Canadian Centre on Substance Use and Addiction
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Expanding the Toolbox for Substance Use Healthcare: Availability of Intramuscular Naltrexone in Canada

Introduction

Substance use disorders (SUDs), including alcohol and opioid use disorders, can significantly impact a person's physical and mental health and social well-being. Medications can help improve outcomes for people living with an SUD. As with other medical conditions, many factors influence which medication will best meet a person's needs. Access to a broad range of treatment options is essential to meeting the diverse needs of people living with SUDs across Canada and improving substance use health outcomes.

Naltrexone is a medication that is available in oral and intramuscular (IM) formulations and is used primarily to treat alcohol and opioid use disorders. However, only oral formulations are currently available for standard clinical use in Canada.

This evidence brief examines the clinical decision-making and policy considerations associated with using IM naltrexone to support people living with alcohol or opioid use disorder. It covers the efficacy and effectiveness of oral and IM naltrexone, as well as considerations related to safety, cost and implementation when exploring the role of IM naltrexone in Canada.

What Naltrexone Does

Naltrexone is used primarily to treat alcohol use disorder (AUD) (McPheeters et al., 2023; Jonas et al., 2014) and opioid use disorder (OUD) (Bell & Strang, 2020; Canadian Research Initiative in Substance Misuse, 2023). Naltrexone helps reduce cravings for alcohol and opioids by blocking the brain's ability to feel the "high" that usually comes from using these substances (Jonas et al., 2014; Kranzler & Soyka, 2018).

For people living with AUD, naltrexone is a valuable tool that can help reduce cravings and support either abstinence or reduced alcohol use, depending on a person's goals (Jonas et al., 2014; Wood et al., 2023). Studies of IM naltrexone among people living with AUD consistently demonstrate its effectiveness in reducing heavy drinking days, improving abstinence rates compared with placebo, lowering the frequency of alcohol-related hospitalizations and improving quality-of-life indicators (Garbutt et al., 2005; Kranzler et al.,

2006; Lee et al., 2015). Studies also suggest that IM naltrexone may offer better treatment retention and improved clinical outcomes compared with oral naltrexone formulations (Lee et al., 2016; Krupitsky et al., 2011; Bart, 2012).

For people living with OUD, IM naltrexone may be an effective alternative when other medications, such as methadone or buprenorphine, are not preferred or well-tolerated (Krupitsky et al., 2011; Sullivan et al., 2019). Evidence suggests that IM naltrexone may prevent a return to opioid use, with efficacy potentially on par with other common treatment options such as buprenorphine-naloxone (Lee et al., 2018; Tanum et al., 2017).

However, evidence is mixed on IM naltrexone's efficacy in preventing overdose- or opioid-related acute care health outcomes involving emergency department visits or hospital admissions. Its effects on treatment retention and acceptability also remain uncertain. Some people may perceive an intramuscular injection as a significant escalation of therapeutic intensity or form of treatment than oral routes of administration (Wakeman et al., 2020; Gjersing et al., 2025; Kornør et al., 2025). The evidence base is limited by a lack of long-term data and differences in treatment approaches, settings and study populations, making it difficult to generalize the findings (Kornør et al., 2025).

How Naltrexone Is Used

Oral naltrexone is taken daily, which can be difficult for some people, particularly those with multiple social or physical needs, such as unstable housing (Bernstein et al., 2024; Lee et al., 2016). The extended-release IM formulation is administered once every 28 days and has been shown to help address some barriers to medication adherence and access to care, such as unstable housing or concurrent SUDs or psychiatric conditions (Bernstein et al., 2024; Gauthier et al., 2021; Comer et al., 2006; Garbutt et al., 2005).

IM naltrexone may serve as a critical alternative for people who are incarcerated, those who do not wish to initiate opioid agonist therapy (OAT), those who cannot tolerate OAT or those who have not achieved their treatment goals with OAT (Sullivan et al., 2019). Compared with a daily oral regimen, a monthly injection significantly reduces the burden associated with medication management, thereby enhancing treatment adherence and long-term outcomes (Sullivan et al., 2019; Chandler et al., 2009; Morgan et al., 2019). For prescribers, caregivers and members of a person's support network, this dosing schedule also provides a "self-monitoring" effect by confirming that a monthly dose has been administered (Gastfriend, 2011).

Evidence also supports its use among youth to reduce opioid cravings and use, particularly in structured settings where consistent adherence is prioritized (Fishman et al., 2010; Mitchell et al., 2021; Monico et al., 2024). While much of the evidence on IM naltrexone interventions focuses on adult populations, this does not rule out their potential effectiveness in care models designed for youth, such as bed-based treatment programs. However, research in this area remains limited, and the available evidence on efficacy is variable (Stancil et al., 2021; Miranda et al., 2013; Mitchell et al., 2021).

Safety and Tolerability

Both oral and IM formulations of naltrexone are considered safe and well-tolerated and help retain people in substance use treatment programs (College of Family Physicians of Canada, 2017). Naltrexone has been shown to have low potential for use outside its prescribed purpose and is not associated with physical dependence (Volpicelli et al., 1992; Sullivan et al., 2019). Side effects tend to be tolerable and resolve over time (Garbutt et al., 2005). They may include discomfort at the injection site, mild nausea, headaches, fatigue (Jonas et al., 2014) or gastrointestinal upset (Anton et al., 2006). Because naltrexone blocks opioid receptors, administering it to people with recent or ongoing opioid use carries a risk of precipitated withdrawal, underscoring the importance of confirming opioid abstinence for seven to 10 days before initiating treatment (Apotex, 2015).

Availability, Cost and Implementation

IM naltrexone is not currently approved for use in Canada; however, it is available in the United States, Australia and several European countries (Sullivan et al., 2019; Soyka & Müller, 2017). Factors such as cost and logistical concerns related to implementation may contribute to its lack of availability in Canada (Wild et al., 2017; Fischer et al., 2021). Logistical barriers, including access to prescribers familiar with the medication and clinic capacity for cold storage and administration, would need to be addressed before IM naltrexone could be made available (Lee et al., 2016; Sullivan et al., 2019). These operational requirements are already successfully managed for many medications currently used across Canada.

Cost is also a significant barrier to widespread access, especially in the context of a publicly funded healthcare system. A 2022 systematic review of cost-effectiveness reported that a single monthly injection of IM naltrexone cost US$859.66 (Jalali, 2022), whereas oral naltrexone costs approximately C$100 per month (BC PharmaCare Formulary Search; personal communication). Oral naltrexone is covered by many insurance providers and provincial pharmacare plans in Canada, which helps reduce the cost to individuals.

Several studies suggest that IM naltrexone may be more cost-effective for certain high-risk populations, including people who are incarcerated, those with frequent substance use–related hospitalizations and those for whom other treatments have been unsuccessful. These potential cost savings may result from reductions in hospitalizations, alcohol-related injuries, incarceration and involvement with the justice system (Elmosalamy et al., 2025; Hartung et al., 2014; Sullivan et al., 2019; Murphy et al., 2017). IM naltrexone offers a simplified dosing regimen that benefits people who experience challenges with oral medication adherence or who have not responded to oral naltrexone (Bart, 2012; Lee et al., 2016; Krupitsky et al., 2011).

IM naltrexone has the potential to strengthen sustainable substance use healthcare pathways in Canada's remote and rural regions by replacing daily oral regimens with monthly injections, thereby improving the likelihood of long-term treatment retention

(Sullivan et al., 2019). While remote, rural and northern communities in Canada are diverse, they experience distinct contextual challenges in accessing care. Barriers may include living hours from the nearest pharmacy, reduced access to healthcare providers, healthcare appointments interrupted by weather, transportation barriers or limited supply-chain stability.

The transition to monthly dosing of IM naltrexone is one step toward improving treatment adherence and retention by reducing the significant barriers faced by individuals and health systems in remote or underserved communities in Canada (Ndegwa et al., 2017; Kranzler et al., 2006; Elmosalamy et al., 2025; Kornør et al., 2025). Nurse-led initiatives are promising approaches to managing and improving access to therapeutic options, including naltrexone, among northern, remote and other non-urban populations (Berardinelli et al., 2024; Sitthimongkol et al., 2025).

There are also indications that people value the convenience of a monthly IM injection, especially among people who experience stigma, people from equity-deserving groups and people who face significant barriers to accessing care (Volpicelli et al., 1992). For example, youth are a particularly important equity-deserving group because early-onset substance use is associated with the development of SUD later in life, and youth may benefit from IM naltrexone (Winer et al., 2022; Vo et al., 2016; Vo et al., 2018).

Limitations of the Evidence

While IM naltrexone has been shown to be helpful in both AUD and OUD in clinical trials, barriers to care and access — including in rural and remote communities and among other equity-deserving populations — remain underexplored in the literature (Pijl et al., 2022; Hartung et al., 2014). Studies specific to populations in Canada are also limited. Few studies examine outcomes beyond 12 months, and comparisons between IM naltrexone and other pharmacotherapies for AUD, such as acamprosate or topiramate, require further investigation (Jonas et al., 2014; Lee et al., 2016; Kornør et al., 2025).

However, a 2025 systematic review included 15 studies comparing oral and IM naltrexone for the treatment of AUD and OUD. At three months, treatment persistence significantly favoured IM naltrexone over oral naltrexone, and this difference persisted at the six-month followup (Elmosalamy et al., 2025).

Other long-acting injectable medications have shown high treatment satisfaction and better patient-reported outcomes compared with baseline scores, and we may assume the same benefits would extend to injectable naltrexone (White et al., 2025).

Conclusion

IM naltrexone is an evidence-based treatment for people living with AUD and OUD. It has a favourable safety profile, with strong evidence supporting treatment adherence and improved outcomes related to alcohol and opioid use.

Although several barriers affect its availability and accessibility in Canada, including cost and the need for detoxification before treatment in people with OUD, adding IM naltrexone to the range of substance use treatment options available in Canada would help address gaps in care and improve substance use health outcomes.

The benefits of monthly dosing may include improved treatment retention and reduced harms associated with alcohol and opioid use disorders. These benefits may be particularly important for people at higher risk of returning to substance use and for those living in northern, rural and other underserved communities.

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