

CHILDREN'S MENTAL HEALTH RESEARCH

# Quarterly

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## Children's mental health: The numbers and the needs

### OVERVIEW

The high burden  
associated with  
childhood mental  
disorders

### REVIEW

How well are  
treatment needs  
being met?







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

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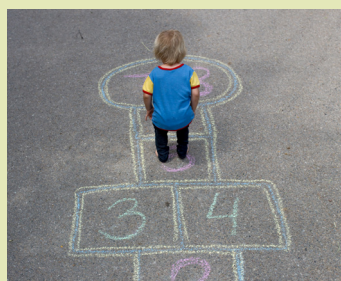
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#### The high burden associated with childhood mental disorders

How many children are affected by mental disorders? What are the most common disorders that children face? And what is the impact of these disorders? We address these and other questions in this overview.



### Review 6

#### How well are treatment needs being met?

We identify the estimated number of children with mental disorders who are — and who are not — receiving treatments for these conditions. We also identify strategies for reaching more children with effective interventions.



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### NEXT ISSUE

#### Supporting children after mental health hospitalization

From 2009 to 2019, child hospitalizations for mental disorders increased by 60% in Canada. And for many of these young people, hospitalization reoccurs. To inform more effective care, we review interventions designed to prevent repeat hospitalizations and support children's well-being in the community.

### 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.*

# The high burden associated with childhood mental disorders

**H**ow many children experience mental disorders? The answer to this question has significant repercussions — for individual children and families and for society. Estimates for the number of children affected, also known as prevalence data, depict the collective experiences of the many individual children and families who are coping with mental disorders. At the same time, these data are also essential to guide planning for public mental health services to meet the treatment needs of all young people who are affected.<sup>1</sup> Here we therefore interpret findings from our [recent systematic review](#) on the prevalence and impact of childhood mental disorders, published in *Evidence-Based Mental Health*.<sup>2</sup>

## Setting the standard for what counts

The first step in our process involved identifying high-quality epidemiological studies that were suitable for informing policy and practice. Specifically, we looked for studies that used rigorous diagnostic measures (i.e., *Diagnostic and Statistical Manual of Mental Disorders* [DSM-IV / DSM-5] or *International Classification of Diseases* [ICD-10]) with substantial numbers of children who were representative of the larger population. (We excluded service-based administrative data because they typically report on non-representative groups of children using non-standardized diagnostic criteria and only cover children actually receiving services.)<sup>3</sup>

After searching academic databases and reference lists for articles, we retrieved and assessed 159 studies. Fourteen of these studies met all of our inclusion criteria. (The [Methods section](#) provides more information on our search strategy and inclusion criteria.) The 14 studies took place in 11 high-income countries, namely Australia, Canada, Chile, Denmark, Great Britain, Israel, Lithuania, Norway, South Korea, Taiwan, and the United States (four studies).<sup>4–18</sup> Across the studies, the number of participating children ranged from 957 to 10,438, and children's ages ranged from four to 18 years. Children were counted as having a mental disorder if they met criteria for both symptoms *and* moderate-to-severe impairment, according to robust diagnostic measures.



Approximately 95,000 young people in BC currently meet criteria for a mental disorder.

Childhood mental conditions have significant consequences for society.

## What the numbers tell us

To estimate the percentage of children with mental disorders, we conducted a statistical analysis based on the total sample of nearly 62,000 young people across the 14 studies. We found that 12.7% of children, or approximately one in eight, met diagnostic criteria for a mental disorder at any given time. In BC, this means that approximately 95,000 young people currently meet criteria for a mental disorder, making the burden high across the province. And many children carry an even higher burden. Specifically, 26.5% of young people with disorders had two or more concurrently.

We also calculated prevalence for 12 of the most common disorders or disorder groups. Anxiety disorders topped the list at 5.2%. Other common problems included attention-deficit/hyperactivity disorder (ADHD, 3.7%), oppositional defiant disorder (3.3%), any substance use disorder (2.3%), major depressive disorder (1.3%) and conduct disorder (1.3%). Table 1 provides estimates for all 12 disorders and for the number of children affected in both BC and Canada.

<b>Table 1: Estimated Prevalence of Childhood Mental Disorders*</b>				
<b>Estimated number affected*</b>				
<b>Disorder**</b>	<b>Estimated prevalence (%)</b>	<b>Age (years)†</b>	<b>BC</b>	<b>Canada</b>
Any anxiety disorder	5.2	4–18	39,000	320,000
Attention-deficit/hyperactivity disorder	3.7	4–18	27,800	227,700
Oppositional defiant disorder	3.3	4–18	24,800	203,100
Any substance use disorder	2.3	12–18	8,200	66,000
Major depressive disorder	1.3	4–18	9,800	80,000
Conduct disorder	1.3	4–18	9,800	80,000
Autism spectrum disorder	0.4	4–18	3,000	24,600
Obsessive-compulsive disorder	0.3	4–18	2,300	18,500
Bipolar disorder	0.3	12–18	1,100	8,600
Any eating disorder	0.2	12–18	700	5,700
Posttraumatic stress disorder	0.1	4–18	800	6,200
Schizophrenia	0.1	12–18	400	2,900
<b>Any Disorder**</b>	<b>12.7††</b>	<b>4–18</b>	<b>95,300</b>	<b>781,500</b>
* Population estimates were derived from Statistics Canada Table 17-10-0134-01. <sup>19</sup> Estimated number of children affected rounded to the nearest 100. ** To be counted as having a disorder, children had to meet both symptom and moderate/severe impairment criteria. † Earliest age reflects when disorders are typically diagnosed. <sup>20</sup> †† Overall estimate for children with any disorder is less than the sum of estimates for specific disorders, since 26.5% of children with disorders had two or more disorders concurrently.				

## From data to daily living

Our systematic review found that approximately one in eight BC children are experiencing mental disorders at any given time, with more than one in four having two or more disorders. This means about 95,000 children in BC are experiencing mental disorders with symptoms that are severe enough to substantially interfere with their ability to participate at home, at school and in the community. For example, anxiety can result in a child experiencing so much fear about being separated from her parent that she refuses to attend school, or ADHD can result in a teen being fired from his part-time job because he cannot focus on his work.



Having a child with a mental disorder can also have considerable consequences for families. For example, one study found that parents of children with mental disorders were significantly more likely to reduce their work hours or to end their employment altogether, compared with parents of children with *physical* health conditions.<sup>21</sup> Parents of children with mental disorders were also significantly more likely to spend more than four hours per week arranging for child care for their children, compared with parents of children with physical health conditions.<sup>21</sup> Financial costs can also add up. For example, parents may have to miss work to address their children's mental health needs, or they may face out-of-pocket expenses for medications or for psychosocial interventions that are not publicly funded.

Costs are particularly high when children do not receive needed treatments or receive them in a timely way.

Beyond these high individual burdens, childhood mental conditions also have significant consequences for society. Because these disorders are the leading cause of childhood disability, they come with steep costs in lost human potential.<sup>22</sup> These disorders also come with large expenditures across multiple public sectors, including health care, education, and social and justice services.<sup>23–25</sup> Costs are particularly high when children do not receive needed treatments or receive them in a timely way, such that mental health problems worsen and become needlessly entrenched, often continuing into adulthood. Yet for the 12 disorders covered in this review, effective treatment approaches have been well described.<sup>26</sup> And many of these treatments have also been shown to be cost-effective.<sup>27</sup> Access to such interventions is essential — so that all children can receive the help they need, when they need it. But how well is this happening? In the [Review article](#) that follows, we look at additional results from the high-quality epidemiological studies for answers to this question. 🖐️



Timely treatments help ensure that mental health problems do not continue into adulthood.

# How well are treatment needs being met?

Given the high burden of childhood mental disorders, all children with these conditions should have rapid access to effective treatments. Access to mental health services is also a fundamental right of all children, as evidenced by Canada and many other countries declaring their obligation to provide such services.<sup>28</sup> In other words, children's mental health services are *essential services*. To understand how well Canada is meeting its obligation to these children, we conducted an analysis to identify how many children with mental disorders received interventions for these conditions. We used data from our review on the prevalence of childhood mental disorders, featured in the [Overview article](#), which was originally published in *Evidence-Based Mental Health*.<sup>2</sup>



Every child with a mental disorder should have quick and easy access to effective treatments.

The available information indicates that there are serious mental health service shortfalls in Canada.

Eight of the 14 high-quality epidemiological studies that we reviewed provided data on whether children with mental disorders were receiving any services for these conditions.<sup>4, 10, 16, 18, 29–32</sup> While all the data were high quality, each study defined and evaluated services somewhat differently. For example, some covered only mental health care, such as psychotherapy or psychiatric medications,<sup>4, 16, 32</sup> while others covered a wide range of interventions, such as self-help groups and probation services.<sup>10, 18, 29–31</sup> Most of the studies reported past-year service use,<sup>4, 16, 18, 30–32</sup> but some reported three-<sup>29</sup> and six-month<sup>10</sup> use. Still, we found gaps in the data, such as missing details on specific types of psychotherapy or medication and the duration of services. Our analysis nevertheless revealed that for children who were coping with mental disorders, only 44.2% — or fewer than half — received *any* services for these conditions.<sup>4, 10, 16, 18, 29–32</sup>

## Who is and who is not receiving services?

Given that children's mental health services vary considerably from one country to another, we also examined more detailed information regarding service use from the one Canadian study, conducted in Ontario.<sup>10</sup> For this study, children were identified as having mental disorders based on parent reports for children aged four to 11 and self-reports for youth aged 12 to 17. Parents provided information on service use for all children. Specifically, parents were asked about any service contacts their children had had for mental health concerns in the past six months — according to the type of service provider and the settings where services were received. Children were counted as receiving service regardless of the type, frequency or intensity of contact.



Considerable differences in service use were found based on children's ages. Among children aged four to 11, 61.5% received service for their mental health concerns; for youth aged 12 to 17, this figure was only 43.7%.<sup>10</sup> Study authors also found differences in service use based on other factors. Specifically, immigrant children were much less likely to receive mental health services compared with non-immigrants. As well, children who had both behaviour and mood or anxiety disorders were significantly more likely to receive services than children with just one of these disorders.<sup>10</sup> Table 2 gives more details on children's service contacts.

<b>Table 2: Service Contacts for Ontario Children with Mental Disorders</b>		
<b>Services received</b>	<b>Children 4 – 11 years (%)</b>	<b>Youth 12 – 17 years (%)</b>
<b>By provider</b>		
Mental health care providers (e.g., psychiatrists, psychologists, social workers + counsellors)	25.6	22.3
General health care providers (e.g., family doctors, pediatricians + nurses)	35.6	24.4
"Complementary/alternative" providers (e.g., religious leaders, naturopaths + crisis hotlines*)	10.2	9.0
<b>By setting</b>		
Specialized mental health + substance use clinics	20.2	20.0
Schools	51.7	29.9
Walk-in + urgent care clinics + emergency rooms	1.6	5.4
<b>Any of these services</b>	<b>61.5</b>	<b>43.7</b>
* Crisis hotlines were included in the "complementary/alternative" providers category given the infrequency of their use.		

## The gap between what is needed and what is delivered

Our analysis found that only 44.2% of children from high-income countries received any services for their mental disorders, while data from the Ontario study found that rates ranged from 43.7% to 61.5%, depending on children's ages. Overall, these data suggest service shortages, given that *all* children with mental disorders need to receive effective treatments for these conditions. And, given the emerging evidence that the COVID-19 pandemic has led to a deterioration in children's mental health,<sup>33</sup> current unmet treatment needs may be even higher.

Yet the Ontario data also provide a more nuanced picture. These data point to concerns about the types of services on offer, including interventions without rigorous evaluations, such as naturopathic remedies.<sup>26</sup> As well, the data show that children and families may be in crisis when they access mental health care, for example, when they turn to emergency rooms for help.<sup>10</sup> Effective mental health care, early in the course of disorder in community settings, is far preferable to avoid such crises. Still, the data did not speak to the extent or duration of services. Children typically need to receive a course of treatment that is sufficient to make a meaningful difference in their lives. But there are also positive findings in the available data. Specifically, in Ontario many children were receiving mental health care in schools — a non-stigmatizing setting where most children can be reached.<sup>10</sup>

More comprehensive data on children's mental health services are greatly needed. Such data should be collected on an ongoing basis in BC and Canada. It should measure the number of children with

By reaching more children with effective prevention programming before disorders take root, much distress and disability can be averted.

disorders, track the specific services they are receiving over time, and assess children's responses to treatment. Measuring children's mental health status and access to services is particularly urgent to assess the impact of the COVID-19 pandemic and is also crucial to inform planning more generally. In essence, "What gets counted counts."<sup>34</sup> To address the service shortfalls and ultimately improve children's mental health, better measurement is needed — and is overdue.

## Implications for practice and policy

The available information indicates that there are serious mental health service shortfalls in Canada, which represent a crucial violation of children's rights. These shortfalls also cause harm to society because they create conditions that prevent all children from flourishing. To address the service deficits and reduce the burdens associated with childhood mental disorders, a four-pronged population health strategy is needed as a starting point. This strategy includes:

1. Addressing social determinants of health, such as socio-economic disparities, and reducing avoidable childhood adversities that contribute to the development of mental health problems
2. Providing effective prevention programs for children who can benefit to reduce the burdens and reduce the number of young people needing treatment
3. Providing effective and timely treatments for all children with mental disorders
4. Monitoring population needs and outcomes over time to evaluate and improve public policy efforts<sup>3, 35–36</sup>

The first two prongs of this strategy involve "upstream" issues early in children's lives, before mental disorders develop. By addressing social determinants of health and avoidable childhood adversities (including parenting difficulties, racism and child maltreatment) that contribute to the development of certain mental health problems, many more children can flourish.<sup>37–40</sup> By reaching more children with effective prevention programming before disorders take root, much distress and disability can be averted — while better honouring children's rights. Future treatment demands may also be reduced, with potential benefits for society

as well as for individuals. To adequately address these early-life issues, including prevention, substantial new public commitments and investments are needed, and they need to be sustained.<sup>35</sup> In the longer term, society may recoup these investments, for example, through reductions in the use of health, education, social and justice services when more children and families are thriving.<sup>23–25</sup> Fortunately, mounting research evidence supports effective prevention programs, many of which can be implemented by children's mental health and school practitioners.<sup>26</sup> (Please refer to [our 2020 report](#), which details effective prevention and treatment interventions for 12 of the most common childhood mental disorders.)

The third prong of the suggested children's mental health strategy addresses treatment.

This requires reaching children early in the course of their disorder(s) with proven and timely interventions that are of adequate duration and intensity. However, the data suggest that many countries, even those that are high-income, are far from this goal. Our review of treatment services in such countries found that fewer than 45% of children with mental disorders were receiving any services for these conditions. Ontario data similarly showed that only 43.7% to 61.5% of children with mental disorders were receiving any services. By implication, to reach nearly 100% of those needing treatment, children's mental health treatment services in Canada need to double.<sup>35</sup> Is this possible or feasible?

**To reach nearly 100% of those needing treatment, children's mental health treatment services in Canada need to double.**



Australia stands as an example of a high-income country that was able to double the proportion of young people accessing services for mental disorders over a period of approximately 15 years.<sup>41</sup> This was achieved through increasing funding for mental health services overall as well as changing how funding was used. For example, Australia increased spending for community mental health care services and decreased spending for psychiatric hospitals.<sup>42</sup>

The final prong of the suggested strategy involves measuring collective progress towards improving children's mental health, through monitoring outcomes and adjusting course over time. Such measurement can occur at the provincial/territorial and national levels, for example, by organizing and deploying administrative data and population-wide surveys on how well children are doing.<sup>3</sup> Tracking progress can also involve regular reporting by governments on how children are doing — to help keep children's social and emotional well-being at the forefront of collective priorities.

Everyone has a role to play in better supporting children's social and emotional well-being — from parents and families to clinicians and teachers to policy-makers and advocacy groups. With new mental health commitments and investments, it also becomes possible to create conditions that enable more children to flourish, benefiting not only the children of BC and their families but also all citizens. Children's mental health is one of the most important investments any society can make. It is urgent that collectively, we act now. Children have waited long enough. 🖐️



Children's mental health is one of the most important investments any society can make.

## METHODS

We use systematic review methods adapted from the *Meta-analysis of Observational Studies in Epidemiology*.<sup>43</sup> We searched for epidemiological surveys detailing rates of childhood mental disorders. Table 3 outlines our database search strategy.

Table 3: Search Strategy	
<b>Sources</b>	• EMBASE, Medline and PsycINFO
<b>Search Terms</b>	• mental disorders; child; adolescent; epidemiology; prevalence; incidence; health survey; survey; population; community; representative; stratified; and probability
<b>Limits</b>	• Published between January 1990 and February 2021 in a peer-reviewed journal • Reported on children aged 18 years or younger

We also reviewed additional articles identified through hand-searching. Using this approach, we screened 1,420 abstracts for relevance and assessed 159 studies described in 488 articles. Two team members then independently assessed each article, applying the inclusion criteria outlined in Table 4.

Table 4: Study Inclusion Criteria	
<ul style="list-style-type: none"> <li>• Study focused on children <math>\leq 18</math> years or reported separately on children if adults were included</li> <li>• Population was drawn from a high-income country (World Bank standards)</li> <li>• Sample was representative of a national or regional population*</li> <li>• Study used probabilistic sampling to select respondents from a reliable frame†</li> <li>• Clear descriptions were provided of participant characteristics, study settings and methods</li> <li>• Mental disorder diagnoses including impairment were based on DSM-IV or ICD-10 or later editions</li> <li>• Diagnostic measures were reliable and valid</li> <li>• Prevalence was reported, or sufficient information was provided to estimate prevalence</li> <li>• Prevalence was reported for three or more individual disorders, and for <i>any disorder</i></li> </ul>	
<p>* Regional populations were those covering/representing a province, state or other large geographic area. † Sampling frame comprised all possible units (e.g., individuals, schools or households) within a target population.</p>	

Fourteen studies, described in 249 articles, met all the inclusion criteria. Figure 1 depicts our search process, adapted from Preferred Reporting Items for Systematic Reviews and Meta-Analyses.<sup>44</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. (These methods were also used for our systematic review published in *Evidence-Based Mental Health*.)<sup>2</sup> 🖐️

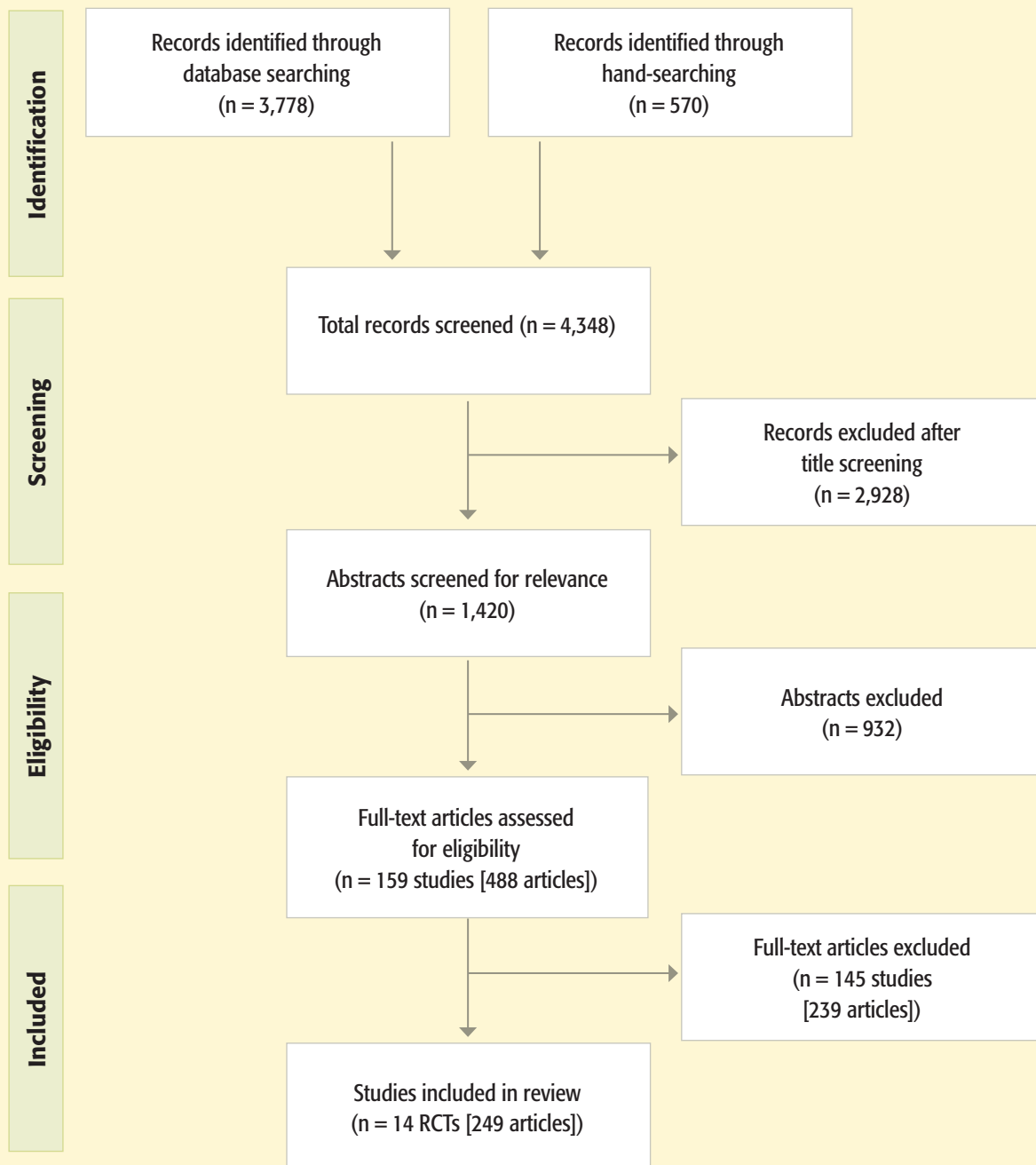
### For more information on our research methods, please contact

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**Figure 1: Search Process for Epidemiological Studies**

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BC government staff can access original articles from [BC's Health and Human Services Library](#). Articles marked with an asterisk (\*) 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.

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