

# Prevention of opioid misuse: A summary with suggestions from a Pain Working Group

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On November 6, 2014, a multidisciplinary group of experts and stakeholders attended a Prevention of Opioid Misuse Study Day in Toronto, Ontario, funded by the Canadian Institutes of Health Research under a Canada Research Initiative in Substance Misuse (grant number CSM-133338).

The goals were to:

1. Clarify issues surrounding opioid medications, including a discussion of current facts and myths.
2. Produce a summary of evidence-based information to guide health professionals on best practices in managing acute and chronic pain.
3. Inform clinicians, government and other stakeholders about opioid use/misuse and pain management issues.

### Specific principles that guided the summary:

1. We recognize the rise in morbidity and mortality associated with opioid misuse and the risk for addiction.
2. We recognize the importance of the International Association for the Study of Pain's Montreal 2010 declaration on the right of individuals experiencing pain to get relief <[www.iasp-pain.org/DeclarationofMontreal](http://www.iasp-pain.org/DeclarationofMontreal)>.
3. We recognize that available alternatives to opioids should be used in first intention (eg, nonsteroidal analgesics, pregabalin, mood-related medication such as duloxetine, as well as physical and behavioral approaches).
4. We endorse the 2010 Canadian Guideline for the Safe and Effective Use of Opioids for Chronic Noncancer Pain (<http://nationalpaincentre.mcmaster.ca/opioid/>). These are solid and remain valid.
5. We also deplore the low access to pain experts and other management options in Canada (mainly in rural or low income urban areas), and the absence of newer medications with high effectiveness and low harm.

### REVIEW OF CURRENT ISSUES REGARDING PAIN AND ITS RELIEF

One in five Canadians experiences chronic pain (1,2). Many individuals living with chronic pain are 'invisible' sufferers. Their quality of life is seriously compromised and, if their pain is not managed, they are at greater risk for additional problems. Importantly, an association between opioid medication misuse and mood problems, including depression and anxiety, have been reported (3). Furthermore, in the absence of adequate pain relief, the risk for suicide increases (4,5).

Unfortunately, there are no magic cures for chronic pain. When all other alternatives have failed to provide acceptable pain control, opioid analgesics (eg, morphine, oxycodone, hydromorphone, fentanyl) are increasingly being prescribed to relieve pain and improve the quality of life for individuals living with chronic pain so they can continue working and performing routine daily tasks. However, opioids, if used inappropriately, come with definite serious risks, including addiction, fatal overdose, and harmful or even deadly effects when combined

with other drugs or substances (particularly alcohol and anti-anxiety medications). The prevention of opioid misuse requires careful screening by educated prescribers, increased safety education for patients and populations, and increased access to addiction and mental health services across all age groups and regions in Canada, with special attention devoted to access to pain management and its prevention in nonurban sites (6).

It is important to distinguish among abuse, addiction and physical dependence (page 124 of the Canadian guidelines <[http://nationalpaincentre.mcmaster.ca/documents/opioid\\_guideline\\_part\\_b\\_v5\\_6.pdf](http://nationalpaincentre.mcmaster.ca/documents/opioid_guideline_part_b_v5_6.pdf)>:

- Abuse is any use of an illegal drug or the intentional self-administration of a medication for a nonmedical purpose such as altering one's state of consciousness, eg, 'getting high'.
- Addiction is a primary, chronic, neurobiological disease with genetic, psychosocial and environmental factors influencing its development and manifestations. It is characterized by behaviours that include  $\geq 1$  of the following: impaired control over drug use, compulsive use, continued use despite harm and craving.
- Opioid misuse is the use of an opioid in ways other than intended by a prescribing health professional.
- Physical dependence is a state of adaptation manifested by a drug class-specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug and/or administration of an antagonist.

The nonmedical use of any prescription medication, including opioids, is a major concern. All medications have adverse effects; however, if opioids are inappropriately used, they are potentially life-threatening due primarily to sedation and respiratory depression. It is important to address this problem and to implement appropriate solutions. The national Canadian Alcohol and Drug Use Monitoring Survey (CADUMS), which involved the general population  $\geq 15$  years of age, reported nonmedical users who acknowledged using pain relievers more than they were supposed to or without a prescription. Starting in 2009, CADUMS has also asked respondents if they have used the medication "to get high". The findings indicated that the prevalence of any use of a prescription opioid analgesic in Canada had decreased from approximately 20% to 17%, with use without a prescription ranging between 4.8% and 5%, and use to get high at approximately 0.3%.

We need to know more about the 0.3% of opioid users identified by CADUMS who are using opioids to get high. Knowing more about this population would help us find ways to prevent them from using dangerous drugs to get high. What about the other approximately 4.7% of the 5% who are using prescription opioid analgesics either more than they should or without a prescription? Why are they doing this? Is it to treat their pain or is it due to some form of oligoanalgesia (ie, lack of adequate pain relief was observed in emergency in approximately 40% of patients) and why do strong opioids remain the most frequently prescribed (7,8)?

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The bottom line is that we do not have a clear answer to this problem; however, the literature can shed some light on this issue. Several studies have examined the motivation for nonmedical prescription opioid use and found that the single leading reason was for relief of pain (9-11). Pain patient groups are very sensitive about the stigmatization that some opioid users for chronic pain have to face. Many health professionals are uncomfortable managing patients on opioids for long periods of time (12). Further education is required to simultaneously reduce the risk for misuse, and to improve patient's pain management and prevent opioid stigma of individuals requiring opioids.

Opioid misuse remains a growing public health problem, and a dilemma for clinicians and individuals experiencing chronic pain (13). In a 2008 systematic review of studies examining the risk for developing abuse, addiction or other aberrant drug-related behaviours, it was found that the incidence of opioid abuse or addiction after chronic opioid exposure was low (3.27%) in patients exposed to chronic opioid therapy for chronic pain, and in studies involving patients with no previous history of abuse or addiction, the incidence was even lower (0.19%) (14). In a 2015 systematic review and data synthesis of 38 published studies, the rate of opioid misuse was reported to range between 21% and 29%, with a rate for addiction between 8% and 12% (15). All of these data demonstrate that it is a serious problem; however, a few clarifications are required. In acute use, 0.12% of opioid users developed opioid use disorders, ie, abuse or dependence, and 6.1% in chronic users; this was dependent on dose and duration of use (>91 days) (16).

It is obvious we have to address both misuse risk and improvement of undertreated pain in Canada, due, in part, to a critical lack of access to pain treatments (nonpharmacological and pharmacological), most of which do not involve opioids and many of which are not drugs but involve working with allied health professionals and interdisciplinary pain management teams (17).

Another, not fully understood, critical issue emerging after the introduction of tamper-resistant opioid analgesics (oxycodone) is the rise in heroin use (18-20). Diversion of opioid misuse to heroin in college students needs to be better understood; it is a 'no brainer' that education on such harm is required (19,21). Other illicit substances are also used. Such substitutions may reflect a shift in the public health problem to other deleterious products <<http://globalnews.ca/news/1625100/opioids-killing-more-ontarians-than-ever-coroners-numbers-show/>>.

Again, the over-riding challenge for the health care system is to find a balance between reducing the harm associated with the nonmedical/misuse of opioids, and providing individuals experiencing both acute and/or chronic pain with access to optimal treatment. Combinations of physical, psychological and pharmacological interventions are required, with stronger pain medication, such as opioids, for more severe pain.

Another challenge is the lack of specific information in available guidelines to indicate the subpopulation of chronic pain patients who are most likely to benefit from nonopioid and opioid treatment with minimal risk for addiction or misuse (investigations are in progress on that matter).

Further research is then required to develop the best algorithm for the management of acute pain (such as with procedures, surgery or trauma) to prevent chronic pain. It is noteworthy that the new *International Classification of Diseases, 11th Revision* for chronic pain, developed by experts from the International Association for the Study of Pain, includes: chronic primary pain; chronic cancer pain; chronic post-traumatic and postsurgical pain; chronic neuropathic pain; chronic headache and orofacial pain; chronic visceral pain; and chronic musculoskeletal pain (22). No simple and unique approach will be effective in managing all pain types. The search continues for the most effective pain relief methods with the least harm, ie, fewer adverse effects and lowest addiction risk. Approaches need to be tailored for each type of pain.

An obvious important strategy is to increase education for primary health care providers who have a poor understanding of best practices for pain management, including the appropriate use of medications

(12). Patients and families also require education about the safe and appropriate use of analgesics, including opioids.

In addition, greater collaboration is required between pain and addiction specialists. More mental health resources are required to enable early treatment of addiction issues when recognized. There is a need to involve all of our partners (ie, public, patients, universities and governments) in raising awareness about appropriate and inappropriate use of drugs, including opioids. In addition, broader education is required for the public and government about the need for further research investigating appropriate pain treatments, increased pain education of health professionals and more access to knowledgeable health professionals for individuals who require ongoing pain management. A national strategy on these issues is required, and Health Canada has made a positive move in that direction with the Canadian Research Initiative in Substance Misuse in partnership with CIHR, and other initiatives <<http://news.gc.ca/web/article-en.do?nid=969739>>.

### THREE MAIN AVENUES FOR ACTION TO REDUCE OPIOID MISUSE/ADDICTION

1. Access to pain management and better education to population and health professionals.
2. Knowledge transfer strategy.
3. Applied research for innovation in pain and addiction prevention.

The following section summarizes the exchanges among patient group representatives, public health experts, pain clinicians and researchers who participated in the study day.

#### Avenue 1: Access to pain management and better education to population and health professionals

**Goals:** Be more knowledgeable about clinical and community strategies to prevent persistent pain and/or medication misuse.

The group strongly encourages increasing:

- access to nonpharmacological and nonopioid pharmacological treatments at first;
- content on pain assessment and management in health care education curricula, including the use and monitoring of opioid analgesics; and
- content on continuing education on pain treatments to all health care practitioners, including nonopioid and opioid analgesic approaches and misuse/addiction prevention.

#### Paths:

- Greater access to nonpharmacological pain management methods is required. This includes nonurban sites and specific populations with chronic pain.
- It is important to integrate new knowledge and best practices into competency-based training programs for health care professionals (eg, nurses, physicians, pharmacists, dentists, psychologists, psychiatrists, physical therapists, occupational therapists, social workers), other related professionals (eg, addiction counsellors, teachers, researchers, law enforcers) and private stakeholders (eg, pharmaceutical and insurance companies).
- Education is required about optimal pain treatment, including pharmacological, physical and psychological strategies. Treating acute and chronic pain should begin with nonopioids (eg, combination of ibuprofen and acetaminophen) (23) or short-action duration opioids and, as appropriate, other nonpharmacological strategies (eg, relaxation exercises, physical therapy, sleep hygiene).
- The available screening tools and risk assessment algorithms need to be disseminated and used in practice to help health care professionals detect and prevent opioid misuse. These screening tools cover any addiction history, mental health problems (especially depression and anxiety), sleep disorders (especially insomnia), socioeconomic problems and drugs prescribed for comorbidities (eg, hypertension, obesity, diabetes, inflammatory diseases).
- Education is also required about how to monitor ongoing opioid treatments so that all members of the pain treatment team are

aware of medication use duration, potential drug misuse, multiple prescriptions, and the effects of comorbidities and other drugs on patient outcomes. Implementation of an electronic prescription drug database would enable monitoring of drug use by health care workers, but is presently available in only a minority of provinces.

- Once medication misuse or illicit drug use is suspected, a strategy should be developed (with community input) to have access to addiction specialists or other qualified professionals. Although pain and addiction are being managed in Canada, this strategy is still in its infancy and needs to be promoted.

The overall outcome would be more integrated pain management across primary health care providers, pain clinics and addiction/mental health treatment centres.

### Avenue 2: Knowledge transfer strategy

**Goals:** The group recognizes that greater awareness and understanding by governments, the media, industry and the general public of the issues surrounding the appropriate use and misuse of opioid analgesics would be best achieved through multimedia exposure.

#### Paths:

- It is critical to raise awareness and disseminate accurate information about chronic pain, and the importance of timely and appropriate treatment. The media and the Internet offer effective vehicles for such messages, including personal stories from individuals experiencing pain to help balance concerns about opioid use, misuse and abuse.
- Greater coordination and knowledge sharing is required within and among provinces.
- It is vital for new findings on pain and pain management to be disseminated in journals, such as *Pain Research and Management*, at conferences, such as the Canadian Pain Society Annual Scientific Meeting, and other Canadian health professional journals and meetings.
- It is also critical to support efforts to raise awareness about the appropriate screening for and management of substance dependency and addiction.
- It is critical that all stakeholders, regulatory agencies, and pain and addiction groups work together to develop a high-impact strategy and avoid silo packaging of messages to the public and health professionals.

### Avenue 3: Applied research for innovation in pain and addiction prevention

**Goals:** The group identified that more research was necessary to determine the relationship between the use of opioid analgesics for persistent pain, mental health and addiction risk. A balance is needed between ensuring pain relief for those requiring opioids and the potential for opioid misuse or abuse.

#### Paths:

- Research methodologies should be rational, collaborative and interdisciplinary (including input from communities, patients, law enforcement, and pain and addiction professionals).
- Innovative research methodologies with a stakeholder approach should be developed, and alternative treatments, including nonpharmaceutical methods and devices, should be assessed as appropriate.
- Newer modalities with less adverse effects need to be developed.

### MANY QUESTIONS REMAIN UNANSWERED, FOR EXAMPLE:

#### Preventing risk and consequences of misuse and addiction/right for pain relief

- What are the barriers to better access to pain management, misuse prevention and addiction treatment for all ages and regions in Canada?
- What are the best evidence-based addiction screening tools?
- Which tools can be easily used in the various treatment contexts of medicine, surgery and emergency or ongoing persistent pain management?

- How can we improve nonopioid versus opioid use guidelines and efficient (read safe) management practices?
- How can we overcome the various barriers to the use of guidelines on pain management practices and misuse/prevention strategies (eg, time, risks, law enforcement policies and protection of individuals requiring analgesics, etc) (12)?
- How can we prevent or reduce the social stigmatization of individuals who have to take prescribed opioids to maintain their quality of life and acceptable pain relief?
- How can we reduce the number of opioid prescriptions without inducing harm, ie, diversion to other medication or illicit product to get pain relief?
- How can we reach populations at risk for diversion or opioid misuse to prevent serious health consequences and death (eg, college students, chronic pain users, mental health patients)?
- What are the motives and dynamics behind drug use, misuse and addiction (eg, high-risk dosages, early-use risks, precipitating factors, genetic factors, and environmental influences)?

#### Mechanism of prevention and pain management challenges

- Studies on reward mechanisms would be a valuable research avenue in pain management and misuse or addiction prevention.
- How can the role of comorbidities (eg, anxiety, depression, insomnia and other compulsive behaviours) be disentangled?
- What are the long-term benefits and risks for various pain treatments and pain management strategies for acute and chronic pain?
- What are the causal mechanisms of pain chronicity, nonmedical prescription opioid use behaviours, addiction and mortality?
- Can optimal treatment strategies and durations be determined for a variety of chronic pain conditions, including neuropathic pain, musculoskeletal pain and visceral pain? The one size fits all approach is inadequate for a patient-centred research paradigm.

**FUNDING:** This Study Day was funded by the Canadian Institutes of Health Research under a Canada Research Initiative in Substance Misuse.

**DISCLOSURES:** All participants completed a conflict of interest form, and none has received an honorarium. The Canadian Pain Society was the facilitator for organization of the study day. Representatives from the pharmaceutical industry\* were invited as observers only, and did not participate in the meeting or in the preparation of the manuscript.

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