Child and Youth Mental Health: Draft Practice Parameters

A Research Report Prepared for the
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1 Introduction

1.1. Overview

This report summarizes the initial findings of an ongoing research project being conducted by the Mental Health Evaluation and Community Consultation Unit (MHECCU) at the University of British Columbia (UBC) at the request of British Columbia's (BC's) Ministry of Children and Family Development (MCFD). This project comprises one component of a comprehensive child and youth mental health planning process being undertaken by MCFD. The overall goal is to improve mental health outcomes for children and youth in BC.

"Mental health" may be broadly defined to include all aspects of human development and wellbeing affecting emotions, learning and behaviour. In healthy communities, it is everyone's responsibility – and in everyone's best interests – to ensure that all children and youth thrive. Despite best efforts, however, some children and youth experience emotional and behavioural disturbances that interfere with their development and functioning. All disturbances fall on a continuum ranging from mild to severe. When these disturbances are severe enough to cause symptoms, distress, and impaired functioning, they may be referred to as "mental disorders."

There is a large burden of suffering associated with child and youth mental disorders. When present, these disorders permeate every aspect of development and functioning, including family and peer relationships, school performance, and eventual adult productivity and functioning (National Institute of Mental Health, 2001; United States Department of Health and Human Services, 1999). At any given time, approximately 20% of children and youth (or 200,000 in British Columbia) experience mental disorders causing significant distress and impairing their functioning at home, at school, with peers, or in the community (Angold & Costello, 1995; Costello et al., 1996; Offord, Boyle, Fleming, Munroe Blum, & Rae Grant, 1989; Roberts & Rosenblatt, 1998). Of these, approximately 5% (or 50,000 in British Columbia) suffer extreme impairment (US DHHS, 1999). No other group of disorders has such a profound effect on the development and wellbeing of children and youth, and on their families and communities.

While the numbers are large, not all affected children and youth need specialized clinical services. Furthermore, clinical services alone cannot significantly reduce the burden of suffering. Instead, a rational mix of universal, targeted, and clinical interventions is required in order to reduce the burden of suffering (Offord, Kraemer, Kazdin, Jensen, & Harrington, 1998). Universal programs are needed to build the capacity of communities to promote optimal health and development for all children and youth. Targeted programs are needed to reduce risk for specific populations. Finally, specialized clinical services are needed for children and youth most seriously affected.

As part of the ongoing project being conducted at MHECCU, recent research evidence on the broader population health and clinical service considerations has been summarized in a companion report (Waddell, McEwan, Hua & Shepherd, 2002). Here, recent research evidence is summarized on effective interventions for five key child and youth mental disorders – attention-deficit/hyperactivity disorder, conduct disorder, depression, obsessive-compulsive disorder, and schizophrenia. These disorders were chosen based on either prevalence or severity. The following additional disorders and risk situations will be reviewed and summarized in the future: other mood disorders, other anxiety disorders, substance abuse, eating disorders, neurodevelopmental disorders, emotional and behavioural problems, child maltreatment, and parenting problems. In future work, special attention will also be paid to the challenge of comorbidity, where children and youth have multiple disorders.

Research evidence is summarized here in the form of draft practice parameters for use by interdisciplinary child and youth mental health teams. The intent is to facilitate effective practices, as well as the planning and evaluation of programs and services for children and youth, by making good quality research information easily accessible and widely available. It is recognized that each team, community and region has different needs and resources and will use research information in different ways.

Over the next year, these parameters will be widely circulated for review, and feedback will be incorporated from a variety of user groups. Work on all aspects of this project is being conducted in consultation with practitioners and policy makers, as well as families, teachers, and other community members. As well, ongoing feedback is being obtained from an interdisciplinary provincial advisory group representing the following key disciplines in child and youth mental health: psychology, nursing, social work, and child psychiatry. Other academic and professional groups are also being consulted. Finally, in the future, plans will be developed in partnership with MCFD to regularly update and communicate findings from the project in user-friendly formats, and to provide training, education and evaluation related to these parameters.

In this report, the term "child" is used to refer to infants and preschool and preadolescent children aged approximately zero to 11 years. The terms "youth" and "adolescent" are used interchangeably to refer to those aged approximately 12 to 19 years. These terms are used for simplicity, recognizing that each age and developmental stage, from infancy through to adulthood, has its own unique and important attributes. "Mental health" is broadly defined to include wellbeing and optimal human development in emotional, behavioural, social and cognitive domains. "Mental disorder" is defined as any emotional, behavioural, or brain-related condition that causes moderate or severe impairment in functioning as defined in standardized diagnostic protocols such as the American Psychiatric Association's (APA's) Diagnostic and Statistical Manual (DSM) (APA, 2000). The term "mental health problem" is used to describe any emotional or behavioural condition that may cause significant distress and impaired functioning, but not to a degree that meets diagnostic criteria for a mental disorder.

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2 Methodology

2.1. Overview

A standardized approach was used to find and select high quality research literature. Literature from a variety of related disciplines (including psychology, social work, nursing, and psychiatry) was searched using relevant databases such as Medline, PsycINFO, and the Cochrane Database of Systematic Reviews. Key topics and search terms were identified and applied. "Grey" literature (such as practice guidelines, consensus statements, dissertations and conference proceedings) was also identified. Both quantitative and qualitative literature was considered.

All literature was evaluated by the research team regarding appropriateness for inclusion for more detailed review using the following criteria. Quantitative literature was evaluated using generally accepted clinical epidemiological criteria (Sackett, Haynes, Guyatt, & Tugwell, 1991), with emphasis placed on systematic reviews or well-designed studies (Bandolier, 2002). Qualitative literature was evaluated using generally accepted social sciences criteria for appraising qualitative research (Denzin & Lincoln, 2000; Giacomini & Cook, 2000). Preference was given to the most methodologically rigorous literature where it was available. Table 1 summarizes additional criteria, adapted from the interdisciplinary journal, *Evidence-Based Mental Health* (EBMH) (2002), that were used to further select and prioritize literature to be reviewed.

There are some limitations that need to be acknowledged regarding the use of research evidence to guide practice and policy making in general. Much research evidence in child and youth mental health has been conducted in idealized settings whereby *efficacy* (can this intervention work?) is established. However, for many problems, research evidence is still lacking on *effectiveness* (does this intervention work in usual settings?) and *efficiency* (is this intervention worth doing?) (National Institute of Mental Health, 2001). Many promising interventions have yet to be rigorously evaluated, but this does not necessarily mean that they should not be used. Practitioners and policy makers, as well as families and community members are encouraged to always interpret the research evidence in their own settings. The approach used in this report for evaluating research evidence can serve as a guide for evaluating new interventions in general. Finally, the information summarized here will be updated and modified as the project continues over the next year and beyond. The overall aim is to create a dynamic and sustainable model for making the best available research evidence on child and youth mental health widely available on an ongoing basis.

TABLE 1. Criteria for Evaluating Research Evidence (Adapted from EBMH, 2002)

Basic criteria: • Original or review articles in English and about humans • About topics that are important to clinicians, managers and policy makers in the broad field of child and youth mental health
Studies of treatment/management: • Random allocation of participants to comparison groups • Follow up (end point assessment) of at least 80% of those entering the investigation • Outcome measures of known or probable clinical importance
Studies of diagnosis: • Diagnostic "gold" standard used as the basis for all comparisons, involving assessment by a clinically qualified interviewer according to standardized criteria such as the DSM (APA, 2000)
Studies of prognosis: • Inception cohort (first onset, or assembled at a uniform point in the development of a problem or at point of change in service) of individuals, all initially free of the outcome of interest • Follow up of at least 80% of participants until the occurrence of a major study end point or to the end of the study
Studies of quality improvement: • Random allocation of participants (or units) to comparison groups • Follow up of at least 80% of participants • Outcome measure of known or probable clinical importance
Studies of the economics of health care programs/interventions: • Economic question addressed must be based on comparison of alternative diagnostic or therapeutic services or quality • Activities must be compared on the basis of the outcomes produced (effectiveness) and resources consumed (costs) • Evidence of effectiveness must come from studies of real participants which meet the above-noted criteria for assessing literature on diagnosis, treatment, or quality improvement • Results should be presented in terms of the additional costs and outcomes for one intervention compared to another
Review articles: • Clear statement of topic • Identifiable description of the methods indicating the sources • Explicit statement of criteria used for selecting articles for detailed review • Review must include at least one article that meets above-noted criteria for treatment, diagnosis, prognosis, causation, quality improvement, or the economics of health care programs/interventions
Qualitative studies: • Content must relate to how people feel, experience or understand situations that relate to mental health or health care • Data collection methods must be appropriate for qualitative studies (such as semi-structured interviews, participant observation in natural settings, focus groups, or reviews of documents or text) • Data analyses must be appropriate for qualitative studies: the primary analytical mode is inductive rather than deductive; and units of analysis are ideas, phrases, incidents or stories that are ultimately classified into categories or themes

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3 Attention-Deficit/Hyperactivity Disorder

3.1. Description

- Attention-deficit/hyperactivity disorder (ADHD) involves a persistent pattern of inattention and/or hyperactivity that is inconsistent with developmental level and intellectual abilities, and that causes distress and impairs functioning in two or more settings (at home, at school, with peers, or in the community)
- Symptoms may include:
    - Inattention: having trouble focusing on details, making careless mistakes, not listening, not following through, having difficulties organizing activities, losing things, being easily distracted
    - Hyperactivity/impulsivity: fidgeting, running or climbing excessively, always being "on the go," talking or interrupting excessively
- There is a high burden of suffering and associated costs:
    - Estimated prevalence rates are 2 – 10%
    - Approximately 60,000 children and youth in BC may be affected
    - Early onset means that long-term development and functioning are affected
    - Symptoms often persist into adulthood
    - More males than females are affected
    - Comorbid mental health problems are common
- More research is needed on causal risk factors and prevention
- Effective interventions improve outcomes for most children and youth with ADHD

3.2. Assessment

- Diagnosis should be made by a child and adolescent psychiatrist, psychologist, or other qualified practitioner, working with multidisciplinary child and youth mental health teams where possible
- Children and youth, families, teachers, family physicians, and others in the community as needed should be involved in both assessment and long-term follow-up
- ADHD must be diagnosed clinically – there are no definitive “tests”
- Assessment should involve multiple informants and settings
- To receive a diagnosis of ADHD (APA, 2000):
    - A child or youth must experience six or more symptoms involving inattention and/or hyperactivity/impulsivity for at least six months, with at least some symptoms being present before age seven years
    - Symptoms must be inconsistent with developmental level and intellectual abilities, and must significantly impair functioning in two or more settings (at home, at school, with peers, or in the community)
    - Other conditions that may present with similar symptoms must be ruled out
- Comorbidity and cultural background must be considered

3.3. Effective Interventions

- The following table summarizes information identified in preliminary literature searches; additional research findings will be added as the project continues
- While many other interventions may show promise, the following table includes only those shown to be effective in at least one rigorous review (indicated with an asterisk [*] in the reference list)

TABLE 1. Summary of Research Findings on Effective Interventions for ADHD

Intervention	*Research Findings*
Stimulant medications (such as methylphenidate, dextroamphetamine)	• 70% of children and youth with ADHD respond positively • Benefits usually last only while medication is taken • Methylphenidate and dextroamphetamine are relatively safe and easy to use • Side effects may include reduced appetite, insomnia, gastrointestinal complaints, and headaches
Academic interventions (such as note-taking training, management of distractions/interruptions)	• Structured activities improve classroom behaviour, but have less robust effects on academic measures and clinic-based tests
Combined stimulants and academic interventions	• Combined treatments are not more effective than stimulants alone
Antidepressant medications (such as imipramine)	• Antidepressants are modestly effective but serious concerns about side effects limit their use

3.4. Recommendations for Practice

- Overall, there is good evidence to recommend using stimulant medications; academic interventions can also be helpful
- Ongoing education and support should be provided to families
- Long-term approaches are needed over two to five years or more (and often through to adulthood), recognizing the continuing course of ADHD
- ADHD is best managed in community settings by multidisciplinary child and youth mental health teams where possible, working together with families, schools, family physicians, and others in the community as needed
- Appropriate transitions should be arranged to adult services for older youth as needed
- With appropriate interventions, most children and youth with ADHD can do well

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4 Conduct Disorder

4.1. Description

- Conduct disorder (CD) in children and youth involves a persistent pattern of antisocial behaviour where basic rights of others or important age-appropriate norms are violated, and where functioning is impaired in multiple domains (at home, at school, with peers, or in the community)
- Symptoms may include:
    - Aggression towards people or animals (such as bullying, weapons' use, cruelty)
    - Destruction of property (such as fire-setting)
    - Deceitfulness
    - Theft (such as shoplifting, breaking and entering)
    - Serious violations of rules (such as running away, school truancy)
- There is a high burden of suffering and associated costs:
    - Estimated prevalence rates are 2 – 6%
    - Approximately 40,000 children and youth in BC may be affected
    - Early onset often means that long-term development and functioning are affected
    - Symptoms usually persist over time
    - More males than females are affected
    - Comorbid mental health problems are common
    - Associated societal costs are high
- More research is needed on causal risk factors and prevention
- Effective interventions improve outcomes for many children and youth with CD

4.2. Assessment

- Diagnosis should be made by a child and adolescent psychiatrist, psychologist, or other qualified practitioner, working with multidisciplinary child and youth mental health teams where possible
- Children and youth, families, teachers, family physicians, and others in the community as needed should be involved in both assessment and long-term follow-up
- CD must be diagnosed clinically – there are no definitive "tests"
- Assessment should involve multiple informants and settings
- To receive a diagnosis of CD (APA, 2000):
    - A child or youth must experience three or more symptoms over 12 months or more
    - Symptoms must be repetitive and persistent, causing significant impairment in major domains of functioning (at home, at school, with peers, or in the community)
    - Other conditions that may present with similar symptoms should be ruled out
- Comorbidity and cultural background must be considered

4.3. Effective Interventions

- The following table summarizes information identified in preliminary literature searches; additional research findings will be added as the project continues
- While many other interventions may show promise, the following table includes only those shown to be effective in at least one rigorous review (indicated with an asterisk [*] in the reference list)

TABLE 1. Summary of Research Findings on Effective Interventions for CD

Intervention	*Research Findings*
"Multisystemic" interventions (involving family, school, community)	• Improved outcomes result, particularly if interventions are started early and continued long-term • Interventions reduce arrest rates, risk of re-arrest, time spent in institutions, and running away, but have less robust effects on behaviour, family cohesion, and peer relations
Parent management training (involving focused cognitive and behavioural approaches with parents)	• Improved outcomes result, particularly if interventions are started early and continued long-term • Numerous studies show positive long-term effects
Problem-solving skills training (involving focused cognitive and behavioural approaches with children and youth)	• Improved outcomes result, particularly if interventions are started early and continued long-term • Interventions improve peer relations, academic skills, and functioning in the community
Functional family therapy (involving focused cognitive, behavioural, and systems approaches)	• Some studies show improved outcomes, particularly if interventions are started early and continued long-term

4.4. Recommendations for Practice

- Overall, there is good evidence to recommend using multisystemic approaches as well as parent training and problem-solving skills training with children and youth
- Ongoing education and support should be provided to families
- Long-term approaches are needed over two to five years or more (and often through to adulthood), recognizing the continuing course of CD
- CD is best managed in community settings by multidisciplinary child and youth mental health teams where possible, working together with families, schools, family physicians, and others in the community as needed
- Appropriate transitions should be arranged to adult services for older youth as needed
- With appropriate interventions, many children and youth with CD can do well

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5 Depression

5.1. Description

- Depression affects mood, emotions and coping, causes distress, and impairs functioning in multiple domains (at home, at school, with peers, or in the community)
- Symptoms vary depending on age and stage of development and may include:
    - In younger children (who may have difficulties expressing themselves verbally): withdrawal, listlessness, tearfulness
    - In older children: moodiness, irritability, temper tantrums, anxiety, fear, somatic complaints
    - In adolescents: depressed or irritable mood, reduced interests, reduced appetite, reduced energy, reduced sleep, excessive feelings of worthlessness or guilt, suicidal thoughts, preoccupation with death
- There is a high burden of suffering and associated costs:
    - Estimated prevalence rates are 1 – 4%
    - Approximately 25,000 children and youth in BC may be affected
    - Early onset often means that long-term development and functioning are affected
    - Symptoms may persist into adulthood
    - More females than males are affected, particularly in older age groups
    - Comorbid mental health problems are common
- More research is needed on causal risk factors and prevention
- Effective interventions improve outcomes for most children and youth with depression

5.2. Assessment

- Diagnosis should be made by a child and adolescent psychiatrist, psychologist, or other qualified practitioner, working with multidisciplinary child and youth mental health teams where possible
- Children and youth, families, teachers, family physicians, and others in the community as needed should be involved in both assessment and long-term follow-up
- Depression must be diagnosed clinically – there are no definitive "tests"
- Assessment should involve multiple informants and settings
- To receive a diagnosis of ("major") depression (APA, 2000):
    - A child or youth must experience at least two weeks of consistently depressed or irritable mood, or loss of interests/pleasures, accompanied by at least four additional symptoms of depression
    - Symptoms must cause significant distress and impairment in key domains of functioning (at home, at school, with peers, or in the community)
    - Other conditions that may present with similar symptoms should be ruled out
- Comorbidity and cultural background must be considered

5.3. Effective Interventions

- The following table summarizes information identified in preliminary literature searches; additional research findings will be added as the project continues
- While many other interventions may show promise, the following table includes only those shown to be effective in at least one rigorous review (indicated with an asterisk [*] in the reference list)

TABLE 1. Summary of Research Findings on Effective Interventions for Depression

Intervention	*Research Findings*
Cognitive-behavioural therapy (CBT)	• Many studies show good outcomes, particularly for mild to moderate depression • Both individual and group approaches are effective
Interpersonal psychotherapy (IPT)	• Many studies indicate that this intervention shows promise, particularly in older age groups
Serotonergic antidepressant medications (such as fluoxetine, sertraline, paroxetine)	• These medications are effective, particularly for more severe depression • Most medications in this group are relatively safe and easy to use • Side effects may include headache, tremor, gastrointestinal complaints, drowsiness, agitation, and insomnia
Combined psychotherapy (CBT or IPT) and medications	• This approach is effective, particularly for more severe depression

5.4. Recommendations for Practice

- Overall, there is good evidence to recommend using focused psychotherapies such as CBT and IPT, particularly for mild to moderate depression; serotonergic antidepressants are also effective, particularly for more severe depression
- Ongoing education and support should be provided to families
- Long-term approaches may be needed in some cases
- Depression is best managed in community settings by multidisciplinary child and youth mental health teams where possible, working together with families, schools, family physicians, and others in the community as needed
- Appropriate transitions should be arranged to adult services for older youth if needed
- With appropriate interventions, most children and youth with depression can do well

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6 Obsessive-Compulsive Disorder

6.1. Description

- Obsessive-compulsive disorder (OCD) involves recurrent obsessions and/or compulsions that may cause distress and that impair functioning in multiple settings (at home, at school, with peers, and in the community)
- Symptoms may include:
    - Obsessions: persistent unwanted thoughts, impulses, or images that are distressing or intrusive, and that involve more than excessive worry about current life difficulties; common obsessions in children and youth include fear of contamination and fear of harm to self or others
    - Compulsions: repetitive behaviours or mental acts that serve to prevent or reduce anxiety; common compulsions in children and youth include washing, checking, dressing and ordering rituals
- There is a high burden of suffering and associated costs:
    - Estimated prevalence rates are 0.2%
    - Approximately 2,000 children and youth in BC may be affected
    - Early onset means that long-term development and functioning are affected
    - Symptoms often persist into adulthood
    - Males and females are equally affected
    - Comorbid mental health problems are common
- More research is needed on causal risk factors and prevention
- Effective interventions improve outcomes for most children and youth with OCD

6.2. Assessment

- Diagnosis should be made by a child and adolescent psychiatrist, psychologist, or other qualified practitioner, working with multidisciplinary child and youth mental health teams where possible
- Children and youth, families, teachers, family physicians, and others in the community as needed should be involved in both assessment and long-term follow-up
- OCD must be diagnosed clinically – there are no definitive "tests"
- Assessment should involve multiple informants and settings
- To receive a diagnosis of OCD (APA, 2000):
    - A child or youth must experience obsessions and/or compulsions that significantly interfere with daily routine, social or academic functioning, and/or preoccupy the child or youth for one hour per day or more
    - Younger children may not recognize that symptoms are excessive or unreasonable
    - Other conditions that may present with similar symptoms should be ruled out
- Comorbidity and cultural background must be considered

6.3. Effective Interventions

- The following table summarizes information identified in preliminary literature searches; additional research findings will be added as the project continues
- While many other interventions may show promise, the following table includes only those shown to be effective in at least one rigorous review (indicated with an asterisk [*] in the reference list)

TABLE 1. Summary of Research Findings on Effective Interventions for OCD

Intervention	*Research Findings*
Exposure-response-prevention psychotherapy	• This focused cognitive-behavioural approach is effective, with long-lasting benefits, particularly if therapists assist and if gradual (rather than "flooding") approaches are used • Ongoing "refresher" sessions are helpful
Newer serotonergic antidepressant medications (such as fluoxetine, fluvoxamine, sertraline, paroxetine)	• Good outcomes have been achieved with short-term treatment, although relapse is common when medication is stopped, and medication rarely removes all symptoms • These antidepressants are relatively safe and easy to use • Side effects may include headache, tremor, gastrointestinal complaints, drowsiness, agitation, and insomnia
Combined exposure-response-prevention psychotherapy and antidepressant medication	• Good outcomes result from using these two interventions together, particularly for more severe OCD
Older serotonergic antidepressant medications (clomipramine)	• Good outcomes have been shown in long-term studies, although higher doses may be associated with risks of seizures or electrocardiographic changes • Side effects may include dry mouth, sedation, dizziness, tremor, headache, constipation, other gastrointestinal complaints, and insomnia • Side effects limit use as a first-line treatment

6.4. Recommendations for Practice

- Overall, there is good evidence to recommend using focused exposure-response-prevention psychotherapy; serotonergic antidepressants are also effective, particularly for more severe OCD
- Ongoing education and support should be provided to families
- Long-term approaches are needed over two to five years or more (and often through to adulthood), recognizing the continuing course of OCD
- OCD is best managed in community settings by multidisciplinary child and youth mental health teams where possible, working together with families, schools, family physicians, and others in the community as needed
- Appropriate transitions should be arranged to adult services for older youth as needed
- With appropriate interventions, most children and youth with OCD can do well

6.5. References

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7 Schizophrenia

7.1. Description

- Schizophrenia is a serious brain disorder that impairs social and cognitive functioning, and affects multiple domains (at home, at school, with peers, and in the community)
- Symptoms may include:
    - Delusions: false, distorted, strongly-held beliefs that may be persecutory, grandiose, somatic or religious in nature
    - Hallucinations: hearing, seeing, smelling, tasting or otherwise sensing things that others do not; auditory hallucinations, such as hearing voices, are most common
    - Disorganized speech and/or behaviour
    - Social withdrawal
    - Academic impairment
- Psychosis is a related term referring to any mental state involving distortion or loss of contact with reality; many conditions in addition to schizophrenia (such as medical conditions, substance abuse, and some mood disorders) can lead to psychosis
- There is a high burden of suffering and associated costs:
    - Estimated prevalence rates are 0.1%
    - Approximately 1,000 children and youth in BC may be affected
    - Early onset, usually in late youth or early adulthood, means that long-term development and adult functioning are affected
    - Most symptoms persist into adulthood
    - More males than females are affected in younger age groups
    - Comorbid mental health problems are common
- While causes are not yet known, schizophrenia has been clearly shown to be a biological brain disorder
- More research is needed on prevention
- Early interventions, particularly with the first episode of psychosis, likely significantly improve long-term outcomes
- Overall, effective interventions improve outcomes for many children and youth with schizophrenia

7.2. Assessment

- Diagnosis should be made by a child and adolescent psychiatrist, psychologist, or other qualified practitioner, working with multidisciplinary child and youth mental health teams where possible
- Children and youth, families, teachers, family physicians, and others in the community as needed should be involved in both the assessment and long-term follow-up
- Schizophrenia must be diagnosed clinically – there are no definitive "tests"
- Assessment should involve multiple informants and settings

- To receive a diagnosis of schizophrenia (APA, 2002):
    - A child or youth must experience two or more characteristic symptoms for a significant portion of the time over a one month period or longer
    - Overall, symptoms must persist for a minimum of six months and must cause significant impairment in major domains of functioning (at home, at school, with peers, or in the community)
    - Other conditions that may present with similar symptoms should be ruled out
- Comorbidity and cultural background must be considered

7.3. Effective Interventions

- The following table summarizes information identified in preliminary literature searches; additional research findings will be added as the project continues
- While many other interventions may show promise, the following table includes only those shown to be effective in at least one rigorous review (indicated with an asterisk [*] in the reference list)

TABLE 1. Summary of Research Findings on Effective Interventions for Schizophrenia

Intervention	*Research Findings*
"Atypical" (newer) antipsychotic medications (such as risperidone, olanzapine, quetiapine)	• These medications are effective in alleviating delusions, hallucinations, social withdrawal and cognitive impairment in most children and youth • These medications cause fewer side effects (such as extrapyramidal and other symptoms) compared with older antipsychotic medications (see below) • More research is needed on long-term safety
"Typical" (older) antipsychotic medications (such as haloperidol, chlorpromazine, loxapine)	• These medications are effective in alleviating delusions and hallucinations in most children and youth • Common extrapyramidal side effects may include: acute dystonias (muscle spasms), parkinsonian symptoms (muscle rigidity), akathisia (restless legs), and dyskinesias (abnormal involuntary movements) • Other side effects may include sedation, weight gain, and constipation • More research is needed on long-term safety
Targeted educational and family interventions (such as teaching management and coping skills)	• Targeted education for children, youth, and families has been shown to improve outcomes • Family education targeting negative patterns of communication (such as excessive criticism) improve outcomes, although more research is needed for children and youth
Cognitive therapy (targeting distorted thinking and behaviour)	• Cognitive therapy shows promise in enhancing coping abilities and improving outcomes with older populations • More research is needed for children and youth

7.4. Recommendations for Practice

- Overall, newer antipsychotics are recommended as "first-line" treatment, with older antipsychotics as "second-line;" targeted educational, family, and cognitive interventions are also helpful
- Early intervention should be emphasized as there is growing evidence that early identification and treatment can result in:
    - Significantly faster and more complete recovery
    - Better responsiveness to treatment
    - Lower incidence of relapse
    - Reduced hospitalizations
    - Improved functioning in all domains
    - Lower costs
- Ongoing education and support should be provided to families
- Long-term approaches are needed through to adulthood, recognizing the continuing course of schizophrenia
- Schizophrenia can be managed in community settings by multidisciplinary child and youth mental health teams working together with families, schools, family physicians, and others in the community as needed
- Periodic hospitalization may be needed to stabilize the disorder and manage crises
- Appropriate transitions should be arranged to adult services for older youth
- With appropriate interventions, many children and youth with schizophrenia can do well

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