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Improving the Mental Health of Young Children

A Discussion Paper Prepared for the
British Columbia Healthy Child Development Alliance

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Preamble

This paper was prepared as a resource for the British Columbia Healthy Child Development Alliance (BCHCDA). The BCHCDA is a coalition of health, social, education and community organizations sharing a common interest in supporting the healthy development of all children in BC.

About the Children's Health Policy Centre

Located in the Faculty of Health Sciences (FHS) at Simon Fraser University (SFU), the Children's Health Policy Centre (CHPC) is an interdisciplinary research group dedicated to addressing health disparities in childhood by building robust and ongoing connections between research and policy. The CHPC primarily focuses on children's social and emotional development, or *children's mental health,* as one of the most important investments that any society can make. We conduct research on the policy process and research relevant to inform public policy-making: addressing the determinants of health; preventing problems in children at risk; promoting effective programs and services; and monitoring our collective progress towards improving the lives of all children. Reciprocal relationships with public policy groups in turn inform our research. We also provide education in health policy, children's mental health and population health. The CHPC's work complements the mission of the FHS to integrate research and policy for the advancement of public and population health locally, nationally and globally. Please visit our website at www.childhealthpolicy.sfu.ca.

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1. Introduction

Definition of mental health

The World Health Organization (WHO) defines mental health as a state of social and emotional wellbeing, not merely the absence of disorder.[1] As such, mental health is a resource for living, essential for all children to thrive and essential for optimal human development and functioning across the lifespan. Mental health and disorder nevertheless originate in early childhood, making this the best possible time to intervene for the benefit of both children and the population as a whole.

Mental health is a resource for living, essential for all children to thrive.

Purpose of this paper

Intended as a resource for the British Columbia (BC) Healthy Child Development Alliance and for others concerned with healthy child development in BC and Canada, this paper first describes our collective children's mental health predicament: the high prevalence of disorders; the shortfalls in current programs and services; and the impact on children and society. Moving forward, a new integrated population health strategy is then described: promoting healthy development for all children; preventing disorders in children at risk; providing effective treatment for children with disorders; and monitoring outcomes for all children. The paper concludes by discussing the implications for new public investments.

There are many particular policy, program and service issues pertaining to specific population groups. However, this paper is intended as a broad overview. The goal is to create a starting point for collective conversation and action to improve the social and emotional wellbeing of all children in BC.

Collectively, we have a children's mental health predicament.

2. The children's mental health predicament

High prevalence of mental disorders in children

Mental health is fundamental to human development. Yet at any given time, an estimated 14% of children in Canada – one in seven or more than 800,000 – experience mental disorders causing significant symptoms and impairment at home, at school and in the community.[2] The table below depicts disorder-specific prevalence and estimated population affected. Figures are derived from epidemiological surveys of representative community samples of children in Canada, the United States and Great Britain.[2] To be counted in these surveys children had to meet a "high" threshold, displaying significant symptoms *and* significant impairment. The prevalence figures would be higher if "lower" thresholds were used. These surveys include children in older age ranges (four to 17 years) because, for most disorders, this is when symptoms and impairment typically present in ways that can be reliably measured (autism spectrum and attention disorders being notable exceptions).[3] These surveys are nevertheless highly relevant to those concerned with healthy child development because mental disorders often have origins in the early years.

Prevalence of children's mental disorders and population affected *

Disorder	Estimated Prevalence (%)	Age Range (Years)	Estimated Population Affected	
			BC	Canada
Any Anxiety Disorder	6.4	5–17	42,100	338,400
Attention-Deficit/Hyperactivity	4.8	4–17	33,600	270,800
Conduct Disorder	4.2	4–17	29,400	237,000
Any Depressive Disorder	3.5	5–17	23,000	185,000
Substance Abuse	0.8	9–17	3,800	30,200
Autism Spectrum Disorders	0.3	5–15	1,600	13,400
Obsessive-Compulsive Disorder	0.2	5–15	1,100	8,900
Any Eating Disorder	0.1	5–15	500	4,500
Schizophrenia	0.1	9–13	300	2,100
Bipolar Disorder	< 0.1	9–13	< 300	< 2,100
Any Disorder	**14.3**	**4–17**	**100,100**	**806,900**

* Adapted from Waddell, McEwan, Shepherd, et al, 2005[2]

Over 800,000 or one in seven Canadian children experience mental disorders.

Shortfalls in current programs and services

For children's mental health, Canadian policy-making has historically emphasized "downstream" investments such as specialized treatment services after disorders have developed.[2] This emphasis is consistent with Canada's approach to health investments overall. Even as collective *health* spending reaches $140 billion annually, 95% still goes toward health*care* services, while only 5% goes toward public health, including early child development (ECD) and disorder prevention programs.[4] Yet despite the treatment emphasis, an estimated 75% of children with mental disorders do not access specialized treatment services currently.[2] These stark shortfalls have led to children's mental health being dubbed the "orphan's orphan" of healthcare.[2,5]

In response to treatment shortfalls, it has long been argued that new investments should be made "upstream," early in life before disorders develop.[1,6] As awareness of the early determinants of health has grown, ECD *has* risen on the Canadian public policy agenda. However, many ECD programs have yet to specifically address children's mental health goals and outcomes.[7] Meanwhile prevention programs can reduce the incidence (new cases) of mental disorders by reducing risk and enhancing resilience starting early in life, thereby reducing the impact of disorders across the lifespan.[1,8] Yet Canadians make almost no investments in such programs.[7] Underlying the shortfalls, there is no comprehensive monitoring of indicators of children's mental health outcomes in the population as a whole.[9] There is therefore no means of evaluating whether public policy investments are making a positive difference for children over time.

Children's mental health is the "orphan's orphan" of health and healthcare.

Impact on children

Mental disorders are important, foremost, because the causes and consequences of these disorders create enormous distress for children and prevent them from thriving and reaching their potential. For example, a child who experiences sustained maltreatment suffers the immediate consequences, making them less able to participate socially and academically compared to other children. They frequently go on to develop behavioural, anxiety or depressive symptoms that, untended, can progress to become mental disorders. Disorders then compound a child's distress and further impede their social and academic development. This child is then at high risk of being unable to fully participate in family, school, work and community life over the long term. Adding to the burden, the stigma associated with mental disorders often prevents children and their families from seeking help, or prevents them experiencing sympathetic responses when they do.

Mental disorders create distress for children and prevent them from thriving.

Impact on society

Children's mental disorders also create enormous distress and costs for families, particularly when they cannot access needed programs and services. There are costs on a broader societal level as well. If not prevented or treated early in life, mental disorders frequently persist into adulthood.[3] These disorders are now a leading cause of disability in the population with estimated costs to Canadians exceeding $14 billion annually.[10] Given the high costs, prevalence and life course impact, mental disorders are arguably the leading health problems that Canadian children face from infancy onwards.

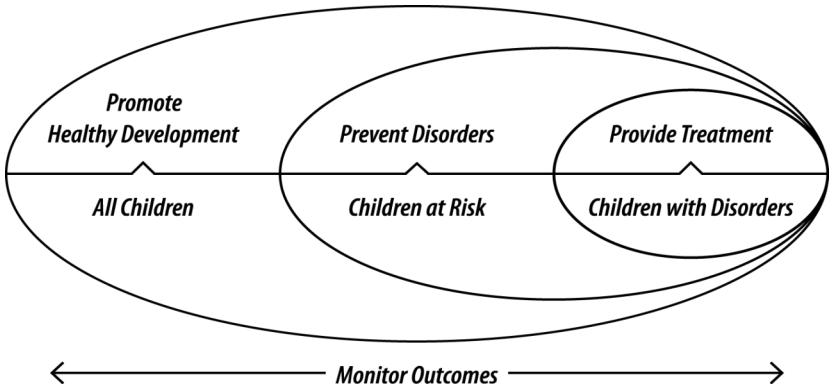
Mental disorders are leading health problems for Canadian children.

3. Moving forward

Building a new population health strategy

To address the children's mental health predicament, a new *integrated* population health strategy is urgently needed – promoting healthy development for all children, preventing disorders in children at risk, and monitoring outcomes for all children, in addition to providing effective treatment for children with disorders, as depicted below.[2] The strategy encompasses both "upstream" and "downstream" approaches, recognizing that both are essential. This strategy provides a broad framework for considering what is needed for improving the mental health of young children.

A Population Health Strategy for Children's Mental Health *



* Adapted from Peters, Lafreniere & Digout, 2001[11] & Prilleltensky, Nelson & Peirson, 2001[12]

Promoting healthy development for all children

In considering healthy child development from a mental health perspective, an understanding of *causation* is an essential starting point. In the children's mental health field, most research has focused on understanding disorders (or psychopathology) rather than wellbeing. Nevertheless research on causal factors *has* articulated the interplay between genes and environment, with mental disorders likely arising in individuals when adverse experiences influence genetic expression over time.[13] Much remains to be elucidated about the role of genetics, likely particularly important in the causation of more "biologically" based disorders such as autism and schizophrenia.[13] Genetics is an active area of ongoing research. Yet the children's mental health field has also yet to incorporate emerging evidence on the social determinants of health in populations, likely particularly important in the causation of more "socially" based (and more common) disorders such as conduct disorder, anxiety and depression.

In multiple longitudinal studies over the past 20 years, health outcomes have been associated with socioeconomic factors such as income, education and occupation. In particular, socioeconomic disadvantage relative to others in the population — being at the lower end of a social gradient — is associated with an array of poor health outcomes for individuals, independent of factors such as lifestyle or healthcare services.[14] Socioeconomic disparities have been established for children's readiness to learn as well as social and emotional wellbeing upon entering school.[15] Socioeconomic adversity in childhood has also been demonstrated to predict mental health problems in adulthood.[16] Socioeconomic adversity is postulated to "get inside the body" through the cumulative effects of biological stress responses, consistent with hypotheses on the causation of mental disorders through gene-environment interactions.[14,16,17] Early childhood is widely regarded as the optimal time to intervene to reduce socioeconomic disparities.[17,18]

Socioeconomic adversity has yet to be fully established as a causal influence on children's mental disorders at the individual, family, school and community levels.[19] However, new research evidence is emerging, particularly about the causation of behavioural and emotional disorders. For example, improving socioeconomic status for the most disadvantaged families in a community is associated with reducing the incidence of behavioural disorders for children from these families.[20] Adversities such as child maltreatment and parental mental disorder are also associated with socioeconomic disadvantage.[18] Reducing child maltreatment or reducing the impact of parental mental disorder can in turn reduce the incidence of child behavioural *and* emotional disorders.[8]

Addressing socioeconomic disparities early in life may lead to important health benefits for children and for the population as a whole.[21,22] New research is needed to clarify the role of these disparities in causing mental disorders, and to identify and evaluate interventions that can make a difference, such as ECD programs that have potential to both address socioeconomic adversity and improve children's social and emotional wellbeing.[7,23]

Early childhood is the optimal time to intervene to reduce socioeconomic disparities.

Preventing disorders in children at risk

While not all mental disorders are preventable, there is nevertheless considerable research evidence on *risk* factors that predispose children to mental disorders and that lend themselves prevention programs. These factors appear to interact and to apply across the full spectrum of behavioural and emotional disorders.[24] Risk factors at the child, family, school and community levels include: difficult temperament; learning difficulties; negative parenting (parental conflict, harshness or inconsistency); child maltreatment (sustained abuse or neglect); negative school experiences; lack of positive ongoing adult supports; and lack of a sense of personal purpose.[13,18,24-26] In keeping with hypotheses that mental disorders arise through gene-environment interactions over time, longitudinal studies are also showing that certain (eg, behavioural) disorders are significantly more likely to arise when children with genetic vulnerability *also* experience risk factors such as child maltreatment.[25]

Research evidence has also accumulated on the topic of *resilience*, or the ability to overcome adversity. Longitudinal studies have shown there is considerable individual variation in how children respond to adversities such as child maltreatment. Notably, not all children who experience significant adversity experience negative mental health outcomes.[27] The factors that appear to protect children are the converse of risk factors: positive temperament; good learning abilities; warm and consistent parenting; safety and stability; positive school experiences; positive ongoing adult supports; and sense of personal purpose.[26] However, resilience is perhaps best characterized as a dynamic process, not merely a set of traits or conditions, enabling children to overcome adversity and to thrive differently in different contexts.[27]

Applying the research on risk and resilience, rigorous (randomized-controlled trial) evaluations have now been conducted on programs that can prevent behavioural disorders in particular, starting in the prenatal or early preschool years. The most notable programs target children from disadvantaged families — through parent training (eg, *Prenatal Nurse Home Visitation* and *Incredible Years*) or through early childhood education combined with parent training (eg, *Perry Preschool*).[8] These programs have the added benefit of reducing both the causal risk factors (eg, child maltreatment) and the ensuing mental disorders (eg, conduct disorder). These programs therefore address the double disadvantage — the causes *and* the consequences — that many children experience. Programs such as *Prenatal Nurse Home Visitation* and *Perry Preschool* have also been estimated to pay for themselves, more than offsetting the estimated $1.5 million in cumulative lifetime costs incurred by just one case of conduct disorder.[8,28]

Strikingly, Canadians make almost no investments in programs specifically aimed at preventing mental disorders in young children.[7] New investments in these programs are therefore strongly warranted. More research is also warranted on the effectiveness of these programs in local settings and on preventing other kinds of disorders such as anxiety and depression early in life.

Prevention programs in early childhood can prevent mental disorders from developing.

Providing effective treatment for children with disorders

Treatment is one component of an integrated population health strategy for children's mental health, essential when disorders cannot be prevented. Canadians invest heavily in treatment services in general, with 95% of the $140 billion spent annually going towards healthcare (and with almost 50% of this going towards healthcare for Canadians over the age of 65).[4] Yet the treatment shortfalls in children's mental health remain stark, with an estimated 75% of children with mental disorders not receiving specialized treatment services.[2] There may be unique factors explaining the shortfalls: the stigma still associated with mental disorders; the relative "invisibility" of these disorders compared to physical disorders; and the lack of widespread appreciation that clinically significant mental disorders indeed exist in childhood.[5] Nonetheless, it is difficult to imagine shortfalls of this magnitude being deemed acceptable for children's physical disorders requiring specialized treatment, such as cancer or diabetes.

Exacerbating the treatment shortfalls, inefficiencies plague the systems serving children. Perhaps most importantly, effective treatments remain unavailable (such as parent training for behavioural problems in children's early years), while potentially harmful treatments persist (such as inappropriate psychotropic medication use).[29,30] As well, many practitioners still see children in one-to-one encounters, limiting their reach compared to seeing children in groups or consulting to primary care and schools.[31,32] Compounding the situation, children's services are badly fragmented across multiple sectors (including healthcare, public health, education, child protection and youth justice) and jurisdictions (including federal, provincial, regional and local).[33]

Some advocates argue that expanding treatment services is the principal way to improve children's mental health.[5] However, given the existing inefficiencies it is highly unlikely that increasing investments in services as currently configured — simply doing more of the same — will appreciably increase children's access to *effective* treatments and *coordinated* services.[1,6] It is also highly unlikely that simply expanding treatment services will ever suffice given the large numbers of children with disorders. In addition to reforming the treatment service system, the WHO and others therefore advocate for simultaneous new investments in prevention programs as the only viable means, ultimately, of reducing the impact of mental disorders worldwide.[1,6]

Providing treatment for children with disorders is an essential component of an integrated strategy to improve children's mental health. Expanded treatment investments are warranted, provided these investments actually increase children's access to *effective* treatments and *coordinated* services, and provided these investments are simultaneously balanced with substantial new investments in "upstream" efforts such as prevention programs.

75% of children with mental disorders do not receive specialized treatment services.

Monitoring outcomes for all children

Underlying the children's mental health predicament, there is no comprehensive monitoring and reporting of indicators of children's mental health outcomes in the population as a whole.[9] Consequently, there is no means of systematically evaluating the impact of public policy investments for children over time.

The Canadian Institute of Health Information (CIHI) has suggested a comprehensive population health surveillance framework that includes health determinants, health status and healthcare service system outputs.[34] For children's mental health, such a framework could theoretically be populated with indicators derived using publicly-available data.[9]

The requisite public data may exist. Statistics Canada's National Longitudinal Survey of Children and Youth (NLSCY) has included measures of health determinants and health status pertinent to children's social and emotional well-being.[18] While not used for systematic monitoring by any province or territory as yet, these data have nevertheless enabled researchers to evaluate the impact of programs such as the federal government's *Community Action Program for Children* and Ontario's *Better Beginnings, Better Futures*.[7] The Early Development Instrument (EDI) also includes measures of social and emotional wellbeing in kindergarten children.[35] The EDI is being used in preschool populations across Canada, making it feasible to map and compare social gradients and social and emotional outcomes across communities.[15] As well, Ontario and Quebec have conducted high-quality epidemiological surveys establishing the prevalence of mental disorders and the utilization of treatment services by children with disorders.[2] Regarding treatment service outcomes, Ontario and BC are starting to collect data on outcomes for all children receiving treatment services using instruments such as the Brief Child and Family Phone Interview.[36,37] This is in addition to myriad data already routinely collected by provincial and territorial governments on healthcare encounters, pharmaceutical prescriptions, educational achievement and child protection and youth justice encounters.[9] Finally, econometric data are collected and reported by CIHI on national and provincial/territorial health and related expenditures for children and other groups in the population.[4]

Despite the availability of public data on children's outcomes, there is still no comprehensive use of these data to monitor Canadians' collective progress towards improving children's mental health outcomes over time, starting in early childhood. Such monitoring needs to underpin other efforts to improve the mental health of young children.

There is no comprehensive monitoring of children's mental health outcomes.

4. Implications for new public investments

There is much that can be done to improve the mental health of young children in BC and Canada. An integrated population health strategy suggests four essential places to start: promoting healthy development for all children; preventing disorders in children at risk; providing effective treatment for children with disorders; and monitoring outcomes for all children over time.

Recent ECD efforts have galvanized public awareness about the importance of early childhood for subsequent health and development across the lifespan. Yet from a mental health perspective these programs would benefit from including more explicit goals for enhancing children's social and emotional wellbeing, and more explicit evaluations of the impact on children's mental health outcomes. Rigorous program evaluations could also contribute new knowledge about the precise role of social gradients in the causation of mental disorders. Researchers and policy-makers could work in partnership on such evaluations, and on raising public awareness about the importance of social gradients. Meanwhile, new investments in prevention programs are strongly warranted given the dearth of such programs currently and given the potential to protect children from the causes *and* the consequences of mental disorders. The most notable programs — *Public Health Nurse Home Visitation*, *Incredible Years* and *Perry Preschool* — target *at-risk* parents of young children to significantly reduce not only children's behavioural problems but also precursors such as child maltreatment. New programs could emulate these successful programs, maintaining fidelity to their essential elements while also evaluating effectiveness in local settings. Researchers and policy-makers could also work in partnership on these evaluations, on expanding the prevention research, and on raising public awareness about the importance of prevention. Expanded treatment investments are also warranted — provided these actually improve children's access to *effective* treatments, do not perpetuate existing inefficiencies in service organization, and do not preclude new investments in "upstream" interventions such as prevention programs. Finally, it is crucial to monitor our collective progress towards improving the mental health of all children. Such monitoring could have added benefits, not only placing children's mental health on the public agenda, but also permitting more considered evaluation of the impact of public investments for children over time.

Ultimately, there is an ethical imperative for improving the mental health of young children. All children have the right to thrive and meet their potential. Yet many Canadian children unnecessarily experience the causes and the consequences of mental disorders. Canadians have the resources to address these issues. Surely investments in children's mental health are among the most important investments that any society can make.

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

References

1. World Health Organization. *Prevention of mental disorders: Effective interventions and policy options*. World Health Organization: Geneva; 2004.

2. Waddell C, McEwan K, Shepherd CA, et al. A public health strategy to improve the mental health of Canadian children. *Canadian Journal of Psychiatry* 2005;50:226-33.

3. Kessler RC, Berglund P, Demler O, et al. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Co-Morbidity Survey Replication. *Archives of General Psychiatry* 2005; 62:593-602.

4. Canadian Institute for Health Information. *National health expenditure trends 1975-2005*. Canadian Institute for Health Information: Ottawa; 2005.

5. Kirby MJL, Keon WJ. *Out of the shadows at last: Transforming mental health, mental illness and addiction services in Canada*. Standing Senate Committee on Social Affairs, Science & Technology: Ottawa; 2006.

6. Offord DR, Kraemer HC, Kazdin AE, et al. Lowering the burden of suffering from child psychiatric disorder: Trade-offs among clinical, targeted and universal interventions. *Journal of the American Academy of Child & Adolescent Psychiatry* 1998; 37:686-94.

7. Waddell C, McEwan K, Peters R, et al. Preventing mental disorders in children: A public health priority. *Canadian Journal of Public Health* 2007; 98:174-178.

8. Waddell C, Hua JM, Garland O, et al. Preventing mental disorders in children: A systematic review to inform policy-making. *Canadian Journal of Public Health* 2007; 98:166-173.

9. Waddell C, McEwan K, Boyle M. *Monitoring children's mental health in the population: Report on a British Columbia pilot project*. Children's Health Policy Centre, Simon Fraser University: Vancouver; manuscript in preparation.

10. Stephens T, Joubert N. The economic burden of mental health problems in Canada. *Chronic Diseases in Canada* 2001; 22:8-23.

11. Peters R DeV, Lafreniere G, Digout A. *Child and youth mental health snapshot: Environmental scan and gaps analysis*. Queen's University: Kingston; 2001.

12. Prilleltensky I, Nelson G, Peirson L. *Promoting family wellness and preventing child maltreatment: Fundamentals for thinking and action*. University of Toronto Press: Toronto; 2001.

13. Rutter M, Moffitt TE, Caspi A. Gene-environment interplay and psychopathology: Multiple varieties but real effects. *Journal of Child Psychology & Psychiatry* 2006; 47:226-61.

14. Marmot MG. Status syndrome: A challenge to medicine. *Journal of the American Medical Association* 2006; 295:1304-07.

15. Kershaw P, Irwin L, Trafford K, et al. *The British Columbia atlas of child development*. Human Early Learning Partnership & Western Geographical Press: Victoria; 2005.

16. Power C, Stansfeld SA, Matthews S, et al. Childhood and adulthood risk factors for socio-economic differentials in psychological distress: Evidence from the 1958 British birth cohort. *Social Science & Medicine* 2002; 55:1989-2004

17. Boyce WT, Keating DP. Should we intervene to improve childhood circumstances? In: Kuh D (Ed.). *A life course approach to chronic disease epidemiology*. Oxford University Press: Oxford; 2004; p. 415-45.

18. Willms JD. *Vulnerable children*. University of Alberta Press: Edmonton; 2002.

19. Boyle MH, Lipman EL. Do places matter? Socioeconomic disadvantage and behavioral problems of children in Canada. *Journal of Consulting & Clinical Psychology* 2002; 70:378-89.

20. Costello EJ, Compton SN, Keeler G, et al. Relationships between poverty and psychopathology: A natural experiment. *Journal of the American Medical Association* 2003; 290:2023-29.

21. Evans RG, Stoddart GL. Consuming research, producing policy? *American Journal of Public Health* 2003; 93:371-79.

22. Heckman JJ. Skill formation and the economics of investing in disadvantaged children. *Science* 2006; 312:1900-02.

23. McCain M, Mustard FJ, Shanker S. Early years study two: Putting science into action. Council for Early Child Development: Toronto; 2007.

24. Essex MJ, Kraemer HC, Armstrong JM, et al. Exploring risk factors for the emergence of children's mental health problems. *Archives of General Psychiatry* 2006; 63:1246-1256.

25. Kim-Cohen J, Caspi A, Taylor A, et al. MAOA, maltreatment, and gene-environment interaction predicting children's mental health: New evidence and a meta-analysis. *Molecular Psychiatry* 2006; 11:903-913.

26. Werner EE, Smith RS. *Journeys from childhood to midlife: Risk, resilience, and recovery*. Cornell University Press: Ithaca; 2001.

27. Rutter M. Resilience reconsidered: Conceptual consideration, empirical findings and policy implications. In: Shonkoff JP, Meisels SJ (Eds). *Handbook of Early Childhood Intervention*. Cambridge University Press: Cambridge; 2000; p. 651-682.

28. Cohen MA. The monetary value of saving a high-risk youth. *Journal of Quantitative Criminology* 1998; 14:5-33.

29. Weersing VR, Weisz JR. Community clinic treatment of depressed youth: Benchmarking usual care against CBT clinical trials. *Journal of Consulting & Clinical Psychology*. 2002; 70:299-310.

30. Chorpita BF, Yim LM, Donkervoet JC, et al. Toward large-scale implementation of empirically supported treatments for children: A review and observations by the Hawaii Empirical Basis to Services Task Force. *Clinical Psychology: Science & Practice* 2002; 9:165-190.

31. Daleiden EL, Chorpita BF, Donkervoet C, et al. Getting better at getting them better: Health outcomes and evidence-based practice within a system of care. *Journal of American Academy Child & Adolescent Psychiatry*. 2006; 45:749-756.

32. Waddell C, Godderis R. Rethinking evidence-based practice for children's mental health. *Evidence Based Mental Health* 2005; 8:60-62.

33. Waddell C, Lavis JN, Abelson J, et al. Research use in children's mental health policy in Canada: Maintaining vigilance amid ambiguity. *Social Science & Medicine* 2005; 61:1649-1657.

34. Canadian Institute for Health Information. *Improving the health of young Canadians*. Canadian Institute for Health Information: Ottawa; 2005.

35. Offord Centre for Child Studies. *School readiness to learn: National senior kindergarten cohort results*. Offord Centre for Child Studies: Hamilton; 2006.

36. Cunningham CE, Pettingill P, Boyle M. *The Brief Child and Family Phone Interview*. McMaster University: Hamilton; 2006.

37. Government of British Columbia. *Child and youth mental health plan*. Government of British Columbia: Victoria; 2003.