CHILDREN'S MENTAL HEALTH RESEARCH

# Quarterly

SUMMER 2024 VOL. 18, NO. 3

## Treating opioid use disorder in young people

**OVERVIEW**

Helping more youth by understanding risks

**REVIEW**

The facts and the gaps in treatment research

Summer

# Quarterly

VOL. 18, NO. 3 2024

Children's Health Policy Centre

### About the *Quarterly*

We summarize the best available research evidence on a variety of children's mental health topics, using systematic review and synthesis methods adapted from the *Cochrane Collaboration*. We aim to connect research and policy to improve children's mental health. The BC Ministry of Children and Family Development funds the *Quarterly.*

### About the Children's Health Policy Centre

We are an interdisciplinary research group in the Faculty of Health Sciences at Simon Fraser University. We focus on improving social and emotional well-being for all children, and on the public policies needed to reach these goals. To learn more about our work, please see childhealthpolicy.ca.

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## This Issue





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**NEXT ISSUE**

**Preventing childhood anxiety disorders**

Anxiety disorders are the most common mental health conditions affecting children. Preventing them therefore has great potential to improve well-being in childhood and beyond. To inform policy and practice toward prevention, we review recent studies on the effectiveness of interventions that aim to prevent childhood anxiety disorders.

### How to Cite the *Quarterly*

We encourage you to share the *Quarterly* with others and we welcome its use as a reference (for example, in preparing educational materials for parents or community groups). Please cite this issue as follows:

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*We celebrate the Indigenous Peoples whose traditional lands Quarterly team members live and work on.*

We also greatly appreciate the Provincial Advisory Committee for the Child and Youth Mental Health Policy Branch with the BC Ministry of Children and Family Development, who provided helpful feedback on an earlier draft of this issue.

OVERVIEW

# Helping more youth by understanding risks

Practitioners can prescribe in ways that minimize the risk of opioid misuse.

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Nearly 200 BC youth aged 18 years or younger died in the past decade after using unregulated toxic drugs — especially opioids.[1] In fact, in 2023, 84.8% of these deaths involved fentanyl and 20.6% involved other opioids.[1] (The total exceeds 100% because more than one substance was often identified for a given individual.) Between 2019 and 2023, unregulated drug toxicity was the leading cause of unnatural deaths for youth in BC (i.e., deaths not due to a disease).[2–4]

Research evidence is also emerging that adolescents are at particular risk for death from opioids. Among people in BC with an opioid use disorder who received at least one prescription for an opioid agonist, a medication used to treat this condition, those younger than 20 years had the highest relative risk of death of any age group.[5]

Parallel with increasing opioid deaths, more BC youth are being diagnosed with opioid use disorder. In 2017, 285 young people between 12 and 18 years received such a diagnosis according to records from health administrative sources, a quintupling since 2007.[6] The actual number of youth with an opioid disorder is likely an underestimate given that this condition frequently goes undiagnosed.[7] Hypotheses for this underdiagnosing include limited practitioner training and stigma around substance use.[8–10]

## What increases risks?

Having a substance use disorder or using substances resulted in about five times higher likelihood of being diagnosed with opioid use disorder.

Opioid use disorders, like most mental disorders, have complex origins. Determining modifiable risk factors is particularly crucial in informing early intervention efforts. Here, we focus on findings from three large recent studies that included participants who were 18 years or younger.[11–13]

An Alberta study examined the link between mental disorders and the later development of opioid use disorder in nearly 2,000 young people aged 18 to 25 years. Researchers identified young adults with opioid use disorder in provincial health administrative databases.[11] Individuals were then matched based on age and sex with more than 7,000 individuals without this diagnosis. Researchers found that alcohol use, anxiety and depressive disorders predicted the development of opioid use disorder. Alcohol use disorder was particularly potent, increasing risk more than sixfold, while anxiety and depressive disorders each more than doubled the risk.[11]

 

A US study involved nearly 77,000 youth aged 14 to 18 years who were enrolled in a Colorado health maintenance organization.[12] Researchers first identified 108 youth who had opioid use disorder and then identified preceding risk variables. Having a substance use disorder or using substances resulted in about five times higher likelihood of being diagnosed with opioid use disorder. And having other mental health diagnoses (i.e., anxiety, adjustment, conduct, depressive and/or eating disorders) resulted in four times higher likelihood.[12]

Knowledge about risk factors can and should be applied in efforts to reduce the onset of new cases of opioid use disorder in young people.

The third study was a survey of more than 41,000 youth who were representative of American 12- to 17-year-olds — and highlighted similar risks. Past-year substance use and depression were both risk factors for developing prescription opioid use disorder.[13] Specifically, the odds of developing this disorder increased by 522% for "illicit" drug use; 176% for cannabis use; 102% for alcohol use; and 237% for depression.[13] Taken together, the findings of these three studies demonstrate that mental health conditions confer considerable extra risk for young people regarding opioid misuse.

## The legacy of adverse childhood experiences

Another large study of Americans aged 18 and older pointed to the role of adverse childhood experiences in the development of opioid use disorder.[14] Researchers surveyed more than 36,000 individuals who were representative of the US population, asking about their experiences with 10 different forms of early adversity, such as childhood physical abuse, and their prescription opioid use as adolescents and adults. They found that early adverse experiences significantly increased the odds for misusing prescription opioids at or before age 17 and the odds for ever being diagnosed with opioid use disorder. And opioid risk rose as the number of adversities rose.[14] Notably, most of these adversities were avoidable.

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Adverse experiences in childhood increase the risk for opioid misuse.

## The need for caution when prescribing

Another large US study offered insight on how variations in opioid prescribing can increase risk for detrimental outcomes — namely, opioid use disorder or opioid overdose.[7] Researchers searched a comprehensive database of health insurance claims for individuals with employer-provided coverage, identifying more than three million 11- to 25-year-olds by their first opioid prescription. They found that longer-acting medications led to 159% increased risk of being diagnosed with opioid use disorder or experiencing an opioid overdose in the year following the initial prescription — compared with outcomes for shorter-acting formulations.[7]

When opioid use disorder has developed, it is imperative that everyone with this condition has timely access to effective treatments.

Duration also made a difference. Prescriptions for 15 days or longer increased risk by 96%, while those for seven to 14 days increased risk by 15% — compared with prescriptions for three days or fewer.[7] As well, higher daily doses (i.e., morphine equivalents of 90 milligram or greater) increased risk for detrimental outcomes by 23% compared with doses of less than 30 milligrams.[7] So caution in opioid prescribing is also crucial.

## Addressing the risks for opioid misuse

Knowledge about risk factors can and should be applied in efforts to reduce the onset of new cases of opioid use disorder in young people. Effective approaches for preventing and treating the mental disorders that confer added risk — including other substance use, anxiety, conduct, depressive and eating disorders — are well established.[15–17] Evidence on preventing young people from misusing opioids is also emerging.[18] Preventing avoidable childhood adversities is possible as well.[19] For example, many effective interventions have been shown to prevent maltreatment. As well, practitioners can prescribe in ways that minimize the risk of opioid misuse, while community strategies can reduce the supply of unnecessary opioids.[18] The adjacent sidebar highlights legal efforts in BC and elsewhere to hold pharmaceutical companies to account.

### Pursuing legal remedies

Alongside other policy approaches, many jurisdictions are turning to the legal system to recoup opioid-related health care costs from drug companies. For example, the BC government is petitioning the Supreme Court of British Columbia to certify a class-action lawsuit against opioid manufacturers.[20] If this petition is successful, other provinces and territories will be able to join in and proceed together in a civil trial. The BC government's effort follows legal successes in the US, with large corporations agreeing to pay billions following determinations that their practices played a role in the opioid crisis.[21]

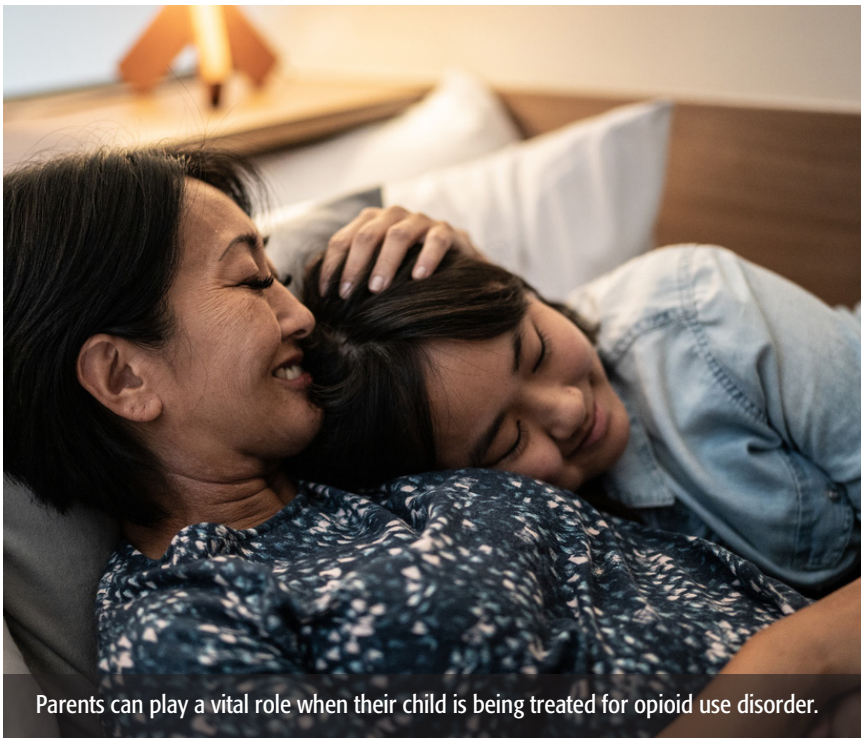
Prevention is paramount to ensure that fewer young people are exposed to the harms that these substances cause. Yet when opioid use disorder has developed, it is imperative that everyone with this condition has timely access to effective treatments. To inform public policy, we present rigorous research evidence on treating opioid use disorder in youth in the Review article that follows.

REVIEW

# The facts and the gaps in treatment research

Given the devastating outcomes that opioid use disorder can cause for youth, effective treatments are greatly needed. To help determine what works — and what does not — we conducted a systematic review of interventions for young people with this condition.



Parents can play a vital role when their child is being treated for opioid use disorder.

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We used our typical standard of requiring studies to use randomized controlled trials (RCTs), a rigorous evaluation method. We searched for RCTs without limiting by date to capture as many studies as possible. Still, we found few RCTs. So we expanded our usual age limits to include studies with young adults up to age 26. (This age range is also similar to treatment guidelines for youth opioid use disorder from the BC Centre on Substance Use.)[22] For the same reasons, we also accepted medication RCTs that were not double-blinded (in other words, those participating and/or those assessing outcomes knew which treatments were being applied).

After applying our inclusion criteria (detailed in the Methods), we accepted five RCTs, all conducted in the US. Across the five studies, all participants had an opioid use disorder diagnosis. As well, for the two studies that reported on the prevalence of additional mental health concerns, many participants met criteria for additional diagnoses, such as depression and oppositional defiant disorder.[23–24]

More rigorous research is needed on the longer-term use of medications to treat youth with opioid use disorder.

Among the accepted RCTs, four compared medications and one examined a psychosocial intervention. Of the four medication studies, three focused on young people withdrawing from opioids while the other looked at young adults who had already withdrawn.[23–26] The medication studies varied in design, with one comparing two different medications,[23] one comparing the same medication at different doses,[26] and two comparing the same medication for different durations.[24–25] In these four RCTs, young people also received counselling. Three of the medication studies were double-blinded.[23–24, 26] Meanwhile, the psychosocial study evaluated whether a more comprehensive treatment produced better outcomes than typical community-based interventions.[27] Notably, while all of the studies assessed the effectiveness of either a medication *or* a psychosocial treatment, young people in all of the studies received both medication *and* psychosocial treatment.

 

## Medication studies

The first RCT set out to compare the effectiveness of buprenorphine and clonidine for youth withdrawing from opioids.[23] Both medications were provided for four weeks along with three behaviour therapy sessions per week. All youth received vouchers for every negative opioid urine test — up to about $250 value in 2024 USD — to use for purchases such as gym passes and clothing.[23]

The second RCT evaluated the effectiveness of buprenorphine/naloxone (bup/nal) taken for differing durations — either four or eight weeks — among youth and young adults withdrawing from opioids.[24] (Buprenorphine, alone and/or in combination with naloxone, is commonly known as an opioid agonist treatment or OAT.)[22] Researchers wanted to determine whether the longer duration better promoted opioid abstinence. In addition to medication, all participants also received behaviour therapy two to three times a week.[24]

The third RCT also evaluated bup/nal for different durations among youth and young adults withdrawing from opioids, but for either two or 12 weeks.[25] All participants also engaged in one individual and one group counselling session per week, with more sessions available if needed.[25]

The fourth RCT compared the effectiveness of memantine at two different doses and with a placebo in young adults.[26] All participants started by receiving bup/nal for eight weeks to address opioid withdrawal symptoms. During the second week, they were then randomly assigned to receive either memantine (one of two doses) or placebo for 12 weeks. All participants also received group cognitive-behavioural therapy weekly.[26] Table 1 describes all four medication RCTs, including dosing information.

**Table 1. Medication Study Descriptions**

| **Medication** | **Approach*** | **Participant ages** (sample size) |
|---|---|---|
| Buprenorphine vs. Clonidine [23] | Starting dose 6 or 8 mg; then reduced by 2 mg a week over 4 weeks<br>Starting dose 0.1 mg; on day 2 increased to 0.2 mg; on day 4 increased to 0.3 mg if severe withdrawal symptoms; on day 7 reduced to 0.2 mg; on day 14 reduced to 0.1 mg; on day 21 discontinued | 13–18 years (36) |
| Buprenorphine/naloxone 4 weeks vs. Buprenorphine/naloxone 8 weeks [24] | Starting dose 6–8 mg buprenorphine with 2–8 mg added if significant withdrawal symptoms; once stable, medication changed to 6 or 8 mg buprenorphine/naloxone; taper down began on day 8 or 10 depending on starting dose; on day 28 discontinued<br>As above but taper down began on day 15 or 19 depending on starting dose; on day 56 discontinued | 16–24 years (53) |
| Buprenorphine/naloxone 2 weeks vs. Buprenorphine/naloxone 12 weeks [25] | Starting dose 2 mg buprenorphine + 0.5 mg naloxone with an extra 2–6 mg buprenorphine if needed; increased up to 14 mg of buprenorphine per day; on day 14 discontinued (tapering schedule not reported)<br>As above except 24 mg per day maximum dose; taper down began week 9 + ended at week 12 | 15–21 years (152) |
| Memantine 15 mg vs. Memantine 30 mg vs. Placebo [26] | Starting dose 5 mg; then weeks 3 through 12 dosing at 15 mg<br>As above except 30 mg dose from weeks 3 through 12<br>Received blue opaque capsule to mimic memantine capsule | 18–25 years (80) |

* Dosing refers to daily amounts.

 

## Psychosocial treatment

The one psychosocial study evaluated whether adding a comprehensive program, Youth Opioid Recovery Support (YORS), improved outcomes compared to treatment-as-usual.[27] Prior to beginning the study, young adults participated in a residential treatment program that provided extended-release naltrexone. After completing this treatment, participants were randomized to YORS or to treatment-as-usual, which included ongoing extended-release naltrexone and a counselling referral.[27]

With YORS, participants received extended-release naltrexone at home (or another community location if preferred) along with education about medication management.[27] YORS participants also received gift cards of increasing value (ranging from $20 to $50 in 2019 USD) for every dose of medication taken. As well, YORS included three therapy sessions for participants and their families, focused on treatment planning, medication adherence, building skills and addressing relapses. Therapists also provided brief family coaching. Program staff contacted participants and their families at least weekly to provide reminders and general support and to assess progress. Duration was six months.[27] Table 2 summarizes this study.

**Table 2. Psychosocial Treatment Study Description**

| **Treatment** | **Approach** | **Participant ages** (sample size) |
|---|---|---|
| Treatment-as-Usual (TAU) vs. | Extended-release naltrexone plus referral for substance use disorder care | 18–26 years (38) |
| TAU + Youth Opioid Recovery Support (YORS) [27] | As above but extended-release naltrexone provided by home delivery + gift cards given for each dose taken; plus family therapy + support via text or telephone | |

## Opioid and other substance outcomes

Across the five RCTs, reported outcomes varied regarding what was assessed and when. We focused on opioid use, both during the studies and at follow-up. But we included information on other substance use when studies reported this.

In the first RCT, comparing buprenorphine and clonidine, researchers reported outcomes for the first week and at the end of four weeks.[23] They evaluated opioid withdrawal symptoms and opioid effects, such as feeling high, during the first week because these experiences were more likely to occur then. They found no significant differences between the two medications for self-reported withdrawal symptoms, including feeling sick. But clonidine led to fewer reported opioid effects, such as itchy skin, compared to buprenorphine. By the end of the four-week study, buprenorphine led to significantly fewer positive opioid urine tests compared to clonidine (36% versus 68%, respectively). For other substances — including cannabis, benzodiazepines and cocaine — researchers found no statistically significant difference between buprenorphine and clonidine.[23]

Treatments may need to continue over extended periods, or be restarted, given frequent reoccurrence of opioid use following discontinuation of treatment.

In the second RCT, assessing bup/nal for either four or eight weeks, researchers reported outcomes over the eight-week study. By the end of this study, eight weeks of bup/nal led to significantly fewer positive opioid urine tests compared to just four weeks (65% versus 83%).[24] As well as being statistically significant, this outcome was clinically meaningful, with a medium effect size (Cohen's $d$ = 0.57). Young people who received the medication for eight weeks also experienced longer average periods of abstinence than those receiving it for just four weeks (16.3 versus 7.3 days, on average), although this difference was not statistically significant.[24]

 

The third RCT assessed bup/nal taken for either two weeks or 12 weeks, looking at opioid outcomes initially and during one-year follow-up.[25] At the initial stages of the study, the 12-week dosing led to significantly fewer positive opioid urine tests and significantly reduced self-reported opioid use. In comparison, two-week dosing led to more than four times the odds of self-reported opioid use. Twelve-week dosing also significantly reduced cocaine but not alcohol or cannabis use (all by self-report). By one-year follow-up, two-week dosing led to nearly three times higher odds of positive opioid urine tests compared with 12-week dosing. However, by one-year follow-up, no significant differences emerged for self-reported use of opioids, alcohol, cannabis or cocaine between the two- and 12-week dosing.[25]

Young people with opioid use disorder require a treatment plan that fits with their stage of recovery.

In the fourth medication RCT, researchers assessed outcomes during the 12 weeks that young adults were receiving memantine (15 or 30 mg) or placebo.[26] The 30 mg memantine dose led to significantly less opioid use compared to the 15 mg dose or placebo (based on a combined measure of self-report and urine testing). The 30 mg dose also resulted in fewer and less intense opioid cravings and fewer withdrawal symptoms.[26] Table 3 summarizes opioid outcomes for the four medication studies.

**Table 3. Medication Study Opioid Outcomes**

| **Medication** (duration) | **Significant improvement over comparison treatment** | **No significant difference between treatments** |
|---|---|---|
| Buprenorphine (4 weeks) vs. | ↓ # of opioid-positive urine tests over 4 weeks | • Withdrawal symptoms during 1st week of study<br>• Feelings of sickness during 1st week of study |
| Clonidine (4 weeks) [23] | ↓ Opioid effects experienced during 1st week of study (i.e., detoxification phase) | |
| Buprenorphine/naloxone (4 weeks) vs. | None | • Longest duration of opioid abstinence over the 8-week study |
| Buprenorphine/naloxone (8 weeks) [24] | ↓ # of opioid-positive urine tests over 8 weeks | |
| Buprenorphine/naloxone (2 weeks) vs. | None | • Self-reported past month opioid use between 6- and 12-month follow-up |
| Buprenorphine/naloxone (12 weeks) [25] | ↓ # of opioid-positive urine tests over 12 weeks<br>↓ Self-reported opioid use over 12 weeks<br>↓ # of opioid-positive urine tests between 6- and 12-month follow-up | |
| Memantine 15 mg (12 weeks) vs. | None | |
| Memantine 30 mg (12 weeks) vs. | ↓ Opioid positive urine tests + self-reported use over 12 weeks*<br>↓ Opioid cravings over 12 weeks*<br>↓ Intensity of opioid cravings over 12 weeks*<br>↓ Opioid withdrawal symptoms over 12 weeks* | |
| Placebo (12 weeks) [26] | None | |

↓ Statistically significant benefits favouring given medication.
* Compared to both 15 mg memantine + placebo.

## Adverse events

Only two of the four medication studies assessed adverse events.[25–26] In the study evaluating bup/nal when delivered for two versus 12 weeks, no serious adverse events were attributable to the medication; headaches were the most common side effect, reported by nearly 20% of participants.[25] However, another study

 

evaluating bup/nal delivered to youth for eight weeks (which did not meet criteria for our review) found significant liver enzyme elevations at weeks 2 and 4 but not week 8; still, most elevations were not deemed to be clinically significant.[28]

The memantine RCT similarly found no significant differences regarding adverse events or side effects when comparing either medication dose or placebo — with the placebo group actually reporting more negative effects.[26] Still, our searches identified a review of memantine which found that while it is typically well tolerated, side effects can include dizziness, headache and constipation.[29]

## The impact of psychosocial treatment

By several measures, the study evaluating Youth Opioid Recovery Support found improved results compared to treatment-as-usual at the end of the six-month program.[27] YORS significantly reduced relapses (defined as at least 10 days of opioid use within a 28-day period based on both self-report and urine tests). Specifically, 61.1% of participants receiving YORS relapsed compared with 95.0% of those receiving treatment-as-usual. YORS also lengthened the time until relapse, to nine versus three weeks. The effect size for this outcome was substantial, with participants in treatment-as-usual having a 73.1% probability of relapsing more quickly than those who received YORS.[27]

Preventing opioid misuse is crucial to meet the collective goal of having fewer young lives harmed or cut short.

YORS also led to significantly fewer days of opioid use: 23.6 versus 51.0 for treatment-as-usual.[27] In contrast, the groups did not significantly differ regarding days until opioid use resumed or self-reported alcohol, cannabis, cocaine or benzodiazepine use.[27] Table 4 summarizes the opioid outcomes for this study.

**Table 4. Psychosocial Treatment Opioid Outcomes**

| Treatment | Assessed at | Outcomes |
|---|---|---|
| Youth Opioid Recovery Support [27] | End of 6-month treatment program | ↓ # of participants who relapsed* (61% vs. 95%)<br>↑ # of days until relapse (9 weeks vs. 3 weeks)<br>↓ # of days of opioid use (23.6 vs. 51.0)<br>NS # of days until first use of opioid |

↓ or ↑ Statistically significant benefits favouring Youth Opioid Recovery Support intervention over Treatment-as-usual.
NS No significant difference between Youth Opioid Recovery Support and Treatment-as-usual.
* Defined as at least 10 days of use in a 28-day period.

## Summarizing the findings and what is still needed

In the past, interventions for youth with opioid use disorder were typically limited to withdrawal management with medications and psychosocial treatments for longer-term care.[22] The research we reviewed mirrored this approach, with most studies focusing on medications for opioid withdrawal. Overall, these studies supported using bup/nal for longer durations during opioid withdrawal (i.e., for eight to 12 weeks).[24, 25]

Regarding the post-withdrawal stage, we found support for YORS, a comprehensive six-month psychosocial treatment that included therapy sessions for young people and their families, family coaching, and home delivery of extended-release naltrexone, with incentives for every dose taken.[27] We also found a recent study examining the use of memantine for young adults who had already withdrawn from opioids. The higher dose of memantine (30 mg versus 15 mg) was associated with better outcomes.[26] Still, the medication was assessed after only 12 weeks of use.

What we could not include in this review is also notable. No RCTs examining longer-term use of bup/nal met our inclusion criteria. Still, given limited evidence on treating opioid use disorder in youth, the BC Centre on Substance Use guidelines recommend bup/nal as the first-line treatment for youth with moderate

to severe opioid use disorder, based on two of the RCTs included in our review.[22] We also did not find any RCTs on methadone's effectiveness for youth, which these same guidelines recommend be considered for teens who do not adequately respond to bup/nal.[22] (An older evaluation comparing methadone and levomethadyl acetate hydrochloride did not meet inclusion criteria due to methodological issues, including with randomization.)[30] We also found no evaluations of safe supply (i.e., prescribing opioids to individuals at high risk for overdose)[31] that met our inclusion criteria. Clearly, more rigorous research is needed on the longer-term use of medications to treat youth with opioid use disorder — particularly given the numbers being prescribed these medications, as detailed in the sidebar.

Yet there is an important strength in the studies we have presented. While all five RCTs assessed either a medication or a psychosocial treatment, all of the young people in these studies actually received *both* medication and psychosocial treatment. In other words, researchers recognized that the standard of care for youth with opioid use disorder includes considering the full range of available treatments.[22]

### How many BC youth with opioid use disorder are treated with medications?

Researchers have answered this question by reviewing prescriptions in health administrative databases.[6] They found that of 446 adolescents with this diagnosis, 36.5% were prescribed a related medication between 1996 and 2018. Among these young people, 60.1% received buprenorphine/naloxone and 38.0% methadone. Still, researchers found that teens were about half as likely to receive a medication for opioid use disorder compared with older adults — despite this treatment being an important component in addressing the opioid crisis.[6]

## Implications for practice and policy

Our findings suggest six implications to better serve young people in BC.

- *Ensure that all young people in need can access timely treatment.* Every young person experiencing opioid use disorder needs quick access to effective treatments — and needs to know how to get help in safe ways. While efforts are being made to increase access to this vital form of care, many young people still lack even a primary health care provider.[32–33] As well, treatments may need to continue over

Barriers to treatment for youth with opioid use disorder need to be reduced.

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extended periods, or be restarted, given frequent reoccurrence of opioid use following discontinuation of treatment.[34]

- *Match the treatment to the individual.* Young people with opioid use disorder require a treatment plan that fits with their stage of recovery. For example, abruptly stopping opioid use can cause painful withdrawal symptoms.[23] So for young people at the beginning of their treatment, managing withdrawal symptoms through bup/nal can be helpful, according to the studies we identified.
- *Help youth by helping family members.* When a young person is struggling with opioid use, everyone around them is deeply affected. Family members often experience great challenges — both in supporting the young person and in coping with the consequences in their own lives. Interventions that include family members, such as the YORS program, are therefore always worth considering. The YORS program can also reduce barriers by providing medications to use at home, with support from family members. Please see the adjacent sidebar for additional information on how one Ontario high school further reduced barriers for First Nations youth.
- *Ensure strong practitioner supports.* The Compass Mental Health program at BC Children's Hospital provides support to health care providers treating children and youth with substance use challenges. The BC Centre on Substance Use, through its Provincial Opioid Addiction Treatment Support Program, also provides additional education and training for prescribers, including online courses and preceptorships.
- *Conduct more research with young people.* Rigorous research is greatly lacking on treatments for opioid use disorder in young people. As a result, practitioners must resort to prescribing medications that have not been optimally evaluated. So new treatment research is urgently needed.
- *Remember prevention.* Even with adequate treatment, preventing opioid misuse is crucial to meet the collective goal of having fewer young lives harmed or cut short. Prevention is also the most effective way to enable more young people to enjoy years of positive development by avoiding opioid use disorder.

While more research is needed, our review still identified effective treatments to support young people who are experiencing opioid use disorders. These treatments show promise to encourage a return to flourishing and need to be readily available to all who can benefit. Yet the toxic drug crisis will not be curtailed by focusing solely on treatment. Rather, BC needs a comprehensive public health approach that encompasses prevention as well as treatment, alongside other modes of harm reduction.

## A First Nations response

A First Nations high school in Northern Ontario set out to support its students who were struggling with opioid use.[35] Many students were experiencing additional adversities, including concurrent mental health concerns, past suicide attempts and family substance use issues. The school's health clinic reduced barriers to treatment by providing 44 students with buprenorphine and an individual relapse prevention program. Group counselling was also available. Locating treatment in the school also meant that students could continue their classes and could access peer supports. More than five years after students started the program, 61.3% were still taking buprenorphine. And those taking it were more likely to have engaged in substance use counselling in the past year than those who were not. These findings suggest that providing opioid treatment in schools may be a positive way to support students, even when they are coping with multiple adversities.[35]

 

## METHODS

We use systematic review methods adapted from the *Cochrane Collaboration*. We build quality assessment into our inclusion criteria to ensure that we report on the best available research evidence, requiring that intervention studies use randomized controlled trial (RCT) evaluation methods and meet additional quality indicators. For this review, we searched for RCTs on interventions aimed at treating opioid use disorder in young people. Table 5 outlines our database search strategy.

**Table 5. Search Strategy**

| | |
|---|---|
| **Sources** | • Campbell Systematic Reviews, Cochrane Database of Systematic Reviews, CINAHL, CENTRAL, ERIC, Medline and PsycINFO |
| **Search Terms** | • Opioid use, prescription opioids, heroin, illegal drugs, illicit drugs or prescription drug misuse *and* intervention, therapy or treatment |
| **Limits** | • Published in a peer-reviewed journal and in English<br>• Reported on children aged 18 years or younger<br>• Used systematic review, meta-analysis or RCT methods |

To identify additional RCTs, we also hand-searched the reference lists from relevant systematic reviews and previous *Quarterly* issues. Using this approach, we identified 116 articles describing 82 studies. Two team members then independently assessed each article, applying the inclusion criteria outlined in Table 6.

**Table 6. Inclusion Criteria for RCTs**

- Participants were randomly assigned to intervention and comparison groups at study outset
- Participants included adolescents or young adults up to age 26 years*
- Study authors provided clear descriptions of participant characteristics, settings and interventions
- Interventions were evaluated in high-income countries for comparability to Canadian settings
- Interventions aimed to treat opioid use disorder
- At study outset, most participants met diagnostic criteria for opioid use disorder
- Attrition rates were 20% or less at final evaluation and/or intention-to-treat analysis was used
- Outcome indicators included opioid use
- Statistical significance was reported for primary outcome measures

* We included studies with young adults given the paucity of RCTs limited to youth.

Five RCTs met all of our inclusion criteria. Figure 1 depicts our search process, adapted from Preferred Reporting Items for Systematic Reviews and Meta-Analyses.[36] Data from these studies were then extracted, summarized and verified by two or more team members. Throughout our process, any differences among team members were resolved by consensus.

**For more information on our research methods, please contact**
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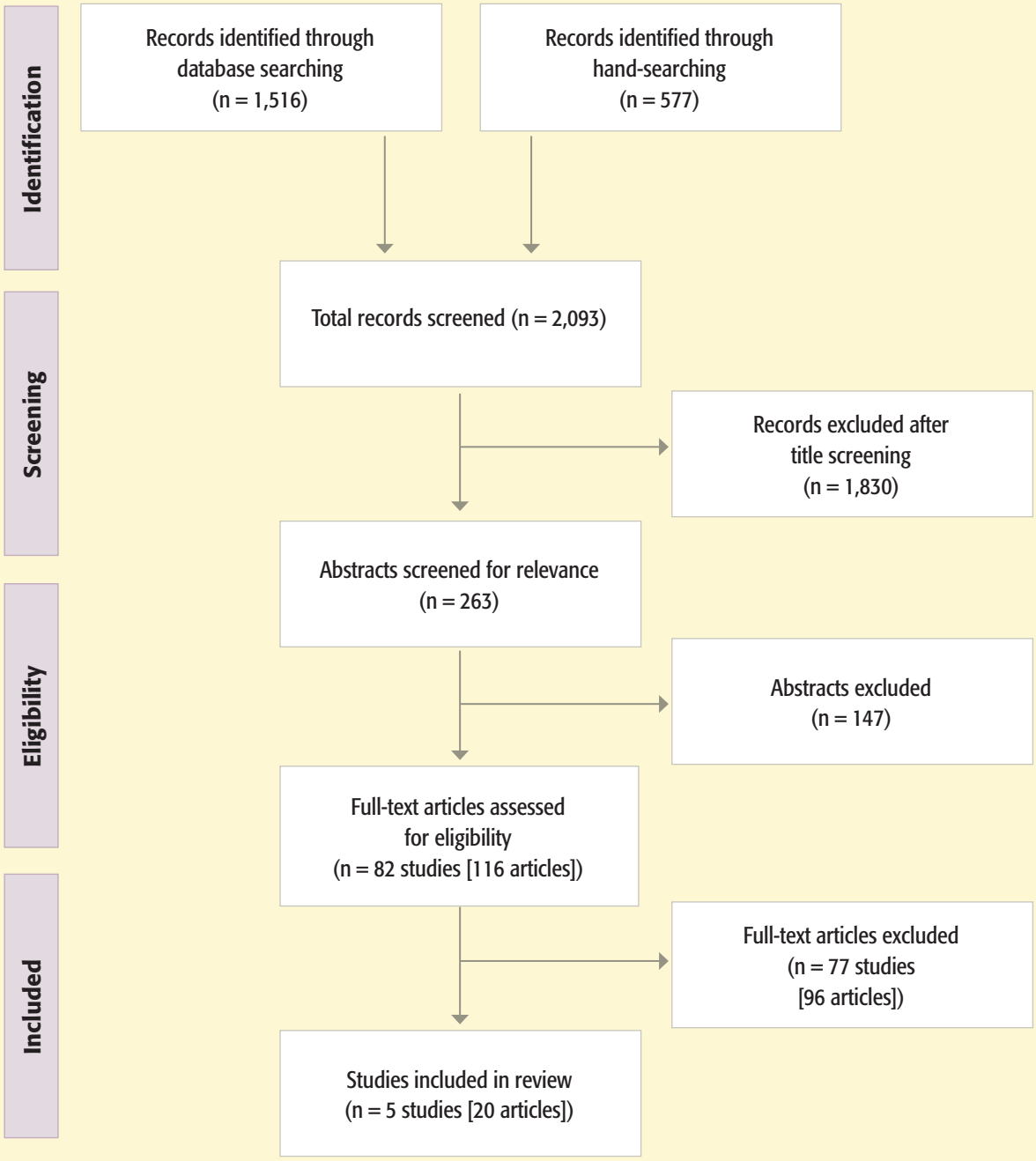
**Figure 1. Search Process for RCTs**



## RESEARCH TERMS EXPLAINED

Identifying the best available research evidence on how well interventions work for children is crucial in guiding public policy and practice decisions and investments. **Randomized controlled trials** (RCTs) are an important standard in the health sciences for assessing intervention effectiveness. RCTs involve randomly assigning participants to a given group (e.g., interventions or no interventions). The randomization process ensures that every young person enrolled in the study has an equal chance of being assigned to any of the groups. The goal is to create conditions that are fully comparable other than the interventions being evaluated.

To determine how well an intervention works, researchers then analyze relevant child and youth outcomes. Analyses include assessing whether group differences are **statistically significant**. This process gives more certainty that any differences favouring a given intervention were not due to chance. In the studies we reviewed, researchers used the typical convention of having at least 95% confidence that observed results reflected the intervention's real impact.

Beyond determining whether outcomes are statistically significant, it is important to evaluate how much meaningful difference an intervention makes to the young person's well-being — or the intervention's "real life" magnitude. This outcome, called an **effect size**, is a quantitative description of the strength of the relationship between the intervention and the outcome. Among those we report on in this issue, **Cohen's *d*** effect sizes are quantified as small (0.20), medium (0.50) or large (0.80).

For this issue of the *Quarterly*, we expanded our typical criteria to include studies with young adults to ensure the most relevant coverage of the research.

BIGSTOCK_186053509, LIGHTFIELD STUDIOS

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BC government staff can access original articles from BC's Health and Human Services Library. Articles marked with * include randomized controlled trial data that was featured in our Review article.


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## LINKS TO PAST ISSUES

The *Children's Mental Health Research Quarterly* Subject Index provides a detailed listing of topics covered in past issues, including links to information on specific programs.

**2024 / Volume 18**
2 – Preventing problematic opioid use for young people
1 – Treating childhood eating disorders

**2023 / Volume 17**
4 – Preventing childhood eating disorders
3 – Treating concurrent mental disorders in children
2 – Preventing concurrent mental disorders in children
1 – Suicide prevention: Reaching young people at risk

**2022 / Volume 16**
4 – Suicide prevention: Reaching the greatest number of young people
3 – Supporting children after mental health hospitalization
2 – Children's mental health: The numbers and the needs
1 – Helping children with obsessive-compulsive disorder

**2021 / Volume 15**
4 – Childhood bullying: Time to stop
3 – Fighting racism
2 – Treating posttraumatic stress disorder in children
1 – Helping children cope with trauma

**2020 / Volume 14**
4 – Helping young people with psychosis
3 – Psychosis: Is prevention possible?
2 – Mental health treatment: Reaching more kids
1 – Prevention: Reaching more kids

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4 – Preventing problematic substance use among youth
3 – Helping youth who self-harm
2 – Celebrating children's mental health: 50 lessons learned
1 – Helping youth with bipolar disorder

**2018 / Volume 12**
4 – Helping children who have been maltreated
3 – Preventing child maltreatment
2 – Treating substance misuse in young people
1 – Preventing youth substance misuse: Programs that work in schools

**2017 / Volume 11**
4 – Helping children with depression
3 – Preventing childhood depression
2 – Supporting LGBTQ+ youth
1 – Helping children with ADHD

**2016 / Volume 10**
4 – Promoting self-regulation and preventing ADHD symptoms
3 – Helping children with anxiety
2 – Preventing anxiety for children
1 – Helping children with behaviour problems

**2015 / Volume 9**
4 – Promoting positive behaviour in children
3 – Intervening for young people with eating disorders
2 – Promoting healthy eating and preventing eating disorders in children
1 – Parenting without physical punishment

**2014 / Volume 8**
4 – Enhancing mental health in schools
3 – Kinship foster care
2 – Treating childhood obsessive-compulsive disorder
1 – Addressing parental substance misuse

**2013 / Volume 7**
4 – Troubling trends in prescribing for children
3 – Addressing acute mental health crises
2 – Re-examining attention problems in children
1 – Promoting healthy dating relationships

**2012 / Volume 6**
4 – Intervening after intimate partner violence
3 – How can foster care help vulnerable children?
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1 – Preventing problematic anxiety

**2011 / Volume 5**
4 – Early child development and mental health
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2 – Preventing prenatal alcohol exposure
1 – Nurse-Family Partnership and children's mental health

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4 – Addressing parental depression
3 – Treating substance abuse in children and youth
2 – Preventing substance abuse in children and youth
1 – The mental health implications of childhood obesity

**2009 / Volume 3**
4 – Preventing suicide in children and youth
3 – Understanding and treating psychosis in young people
2 – Preventing and treating child maltreatment
1 – The economics of children's mental health

**2008 / Volume 2**
4 – Addressing bullying behaviour in children
3 – Diagnosing and treating childhood bipolar disorder
2 – Preventing and treating childhood depression
1 – Building children's resilience

**2007 / Volume 1**
4 – Addressing attention problems in children
3 – Children's emotional wellbeing
2 – Children's behavioural wellbeing
1 – Prevention of mental disorders

 