

# Quarterly

SPRING 2024 VOL. 18, NO. 2

## Preventing problematic opioid use for young people

### OVERVIEW

From medicine cabinets  
to street corners

### REVIEW

How can problematic  
opioid use be  
prevented?







### 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](http://childhealthpolicy.ca).

### Quarterly Team

Scientific Writer

Christine Schwartz, PhD, RPsych

Scientific Editor

Charlotte Waddell, MSc, MD, CCFP, FRCPC

Senior Research Manager

Jen Barican, BA, MPH

Research Assistants

Jessica Tang, BA

Oliver White, BA

Production Editor

Daphne Gray-Grant, BA (Hon)

Copy Editor

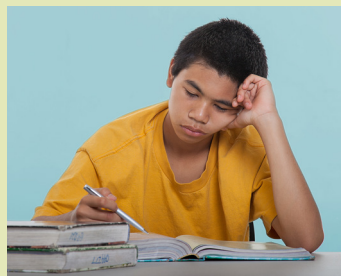
Naomi Pauls, MPub

COVER: BIGSTOCK / HALFPOINT

### Overview 3

#### From medicine cabinets to street corners

Given the immense harms the opioid crisis is causing for young people, prevention has never been more important. To inform prevention efforts, we look at the number of youth affected by opioids, how youth are accessing them, what puts youth at risk and options for limiting access.



### Review 6

#### How can problematic opioid use be prevented?

Many effective prevention programs exist for youth substance misuse in general. But what is their impact on opioid use? We reviewed the research to answer this question.



### Implications for practice and policy 11

#### Sidebars

What about Indigenous youth? 6

Setting the standard for the best available evidence 6

Supporting children when parents have opioid use disorders 8

### Methods 12

### Research Terms Explained 14

### References 15

### Links to Past Issues 18



### NEXT ISSUE

#### Treating opioid use disorders in young people

When youth have opioid use disorders, they urgently need effective treatments – which can make the difference between life and death. We examine the research on these treatments.



BIGSTOCK / ARMINSTAUDT

### How to Cite the Quarterly

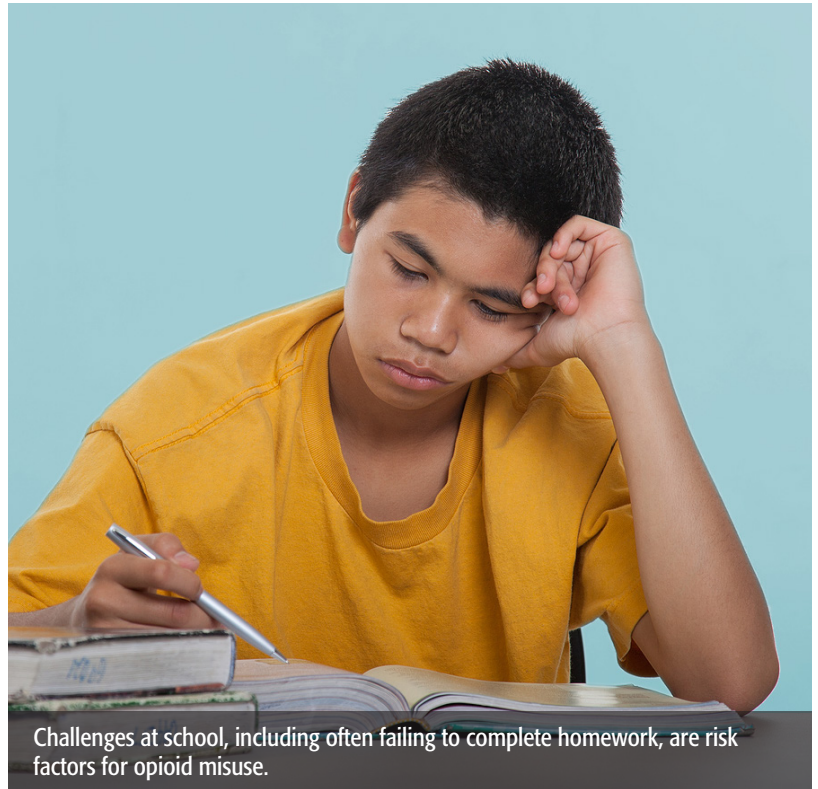
We encourage you to share the *Quarterly* with others and we welcome its use as a reference (for example, in preparing educational materials for parents or community groups). Please cite this issue as follows:

Schwartz C, Barican J, White O, Tang J, Gray-Grant D, & Waddell C. (2024). Preventing problematic opioid use for young people. *Children's Mental Health Research Quarterly*, 18(2), 1–18. Vancouver, BC: Children's Health Policy Centre, Faculty of Health Sciences, Simon Fraser University.

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

# From medicine cabinets to street corners

Be it codeine taken from a parent’s nightstand to fentanyl purchased from a dealer, opioid misuse has had a disastrous impact in this province. Toxic drug-related overdoses resulted in the BC government declaring a public health emergency eight years ago.<sup>1</sup> Since then, deaths from opioids have continued to devastate children, families and communities. Beyond tracking the lives lost, knowing how many young people are using opioids is also critical to inform prevention efforts.



Challenges at school, including often failing to complete homework, are risk factors for opioid misuse.

BIGSTOCK / GEOM

## How many young people are affected?

The Canadian Student Tobacco, Alcohol and Drug Survey has been providing data on past-year opioid misuse for students in Grades 7 to 12 since 2014.<sup>2</sup> Its four surveys have shown that over time, heroin use has remained stable, with 0.5 to 0.8% of youth misusing this substance.<sup>3-6</sup> Misuse of fentanyl and oxycodone also remained relatively stable, at around 1.0%. For other opioids — namely, morphine, codeine and/or Tylenol #3 (i.e., acetaminophen with codeine) — misuse rates were higher, ranging from 2.3 to 2.8%. Table 1 provides more details on rates of misuse over time.

Thirty-four percent of those who had misused opioids obtained these substances from friends or relatives who had prescriptions.

**Table 1. Past-Year Opioid Misuse (%) for Canadian Students in Grades 7 to 12<sup>3-6</sup>**

Opioid	2014/15	2016/17	2018/19	2021/22
	n = 36,665	n = 52,103	n = 62,850	n = 61,096
Heroin	0.6	0.6	0.5	0.8
Oxycodone	1.0	1.2	1.2	1.4
Fentanyl	0.4	0.5	0.7	0.9
Morphine, codeine or Tylenol #3	2.3	2.5	2.8	2.6

n = Number of youth who completed survey.

The BC Adolescent Health Survey also provides information on opioid misuse for students in Grades 7 to 12 in the province.<sup>7</sup> Data from the 2023 survey, which included more than 38,000 youth, found that 1% reported ever using heroin, fentanyl or other opioids.<sup>7</sup> The 2018 survey similarly found that 1% of youth reported ever using heroin (other opioids were not included in that survey).<sup>8</sup>

## How are young people accessing opioids?

Young people typically access opioids in one of three ways.<sup>9</sup> Health practitioners may prescribe opioids, to address post-operative pain, for example. Some youth also take opioids that were prescribed to others, both with and without the others' knowledge. As well, a small number of young people obtain opioids outside the health care system, including unregulated substances such as non-medical heroin or illegally manufactured fentanyl.<sup>9-10</sup>

A survey of more than 1,000 American adolescents who had misused prescription opioids provides further insight regarding how these substances were obtained.<sup>11</sup> As detailed in Table 2, the most common sources were friends or relatives.

Source	Percentage*
Obtained from friend/relative for free	33.5
Prescribed for youth by doctor(s)	21.4
Purchased from friend/relative	8.1
Took from friend/relative without asking	7.6
Purchased from drug dealer or stranger	6.5
Stole from a health care setting	1.7
* Total does not equal 100% due to other (8.5%) and unknown sources (12.6%).	

Similarly, an online survey of Canadians, including youth, found that 34% of those who had misused opioids obtained these substances from friends or relatives who had prescriptions.<sup>12</sup>

## Avoidable risk factors

Researchers have identified many risk factors for opioid misuse — including some that can be modified. A Canadian study of Ontario and Alberta secondary students examined the risks for misusing three types of prescription opioids: oxycodone, fentanyl and/or others (which included codeine, morphine and Tylenol #3).<sup>13</sup> Use of other substances was a particularly potent risk factor. Binge drinking, mixing alcohol and energy drinks, using cannabis, vaping and smoking cigarettes resulted in 39% to 511% higher odds of misusing prescription opioids.<sup>13</sup> (Please see our [Fall 2019 issue](#) for more information on preventing youth substance misuse in general.)

School experiences also influenced risk. Skipping classes, failing to complete homework (often or usually) and viewing school as very unsupportive in helping students resist or quit substances resulted in 41% to 358% higher odds of misusing. As well, the availability of spending money from allowances or part-time employment was associated with 38% to 56% higher odds of misusing codeine, morphine and/or Tylenol #3.<sup>13</sup> (The adjacent sidebar provides information on the link between school experiences and substance misuse among Indigenous youth.)

### What about Indigenous youth?

A group of researchers set out to identify risk and protective factors for problematic opioid use among American Indigenous youth.<sup>14</sup> Their efforts were prompted by the lack of research on Indigenous youth and by the disproportionate impact of the opioid crisis on Indigenous people due to the effects of historical trauma and ongoing racism.<sup>14</sup> Two factors emerged as protective against prescription opioid misuse: family disapproval of substance use and better school performance. However, neither was protective against heroin use. In contrast, having peers who used substances was a risk factor for both prescription opioid misuse and heroin use.<sup>14</sup> In BC, efforts by the First Nations Health Authority and others are building on these kinds of findings, with the goal of supporting wellness and healthy development for all Indigenous young people.<sup>15</sup>

An American study assessed the impact of another potential risk factor — adverse childhood experiences.<sup>16</sup> To understand these experiences, researchers surveyed more than 10,500 public middle- and high-school students in Ohio, asking about 10 forms of adversity. These included emotional, physical and/or sexual abuse; physical and/or emotional neglect; witnessing intimate partner violence; living with someone who had substance use problems, had a mental illness or was incarcerated; and parental separation or divorce. All were linked with youth opioid misuse. Sexual abuse produced the greatest risk, with 6.8 times increased odds of opioid misuse. As well, experiencing multiple or cumulative adverse experiences greatly increased the odds. Young people with five or more of these negative early experiences had more than 15 times increased odds of misusing opioids.<sup>16</sup> (Please see our [Summer 2018 issue](#) for more information on preventing childhood maltreatment.)

## Limiting prescription opioid access in communities

Following substantial increases in prescription opioid misuse in Canada and elsewhere beginning in the 1980s,<sup>10</sup> practitioner groups have acted to reduce unnecessary prescribing of these drugs. For example, Canadian guidelines for chronic (non-cancer) pain have de-emphasized opioids.<sup>17</sup> And organizations such as BC's College of Physicians and Surgeons, among others, have issued updated practice standards on safe opioid prescribing.<sup>18</sup>

Data suggest that prescribing practices are changing. The proportion of Canadians living in BC, Ontario and Saskatchewan being prescribed opioids fell from 14.3% to 12.3% between 2013 and 2018.<sup>19</sup> For children under age 15, these prescriptions fell from 2.0% to 1.0% in the same time period, while for teens and young adults ages 15 to 24, the numbers dropped from 8.7% to 7.1%.<sup>19</sup>

Initiatives to reduce the supply of unused opioid medications can also help. For example, a US project encouraged people to drop off unused medications to prevent them from being misused.<sup>20</sup> Despite a budget of less than \$1,000 and a time frame of only four hours, this project resulted in people turning in 1,798 opioid dosing units — showing what communities can do.<sup>20</sup>

But much more needs to be done, and the needs have never been greater.<sup>21</sup> In particular, it is essential to consider prevention programs for young people — to intervene effectively before opioid misuse starts. These programs are typically informed by the research on risks, as noted above, and can complement broader public health efforts to address problematic opioid use. In the [Review article](#) that follows, we present systematic review findings on programs that successfully reduced problematic opioid use for young people. 🙌

It is essential to consider prevention programs for young people — to intervene effectively before opioid misuse starts.



# How can problematic opioid use be prevented?

Prevention is paramount to avoid the harms associated with opioids. We therefore conducted a systematic review examining health promotion and disorder prevention programs that assessed opioid-related outcomes for young people.

For this review, we required studies to use rigorous evaluation methods, namely, randomized controlled trials (RCTs). We also sought studies conducted in high-income countries to enhance applicability to BC. (The adjacent sidebar gives more information on how we set our inclusion criteria.) We then searched for RCTs without limiting by date to capture all studies that met our criteria, regardless of when they were published.

After applying our inclusion criteria (detailed in the Methods), we accepted five studies. Three of the studies evaluated Strengthening Families.<sup>22–24</sup> One assessed the program on its own,<sup>22</sup> the second assessed the program augmented by Life Skills Training,<sup>23</sup> and the third assessed the program augmented by one



Strengthening Families focuses on teaching skills, such as bonding between parents and teens, and provides opportunities to practice them.

BIGSTOCK / PRAISAENG

## Setting the standard for the best available evidence

The goal for every *Quarterly* issue is to find and present the best available research evidence on mental health prevention and/or treatment programs for young people. What constitutes the best available evidence, however, varies from topic to topic. For example, we typically require that information on relevant child and youth outcomes be provided by two different sources. Yet, for this issue, we required only one source. This is because young people often keep their substance use hidden from others. In other words, parents and practitioners, who often provide useful information in research studies, may be less knowledgeable about a young person's opioid use. For this topic, therefore, we included studies that relied solely on youth self-report.

of three school-based programs.<sup>24</sup> A fourth RCT evaluated Project PATHS.<sup>25</sup> For all four of these RCTs, entire schools rather than individual children were randomized to intervention or control conditions. The fifth RCT evaluated Families Facing the Future, which was limited to families with a parent receiving treatment at a methadone clinic.<sup>26</sup>

## Strengthening Families

The Strengthening Families program aimed to prevent substance misuse through skills training for both children and parents.<sup>27</sup> Group delivery was used for all components. In the first RCT, children and

At 10-year and at 14-year follow-up, significantly fewer Strengthening Families participants reported ever misusing prescription opioids.

parents each received six sessions. Parent sessions focused on nurturing children, setting expectations, using appropriate discipline, managing emotions and employing effective communication techniques.<sup>22, 28</sup> Child sessions paralleled the content of parent sessions and taught skills for dealing with peer pressure and for developing competencies, such as managing stress and cultivating positive friendships.<sup>22, 28</sup> Separate sessions for parents and children were followed by family sessions to support practising conflict resolution and communication skills.<sup>22</sup> Parents and children participated in seven family sessions in total. Trained facilitators delivered Strengthening Families at local schools in the evenings when children were in Grade 6.<sup>28</sup> (Current training for Strengthening Families facilitators is two days.)<sup>29</sup> Families in the control group received four leaflets on adolescent development.<sup>30</sup>

The research evidence identified through this systematic review indicates that it is possible to prevent opioid misuse.

The second RCT evaluated Strengthening Families augmented by Life Skills Training.<sup>23</sup> Delivery was similar to the first RCT with three exceptions: children were in Grade 7 when the intervention began; the program included seven separate sessions for parents and children; and children received four booster sessions in Grade 8. Life Skills Training focused on teaching children strategies to avoid substance use as well as improve decision-making, enhance social skills and cope with anxiety.<sup>23</sup> Teachers delivered this 15-session program in classrooms when children were in Grade 7 followed by five booster sessions when children were in Grade 8.<sup>23</sup> As well, half the participants were

randomly selected to receive an unspecified number of family and child booster sessions during children's Grade 11 year.<sup>31</sup> Mirroring the first RCT, families in the control group received four leaflets on adolescent development.<sup>23</sup>

The third RCT evaluated Strengthening Families supplemented by school-based programs. In this version, parents and children participated in seven separate sessions as well as seven family sessions during children's Grade 6 year. Children received an unspecified number of booster sessions in Grade 7.<sup>24</sup> The supplemental school-based programs varied. Implementation teams could choose to deliver one of three school-based curricula: Life Skills Training (described above), Project ALERT or All Stars. The latter two programs both focused on helping children resist pressures to use substances while All Stars also attempted to reduce violence.<sup>24</sup> These programs were delivered in 11 and 13 sessions, respectively. Teachers delivered the school-based programs in classrooms when children were in Grade 7. Children also received an unspecified number of booster sessions in Grade 8. Families in the control group did not receive any intervention.<sup>32</sup>

## A path to a healthier future?

The fourth RCT evaluated Project PATHS, a health promotion program aiming to foster positive development and reduce problem behaviours.<sup>33</sup> This program included a universal component for all participating children that included skill building to increase empathy, facilitate decision-making and strengthen family relationships.<sup>25</sup> Schools could choose to deliver the full program (40 lessons taught in 20 hours per year) or the core program (20 lessons taught in 10 hours per year).<sup>34</sup> Regardless of which version the school chose, teachers delivered the program in classrooms over three consecutive years, beginning when the children were in Grade 7.<sup>25, 35</sup>

Project PATHS also included a targeted component for children with greater academic, mental health or social/family needs, identified by teachers and from student records.<sup>25, 34</sup> Approximately 20% of children met this criterion.<sup>34</sup> Enriched programming was then provided based on individual needs. Examples included child mental health promotion, child mentoring from school alumni and parent training.<sup>34</sup>

Project PATHS reduced the frequency of heroin use two years after the program ended.

Children in the control group did not receive any intervention.

Table 3 summarizes these four studies. Information on the fifth RCT, evaluating Families Facing the Future, is presented in the adjacent sidebar, given the program’s specific focus on families where a parent was receiving treatment at a methadone clinic.

### Supporting children when parents have opioid use disorders

Researchers set out to determine if the Families Facing the Future program could prevent children from developing substance use disorders when their parents were in treatment at a methadone clinic.<sup>26</sup> The program coupled parenting skills training with relapse prevention and home-based case management. Children, whose average age was eight, participated in 12 sessions so parents could practise their new skills while therapists provided feedback. Home visits by case managers further assisted parents in generalizing their learning. By 12-year-follow-up, 59% of the child participants met criteria for a substance use disorder at some point. However, there was no difference in disorder rates – including for alcohol, cannabis, opioids or cocaine/amphetamine use – between participants whose families received the program and those in the control group. Still, when researchers analyzed outcomes separately by gender, males who had participated in Families Facing the Future were significantly less likely to be diagnosed with alcohol or cannabis use disorders.<sup>26</sup>

**Table 3. Programs and Study Descriptions**

Intervention (year started)	Approach	Sample size	Child grades* (location)
<b>Universal</b>			
Strengthening Families (1993) <sup>22, 28, 36</sup>	<i>Parents:</i> Skills training on nurturing children, setting expectations, using appropriate discipline + employing effective communication during 6 1-hour group sessions <i>Children:</i> Skills training paralleling parent content as well as addressing peer pressure + pro-social competencies during 6 1-hour group sessions <i>Families:</i> Conflict resolution + communication skills practised during 7 1-hour group sessions	446	Grade 6 (United States)
Strengthening Families + Life Skills Training (1998) <sup>23, 36</sup>	<i>Strengthening Families:</i> As above (except 7 sessions for all components; core program in Grade 7 + 4 booster sessions in Grade 8) <i>Life Skills Training:</i> Children were taught skills including avoiding substance use, improving decision-making, coping with anxiety + developing social proficiencies during 15 45-minute classroom sessions in Grade 7 + 5 booster sessions in Grade 8 <sup>†</sup>	1,032	Grade 7 (United States)
Strengthening Families + School-based program (2002) <sup>24, 36</sup>	<i>Strengthening Families:</i> As above (except 7 sessions for all components; core program in Grade 6 + an unspecified number of booster sessions in Grade 7) <i>School-based program:</i> Teachers delivered 1 of 3 school-based programs (i.e., Life Skills Training [15 sessions], Project Alert [11 sessions] or All Stars [13 sessions]) in Grade 7, all of which aimed to help children avoid substance use; all included an unspecified number of booster sessions in Grade 8	12,022	Grades 6–7 (United States)
<b>Combined</b>			
Project PATHS (2006) <sup>25, 33</sup>	<i>Universal:</i> Teachers taught skills to promote empathy, facilitate decision-making + strengthen family relationships during 40 sessions lasting 20 hours or 20 lessons lasting 10 hours each year over 3 school years beginning in Grade 7 <i>Targeted:</i> At-risk students received programming to address their specific needs, such as mentoring + mental health	7,846	Grades 7–9 (Hong Kong)
* Child grades refer to timing of delivery of core intervention excluding any booster sessions. † Half of schools were randomly selected to implement an unspecified number of family + child booster sessions when participants were in Grade 11.			



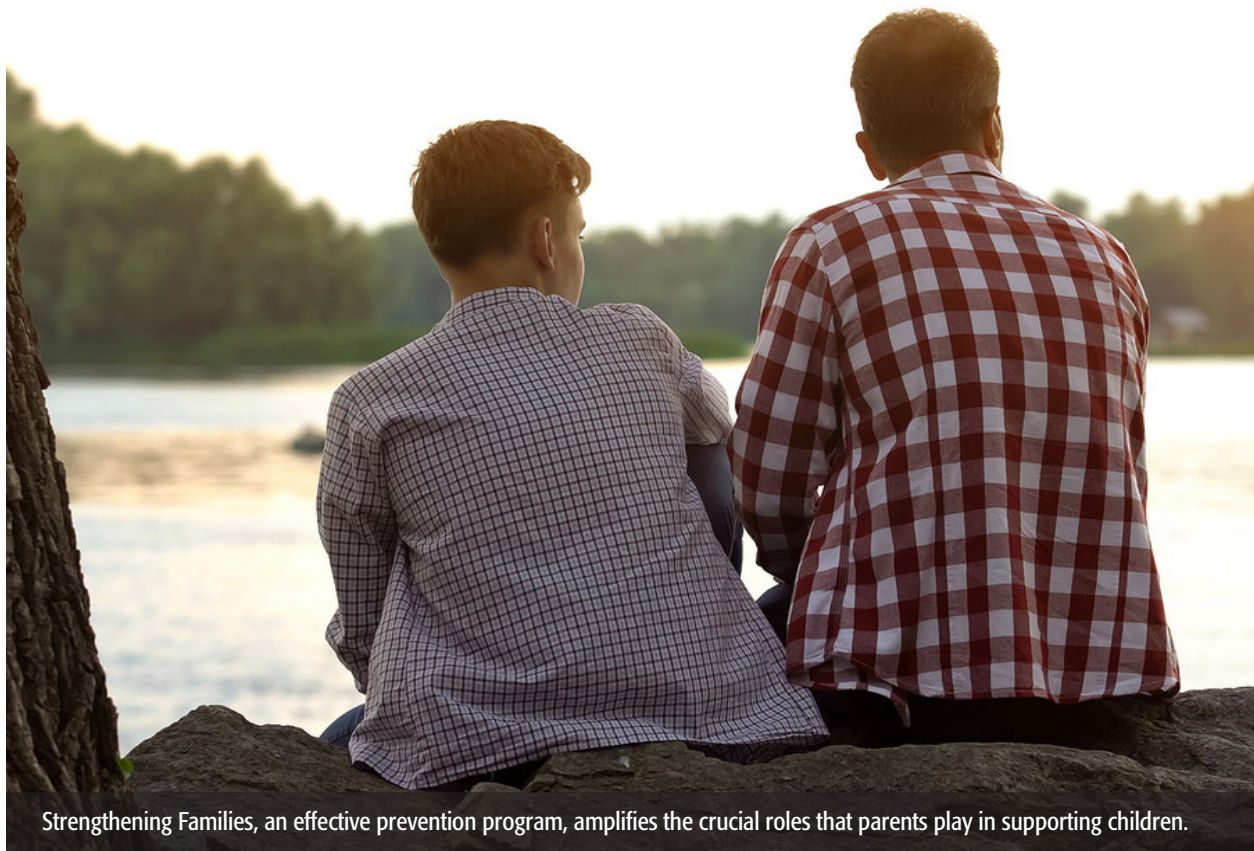
## Strengthening families, preventing opioid misuse

The first RCT found that Strengthening Families successfully prevented prescription opioid misuse.<sup>28, 36</sup> At six-year follow-up, significantly fewer program participants reported misusing prescription opioids in the past year than those in the control group — with rates of 0% and 3.8%, respectively.<sup>28</sup> And these positive findings endured over time. At 10-year and at 14-year follow-up, significantly fewer Strengthening Families participants reported ever misusing prescription opioids.<sup>28, 36</sup> The 10-year rates were 0.6% for program participants versus 8.7% for the control group, while the parallel 14-year rates were 4.7% versus 13.5%.<sup>28, 36</sup> By 14-year follow-up, differences were also clinically meaningful, with youth in Strengthening Families experiencing a 65% relative risk reduction for prescription opioid misuse — in other words, they were 65% less likely to experience this outcome than those in the control group.<sup>36</sup>

The second RCT found that Strengthening Families delivered with Life Skills Training significantly reduced prescription opioid misuse at long-term follow-up.<sup>36</sup> Specifically, 2.5% of program participants reported ever misusing a prescription opioid compared with 6.2% for the control group at eight-year follow-up — a 60% relative risk reduction. Benefits continued to be significant at nine-year follow-up, with misuse rates of 4.2% for program participants versus 8.4% for the control group — a 50% relative risk reduction. But after that, benefits waned. At 12-year follow-up, in early adulthood, rates of misuse for participants versus those in the control group were 6.0% and 8.8%, respectively, a difference that was no longer significant.<sup>36</sup>

The third RCT also found benefits. Strengthening Families plus a school-based program significantly reduced prescription opioid misuse.<sup>36</sup> (The study authors combined outcomes, regardless of which of the three school-based programs participants received.) Specifically, 22.1% of program participants reported

Efforts to prevent opioid misuse need to start before adolescence, the time when young people are more likely to first try an opioid.



Strengthening Families, an effective prevention program, amplifies the crucial roles that parents play in supporting children.

BIGSTOCK / MOTORION

ever misusing a prescription opioid compared with 27.8% for the control group at four-year follow-up.<sup>36</sup> At six-year follow-up (which included only a randomly selected subsample due to costs), 22.2% of program participants reported ever misusing opioids versus 29.9% of controls — a 25.8% relative risk reduction.<sup>37</sup> But any use in the past year did not differ significantly, nor did frequency — although program participants used only an average of 0.82 times compared to 2.27 for the control group.<sup>37</sup> At 10-year follow-up, 24.6% of program participants reported ever misusing prescription opioids versus 33.6% of controls — a 26.8% relative risk reduction.<sup>38</sup> And by 12-year follow-up, parallel figures were 25.7% for participants versus 34.2% for controls — a 24.9% relative risk reduction.<sup>38</sup> At this final time point, frequency of past-year opioid misuse was also only 0.2 events for program participants, versus 1.4 events for controls.<sup>38</sup>

Training for facilitators and teachers was also concise, comprising two days for Strengthening Families and three days for Project PATHS.

### Project PATHS prevented heroin use

Project PATHS also reduced opioid misuse. At two-year follow-up, youth in this program reported using heroin significantly less often in the past six months than those in the control group.<sup>33</sup> Study authors did not report the effect size for this outcome or the percentage of youth who acknowledged using heroin.<sup>33</sup> As well, authors reported on the program as a whole — without separating findings for the universal versus the combined (universal and targeted) versions.<sup>33</sup> Table 4 presents all assessed opioid-related outcomes for the four RCTs.

<b>Universal</b>	<b>Follow-up*</b> (years)	<b>Prescription</b>
Strengthening Families <sup>28, 36</sup>	6	↓ Any use in past year (0.0 vs. 3.8%)
	10	↓ Ever used (0.6 vs. 8.7%)
	14	↓ Ever used (4.7 vs. 13.5%)
Strengthening Families + Life Skills Training <sup>36</sup>	8	↓ Ever used (2.5 vs. 6.2%)
	9	↓ Ever used (4.2 vs. 8.4%)
	12	NS Ever used (6.0 vs. 8.8%)
Strengthening Families + School-based program <sup>36–38</sup>	4	↓ Ever used (22.1 vs. 27.8%)
	6 <sup>†</sup>	↓ Ever used (22.2 vs. 29.9%) NS Any use in past year (6.0 vs. 7.5%) NS Frequency of use past year (0.8 vs. 2.3 events)
	10 <sup>†</sup>	↓ Ever used (24.6 vs. 33.6%) NS Any use in past year (5.3 vs. 5.4%) NS Frequency of use past year (1.0 vs. 1.1 events)
	12 <sup>†</sup>	↓ Ever used (25.7 vs. 34.2%) NS Any use in past year (4.3 vs. 5.4%) ↓ Frequency of use past year (0.2 vs 1.4 events)
<b>Combined</b>	<b>Follow-up</b> (years)	<b>Heroin</b>
Project PATHS <sup>33</sup>	2	↓ Frequency of use past 6 months

↓ Statistically significant benefits favouring intervention over comparison condition.  
 NS No significant difference between intervention and comparison condition.  
 \* Where applicable, follow-up periods were calculated after booster sessions provided to program participants.  
 † Outcomes based on a subsample of participants.

## Prevention, starting in childhood

The research evidence identified through this systematic review indicates that it is possible to prevent opioid misuse, starting in childhood. Evidence for the US-based Strengthening Families program was particularly compelling, with three RCTs showing that the program significantly reduced prescription opioid misuse over 12 to 14 years of follow-up. These enduring benefits likely conferred protection during important periods of child and adolescent development. Project PATHS also reduced the frequency of heroin use two years after the program ended, according to one RCT.

## Implications for practice and policy

Our findings suggest five implications for practice and policy.

- **Intervene early.** Both successful programs began in Grade 6 or 7, when most children were only 11 or 12 years old. So efforts to prevent opioid misuse need to start before adolescence, the time when young people are more likely to first try an opioid.
- **Empower parents.** Strengthening Families recognized the crucial roles that parents play in supporting children and strengthening their resilience. Therefore, practitioners should always consider including parents (and other caregivers) in opioid prevention programs.
- **Reach more children by delivering programs efficiently.** Both programs reached large numbers of children — more than 12,000 in one Strengthening Families study — while enhancing efficiencies through group delivery. The use of school settings added to the efficiencies. Training for facilitators and teachers was also concise, comprising two days for Strengthening Families and three days for Project PATHS.<sup>29,35</sup> These approaches can be models for reaching more children and youth across BC.
- **Take a broad approach to prevention.** Strengthening Families originally aimed to prevent substance misuse in general, while Project PATHS aimed to promote positive development and reduce problem behaviours. Focusing on more than opioids likely played a role in Strengthening Families reducing the use of cannabis, ecstasy, cocaine, methamphetamine and LSD,<sup>37</sup> and Project PATHS reducing the use of cannabis, ecstasy, ketamine and solvents.<sup>33</sup> Addressing factors that apply to all substances, such as building refusal skills, likely therefore contributed to success in reducing prescription drug misuse, even without opioid-specific content.<sup>28</sup>
- **Build on successful programs to grow the options in BC.** The programs we reviewed were delivered in the 1990s or 2000s, which could result in materials requiring updates. Strengthening Families has already been updated; the current version of this program includes new material, such as information on prescription drug misuse, as well as a video series and updated handouts.<sup>39</sup> Project PATHS may also require updating to ensure the content is current. In addition, adaptations may be needed for the Canadian context and for cultural relevance, given that Strengthening Families was mainly evaluated with white American children and Project PATHS with children from Hong Kong. As well, made-in-BC evaluations are needed to confirm the benefits here.

Prevention is a way forward.

The toxic drug supply and resulting opioid crisis are resulting in immense harms for young people — including the deaths of both children and parents. The research we have presented shows that these harms can be prevented or greatly reduced, increasing opportunities for young people to experience the years of healthy development that they all deserve. Understandably, much public focus must stay on responding to the acute crisis, including providing treatment and curtailing the supply of toxic substances. But more prevention initiatives need to be part of the response. Given the impact on young people's lives, there is a collective ethical imperative to begin this process now. Prevention is a way forward. 🖐️



## 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 preventive interventions that reported outcomes on opioid use. Table 5 outlines our database search strategy.

<b>Table 5. Search Strategy</b>	
<b>Sources</b>	<ul style="list-style-type: none"><li>• Campbell Systematic Reviews, Cochrane Database of Systematic Reviews, CINAHL, ERIC, Medline and PsycINFO</li></ul>
<b>Search Terms</b>	<ul style="list-style-type: none"><li>• Opioid use, prescription opioids, heroin, illegal drugs, illicit drugs or prescription drug misuse <i>and</i> prevention</li></ul>
<b>Limits</b>	<ul style="list-style-type: none"><li>• Published in a peer-reviewed journal</li><li>• Reported on children aged 18 years or younger</li><li>• Used systematic review, meta-analysis or RCT methods</li></ul>

To identify additional RCTs, we also hand-searched the reference lists from relevant systematic reviews and previous *Quarterly* issues. Using this approach, we identified 126 articles describing 93 studies. Two team members then independently assessed each article, applying the inclusion criteria outlined in Table 6.

<b>Table 6. Inclusion Criteria for RCTs</b>
<ul style="list-style-type: none"><li>• Participants or schools were randomly assigned to intervention and control groups at study outset</li><li>• Participants had a mean age of less than 18 years during intervention delivery</li><li>• Study authors provided clear descriptions of participant characteristics, settings and interventions</li><li>• Interventions were evaluated in high-income countries for comparability to Canadian settings</li><li>• Interventions focused on either promoting positive development or preventing mental disorders</li><li>• At study outset, most participants did not meet diagnostic criteria for an opioid use disorder</li><li>• Follow-up was three months or more (from the end of the intervention)</li><li>• Attrition rates were 20% or less for all reported time periods and/or intention-to-treat analysis was used</li><li>• Child outcome measures included opioid use</li><li>• Statistical significance was reported for primary outcome measures</li></ul>

Five RCTs met all criteria. Figure 1 depicts our search process, adapted from Preferred Reporting Items for Systematic Reviews and Meta-Analyses.<sup>40</sup> 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. 🖐️

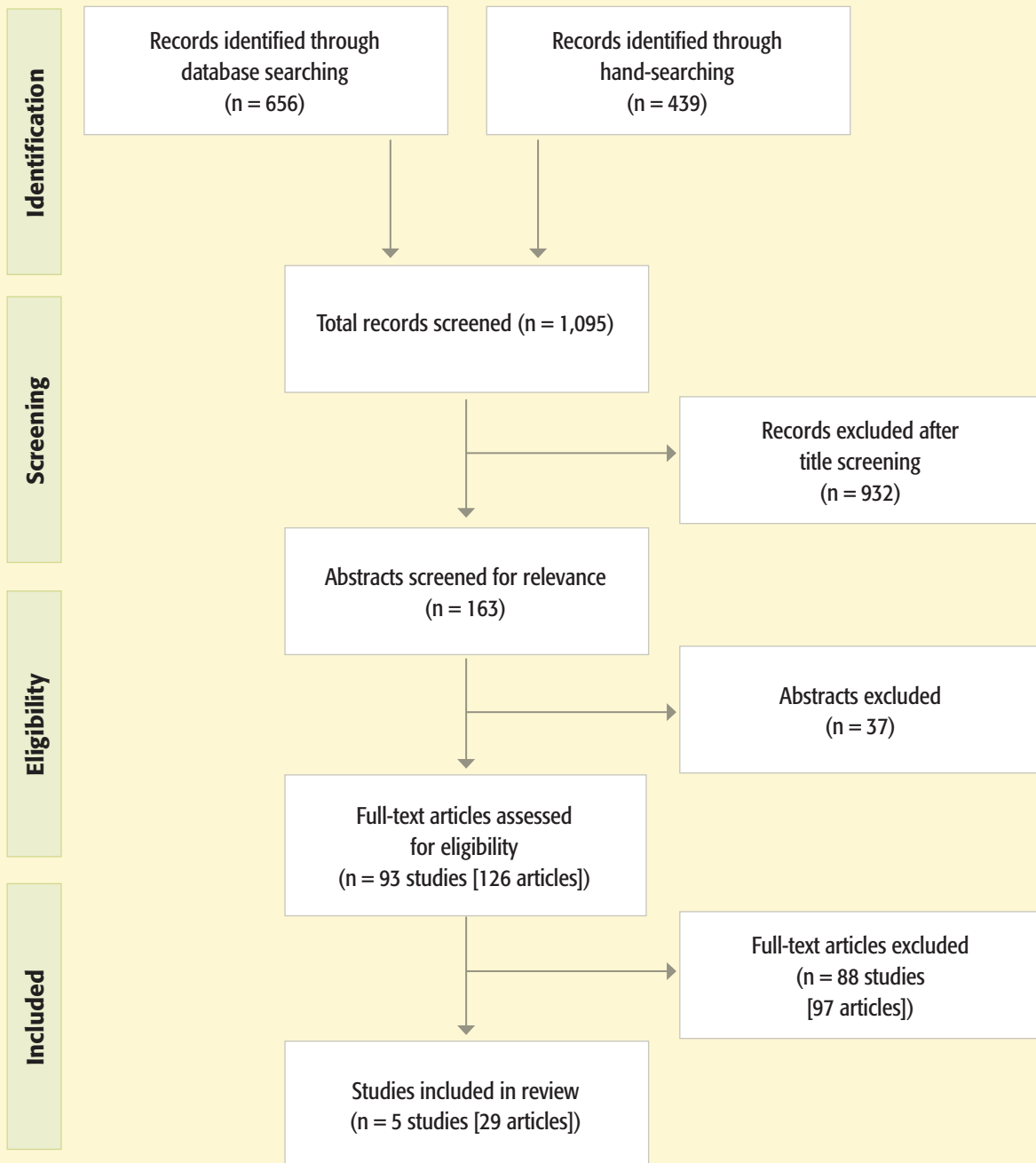
### **For more information on our research methods, please contact**

Jen Barican, [chpc\\_quarterly@sfu.ca](mailto:chpc_quarterly@sfu.ca)

Children's Health Policy Centre, Faculty of Health Sciences

Simon Fraser University, Room 2435, 515 West Hastings St., Vancouver, BC V6B 5K3

**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. In this issue, the effect size reported was **relative risk reduction**. This term described how much *less likely* it was that youth receiving the intervention would misuse opioids relative to those in the control group. 🖐️





## REFERENCES

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.

- 1 British Columbia. Ministry of Health. (2016 Apr 14). Press release. Provincial health officer declares public health emergency. <https://news.gov.bc.ca/releases/2016HLTH0026-000568>
- 2 University of Waterloo. (n.d.). *About CSTADS/YSS*. Waterloo, ON. <https://uwaterloo.ca/tobacco-use-canada/about/data-sources/about-cstadsyss>
- 3 Government of Canada. Health Canada. (2016). *Canadian Student Tobacco, Alcohol and Drugs Survey: detailed tables for 2014–15*. Ottawa, ON. <https://www.canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2014-2015-supplementary-tables.html>
- 4 Government of Canada. Health Canada. (2020a). *Detailed tables for the Canadian Student Tobacco, Alcohol and Drugs Survey 2016–17*. Ottawa, ON. <https://www.canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2016-2017-supplementary-tables.html>
- 5 Government of Canada. Health Canada. (2020b). *Detailed tables for the Canadian Student Tobacco, Alcohol and Drugs Survey 2018–19*. Ottawa, ON. <https://www.canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2018-2019-detailed-tables.html>
- 6 Government of Canada. Health Canada. (2023). *Detailed tables for the Canadian Student Tobacco, Alcohol and Drugs Survey 2021–22*. Ottawa, ON. <https://www.canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2021-2022-detailed-tables.html>
- 7 Smith A, Poon C, Peled M, et al. (2024). *The big picture: An overview of the 2023 BC Adolescent Health Survey provincial results*. Vancouver, BC: McCreary Centre Society. [https://mcs.bc.ca/pdf/2023\\_bcahs\\_the\\_big\\_picture.pdf](https://mcs.bc.ca/pdf/2023_bcahs_the_big_picture.pdf)
- 8 Smith A, Forsyth K, Poon C, et al. (2019). *Balance and connection in BC: The health and well-being of our youth*. Vancouver, BC: McCreary Centre Society. [https://www.mcs.bc.ca/pdf/balance\\_and\\_connection.pdf](https://www.mcs.bc.ca/pdf/balance_and_connection.pdf)
- 9 Compton WM, Jones CM, Baldwin GT, et al. (2019). Targeting youth to prevent later substance use disorder: An underutilized response to the US opioid crisis. *American Journal of Public Health, 109*, S185–S189.
- 10 Belzak L, Halverson J. (2018). The opioid crisis in Canada: A national perspective. *Health Promotion and Chronic Disease Prevention in Canada: Research, Policy and Practice, 38*, 224–233.
- 11 Hudgins JD, Porter JJ, Monuteaux MC, et al. (2019). Prescription opioid use and misuse among adolescents and young adults in the United States: A national survey study. *PloS Medicine, 16*, e1002922. <https://doi.org/10.1371/journal.pmed.1002922>
- 12 Government of Canada. Health Canada. (2022). *Follow-up survey and qualitative research on opioid awareness, knowledge, and behaviours for public education (2021): Final report*. Ottawa, ON. <https://publications.gc.ca/site/eng/9.908230/publication.html>
- 13 Zuckermann AME, Qian W, Battista K, et al. (2020). Factors influencing the non-medical use of prescription opioids among youth: Results from the COMPASS study. *Journal of Substance Use, 25*, 507–514.
- 14 Nalven T, Spillane NS, Schick MR. (2020). Risk and protective factors for opioid misuse in American Indian adolescents. *Drug and Alcohol Dependence, 206*, e107736. <https://doi.org/10.1016/j.drugalcdep.2019.107736>
- 15 First Nations Health Authority. (2019 May 27). Press release. First Nations opioid overdose deaths rise in 2018. West Vancouver, BC. <https://www.fnha.ca/about/news-and-events/news/first-nations-opioid-overdose-deaths-rise-in-2018#:~:text=In%202018%2C%20193%20First%20Nations,from%2011%20percent%20in%202017.>

## REFERENCES

16. Swedo EA, Sumner SA, de Fijter S, et al. (2020). Adolescent opioid misuse attributable to adverse childhood experiences. *Journal of Pediatrics*, 224, 102–109.
17. Busse JW, Craigie S, Juurlink DN, et al. (2017). Guideline for opioid therapy and chronic noncancer pain. *Canadian Medical Association Journal*, 189, E659–E666.
18. College of Physicians and Surgeons of British Columbia (CPSBC). (2022). Safe prescribing of opioids and sedatives. Vancouver, BC: CPSBC. <https://www.cpsbc.ca/files/pdf/PSG-Safe-Prescribing.pdf>
19. Canadian Institute for Health Information (CIHI). (2019). *Opioid prescribing in Canada: How are practices changing?* Ottawa, ON: CIHI. <https://www.cihi.ca/sites/default/files/document/opioid-prescribing-canada-trends-en-web.pdf>
20. Moustarah F, Desai JP, Blebea J. (2020). Removing abuse-prone prescription medication from fueling the national opioid crisis through community engagement and surgeon leadership: Results of a local drug take-back event. *Surgery Open Science*, 2, 34–41.
21. British Columbia. Ministry of Public Safety and Solicitor General. BC Coroners Service. (2023 Dec 13). Press release. Update from BC Coroners Service about increasing deaths from unregulated drugs. [https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/news/2023/bccs\\_unregulated\\_drugs\\_psa.pdf](https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/news/2023/bccs_unregulated_drugs_psa.pdf)
22. \* Spoth RL, Redmond C. (2002). Project Family prevention trials based in community-university partnerships: Toward scaled-up preventive interventions. *Prevention Science*, 3, 203–221.
23. \* Spoth R, Randall GK, Shin C, et al. (2005). Randomized study of combined universal family and school preventive interventions: Patterns of long-term effects on initiation, regular use, and weekly drunkenness. *Psychology of Addictive Behaviors*, 19, 372–381.
24. \* Spoth R, Redmond C, Shin C, et al. (2007). Substance-use outcomes at 18 months past baseline: The PROSPER community-university partnership trial. *American Journal of Preventive Medicine*, 32, 395–402.
25. \* Shek DT, Lee TY, Sun RC. (2008). Process evaluation of the implementation of the Secondary 2 Program of Project P.A.T.H.S. in the experimental implementation phase. *Scientific World Journal*, 8, 83–94.
26. Haggerty KP, Skinner M, Fleming CB, et al. (2008). Long-term effects of the Focus on Families project on substance use disorders among children of parents in methadone treatment. *Addiction*, 103, 2008–2016.
27. Strengthening Families Program. (2024a). *Home*. <https://strengtheningfamiliesprogram.org/>
28. \* Spoth R, Trudeau L, Shin C, et al. (2008). Long-term effects of universal preventive interventions on prescription drug misuse. *Addiction*, 103, 1160–1168.
29. Strengthening Families Program. (2024b). *Training*. <https://strengtheningfamiliesprogram.org/training/>
30. Spoth RL, Redmond C, Shin C. (2001). Randomized trial of brief family interventions for general populations: Adolescent substance use outcomes 4 years following baseline. *Journal of Consulting and Clinical Psychology*, 69, 627–642.
31. Spoth RL, Randall GK, Trudeau L, et al. (2008). Substance use outcomes 5½ years past baseline for partnership-based, family-school preventive interventions. *Drug and Alcohol Dependence*, 96, 57–68.
32. Crowley DM, Jones DE, Coffman DL, et al. (2014). Can we build an efficient response to the prescription drug abuse epidemic? Assessing the cost effectiveness of universal prevention in the PROSPER trial. *Preventive Medicine*, 62, 71–77.
33. \* Shek DT, Yu L. (2012). Longitudinal impact of the Project PATHS on adolescent risk behavior: What happened after five years? *Scientific World Journal*, 2012, 1–13.

## REFERENCES

34. Shek DT, Lee TY. (2012). Helping adolescents with greater psychosocial needs: Subjective outcome evaluation based on different cohorts. *Scientific World Journal*, 2012, 1–10.
35. Shek DT, Sun RC. (2013). The Project P.A.T.H.S. in Hong Kong: Development, training, implementation, and evaluation. *Journal of Pediatric and Adolescent Gynecology*, 26, S2–S9.
36. \* Spoth R, Trudeau L, Shin C, et al. (2013). Longitudinal effects of universal preventive intervention on prescription drug misuse: Three randomized controlled trials with late adolescents and young adults. *American Journal of Public Health*, 103, 665–672.
37. \* Spoth R, Redmond C, Shin C, et al. (2017). PROSPER delivery of universal preventive interventions with young adolescents: Long-term effects on emerging adult substance misuse and associated risk behaviors. *Psychological Medicine*, 47, 2246–2259.
38. \* Spoth R, Redmond C, Shin C, et al. (2022). Applying the PROSPER prevention delivery system with middle schools: Emerging adulthood effects on substance misuse and conduct problem behaviors through 14 years past baseline. *Child Development*, 93, 925–940.
39. Strengthening Families Program. (2022). *Additions and adjustments in the Strengthening Families Program: SFP 7-17 lessons vs. SFP 6-11 and SFP 12-16*. <https://strengtheningfamiliesprogram.org/wp-content/uploads/2022/10/CHANGES-in-SFP-7-17-vs-SFP6-11-SFP12-16.pdf>
40. Page MJ, McKenzie JE, Bossuyt PM, et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *Journal of Clinical Epidemiology*, 134, 178–189.



## 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

- 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](#)

### 2019 / Volume 13

- 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?](#)
- 2 – [Treating anxiety disorders](#)
- 1 – [Preventing problematic anxiety](#)

### 2011 / Volume 5

- 4 – [Early child development and mental health](#)
- 3 – [Helping children overcome trauma](#)
- 2 – [Preventing prenatal alcohol exposure](#)
- 1 – [Nurse-Family Partnership and children's mental health](#)

### 2010 / Volume 4

- 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](#)