be relied upon for explanations from patients, colleagues, community members, and the media. When there is public resistance to evidence-based approaches such as harm reduction, medical students must be able to stand up for patients in need and work towards eliminating stigma and enabling access.

Medical students will inherit the outcomes of the current opioid epidemic as they transition to medical practice. Given this stake in the issue, engagement provides an opportunity as future practitioners to be involved in reforming practice and developing a system-wide solution. The opioid crisis is a complex and significant public health challenge that requires a multipronged solution with all stakeholders at the table. As future physicians, medical students must work to address the upstream causes of the crisis in order to eliminate the downstream effects currently overwhelming our healthcare system.

## **Principles**

The CFMS endorses the following principles guiding a comprehensive response to Canada's opioid crisis:

1. Appropriate healthcare services must be accessible to all, including those in rural and remote regions. Individuals with chronic pain have the right to pain relief, which may include opioids in cases where alternatives are not available or effective. People with opioid use disorder deserve stigma-free treatment of their illness, including harm reduction.
2. The root cause of opioid use disorder must be addressed to succeed in addressing its impact at both an individual and population level. A biopsychosocial approach to the management of substance use disorder and chronic pain targets the issue upstream and can help reduce stigmatization of opioid use when indicated for pain relief.
3. Proper supports are required for front-line workers including physicians and medical learners. Health care providers require proper education and support to address pain

and substance use disorder that is responsive to their needs and public health realities.

## **Recommendations**

To this end, the CFMS Opioid Task Force recommends the following actions to support a comprehensive response to the opioid crisis:

1. To develop real-time prescription monitoring programs in every province and territory, and to integrate the data used in each of these systems to generate opioid prescription data at the national level.
2. To increase access to biopsychosocial multidisciplinary pain care models across Canada, with a focus on underserved and Indigenous communities, while maintaining critical pain relief for patients in need.
3. To better integrate mental health services alongside addiction resources to improve the accessibility of mental health services for hard-to-reach populations.
4. To increase funding and continued availability of harm reduction services, including further access to treatment services for opioid use disorder (OUD).
5. To enhance medical education and improve resources for all future and current health care providers, especially those in primary care, to support the early recognition and treatment of chronic pain.
  - a. To support expansion of programs aimed at providing education to primary health care providers, especially in underserved, rural, and remote communities with regards to chronic pain and addictions management, as well as opioid prescribing.
  - b. To support recommendations laid out by the AFMC on enhancing pain and opioid prescribing education in undergraduate, residency, and continuing medical education programs.

### ***1) Establish and Integrate PMPs across provinces***

**Recommendation:** *To develop real-time prescription monitoring programs in every province and territory, and to integrate the data used in each of these systems to generate opioid prescription data at the national level.*

Establishing prescription monitoring programs (PMPs) in each province is an important opportunity for Canada to generate critical epidemiological data on the opioid crisis that can guide future policies to address this growing public health problem. The value of this potential data has been demonstrated in a number of previous studies.- In the United States, PMPs in Maine provided epidemiological analyses that revealed that 83% of individuals obtained their

medications from only one or two prescribers and pharmacies (45), while another analysis of Indiana's PMP demonstrated that rates of opioid abuse in a given county were associated with the number of prescriptions written in that county (46).

Integrating PMPs across provinces and territories is important to ensure that PMPs achieve maximal impact in reducing opioid-related harms. For example, state-wide PMPs from 1999 to 2008 suggest that the significant variability in PMPs and lack of data-sharing between state-wide PMPs may explain their variable impact in reducing per-capita opioid prescriptions (47). Canada should learn from such findings in integrating all PMPs. Furthermore, standardizing PMPs and sharing data across Canadian provinces and territories would allow for more robust data collection as it would include patients who fill prescriptions in different provinces and territories. This compilation of data at the national level would create better understanding and address the opioid crisis nationally. Further, using standardized metrics that are comparable across provinces would help to evaluate how each province is differentially influenced by national policies, which could also inform provincial measures to address specific needs.

PMPs have also been shown to reduce problematic prescriptions and their subsequent harms. Specifically, PMPs that create real-time data accessible to physicians and pharmacists are invaluable tools to ensure the necessity and safety of prescriptions for patients. Studies also demonstrate that PMPs can reduce opioid-related mortality, treatment admissions, and opioid prescriptions (48). Further, one nation-wide survey of 26,275 ambulatory care office visits across the US found that PMPs reduced the rate of prescribing schedule II opioids by more than 30% (49). Other analyses have shown that states with PMPs have lower rates of opioid abuse and opioid treatment admission (50, 51).

Early evidence on the existing PMPs in Canada suggest that the benefits of such programs are likely to be recognized in the Canadian context as well. Two studies have demonstrated that inappropriate prescriptions in British Columbia and Ontario decreased when PMPs were put into place (52, 53). Furthermore, such systems are likely to be well-received and utilized by physicians in Canada. In fact, in a survey of 710 Canadian physicians, the single most important facilitator of following current opioid prescribing guidelines was identified as the ability to access information on previous opioid prescriptions gathered from a provincial PMP (54). Allowing regulatory bodies access to PMP information would also allow for a number of interventions to reduce inappropriate prescribing behaviour, including educational or warning letters to alert providers of problematic or duplicated prescriptions, as well as audit and feedback strategies to improve prescribing practices (55).

The first step in implementing this recommendation involves establishing a set of universal criteria for PMPs across all provinces and territories - including how and what data will be created, which pharmaceuticals will be monitored, and how the data will be accessed. This would involve convening stakeholders from different provinces to agree upon these

specifics, as has been achieved in 2017, to standardize epidemiological definitions relating to opioid-related harms. Deciding on these specifics can also be guided by existing best practice recommendations. In 2015, the Canadian Centre on Substance Abuse published a comprehensive review titled: Prescription Monitoring Programs in Canada: Best Practice and Review, which put forth a series of eight recommendations for to guide PMPs related to medications with potential for abuse (14). These recommendations include a list of all prescription drugs with potential for abuse (including opioids), unique identifiers and patient profiles be created with robust safeguards, creation of reports for stakeholders, use of standardized data collection for data sharing and research, and program evaluation put in place for all PMPs.

Establishing this universal framework would then allow for seamless integration of data between provincial PMPs. The second step would be to develop PMPs in every province and territory, including those currently lacking a PMP (Northwest Territories, Nunavut, Quebec), based on this framework. Existing PMPs could also be modified based on these agreed-upon criteria. Since most provinces have some form of PMP in place, this recommendation is particularly feasible to accomplish, as considerable infrastructure for a PMP is already in place in most provinces.

## **2) Multidisciplinary Pain Clinics**

**Recommendation:** *To increase access to biopsychosocial multidisciplinary pain care models across Canada, with a focus on underserved and Indigenous communities, while maintaining critical pain relief for patients in need.*

Policies intended to address the opioid crisis must not to restrict access to opioid therapy for those who require pain relief when the current state of effective pain care access in Canada is inadequate (56, 57). Unfortunately, some recent opioid-restricting responses have led to the denial of pain relief for patients with chronic pain without offering an alternative (58). Therefore, more effective pain control measures are required which would prevent patients from turning to opioids for long-term pain relief, putting them at greater risk for opioid misuse and overdose (59, 60). In the short term, this includes maintaining safe access to prescription opioids by trained personnel in primary care or through multidisciplinary pain clinics while addressing stigma of opioid use for pain, and in the long term, increasing access to biopsychosocial non-opioid pain services. It must be maintained that access to pain relief is a human right that still needs to be met during the transition to better pain care in Canada (59).

Addressing pervasive issues in chronic pain management in Canada is not going to solve the opioid crisis alone yet increasing access to multidisciplinary pain clinics has had considerable attention as a solution to fill the current gaps in care that exists for patients with

chronic pain (61). Multidisciplinary care involves practitioners from multiple modalities adopting a biopsychosocial approach to treatment including, but not limited to movement and environmental therapies such as physical and occupational therapy, cognitive behavioural therapy and relaxation strategies for maladaptive thoughts and behaviours, as well as connecting to community resources for longitudinal support and management (62). Multidisciplinary pain care has proven to be the gold standard for chronic non-cancer pain care and is more effective compared to standard-of-care (62, 63). Further, patients who present to multidisciplinary clinics are often in great need of care as they often have multiple comorbidities, have been suffering from pain for many years, and live with significant disability and lower quality of life (31, 32).

However, access to multidisciplinary pain care is limited as there are minimal centres in Canada, with waitlists anywhere from two months to two years (33, 64). This is even though delays in pain care exceeding five weeks have been associated with decreased in health-related quality of life and psychological well being (32). Further compounding this urgent issue is the scarce to non-existent access to pain care in rural and remote regions. For example, there are currently no multidisciplinary pain clinics in any of the three Territories (31, 65).

Indigenous Peoples in Canada more frequently report chronic pain, owing at least in part to previous historical trauma and psychosocial problems (66). Furthermore, previous research has highlighted that Indigenous Peoples are less likely to access multidisciplinary pain care and have difficulty expressing their experience with pain through most chronic pain assessments used in Canada (67). However, the Northern Pain Scale (NorthPS) by Ellis et al. (68) was created to address this issue, and other similar culturally sensitive strategies can be feasibly adopted in multidisciplinary clinics to better serve Indigenous Peoples across Canada.

Given the efficacy of multidisciplinary chronic pain care with corresponding patient need, we recommend expanding the availability of multidisciplinary pain clinics across Canada. By prioritizing the early identification and intervention of chronic pain, these clinics can promote greater biopsychosocial functioning earlier in the patient's journey, thereby preventing problematic opioid use or other maladaptive responses to untreated pain (32, 60). There must also be a special focus on improving access to these multidisciplinary clinics in rural and remote areas, as will be discussed in greater detail in Recommendation 3.

### ***3) Mental Health & Addictions***

**Recommendation:** *To better integrate mental health services alongside addiction resources in order to improve the accessibility of mental health services for hard-to-reach populations*

It has been well-established that substance use disorders (SUD) and mental illness have significant overlap. This is particularly relevant to the current opioid crisis. A large retrospective cohort study indicates that 87% of individuals with an opioid use disorder (OUD) in Ontario are diagnosed with a mental health disorder (19). Further, studies have compared patients with OUD to patients with alcohol substance abuse or no diagnosis and have found that opioid groups have higher rates of mental health conditions including bipolar disorder, as well as their respective consequences. (20). Over half of all opioids prescribed in America are prescribed for the 16% of the population that has a mental health disorder (21).

Traditionally the treatment options for mental illness and SUD have been separate entities, referred to as a parallel treatment approach. However, there is strong evidence to support an integrated treatment (IT) approach for these comorbidities. Patients receiving IT have decreased rates of hospitalizations, decreased days of psychiatric hospitalization and decreased incidences of arrests when compared to parallel treatment (71). Further, studies have shown that an IT approach results in patients accessing more care, higher rates of self-reported abstinence from drug use and reduced crime rates in the treatment population (72, 73).

Despite this support for an IT approach, there is scarce work on how such an approach would be implemented. One option that is well-supported by current evidence is to incorporate addiction services into primary care, specifically in community health centres (74). Primary care offers an opportunity to fill the gap in addiction treatment and offer underutilized treatment options to patients with opioid use disorder. Integrating screening services for SUD into primary care is an important step because it will help identify the patients that could benefit from IT (20). This approach has been demonstrated by a 2007 policy in Quebec that required primary healthcare clinics to provide addiction services that included screening, brief interventions and referral (SBIR) (75). However, a 2013 qualitative analysis of this policy highlighted some potential barriers to integrating SBIR into primary care, including staff resistance to change, and a lack of a systematic approach to screening or a formal procedure for referrals (75). Fortunately, these barriers are amenable to policies and procedures at the institutional level that can streamline these processes. Given the significant potential impact of the IT approach, the Canadian government should work to establish policies to more successfully implement the IT approach in primary care.

Reciprocally, a significant opportunity for Canada exists in incorporating mental health services alongside existing addiction resources, such as safe injection sites, methadone clinics, and addiction treatment programs. This approach of integrating treatment of addictions alongside mental healthcare to address complex patients with underlying mental health comorbidities represents an important missed opportunity for Canada, where mental health needs are currently overshadowed by the push to increase access to addiction treatments alone (19). Addressing the mental health needs of these patients may have a synergistic effect

on their adherence to addiction treatment, given the ongoing interaction between these two conditions during treatment. Further, mental health comorbidities have been shown to reduce adherence to opioid maintenance treatment (76), and reciprocally, methadone maintenance patients who abstained from illicit opioid use one month prior to beginning psychiatric therapy demonstrated greater reduction in psychiatric distress from this counselling (77). Lastly, this approach would reach populations that otherwise may not present to primary care. In one trial of 316 patients, patients assigned to receive psychiatric care at the same site as their methadone treatment were significantly more likely to initiate, continue, and benefit from psychiatric appointments, compared to those randomized to off-site locations (78).

Despite the clear benefit of improved access to mental health services, their current scarcity, most prominently in rural, remote and Indigenous communities, remains a key barrier. This issue is pervasive throughout many areas of the Canadian healthcare system including with respect to multidisciplinary pain care. The issue of access for remote communities is challenging and novel solutions are needed. The use of telemedicine has been effective in some jurisdictions in filling the gap for services provided by particularly inaccessible health professionals in remote areas including psychiatrists, occupational therapists or physiotherapists whose practices are often concentrated in urban areas. For example, psychiatric care can be offered through telemedicine for patients receiving opioid maintenance therapy wherever care is difficult to access - in rural and urban settings alike. This may be an especially promising solution given delivering psychiatric care via telemedicine has been shown to be equally as effective as in-person therapy (87). In this way, telemedicine could be leveraged to improve access to integrated treatment in rural and remote regions where these services are significantly lacking.

#### ***4) Harm Reduction Approach***

***Recommendation:*** *To increase funding and continued availability of harm reduction services, including further access to treatment services for opioid use disorder (OUD).*

Harm reduction is one of four major pillars of the 2016 Joint Statement of Action to Address the Opioid Crisis. Important examples of harm reduction include SISs used to prevent harms associated with needle-sharing, as well as making naloxone widely available to help combat opioid overdose and prevent overdose deaths. Now that naloxone is available without prescription, facilitating access beyond pharmacies and various communities, including rural and remote areas, is a crucial next step.

While the incidence of opioid-related deaths is on the rise (79), the prevalence of OUD continues to increase. Therefore, beyond addressing the harms associated with OUD through harm reduction, it is crucial that access to treatment for OUD continue to be expanded to

address the prevalence of this underlying condition. Opioid agonist therapy (OAT) is regarded as the gold standard of care for OUD and is primarily available in the form of methadone or buprenorphine/naloxone (Suboxone). There is clear evidence that OAT is effective in treating patients who have OUD (80-86). Despite the recent expansion of OAT in Canada (87), access to treatment continues to be an issue in many parts of the country, particularly in rural and remote areas (88). The limited access is in large part due to the increased demand for treatment which has outgrown supply (87).

While the Canadian Federation of Medical Students advocates for increased access and funding to harm reduction services—including OAT—it is also important to recognize that some patients with OUD will seek abstinence-based treatment options. While there is an absence of strong evidence to support this approach to treatment (2-8), physicians should use a patient-centered approach and support patients in their treatment requests, while simultaneously educating patients on the literature surrounding abstinence-based programs. Importantly, these types of programs and treatment centres should always have naloxone onsite, and patients should receive naloxone upon discharge.

A common opposition to the use of harm reduction initiatives and OAT is that they serve to sustain addiction rather than treat it. However, it is important to emphasize that harm reduction does not come at the expense of treatment, nor does it deter abstinence from substance use (70). Rather, harm reduction is about “meeting people where they are at”, recognizing that treatment and abstinence are not realistic, viable, or desired options for all substance users (70). Harm reduction, improved access to treatment, and holistic care that addresses the biopsychosocial factors that underlie substance use are all needed in combination to address the current opioid crisis in Canada.

In practice, physicians should support patients at all stages with respect to their OUD. If patients are not currently seeking OAT, the physician can still use a harm reduction approach and minimize the risks associated with their patient’s opioid use. This can include educating their patient on preventing opioid overdose, prescribing them naloxone, or referring them to a needle distribution program to obtain sterile supplies.

## **5) Education**

**Recommendation:** *To enhance medical education and improve resources for all future and current health care providers, especially those in primary care, to support the early recognition and treatment of chronic pain.*

Pain is one of the main reasons patients seek care, and primary care physicians are most often the first point of contact into the healthcare system (89). Given the prevalence of chronic pain in primary care, physicians should have the supports and competencies to treat patients

living with chronic pain. However, physicians may not receive the necessary resources to obtain this competency. A cross-sectional survey of Canadian primary care providers identified that education around providing patient-centered chronic pain care is lacking in both undergraduate and postgraduate training (90). This gap has been widely identified as a pervasive issue in our predominately biomedical-based models care, pointing to a need for not only increased training, but better-directed training on how to provide biopsychosocial care (91, 92).

When possible, primary care physicians will refer their patients with chronic pain to specialized multidisciplinary care for the proper management of their pain. However, as previously discussed, these services are often barred by significant wait times and a lack of availability in rural and remote areas. Delays between referral and care for chronic pain of more than five weeks results in poorer health outcomes (32). Therefore, supporting current and future primary care physicians with managing chronic pain will assist in the timely identification and early treatment of chronic pain patients in the community and enhance patient outcomes (89). With regards to ongoing development of physician expertise in this area, we specifically recommend to:

**5.1) To support expansion of programs aimed at providing education to primary healthcare providers, especially in underserved, rural, and remote communities with regards to chronic pain and addictions management, as well as opioid prescribing.**

An example of a program that provides support to primary care physicians is Extension of Community Healthcare Outcomes (ECHO) Chronic Pain and Opioid Stewardship, which utilizes telehealth technology to connect primary care providers in underserved communities in Ontario with expert interprofessional teams at academic centres, with the goal of sharing information around chronic pain management and opioid prescribing (93). Known benefits include the affordability of program implementation and delivery, relationship-building across practitioners, and education that translates to better outcomes for patients who would not otherwise have access to care (93). Participants in this program also receive CPD credits at no cost. With this knowledge, implementation of similar programs in other provinces, as well as continued expansion in Ontario, is a feasible option for improving chronic pain management in the primary care setting.

Other examples of initiatives that have been successful in assisting primary care providers to manage patients with chronic pain and/or addictions is the Medical Mentoring for Addiction and Treatment project (MMAP) launched by the Ontario College of Family Physicians and Pain BC's Education for Health Care Providers. MMAP is an online forum where health professionals can get direct feedback from experts in pain and addictions, with participants in the program reporting an improved competency in managing complex patients with pain and

addictions (94). The success of this program indicates that mentorship and knowledge exchange forums can improve primary care physicians' competencies in responding to health issues of patients affected by the opioid crisis. More work remains to be done to ensure that primary care providers across Canada have access to these resources.

## **5.2) To support recommendations laid out by the AFMC on enhancing pain and opioid prescribing education in undergraduate, residency, and continuing medical education programs.**

Proper education for future health professionals is required to ensure that care providers have a better understanding on how to care for patients with pain and how to prescribe opioids safely. Previous reports have identified considerable inconsistencies across Canadian medical programs in teaching hours devoted to pain-related content (95, 96, 97) and have called for curricular reform across healthcare professions (55). A commitment to review and improve curricula to reflect the latest evidence-based recommendations has been made by the Association of Faculties of Medicine of Canada (AFMC) alongside the Associations of the Faculties of Dentistry, and Pharmacy of Canada, and the Canadian Association of Schools of Nursing.

To address this issue in medical education, the AFMC convened an expert panel that completed an in-depth evaluation of existing curricula across Canadian medical schools and created a repository of best practices in UGME, PGME and CPD for teaching and evaluating opioid prescribing and pain management, which will form the foundation for further curricular development. Moving forward, the panel recommends that the Faculties of Medicine develop a competency-based graduated curriculum in undergraduate and postgraduate medical education and continuing professional development. The AFMC is currently partnering with Health Canada to support this curriculum development and the implementation of a nationwide plan. The curriculum will include core competencies in opioid prescribing and the diagnosis and treatment of pain and substance use disorders. The competencies will be reinforced throughout the continuum of education, from undergraduate education to residency training and in continuing education for practicing physicians.

The AFMC recommends faculties evaluate the new curriculum ongoingly and assess its learning outcomes. Ongoing research of the impact of new curricula in physician knowledge, skills, attitudes, behaviours and competencies in the diagnosis, management and treatment of pain, opioid prescribing patterns, addictions and substance abuse has also been recommended. The CFMS supports this commitment to quality improvement in medical education and encourages the involvement of medical learners at all stages of the curriculum development and evaluation process. Furthermore, the CFMS has taken steps to support such research projects led by its own members.

## References

1. International Narcotic Control Board. Narcotic Drugs Technical Report: Estimated World Requirements for 2017 - Statistics for 2015. 2017. Available from: [http://www.incb.org/incb/en/narcotic-drugs/Technical\\_Reports/2016/narcotic-drugs-technical-report-2016.html](http://www.incb.org/incb/en/narcotic-drugs/Technical_Reports/2016/narcotic-drugs-technical-report-2016.html)
2. Canadian Institute for Health Information. Pan-Canadian Trends in the Prescribing of Opioids, 2012 to 2016. Ottawa: The Institute; 2017.
3. Dhalla IA, Mamdani MM, Sivilotti MLA, Kopp A, Qureshi O, Juurlink DN. Prescribing of opioid analgesics and related mortality before and after the introduction of long-acting oxycodone [Internet]. CMAJ. Canadian Medical Association Journal; 2009.
4. Boyd S. Drug use, arrests, policing, and imprisonment in Canada and BC, 2015-2016. Vancouver: Author; 2018.
5. Canadian Institute of Health Information. Opioid-Related Harms in Canada. 2017.
6. Klimas J. Time to confront iatrogenic opioid addiction. The Medical Post [Internet]. 2016 May.
7. Government AO. OxyContin abuse and diversion and efforts to address the problem: highlights of a government report. Journal of pain & palliative care pharmacotherapy. 2004;18(3):109-113.
8. Alpert A, Powell D, Pacula RL. Supply-Side Drug Policy in the Presence of Substitutes: Evidence from the Introduction of Abuse-Deterrent Opioids. National Bureau of Economic Research; 2017.
9. Grant K. Opioid use increases after oxycodone crackdown. Globe and Mail. 2014 July 8.
10. Axelsson A, Soholm H, Dalsgaard M, Helweg-Larsen J, Ihlemann N, Bundgaard H, et al. Echocardiographic findings suggestive of infective endocarditis in asymptomatic Danish injection drug users attending urban injection facilities. The American Journal of Cardiology. 2014;114(1):100-4.
11. Tyndall M. An emergency response to the opioid overdose crisis in Canada: A regulated opioid distribution program. Canadian Medical Association Journal. 2018;190(2):E35-E6.
12. Swanson DM, Hair LS, Strauch Rivers SR, Smyth BC, Brogan SC, Ventoso AD, et al. Fatalities involving carfentanil and furanyl fentanyl: Two case reports. Journal of Analytical Toxicology. 2017;41(6):498-502.
13. Ulan S, Davison C, Perron M. First do no harm: Responding to Canada's prescription drug crisis national advisory council on prescription drug misuse. 2013.
14. Sproule B. Prescription monitoring programs in Canada: Best practice and program review [Internet]. Canadian Centre on Substance Abuse. 2015. Available from: [www.ccsa.ca](http://www.ccsa.ca)
15. Canadian Medical Association. Opioid prescription [Internet]. 2014 [cited 2018 Mar 29]. Available from: <https://www.cma.ca/En/Pages/opioid-prescription.aspx>
16. Canadian Centre on Substance Abuse. First do no harm: Responding to Canada's prescription drug crisis (Annual Report) [Internet]. 2014. Available from: [www.ccsa.ca](http://www.ccsa.ca)
17. The Coalition for Safe and Effective Pain Management. Joint Statement of Action to address the opioid crisis [Internet]. 2016. Available from:

<https://www.canada.ca/en/health-canada/services/substance-abuse/opioid-conference/joint-statement-action-address-opioid-crisis.html>

18. Health Canada. Government of Canada Actions on opioids. 2017. Available from: <https://www.canada.ca/en/health-canada/services/publications/healthy-living/actions-opioids-2016-2017.html>
19. Morin KA, Eibl JK, Franklyn AM, Marsh DC. The opioid crisis: past, present and future policy climate in Ontario, Canada. *Substance Abuse: Treatment, Prevention, and Policy*. 2017; 12(1): 45.
20. Iyiewuare PO, McCullough C, Ober A, Becker K, Osilla K, Watkins KE. Demographic and mental health characteristics of individuals who present to community health clinics with substance misuse. *Heal Serv Res Manag Epidemiol*. 2017. <https://doi.org/10.1177/2333392817734523>
21. Davis M, Lin L, Liu H, Sites BD. Prescription opioid use among adults with mental health disorders in the United States. *J AM Board Fam Med*. 2017; 30(4):407–17.
22. Rush B, Moxam RS, Nadeau L, McMMain S, Ogborne A, Goering P, et al. Best practices - concurrent mental health and substance use disorders [Internet]. 2007 [cited 2018 Mar 27]. Available from: <https://www.canada.ca/en/health-canada/services/health-concerns/reports-publications/alcohol-drug-prevention/best-practices-concurrent-mental-health-substance-abuse-disorders.html>
23. Benedict, A, Fisher, B, George, T, Henderson, J, Kadan, G, Le Fola, B et. al. CAMH: Prescription opioid policy framework. 2016. Available from: [https://www.camh.ca/en/hospital/about\\_camh/influencing\\_public\\_policy/Documents/CAMHopioidpolicyframework.pdf](https://www.camh.ca/en/hospital/about_camh/influencing_public_policy/Documents/CAMHopioidpolicyframework.pdf)
24. Kates N, Mazowita G, Lemire F, Jayabarathan A, Bland R, Selby P et. al. The evolution of collaborative mental health care in Canada: A shared vision for the future. 2011; *Can J Psychiatry*. 56(5): 1-10.
25. Chair BC. Report and recommendations on the opioid crisis in Canada. 2016. Available from: [http://publications.gc.ca/collections/collection\\_2016/parl/xc62-1/XC62-1-1-421-6-eng.pdf](http://publications.gc.ca/collections/collection_2016/parl/xc62-1/XC62-1-1-421-6-eng.pdf)
26. 23. Federal Government of Canada. Budget 2017 chapter 3 [Internet]. 2017 [cited 2018 Mar 29]. Available from: <https://www.budget.gc.ca/2017/docs/plan/chap-03-en.html>
27. Hassett AL, Williams DA. Non-pharmacological treatment of chronic widespread musculoskeletal pain. *Best Practice & Research Clinical Rheumatology*. 2011; 25(2):299–309.
28. Mannerkorpi, K, Henriksson C. Non-pharmacological treatment of chronic widespread musculoskeletal pain. *Best Pract Res Clin Rheumatol*. 2007; 21(3):513–34.
29. Scascighini L, Toma V, Dober-Spielmann S, Sprott H. Multidisciplinary treatment for chronic pain: a systematic review of interventions and outcomes. *Rheumatology*. 2008;47(5):670–8.
30. Kamper SJ, Apeldoorn AT, Chiarotto A, Smeets RJ, Ostelo RW, Guzman J, et al. Multidisciplinary biopsychosocial rehabilitation for chronic low back pain. [Internet]. The Cochrane database of systematic reviews. U.S. National Library of Medicine; 2014. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/25180773>

31. Choiniere, M, Dion, D, Peng, P, Banner, R, Barton, P, Boulanger, A, Clark, A, Gordon, A, Guerrier, D et al. The Canadian STOP-PAIN project- part 1: who are the patients on the waitlists of multidisciplinary pain treatment facilities? *Can J Anaesth.* 2010; 57(6):539-48.
32. Lynch ME, Campbell F, Clark AJ, Dunbar MJ, Goldstein D, Peng P, et al. A systematic review of the effect of waiting for treatment for chronic pain. *Pain.* 2008; 136(1-2):97-116.
33. Peng P, Choirez M, Dion D, Intrater H, LeFort S, Lynch M, et al. Challenges in accessing multidisciplinary pain treatment facilities in Canada. *Can J Anesth.* 2007; 54(12):977-84.
34. Canadian Medical Association. CMA policy: Harms associated with opioids and other psychoactive prescription drugs. 2015. Available from: <http://policybase.cma.ca/dbtw-wpd/Policypdf/PD15-06.pdf>
35. Wilson MG, Lavis JN, Ellen, ME. Supporting chronic pain management across provincial and territorial health systems in Canada: Findings from two stakeholder dialogues. *Pain Res Manag.* 2015; 20(5):269-279.
36. Chronic pain network [Internet]. 2018 [cited 2018 Mar 29]. Available from: <http://cpn-rdc.ca>
37. Erickson, P, Butters, J, Walko, K, Butterill, D, Caverson, R, Fishcer, B et. al. CAMH and harm reduction: A background paper on its meaning and application for substance use issues [Internet]. 2002. Available from: [http://www.camh.ca/en/hospital/about\\_camh/influencing\\_public\\_policy/public\\_policy\\_submissions/harm\\_reduction/Pages/harmreductionbackground.aspx](http://www.camh.ca/en/hospital/about_camh/influencing_public_policy/public_policy_submissions/harm_reduction/Pages/harmreductionbackground.aspx)
38. Grimsrud, K, Hyshka, E, Turner, K, Taylor, M, Tailfeather, E., Schulz, P et. al. Minister's opioid emergency response commission [Internet]. 2018. Available from: <https://www.alberta.ca/assets/documents/opioid-commission-recommendation.pdf>
39. Health Canada. Royal assent of Bill C-37 [Internet]. 2017 [cited 2018 Mar 29]. Available from: [https://www.canada.ca/en/health-canada/news/2017/05/royal\\_assent\\_of\\_bill-37anacttoamendthecontrolleddrugsandsubstan.html](https://www.canada.ca/en/health-canada/news/2017/05/royal_assent_of_bill-37anacttoamendthecontrolleddrugsandsubstan.html)
40. Health Canada. Supervised consumption sites: status of applications [Internet]. 2018 [cited 2018 Mar 29]. Available from: <https://www.canada.ca/en/health-canada/services/substance-abuse/supervised-consumption-sites/status-application.html>
41. Controlled Drug and Substances Act. Access to diacetylmorphine for emergency treatment [Internet]. 2016 [cited 2017 Mar 29]. Available from: <http://www.gazette.gc.ca/rp-pr/p2/2016/2016-09-07/html/sor-dors239-eng.html>
42. Public Health Agency of Canada. Apparent opioid-related deaths [Internet]. 2018 [cited 2018 Mar 29]. Available from: <https://www.canada.ca/en/health-canada/services/substance-abuse/prescription-drug-abuse/opioids/apparent-opioid-related-deaths.html>
43. College of Family Physicians of Canada. Chronic non-cancer pain management and opioid resources [Internet]. 2017 [cited 2018 Mar 29]. Available from: <http://www.cfpc.ca/chronic-non-cancer-pain-management-opioid-resources/>

44. Wang L, Panagiotoglou D, Min JE, et al. Inability to access health and social services associated with mental health among people who inject drugs in a Canadian setting. *Drug and alcohol dependence*. 2016; 168: 22-29.
45. McCall KL, Tu C, Lacroix M, Holt C, Wallace K, Balk J. Controlled substance prescribing trends and physician and pharmacy utilization patterns: Epidemiological analysis of the Maine Prescription Monitoring Program from 2006 to 2010. *Journal of Substance Use*. 2013; 18(6): 467–475.
46. Wright ER, Kooreman HE, Greene MS, Chambers RA, Banerjee A, Wilson J. The iatrogenic epidemic of prescription drug abuse: county-level determinants of opioid availability and abuse. *Drug and Alcohol Dependence*. 2014; 138:209–15.
47. Brady JE, Wunsch H, DiMaggio C, Lang BH, Giglio J, Li G. Prescription Drug Monitoring and Dispensing of Prescription Opioids. *Public Health Reports*. 2014; 129(2): 139–147.
48. Finley EP, Garcia A, Rosen K, McGeary D, Pugh MJ, Potter JS. Evaluating the impact of prescription drug monitoring program implementation: A scoping review. *BMC Health Services Research*. 2017; 17: 420.
49. Bao Y, Pan Y, Taylor A, Radakrishnan S, Luo F, Pincus HA, Schackman BR. Prescription Drug Monitoring Programs Are Associated With Sustained Reductions in Opioid Prescribing By Physicians. *Health Affairs (Project Hope)*. 2016; 35(6), 1045–1051.
50. Reisman RM, Shenoy PJ, Atherly AJ, Flowers, CR. Prescription Opioid Usage and Abuse Relationships: An Evaluation of State Prescription Drug Monitoring Program Efficacy. *Substance Abuse: Research and Treatment*. 2009; 3: 41–51.
51. Reifler LM, Droz D, Bailey JE, Schnoll SH, Fant R, Dart RC, Bartelson BB. Do Prescription Monitoring Programs Impact State Trends in Opioid Abuse/Misuse? *Pain Medicine*. 2013; 13(3): 434-442.
52. Dormuth CR, Miller TA, Huang A, Mamdani MM, Juurlink DN. Effect of a centralized prescription network on inappropriate prescriptions for opioid analgesics and benzodiazepines. *CMAJ : Canadian Medical Association Journal*. 2012; 184(16): E852–E856. <http://doi.org/10.1503/cmaj.120465>
53. Gomes T, Juurlink D, Yao Z, Camacho X, Paterson JM, Singh S, et al. Impact of legislation and a prescription monitoring program on the prevalence of potentially inappropriate prescriptions for monitored drugs in Ontario: a time series analysis. *CMAJ Open*. 2014; 2(4): E256–E261.
54. Allen MJ, Asbridge MM, MacDougall PC, Furlan AD, Tugalev O. Self-reported practices in opioid management of chronic noncancer pain: A survey of Canadian family physicians. *Pain Research & Management : The Journal of the Canadian Pain Society*. 2013; 18(4): 177–184.
55. Canadian Centre on Substance Abuse (CCSA). *First Do No Harm: Responding to Canada’s Prescription Drug Crisis*. Ottawa: National Advisory Committee on Prescription Drug Misuse; 2013. 76 p. Available from: <http://www.ccsa.ca/Resource%20Library/Canada-Strategy-Prescription-Drug-Misuse-Report-en.pdf>
56. Sessle BJ. *The Pain Crisis: What It Is and What Can Be Done*. *Pain Research and Treatment*. 2012; 2012:1–6.

57. Finestone HM, Juurlink DN, Power B, Gomes T, Pimlott N. Opioid prescribing is a surrogate for inadequate pain management resources. *Canadian Family Physician*. 2016; 62(6): 465-468.
58. Ross M. Letters: Opioids for chronic pain. *CMAJ: Canadian Medical Association Journal*. 2018; 190: E269.
59. Brennan F, Carr D, Cousins M. Access to Pain Management—Still Very Much a Human Right. *Pain Medicine*. 2016; 17(10): 1785–1789.
60. Meuse M. Pain sufferers turning to street drugs as B.C. doctors prescribe fewer opioids. *CBC News*. 2016, July 19. [cited 2018 Mar 29] Available at: <http://www.cbc.ca/news/canada/british-columbia/opioid-prescription-reluctance-1.3685377>
61. Palmer K, Tepper J, Pendharkar S. Chronic pain: do patients get the care and treatment they deserve? *Healthy Debate* [Internet]. 2017 October 27. [cited 2018 Mar 29]. Available from: <http://healthydebate.ca/2016/10/topic/chronic-pain-care-treatment>
62. Scascighini L, Toma V, Dober-Spielmann S, Sprott H. Multidisciplinary treatment for chronic pain: A systematic review of interventions and outcomes. *Rheumatology (Oxford)*. 2008; 47(5):670-8.
63. Abbey H. Multidisciplinary biopsychosocial rehabilitation for chronic low back pain: Cochrane systematic review and meta-analysis. *International Journal of Osteopathic Medicine*. 2015;18(3):239–40.
64. Lau B, Poulton B, Zakbar D. Chronic pain prevention & management strategy. *Northern Health*, December 2014.
65. Lavis JN, Boyko JA. Evidence Brief: Supporting Chronic Pain Management across Provincial and Territorial Health Systems in Canada. Hamilton, Canada: McMaster Health Forum, 9 December 2009.
66. Nelson, S., Browne, A., & Lavoie, J. (2016). Representations of Indigenous Peoples and Use of Pain Medication in Canadian News Media. *International Indigenous Policy Journal*, 7(1). doi:10.18584/iipj.2016.7.1.5
67. Nathalia Jimenez, Eva Garrouette, Anjana Kundu, Leo Morales, Dedra Buchwald, A Review of the Experience, Epidemiology, and Management of Pain among American Indian, Alaska Native, and Aboriginal Canadian Peoples, *The Journal of Pain*, Volume 12, Issue 5, 2011.
68. Ellis, J. A., Ootoova, A., Blouin, R., Rowley, B., Taylor, M., DeCourtney, C., Joyce, M., Greenley, W., & Gaboury, I. (2011). Establishing the psychometric properties and preferences for the Northern Pain Scale. *International Journal of Circumpolar Health*, 70(3), 274-285.
69. First Nations Health Authority. Overdose Data and First Nations in BC: Preliminary Findings. 2017. Available from: [http://www.fnha.ca/newsContent/Documents/FNHA\\_OverdoseDataAndFirstNationsInBC\\_PreliminaryFindings\\_FinalWeb.pdf](http://www.fnha.ca/newsContent/Documents/FNHA_OverdoseDataAndFirstNationsInBC_PreliminaryFindings_FinalWeb.pdf)
70. Homeless Hub. Harm Reduction. 2017. Available from: <http://homelesshub.ca/about-homelessness/substance-use-addiction/harm-reduction>
71. Mangrum LF, Spence RT, Lopez M. Integrated versus parallel treatment of co-occurring psychiatric and substance use disorders. *J Subst Abuse Treat*. 2006; 30(1): 79-84.

72. Zhang H-H, Tan L-X, Hao W, Deng Q-J. Evaluation of a community-based integrated heroin addiction treatment model in Chinese patients. *Oncotarget*. 2015; 8(33): 54046-54053.
73. Watkins KE, Ober AJ, Lamp K, Lind M, Setodji C, Osilla KC, et al. Collaborative care for opioid and alcohol use disorders in primary care: the SUMMIT randomized clinical trial. *JAMA Intern Med*. 2017; 177(10): 1480-1488.
74. Storholm ED, Ober AJ, Hunter SB, Becker KM, Iyiewuare PO, Pham C, et al. Barriers to integrating the continuum of care for opioid and alcohol use disorders in primary care: a qualitative longitudinal study. *J Subst Abuse Treat*. 2017; 83: 45-54.
75. At K, Ho OO, Sc B. From policy to practice: implementation of treatment for substance misuse in Québec primary healthcare clinics. *Healthc Policy*. 2015;86111187(22).
76. Litz M, Leslie D. The impact of mental health comorbidities on adherence to buprenorphine: A claims based analysis. *Am J Addict*. 2017; 26(8): 859-863.
77. Kidorf M, King VL, Peirce J, Gandotra N, Ghazarian S, Brooner RK. Substance Use and Response to Psychiatric Treatment in Methadone-Treated Outpatients with Comorbid Psychiatric Disorder. *Journal of Substance Abuse Treatment*. 2015; 51:64–9.
78. Brooner RK, Kidorf MS, King VL, Peirce J, Neufeld K, Stoller K, et al. Managing psychiatric comorbidity within versus outside of methadone treatment settings: a randomized and controlled evaluation. *Addiction*. 2013; 108(11):1942–51.
79. Gomes T. The burden of premature opioid-related mortality. *Addiction (Abingdon, England)*. 2014;109.
80. Mattick RP, Breen C, Kimber J, Davoli M. Methadone maintenance therapy versus no opioid replacement therapy for opioid dependence. *The Cochrane database of systematic reviews*. 2009;3(3).
81. Mattick RP, Breen C, Kimber J, Davoli M. Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. *The Cochrane database of systematic reviews*. 2014;2:Cd002207.
82. Lind B, Chen S, Weatherburn D, Mattick R. The effectiveness of methadone maintenance treatment in controlling crime: an aggregate-level analysis. *NSW Bureau for Crime Statistics and Justice*. 2004.
83. Clausen T, Anchersen K, Waal H. Mortality prior to, during and after opioid maintenance treatment (OMT): a national prospective cross-registry study. *Drug & Alcohol Dependence*. 2008;94(1):151-7.
84. Gibson A, Degenhardt L, Mattick RP, Ali R, White J, O'brien S. Exposure to opioid maintenance treatment reduces long-term mortality. *Addiction (Abingdon, England)*. 2008;103(3):462-8.
85. Sees KL, Delucchi KL, Masson C, Rosen A, Clark HW, Robillard H, et al. Methadone maintenance vs 180-day psychosocially enriched detoxification for treatment of opioid dependence: a randomized controlled trial. *Jama*. 2000;283(10):1303-10.
86. Woody GE, Poole SA, Subramaniam G, Dugosh K, Bogenschutz M, Abbott P, et al. Extended vs short-term buprenorphine-naloxone for treatment of opioid-addicted youth: a randomized trial. *Jama*. 2008;300(17):2003-11.
87. Eibl JK, Morin K, Leinonen E, Marsh DC. The State of Opioid Agonist Therapy in Canada 20 Years after Federal Oversight. *The Canadian Journal of Psychiatry*. 2017;62(7):444-50.

88. Eibl JK, Gomes T, Martins D, Camacho X, Juurlink DN, Mamdani MM, et al. Evaluating the Effectiveness of First-Time Methadone Maintenance Therapy Across Northern, Rural, and Urban Regions of Ontario, Canada. *J Addict Med*. 2015;9(6):440-6.
89. Mills S, Torrance N, Smith BH. Identification and Management of Chronic Pain in Primary Care: a Review. *Current Psychiatry Reports*. 2016; 18:22.
90. Upshur CC, Luckmann RS, Savageau JA. Primary care provider concerns about management of chronic pain in community clinic populations. *Journal of General Internal Medicine*. 2006; 21(6):652–5.
91. Hayes C, Hodson FJ. A whole-person model of care for persistent pain: from conceptual framework to practical application. *Pain Medicine*. 2011; 12: 1138-1749.
92. Price C, Lee J, Taylor A, Baranowski A. Initial assessment and management of pain: a pathway for care developed by the British Pain Society. *British Journal of Anaesthesia*. 2014;112(5):816–23.
93. Dubin RE, Flannery J, Taenzer P, Smith A, Smith K, Fabico R, Zhao J, Cameron L, Chmelnitsky D, Williams R, Carlin L, Sidrak H, Arora S, & Furlan AD. ECHO Ontario chronic pain & opioid stewardship: providing access and building capacity for primary care providers in underserved, rural, and remote communities. *Studies in Health Technology and Informatics*. 2015; 209: 15-22.
94. Cord M, Kasperski J, Rodriguez E. MMAP: Medical Mentoring for Addictions and Pain Pilot Program. Ontario: Ministry of Health and Long-Term Care, Mental Health and Addictions Unit. Available from: <http://ocfp.on.ca/docs/cme/mmap-final-report.pdf>
95. Watt-Watson J, McGillion M, Hunter J, Choiniere M, Clark A, Dewar A, et al. A Survey of Prelicensure Pain Curricula in Health Science Faculties in Canadian Universities. *Pain Research and Management*. 2009; 14(6): 439–44.
96. Association of Faculties of Medicine of Canada, Final Report on the AFMC Response to the Canadian Opioid Crisis. Ottawa: AFMC; 2017 [cited 2018 February 15]. 16p. Available from: [https://afmc.ca/sites/default/files/documents/2017-11-AFMC-HealthCanadaOpioidReport\\_en.pdf](https://afmc.ca/sites/default/files/documents/2017-11-AFMC-HealthCanadaOpioidReport_en.pdf)
97. New South Wales Government: Health. Literature review: models of care for pain management. Conway, J & Higgins, Isabel; 2011 [cited 2018 Mar 29]. Available from: <http://www.health.nsw.gov.au/PainManagement/Pages/default.aspx>