



JUSTICE INSTITUTE
of BRITISH COLUMBIA

ECONOMIC ASPECTS OF THE DEVELOPMENT AND PREVENTION OF CRIMINALITY AMONG CHILDREN AND YOUTH

A Sequel to the *Kids 'N Crime* Report

APPENDIX

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TABLE OF CONTENTS
APPENDIX

Introduction 4

Acknowledgement 5

1. Early Childhood Development in General 6

Importance of Early Childhood Development.....6

The Economic Importance of Early Childhood Development7

Early Childhood Development, School Readiness and Economic Progress8

2. Child Care/Pre-School 10

Economic Impact of Pre-school Programs 10

High/Scope Perry Pre-School Study 10

Other Pre-School Programs 11

3. Parenting Education 13

Importance of Parenting Education 13

Prenatal Effects: FASD 13

Education of Youth and Young Adults in Anticipation of Future Parenthood..... 14

Parenting Education During Pregnancy 14

Monitoring and Home Visits During Pregnancy and After Birth 14

Parent Attributes and Parenting Style 15

Socio-Economic Status 15

Other Prenatal Effects on Crime 15

Birth Control..... 15

Abortion 16

Appropriate Home Environment..... 16

Household Effects 16

Parenting and Evidence-Based Crime Prevention..... 17

4. Monitoring/Home Visits 19

Monitoring and Home Visits During Pregnancy and After Birth 19

Prenatal/Early Intervention Project—Elmira, New York State 20

Nurse-Family Partnership 20

Home Visiting Programs for At Risk Mothers and Children 20

HIPPY 21

Parents as Teachers 21

5. Learning Disabilities 23

Learning Disabilities Defined 23

Reading Disability: Dyslexia..... 23

Mathematical Disability: Dyscalculia 24

Dysgraphia 24

The Relationship Between Learning Disabilities and Criminal Activity 24

Economic Costs of Learning Disabilities..... 25

6. Attention Deficit Hyperactivity Disorder (ADHD) 27

Nature of ADHD 27

Prevalence of ADHD 27

	Disorders that Commonly Co-Occur with ADHD	28
	ADHD and Crime	29
	Cost of ADHD-Related Crime	29
	Treatment of ADHD.....	29
	Overall Cost of ADHD	31
7.	Aggression: Conduct Disorder and Oppositional Defiant Disorder.....	33
	Nature of Conduct Disorder and Oppositional Defiant Disorder	33
	Aggression	33
	Prevalence of Aggression, Conduct Disorder	34
	Predisposition to Aggression	34
	Prevention	35
	Development of Peaceful Interaction	35
	Language as a Means of Decreasing Aggression	36
	Need to Seek Professional Help	36
	The Cost of Aggressive Behaviour	36
8.	Fetal Alcohol Spectrum Disorders (FASD).....	38
	Fetal Alcohol Spectrum Disorder	38
	Neonatal Abstinence Syndrome (NAS).....	39
	Prevention, Early Diagnosis and Early Treatment of FASD	39
9.	Trauma	44
10.	Youth At Risk.....	47
	Youth at Risk.....	47
	Study by Public Safety Canada	48
	Factors Affecting Risk of Delinquency	48
	Cost-Benefit Analysis.....	49
	Intervention Strategies that Work with Families.....	49
	Key Success Factors for Family-based Programs.....	51
	Conclusion re Family-Based Programs	51
	The Situation in British Columbia.....	52
	Examples of Services Provided in British Columbia	52
	Youth in Care	53
11.	High School Graduation	56
	Graduation from High School.....	56
12.	Aboriginal Youth	60
	Aboriginal Youth.....	60
	Aboriginal Criminal Involvement	60
	Aboriginal Youth and Criminal Development	61
	Aboriginal Education	63
	Residential Schools.....	67
	Involvement with Foster Care and the Justice System.....	67
	Child Death Rate.....	68
	Learning Differences	68
	Conclusion	69

ECONOMIC ASPECTS OF THE DEVELOPMENT AND PREVENTION OF CRIMINALITY AMONG CHILDREN AND YOUTH

APPENDIX

INTRODUCTION

This Appendix contains 12 chapters that correspond to the 12 report sections in the summary report on this subject. These chapters expand upon the content of the summary report and provide extended documentation that helps to explain the subject matter. Included is key resource material captured as verbatim extracts from reports prepared by others.

Approximately 300 references are provided in the form of footnotes. Most of these can be accessed on line through the links included in the footnotes.

Since this Appendix might also be viewed as a free-standing document, some introductory comments, conclusions and acknowledgments have also been included.

In 2006, The Vancouver Board of Trade issued a report titled *The Development and Prevention of Criminality Among Children and Youth*, or "Kids 'N Crime" for short. That document is based on the idea that factors impacting children from before birth to adulthood can have serious psychological effects leading to criminal behaviour in later life.

In the current project the "Kids 'N Crime" report has been revisited. For salient parts, through literature search information has been gathered concerning the negative costs of related criminal activity. Information also has been sought concerning the costs of corresponding efforts to prevent or correct that activity.

This addition provides more quantitative indicators of the economic importance of efforts to avert adverse developments leading youth to engage in crime. Thus, this work endeavours to sketch indicators illuminating the potential magnitude of economic benefits of positive development of children and youth. This information is intended to complement the humanitarian benefits that are a principal focus of the "Kids 'N Crime" report.

The work carried out in this project was planned to be limited to the following ten specific parts of the *Kids 'N Crime* report:

- Parenting education
- Monitoring/home visits
- Fetal alcohol spectrum disorders
- Early childhood development (general)
- Child care/pre-school
- Learning disabilities
- Attention deficit hyperactivity disorder
- Youth at risk
- High school graduation
- Aboriginal youth

In addition, as the work progressed it became apparent that two additional subject areas needed to be included. Accordingly, a section has been added on the impact of trauma on children in the context of this report, and another section has been drafted dealing with aggression in relation to conduct disorder and oppositional defiant disorder.

From the information presented in this report, it is clear that there are very large costs involved with the numerous different factors that can contribute to the development of criminality among children and youth. Conversely, there are great benefits that can be achieved by averting that development.

While the analysis of the cost of preventative or remedial efforts generally is a work in progress involving the efforts of numerous researchers, there is already enough credible data to indicate that for many interventions the cost is significantly less, or greatly less, than the benefits that can be achieved. These are in addition to the humanitarian benefits that are the principal focus of the original *Kids 'N Crime* report.

Investing in these interventions is good public policy. Diverting children and youth from a life of crime achieves outstanding positive results in terms of both social and economic dimensions, including costs borne by government.

ACKNOWLEDGEMENT

This report builds on the original *Kids 'N Crime* report prepared in 2006 under the auspices of The Vancouver Board of Trade with support from the Sauder School of Business at the University of British Columbia.

This project has been carried out with the support of the Justice Institute of British Columbia and the Justice Institute of British Columbia Foundation, as well as The Vancouver Board of Trade Foundation.

The original *Kids 'N Crime* report was prepared by Alasdair Maughan, B.A. (Psychology), LL.B., who at that time was a candidate for the degree of Master of Business Administration, University of British Columbia. That work was carried out under the direction of David E. Park, then Assistant Managing Director and Chief Economist, The Vancouver Board of Trade.

The findings and opinions expressed in the current report are those of the author and the expert sources that have been accessed during the work, and do not necessarily represent the views and opinions of the Justice Institute of British Columbia or other parties involved.

The author gratefully acknowledges the assistance provided in the preparation of this report by Fred Cuzner, Joyce Fulford, Judy McGuire and Fran Thompson.

1. EARLY CHILDHOOD DEVELOPMENT IN GENERAL

Importance of Early Childhood Development

It is generally recognized that early childhood from birth (and before) to age six is the most important period in the development of a child.

James Heckman, a Nobel Prize-winning economist, has pointed out that children's learning patterns become set before they begin their formal education. Specifically, he states that "cognitive ability is formed relatively early in life and becomes less malleable as children age"¹. In a report to the Government of Ontario, known as The Early Years Study, McCain and Mustard noted that critical periods for brain development linked to vision, emotional control, response and symbol cognition are complete by age three; and that language abilities, the ability to learn peer social skills and other cognitive skills are waning by age six.² The period from birth to age three is widely agreed upon as the most crucial developmental period of a child's life and it can be affected by many factors.

The Early Years Study by Margaret McCain and Fraser Mustard (1999) had an electrifying effect on scientists working in the area of early child development. The book mapped out the neuroscientific explanation for why it was that study after study was confirming what primary school teachers had been reporting for some time: that in the vast majority of cases, when a child enters the school system her educational future already seems to have been decided. Highly verbal and attentive children go on to become successful students; children with poor language or social skills find school a stressful experience and in many cases go on to develop behavioral, psychological and health problems.³

Dr. Clyde Hertzman in the Foreword to *British Columbia Early Childhood Development Action Plan: A Work in Progress*, Minister of State for Early Childhood Development, Province of British Columbia, 2002, stated that:

'The first years last forever' is much more than a slogan. Research conducted in Canada and around the world clearly shows that our health, well-being, and coping skills in adulthood and old age are strongly influenced by our start in life. All stages of life are significant, but the period from conception to school age is especially important. During this time the brain develops with amazing rapidity, organizing and reorganizing in response to the children's environment. By the time of school entry, the intellectual, social and emotional development of the child will have been fundamentally shaped by this process and, in turn, will influence the child's future life chances. In Canada, large differences in development exist among children by the time they enter school. Approximately one-quarter of Canadian children enter school requiring further developmental support. The sad fact is that this is largely preventable.

It is during this period that the long-term future probabilities are established with respect to children developing into adults who live positive lives, or conversely may become involved in

¹ Heckman J. Doing It Right: job training and education. *Public Interest*, Spring 1999, retrieved July 6, 2006: http://www.findarticles.com/p/articles/mi_m0377/is_135/ai_54348520

² McCain M. Mustard F. *The Early Years Study* (1999), as cited in *Investing In Our Children is Good Public Policy*, The Vancouver Board of Trade, 1999, http://www.boardoftrade.com/vbot_page.asp?pageid=162

³ Shanker S. in the Introduction to McCain M. Mustard J. Shanker S. *Early Years Study 2: Putting Science Into Action*, Council for Early Child Development, Toronto 2007. This updates and expands the first *Early Years Study* by McCain and Mustard published in 1999.

criminal activity. The criminal tendency can be avoided to a substantial extent if children in their early years are involved in developmental activity that leads to positive personal growth or if developmental difficulties are recognized and remedial efforts applied.

--- research-based early intervention programs are effective at impacting the criminological risk factors associated with crime and thus, they prevent or reduce criminality while also producing collateral benefits for individuals, families, schools, communities and society as a whole.⁴

The Economic Importance of Early Childhood Development

In 1999, The Vancouver Board of Trade issued a report on early child development and child care stating that investing in our children is good public policy. “- research has provided evidence that investment in our children’s early development before they go to school can prevent many social problems and that the economic payback is spectacular.”⁵ In the years since the 1999 Study, research has further strengthened these conclusions.

More recent research has shown that a key beneficial result is the reduction in crime in the long run as children grow up to become adults.

Heckman also has concluded that expenditures on early childhood development are more effective from an economic perspective than expenditures on education in later life:

There are many reasons why investing in disadvantaged young children has a high economic return. Early interventions for disadvantaged children promote schooling, raise the quality of the work force, enhance the productivity of schools, and reduce crime,⁶ teenage pregnancy and welfare dependency. They raise earnings and promote social attachment. Focusing solely on earnings gains, returns to dollars invested are as high as 15 per cent to 17 per cent.⁷

The timing of investment is critical. Efforts to influence development are far more effective in early life than in later years. “A dollar invested in early childhood yields three times as much as for school-aged children and eight times as much for adult education.”⁸ This statement is illustrated in the graph on the following page, from a paper by James Heckman.

⁴ Turpel-Lafond M.E. Kendall P. *Kids, Crime and Care, Health and well-being of children in care: youth justice experiences and outcomes*, joint report of the representative for children and youth and the provincial health officer, Province of British Columbia. February, 2009. p.55.

<http://www.rcybc.ca/Images/PDFs/Reports/Youth%20Justice%20Joint%20Rpt%20FINAL%20.pdf>

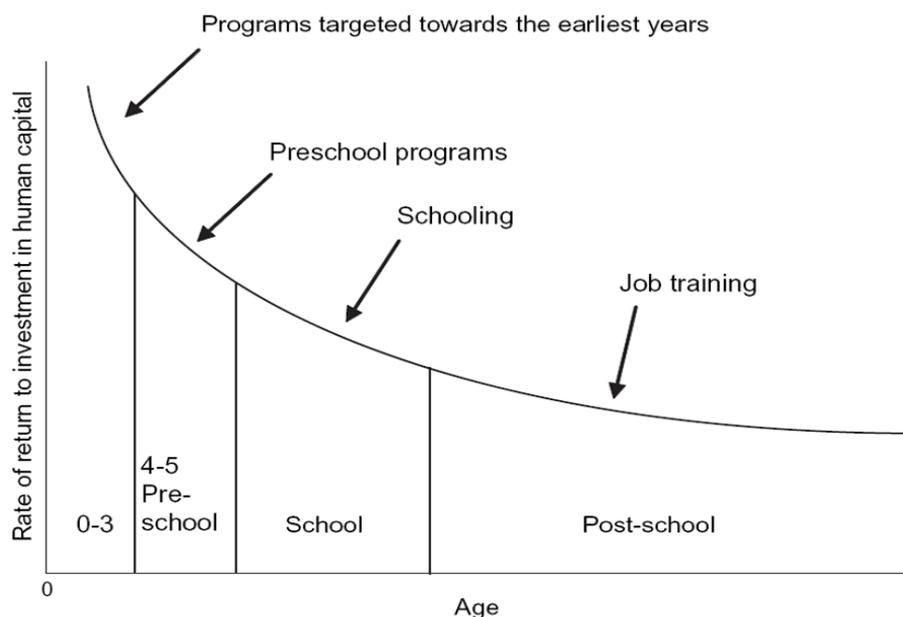
⁵ The Vancouver Board of Trade, report of Task Force on Early Child Development and Child Care, July 1999, http://www.boardoftrade.com/vbot_page.asp?pageid=162, p. 1.

⁶ Underlining added for emphasis.

⁷ Heckman JJ. “Catch ‘em Young”, *Wall Street Journal*, January 10, 2006.

⁸ McCain M. Mustard J. Shanker S. *Early Years Study 2: Putting Science Into Action*, Council for Early Child Development, Toronto 2007.

Returns to a Unit Dollar Invested



Source: Heckman J. *Schools, Skills, and Synapses*, Institute for the Study of Labour, Bonn, IZA discussion paper No. 3515, May, 2008, http://jenni.uchicago.edu/papers/Heckman_2008_EI_v46_n3.pdf Accessed November 22, 2009.

Early Childhood Development, School Readiness and Economic Progress

The Human Early Learning Partnership based at the University of British Columbia, Vancouver, in August 2009, released a report advocating “A Comprehensive Policy Framework for Early Human Capital Investment in BC.”⁹ In that document, the argument is made that improved early childhood development will improve school readiness and in turn improve the performance of children in the school system. The factors involved include “--- all the key domains of children’s early development that have life-long impacts: physical well-being, social competence, emotional maturity, language and cognitive development, and communications and general knowledge in the majority language and culture.”¹⁰

This document also includes reference to research showing that cognitive skills in a country significantly influence economic growth rates in that nation. Research carried out at Stanford University indicates that a country with moderately higher cognitive skills in its school-age population as measured by international standards is likely to have a superior growth rate of Gross Domestic Product.¹¹ If that growth rate differential over a period of 40 years averaged 0.63 per cent per annum more than another country lacking that skills advantage, then over a period of 60 years the result of that compound growth would amount to an advantage of 20 per

⁹ Kershaw P. Anderson L. Warburton B. Hertzman C. *15 by 15: A comprehensive policy framework for early human capital investment in BC*. Human Early Learning Partnership, University of British Columbia. August 2009. <http://www.earlylearning.ubc.ca/documents/2009/15by15-Full-Report.pdf>

¹⁰ Kershaw et al, *supra*, n.9

¹¹ Hanushek E. Woessman L. The role of cognitive skills in economic development, published in *Journal of Economic Literature*, September 2008, retrieved from http://edpro.stanford.edu/hanushek/admin/pages/files/uploads/cognitive_skills.pdf Accessed November 23, 2009.

cent in the cumulative economic growth of the higher performing country.¹² In essence, the latter country enjoys much higher productivity.

Coupling the impact of superior early childhood development with the corresponding impact of superior cognitive performance in the school-aged population indicates a convincing link between early childhood and economic growth. The Human Early Learning Partnership report referred to above claims that over a 40-year period the achievements enabled by improved early childhood development applied to the situation in British Columbia have the potential to impact the provincial economy equivalent to an amount of just over \$400 billion invested at a rate of 3.5 per cent annual interest.¹³

A key part of the mechanism that could be used to facilitate this enormous growth is the Early Development Instrument (EDI), “--- a population-based tool used to measure the state of children’s development.” “With its proven reliability, the EDI has now been used in jurisdictions across Canada, the United States, Australia, Chile and several other countries.” Using this tool, data for British Columbia are collected by kindergarten teachers and interpreted by the Human Early Learning Partnership. The results show that there is potential for and a need for substantial improvement in the school-readiness of kindergarten children in this province.¹⁴

In addition to the economic improvement outlined above, this initiative likely would substantially reduce the incidence of crime. Analysis of early childhood development studies as discussed elsewhere in this report shows that the development induced would contribute significantly to lower incidence of crime in later life.

¹² Kershaw et al, *supra*, n.9

¹³ Kershaw et al, *supra*, n.9

¹⁴ Kershaw et al, *supra*, n.9

2. CHILD CARE/PRE-SCHOOL

Economic Impact of Pre-school Programs

There is a strong consensus among the experts who have studied high-quality early childhood development (ECD) programs that these programs have substantial payoffs. Although the programs vary in whom they serve and in the services they provide, most ECD programs offer wide-ranging education services as well as health services (such as immunization and health screenings) and nutrition services, typically for children younger than six. Many also provide adult education and parenting classes for the parents of young children. Investments in high quality ECD programs consistently generate benefit-cost ratios exceeding 3-to-1---or more than a \$3 return for every \$1 invested---well above the 1-to-1 ratio needed to justify such investments. Even economists who are particularly skeptical about government programs make an exception for high-quality ECD programs. Follow-up studies of poor children who have participated in these programs have found solid evidence of markedly better academic performance, decreased rates of criminal conduct, and higher adult earnings than among their non-participating peers.¹⁵

High/Scope Perry Pre-School Study

A key landmark in early childhood development efforts is the High/Scope Perry Pre-school Study carried out in a Michigan community. A high quality pre-school program was established at ages three and four for a group of low-income African-American children who were assessed to be at high risk of school failure.

The Perry Pre-school project is one of the best known and most effective pre-school programs in preventing delinquency and later criminal offending. Perry was essentially a Head Start program targeted on disadvantaged African American children, who were allocated (approximately at random) to experimental and control groups. The experimental children attended a daily pre-school program, backed up by weekly home visits; the program lasted two years. The aim of this program was to provide intellectual stimulation, to increase thinking and reasoning abilities, and to increase later school development.¹⁶

Teachers had bachelor's degrees and certification in education, and each served 5-6 children. They used the High/Scope educational model in daily 2½ hour classes and visited families weekly.¹⁷

The results have been compared at intervals with a similar control group that received no pre-school program. Remarkable differences have been noted between these two groups. With the children having reached the age of 40, results included:

- “The program group significantly outperformed the no-program group on highest level of schooling completed.”

¹⁵ Lynch RG. *Exceptional Returns: economic, fiscal and social benefits of investment in early childhood development* (2004), Economic Policy Institute, Washington DC.

<http://montanakidscount.org/Portals/6/reports/exceptional%20returns.pdf>

¹⁶ Welsh B. *Evidence-Based Crime Prevention: Scientific Basis, Trends, Results and Implications for Canada*. Research Report: 2007-1. Public Safety Canada, National Crime Prevention Centre.

http://www.publicsafety.gc.ca/prg/cp/_fl/evidenced-based-cp-e.pdf Accessed November 27, 2009.

¹⁷ Schweinhart L. *The High/Scope Perry Pre-school Study Through Age 40: summary, conclusions and frequently asked questions*. High/Scope Educational Research Foundation. Ypsilanti, MI.

http://www.highscope.org/file/Research/PerryProject/3_specialsummary%20col%2006%2007.pdf Accessed November 19, 2009.

- The program group had a significantly higher performance in terms of employment; earnings; more stable and superior dwelling arrangements; car ownership; lower use of social services.
- “--- the Perry Pre-school program played a significant role in reducing overall arrests and arrests for violent crime as well as property and drug crimes and subsequent prison or jail sentences ---.”¹⁸

Benefit–cost analysis of the age 40 results shows the economic return to society of the Perry Pre-school program was \$16.14 per dollar invested. Of that return, \$12.90 or 80 per cent went to the general public. Of the public return, \$11.30 or 88 per cent came from reduced incarceration and other crime savings.¹⁹ [Underlining added for emphasis].

Other Pre-School Programs

Other similar studies such as the Abecedarian [North Carolina] and Chicago [Longitudinal Study] also have shown significant benefits, including a lower probability of involvement in criminal activity.^{20 21} “The most basic implication of this [Perry Pre-school] study is that all young children living in low-income families should have access to pre-school programs that have features that are reasonably similar to those of the High/Scope Perry Pre-school program.”²² In general, these types of early interventions if properly designed, staffed and executed can produce quite beneficial results.^{23 24 25}

A comprehensive analysis undertaken of crime prevention programs in Washington State has showed that “Early childhood education for low income 3- and 4-year-olds --- provide[s] very attractive returns on [public] investment.”²⁶ A more recent study by the same authority reiterated this conclusion and showed total benefits minus costs per participant of \$12,196 compared with marginal program costs of \$593 per participant.²⁷

In each of these studies it is emphasized that the quality of the intervention in terms of program design and quality of staff involved is key to whether significant improvements are achieved.

¹⁸ Schweinhart L. *The High/Scope Perry Pre-school Study Through Age 40: summary, conclusions and frequently asked questions*. High/Scope Educational Research Foundation. Ypsilanti, MI.

http://www.highscope.org/file/Research/PerryProject/3_specialsummary%20col%2006%2007.pdf

Accessed November 19, 2009

¹⁹ Schweinhart L. *supra* n.18

²⁰ Heckman J. *Schools, Skills, and Synapses*, Institute for the Study of Labour, Bonn, IZA discussion paper No. 3515, May, 2008, http://jenni.uchicago.edu/papers/Heckman_2008_EI_v46_n3.pdf Accessed November 22, 2009.

<http://ftp.iza.org/dp3515.pdf>

²¹ Welsh B. *Evidence-Based Crime Prevention: Scientific Basis, Trends, Results and Implications for Canada*. Research Report: 2007-1. Public Safety Canada, National Crime Prevention Centre.

<http://www.publicsafety.gc.ca/prg/cp/fl/evidenced-based-cp-e.pdf>

²² Schweinhart L. *supra*, n.18

²³ Heckman J. *supra*, n.20

²⁴ Welsh, B. *supra*, n.21

²⁵ Galinsky E. *The Economic Benefits of Early-Childhood Education: What Makes the Difference?* Families and Work Institute, Committee for Economic Development (2006).

http://www.ced.org/images/library/reports/education/early_education/report_prek_galinsky.pdf

Accessed February 19, 2010.

²⁶ Aos S. Lieb R. Mayfield J Miller M. Pennucci A. *Benefits and costs of prevention and early intervention programs for youth*. Olympia: Washington State Institute for Public Policy, 2004.

<http://www.wsipp.wa.gov/rptfiles/04-07-3901.pdf>

²⁷ Aos S. Miller M. Drake, E. *Evidence-Based Public Policy Options to Reduce Future Prison Construction, Criminal Justice Costs, and Crime Rates*. Olympia: Washington State Institute for Public Policy, 2006.

<http://www.wsipp.wa.gov/rptfiles/06-10-1201.pdf>

It is not just conventional pre-school programs that offer significant benefits in terms of early childhood development, that is conventional pre-school programs that might usually involve children three or four years of age. For example, the Abecedarian project referred to above admitted children when they were six weeks of age and continued until kindergarten entry. The children in the treatment group (in contrast to the control group) participated in a day-long program (7:30 a.m. to 5:30 p.m.) for 50 weeks a year.²⁸

Another early childhood development program that has produced quite positive results is the Nurse-Family Partnership. That program, described later in this report, involves intensive visitation by trained nurses during a woman's pregnancy and the first two years after birth. Some of the most successful early childhood development programs including the Perry Pre-school project have combined centre-based activity with home visitation.

A penetrating analysis of the factors that contribute to the success of early childhood development programs may be found in *The Economic Benefits of High-Quality Early Childhood Programs: What Makes a Difference*, prepared by Ellen Galinsky for the Committee for Economic Development (CED), Washington, DC.²⁹

The evidence is clear that early childhood development programs can help to ensure that disadvantaged children in particular are less likely to become involved in a life of crime. However, the reductions achieved appear to leave a substantial proportion of these children at risk of negative outcomes. Thus there is a continuing need to explore and implement improved means of offsetting the numerous risk factors that contribute to some children developing criminal tendencies.

²⁸ Galinsky E. *The Economic Benefits of Early-Childhood Education: What Makes the Difference?* Families and Work Institute, Committee for Economic Development (2006).

http://www.ced.org/images/library/reports/education/early_education/report_prek_galinsky.pdf

Accessed February 19, 2010.

²⁹ Galinsky E. *supra*, n.28

3. PARENTING EDUCATION³⁰

Importance of Parenting Education

“Sensitive, responsive parenting is the single most important benefit children can receive during their early years.”³¹

The true measure of child poverty is the quality of parenting, not financial distress. There are substantial gaps in parenting across families. Experimental evidence on the effectiveness of early interventions in enriching the environments of children born into disadvantaged families shows that it is possible to offset the adverse family environments that harm children. If society intervenes early enough, it can raise the cognitive and socio-emotional abilities and the health of disadvantaged children.

High-quality early interventions promote schooling, reduce crime, reduce teenage pregnancy, foster workforce productivity and promote adult health through multiple channels.³²

Parents and their capabilities with respect to caring for and nurturing young children are key to early childhood development. In turn, as children grow into youths and adults, their lives are vitally affected by their childhood experiences. Education of parents and potential parents so that they are better able to perform that role is a key to helping their children avoid growing into a life of crime.

Parenting is a key determinant in child behaviour. Parents who encourage pro-social behaviour have children with fewer behavioural problems. Parenting training programs are effective in helping families with children at risk of developing conduct disorders.³³

Conduct disorder is estimated to affect 5-10 per cent of children aged 5-15 years in the United Kingdom and the United States. For those children with early onset in pre-school years, conduct disorder often persists into adulthood and predicts poor employment prospects, marriage breakdown and self harming or antisocial criminal behaviour.³⁴

Prenatal Effects: FASD

Risk factors that increase an individual’s propensity towards crime and corresponding preventative factors can be traced as far back as preparation for the mother’s pregnancy period. In particular, Fetal Alcohol Spectrum Disorders (FASD) affects up to 9 in 1,000 births in Canada.

FASD is caused only by maternal alcohol use during pregnancy. People with FASD “--- may have problems with learning, remembering things, attention span, communicating, doing math

³⁰ Substantial parts of this section are extracted from the report which precipitated this research: Maughan A. Park D. (ed.) *Kids ‘N Crime: Report on the development and prevention of criminality among children and youth*. The Vancouver Board of Trade, October 2006. May be accessed at: <http://www.boardoftrade.com/policy/CrimeTaskForceReport-FINAL-OCT24-06.pdf>

³¹ Wilms D. (ed.) *Vulnerable Children* (2002) cited in Invest in Kids website, <http://www.investinkids.ca/parents/about-us/articletype/articleview/articleid/1773/why-parenting-is-important.aspx> Accessed October 27, 2009.

³² Heckman JJ. *Speech at First Five Years Fund Reception*, Heckman Equation website, http://www.heckmanequation.org/system/files/092109_HeckmanSPEECH_v1.pdf Accessed March 19, 2010.

³³ Edwards R. Ceilleachair A. Bywater T. Hughes D. Hutchings J. *Parenting programme for parents of children at risk of developing conduct disorder: cost effectiveness analysis*. *BMJ* 2007;334:682-;originally published online 9 Mar 2007; doi:10.1136/bmj.39126.699421.55

³⁴ Edwards et al., *supra*, n.33

and/or controlling their behaviour.³⁵ They are at “--- increased risk of involvement with the criminal justice system.”³⁶

Education of potential parents concerning this risk is a key aspect of dealing with this major societal problem. That and other perspectives concerning FASD are dealt with in another part of this report covering the problem in more detail.

Education of Youth and Young Adults in Anticipation of Future Parenthood

Given that teen girls account for about 8 per cent of pregnancies in Canada,³⁷ resulting in almost 20,000 live births annually,³⁸ educating youth about parenting skills is essential. The intervening positive effects of such education can be immediate, but will also benefit youth by preparing them for future parenthood.

In a 1999 poll, an overwhelming majority of American households favoured parenting education for youth of all ages.³⁹ Organizations such as Prepare Tomorrow’s Parents advocate parenting education in school to alleviate issues such as “child abuse, neglect and abandonment, teen pregnancy and overall violence”.⁴⁰ The organization also addresses the need for empathy; early sensitive care, mental health, paternal involvement and latchkey children, offering suggested resources and curricula for different levels of education.⁴¹ Overall, the goals of the curricula need to be: preventing teen pregnancy and preparing teens for future parenthood.

Parenting Education During Pregnancy

If youth have been exposed to proper parenting prior to pregnancy, education during pregnancy may nevertheless be beneficial. This education is more immediate and the results will be tangible.

Monitoring and Home Visits During Pregnancy and After Birth

Certain communities across North America have committed to continued support after birth through monitoring/home visits. For example, for the past 20 years, every child in Hawaii has been assessed for proper development for the first three years. During this time, support is also provided to the family.⁴² Similarly, programs of this type have been active in Oregon, the State of Washington and in British Columbia. This type of initiative inherently has a significant

³⁵ *Fetal Alcohol Spectrum Disorder: Commonly asked questions*, Public Health Agency of Canada, Cat. No. H124-4/2004, ISBN: 0-662-68619-5, Publication No.: 4200. <http://www.phac-aspc.gc.ca/fasd-etcaf/faq-eng.php#1> Accessed March 23, 2010.

³⁶ Maughan A. *Kids ‘Crime: Report on the development and prevention of criminality among children and youth*. Park D. ed. Vancouver, British Columbia: The Vancouver Board of Trade; 2006.

³⁷ Statistics Canada. *The Daily*: October 26, 2004. Retrieved July 10, 2006: <http://www.statcan.ca/Daily/English/041027/d041027d.htm>

³⁸ Heather Dryburgh, *Teenage Pregnancy*. Health Reports, Vol.12, No.1, Statistics Canada, Catalogue 82-003. Retrieved July 10, 2006: <http://www.statcan.ca/english/kits/preg/preg3.htm>

³⁹ Prepare Tomorrow’s Parents. *National Poll Results*. Retrieved July 10, 2006: <http://www.parentingproject.org/pollresult.htm>

⁴⁰ Prepare Tomorrow’s Parents. *About Preparing Tomorrow’s Parents*. Retrieved July 10, 2006: <http://www.parentingproject.org/abouttpp.htm>

⁴¹ Prepare Tomorrow’s Parents. *The Need to Prepare Children and Teens for Parenting*. Retrieved July 10, 2006: <http://www.parentingproject.org/need.htm>

⁴² Sandy Cooke (retired director – Covenant House Vancouver), personal communication, June 27, 2006.

component of parent education. This subject is dealt with in another part of this report under the heading of Monitoring/Home Visits.

Parent Attributes and Parenting Style

An association has been found between adverse parenting practices and child misbehaviour.⁴³ Proper parenting education during pregnancy and monitoring and home visits after birth can potentially train parents in appropriate practices. However, to be effective, parent training must be adapted to environmental and individual factors.

A meta-analytic review conducted by researchers at Dalhousie University suggests that socio-economic status and maternal mental health are particularly salient factors in determining the effectiveness of parent training. A lack of financial security can cause mental distress, which reduces the motivation and consistency of implementing the knowledge learned in training.⁴⁴ Moreover, a parent forced to work for financial reasons will be absent from the caregiving role, but often the potential expense of appropriate childcare is prohibitive.

Socio-Economic Status

Low socio-economic status has been correlated with a negative response to parent training, and a consequent parental inability to deal with externalizing behaviour problems in the child.⁴⁵ As will be discussed below, it is the consequences of the low socio-economic status, rather than the poverty itself, that prevents proper development.

Other Prenatal Effects on Crime

Children who are unwanted are at higher risk for involvement with criminal activity. Birth control and abortion have been shown to reduce unwanted children, thus reducing criminal activity.

Birth Control

Parenting education during high school should include an emphasis on birth control. In addition, birth control should be made available to youth, especially youth from low socio-economic strata who may otherwise not have access to it. A stronger emphasis on birth control combined with greater availability may reduce the need for abortion.

There are important reasons for encouraging youth to avoid pregnancy during their teenage years. Among these are that Infants of teenage mothers suffer increased health risks such as low birth weight, organs that aren't fully-developed, bleeding in the brain, respiratory distress syndrome, and intestinal problems.^{46, 47}

⁴³ Dishion & Andrews, 1995, in Sandra M. Reyno and Patrick J. McGrath, *Predictors of parent training efficacy for child externalizing behaviour problems – a meta-analytic review*. *Journal of Child Psychology and Psychiatry* 47:1 (2006), p.99

⁴⁴ Reyno S., McGrath P., *Predictors of parent training efficacy for child externalizing behaviour problems – a meta-analytic review*. *Journal of Child Psychology and Psychiatry* 47:1 (2006), p.107

⁴⁵ Reyno & McGrath, *supra*, n.44, p. 99

⁴⁶ Heather Dryburgh, *Teenage Pregnancy*. Health Reports, Vol.12, No.1, Statistics Canada, Catalogue 82-003. Retrieved July 10, 2006: <http://www.statcan.ca/english/kits/preg/preg3.htm>

⁴⁷ Women's Health Channel. *Teen Pregnancy*. Retrieved July 10, 2006: <http://www.womenshealthchannel.com/teenpregnancy/index.shtml>

Abortion

While researching at Stanford University, Steven D. Levitt, a University of Chicago professor in Economics, showed that the legalization of abortion in the United States in 1973, was correlated with a distinctive drop in the crime rate in the late-1980's, and throughout much of the 1990's. To explain this, Levitt hypothesized that unwanted children are at greater risk for crime, and that legalized abortion leads to a reduction in the number of unwanted births. Evidence shows that:

- “The five states that allowed abortion in 1970, experienced declines in crime rates earlier than the rest of the United States.”
- “States with high and low abortion rates in the 1970's, experienced similar crime trends for decades until the first cohorts exposed to legalized abortion reached high-crime ages around 1990. At that point, the high-abortion states saw dramatic declines in crime relative to the low-abortion states.”⁴⁸

Other research has shown that abortion has also reduced adoption rates, infant mortality, childhood poverty, growing up in a single-parent household and illicit drug usage.⁴⁹ These factors have been similarly correlated with crime.

Appropriate Home Environment

A report by the Canadian Council on Learning has stated, “We know that skilled readers continually have higher academic scores and have the best chance of lifelong success. Parent-child activities that provide the best advantage to young children as they move into literacy include: providing access to books, reading storybooks with a child, offering writing implements, paper and a writing surface, playing games that encourage alphabet knowledge, having regular informative conversations with the child, and exposing children to adult reading activities.”⁵⁰

In the past decade, there has been a “clear shift in the belief of what is required to assist a child's literacy development, from incidental learning to directed learning.”⁵¹

Household Effects

Performing regression analyses on National Institute of Child Health and Human Development data, the Canadian Council on Learning has found that it is the home environment provided to the child that affects subsequent academic achievement. The analyses showed that educated parents were better able to provide a more stimulating home environment, encouraging skills such as patterned speech, spatial relationship, numbers, colours, and reading.⁵² Overall, children of educated parents have more support and better access to activities, as well as greater access to a nutritious diet.

⁴⁸ Steven D. Levitt, *Understanding Why Crime Fell in the 1990's: Four factors that explain the decline and six that do not*. Journal of Economic Perspectives, Volume 18, #1, Winter 2004, p. 183

⁴⁹ Levitt, *supra*, n.48, p.183

⁵⁰ Canadian Council on Learning (CCL): *How Parents Foster Early Literacy*. Retrieved June 14, 2006: <http://www.ccl-cca.ca/CCL/Reports/LessonsInLearning/LiL-1Feb2006.htm>

⁵¹ CCL, *supra*, n.50

⁵² Zohreh Yaghoub Zadeh, Fataneh Farnia and Charles Ungerleider, *Low Parental Education, a Family Risk Factor: How to Close the Achievement Gap between Children with Differing Parental Education*. Canadian Council on Learning, 2006.

Parenting and Evidence-Based Crime Prevention

Evidence-based crime prevention is intended to help ensure that crime prevention efforts are based on the best available evidence concerning what works to prevent crime. A research report based on this approach has been prepared for the National Crime Prevention Centre of Public Safety Canada, the federal government ministry responsible for crime prevention and a range of other national security and safety matters.⁵³ Brandon Welsh, a prominent U.S. expert and co-editor of key texts on evidence-based crime prevention⁵⁴ wrote this report.

The document states that “Five types of family-based programs have been found to be effective in preventing Crime:

- Home visitation;
- Day care/pre-school;
- Parent training (with younger children);
- Home/community parent training (with older children); and
- Multisystemic [MST] therapy.”⁵⁵

“MST is a multiple component treatment program conducted in families, schools and communities to address serious antisocial behaviour in youths.” “The particular type of treatment is chosen according to the particular needs of the young person.”⁵⁶

The research found that “--- parent training with younger children and MST are more effective in preventing delinquency or later criminal behavior.” It should be noted that home visitation, day care/pre-school and MST all include parent education.

In addition to being successful, in order to be considered for wider adoption, programs should demonstrate a net savings. Benefits should be significantly greater than costs. There is limited information concerning this aspect, but there are some landmark studies that have gauged this.

One of these was a prenatal/early infancy project carried out in Elmira, New York State⁵⁷. This parenting and family planning trial and subsequent analyses demonstrated a significant benefit-cost ratio for higher risk families, but not for lower-risk families. The benefits appeared to flow from combined parent education and nurse home visitation.

The benefits from the program included fewer cases of child abuse and neglect, fewer mothers with alcohol or substance abuse problems, improved maternal and child health, and fewer arrests of children through early teenage years. The program is described briefly in the following section of this report.

The Washington State Institute for Public Policy has carried out several studies to identify programs that offer good returns to the expenditure of government funds. This work has

⁵³ Welsh, B. *Evidence-Based Crime Prevention: Scientific Basis, Trends, Results and Implications for Canada*. Research Report: 2007-1. Public Safety Canada, National Crime Prevention Centre.

⁵⁴ Sherman, L. Farrington, D. Welsh, B. MacKenzie, D. (eds.) (2006) *Evidence-Based Crime Prevention*. Revised Edition. New York: Routledge. and: Welsh, B. Farrington, D. (eds) (2006) *Preventing Crime: What Works for Children, Offenders, Victims and Places*. The Netherlands: Springer

⁵⁵ Welsh B. *supra.*, n.21

⁵⁶ Welsh B. *supra.*, n.21

⁵⁷ As reported by Welsh, B. Farrington, D. Sherman, L. (eds.) (2001) *Costs and Benefits of Preventing Crime*. Boulder, CO: Westview Press.

identified some programs that involve parent training/education along with other aspects. Three of these programs and their benefits per dollar of cost are the Seattle Social Development Project (\$3.14), Guiding Good Choices (\$11.07) and Strengthening Families Program for Parents and Youth 10-14 (\$7.82).⁵⁸ These programs also may have achieved results for which monetary benefit could not yet be quantified.

Somewhat more recent research carried out in the UK was designed to assess the cost effectiveness of a parenting program for parents of children at risk of developing conduct disorder.⁵⁹ Researchers at the University of Wales designed and directed an “--- incremental cost effectiveness analysis alongside a pragmatic randomized controlled trial of the effectiveness of a group parenting program delivered through Sure Start in the community.” The parenting program was the Webster Stratton Incredible Years basic parenting program. The researchers concluded that:

This parenting program improves child behaviour as measured by the intensity score of the Eyberg child behaviour inventory at a relatively low cost and was cost effective compared with the waiting list control. This parenting program involves modest costs and demonstrates strong clinical effect, suggesting it would represent good value for money for public spending.⁶⁰

The several examples cited above together with the considered opinions of leading researchers indicate that parenting education offers substantial potential to reduce the risk of children growing into a life of crime.

⁵⁸ Aos, S. Lieb, R. Mayfield, J. Miller, M. Pennucci, A. (2004) *Benefits and Costs of prevention and early intervention programs for youth*. Olympia: Washington State Institute for Public Policy. <http://www.wsipp.wa.gov/rptfiles/04-07-3901.pdf> Accessed May 25, 2009.

⁵⁹ Edwards et al, *supra*, n. 33

⁶⁰ Edwards et al, *supra*, n. 33

4. MONITORING/HOME VISITS

Monitoring and Home Visits During Pregnancy and After Birth

Home visiting is a widely used approach to help families with young children in developed and developing countries. It is an attractive strategy as services can be tailored to meet the needs of individual families and resources brought to those who are socially or geographically isolated. Home visiting is most effective when linked to center-based programs.⁶¹

Some communities in the U.S. and Canada have committed to providing mothers with continued support after birth through monitoring/home visits, typically by qualified nurses. For example, for the past 20 years, every child in Hawaii has been assessed for proper development for the first three years. During this time, support is also provided to the family.⁶² Similarly, programs of this type have been active in Oregon, the State of Washington and in British Columbia. As well as monitoring child health, this type of initiative inherently involves a significant component of parent education.

Some of the most successful early childhood development initiatives have included home visits as an integral part of their design.

Some of these programs are discussed in greater detail elsewhere in this report.

Perry Pre-School Research Project

The Perry Pre-School project is one of the best known and most effective pre-school programs in preventing delinquency and later criminal offending. Perry was essentially a Head Start program targeted on disadvantaged African American children, who were allocated (approximately at random) to experimental and control groups. The experimental children attended a daily pre-school program, backed up by weekly home visits,⁶³ the program lasted two years. The aim of this program was to provide intellectual stimulation, to increase thinking and reasoning abilities, and to increase later school development.⁶⁴

Teachers had bachelor's degrees and certification in education, and each served 5-6 children. They used the High/Scope educational model in daily 2½ hour classes and visited families weekly.⁶⁵

⁶¹ McCain, M., Mustard, J., Shanker, S. *Early Years Study 2: Putting Science Into Action*, Council for Early Child Development, Toronto 2007.

⁶² Sandy Cooke (retired director – Covenant House Vancouver), personal communication, June 27, 2006. cited in Maughan, A. Park D. (ed.) *Kids 'N Crime: Report on the Development and Prevention of Criminality Among Children and Youth*, The Vancouver Board of Trade, October 2006. May be accessed at: <http://www.boardoftrade.com/policy/CrimeTaskForceReport-FINAL-OCT24-06.pdf>

⁶³ Underlining added for emphasis.

⁶⁴ Welsh, B. *Evidence-Based Crime Prevention: Scientific Basis, Trends, Results and Implications for Canada*. Research Report: 2007-1. Public Safety Canada, National Crime Prevention Centre. http://www.publicsafety.gc.ca/prg/cp/_fl/evidenced-based-cp-e.pdf Accessed November 27, 2009.

⁶⁵ Schweinhart, L. *The High/Scope Perry Pre-school Study Through Age 40: summary, conclusions and frequently asked questions*. High/Scope Educational Research Foundation. Ypsilanti, MI. http://www.highscope.org/file/Research/PerryProject/3_specialsummary%20col%2006%2007.pdf Accessed November 19, 2009.

Prenatal/Early Intervention Project—Elmira, New York State

One home visitation program that has shown particularly impressive results in reducing delinquency and improving other life course outcomes is the Elmira (New York) Prenatal/Early Intervention Project (PEIP). The program randomly allocated 400 at risk mothers either (a), to receive home visits from nurses during pregnancy, or (b) to receive visits both during pregnancy and during the first two years of life, or (c) to a control group who received no visits. Each visit lasted about one and one-quarter hours and the mothers were visited on average every two weeks. The home visitors gave advice about prenatal and postnatal care of the child, about infant development, and about the importance of proper nutrition and avoiding smoking and drinking during pregnancy.⁶⁶ This project formed the basis for the Nurse-Family Partnership program outlined below.

Nurse-Family Partnership

The Nurse-Family Partnership provides intensive visitation by nurses during a woman's pregnancy and the first two years after birth; the program was developed by Dr. David Olds. The goal is to promote the child's development and provide support and instructive parenting skills to the parents. The program is designed to serve low-income, at risk pregnant women bearing their first child.⁶⁷ This is the program that stemmed from the Elmira, New York state project described above. Specially trained nurses are involved in the program delivery.⁶⁸ The program has evolved into an initiative covering over 16,000 families living in poverty in 25 states.⁶⁹

A 15-year follow-up of the Elmira, New York, trial showed that mothers in the program become more economically self-sufficient and much more likely to avoid criminal behavior, and that their children live healthier, more productive lives than the mothers and children in the control group.

The positive results reported by Aos et al are for the program as delivered by nurses; an evaluation of the program delivered by paraprofessionals produced smaller effects that rarely achieved statistical significance.⁷⁰

Home Visiting Programs for At Risk Mothers and Children

Home Visiting Programs for At Risk Mothers and Children (Washington state) focus on mothers considered to be at risk for parenting problems, based on factors such as maternal age, marital status and education, low household income, lack of social supports, or in some programs, mothers testing positive for drugs at the child's birth. Depending on the program, the content of the home visits consist of instruction in child development and health, referrals for service, or social and emotional support. Some programs provide additional services, such as pre-school.⁷¹

⁶⁶ Welsh B., *supra*, n.64

⁶⁷ Welsh B., *supra*, n.64.

⁶⁸ Nurse-Family Partnership, http://www.emcf.org/pdf/Results_NFP_09_update.pdf. Accessed December 21, 2009.

⁶⁹ Stalavitz, M. Nurse Home Visits: "A Boost for Low Income Parents", *Time*, Mar. 02, 2009, <http://www.time.com/time/printout/0,8816,1881950,00.html#> Accessed December 21, 2009.

⁷⁰ Aos S. Lieb R. Mayfield J Miller M. Pennucci A. *Benefits and costs of prevention and early intervention programs for youth*. Olympia: Washington State Institute for Public Policy, 2004.

<http://www.wsipp.wa.gov/rptfiles/04-07-3901.pdf> Accessed May 25, 2009

⁷¹ Aos et al, *supra* n.70

HIPPY

HIPPY (Home Instruction Program for Pre-school Youngsters) is designed for families whose parents have a limited education. This program teaches parents how to teach their children and make their home more conducive to child learning. At the bi-weekly home visits, parents receive books and toys, and the home visitor instructs parents in the use of educational materials. The program continues until the child completes kindergarten.⁷²

Parents as Teachers

Parents as Teachers (Washington State) is a home visiting program for parents and children with a main goal of having healthy children ready to learn by the time they go to school. Parents are visited monthly by parent educators with a minimum of some college education. Visits typically begin during the mother's pregnancy and may continue until the child enters kindergarten.⁷³

It appears that home visits with the monitoring and coaching involved may play a significant role in the success of early childhood development programs for disadvantaged children. As noted at the beginning of this section, there is persuasive evidence that home visiting is more effective when linked to centre-based programs.

However, well-designed and well-staffed programs for disadvantaged families can provide strong benefit-cost results even when not connected to centre-based programs. Notably, in an analysis carried out in Washington State, two home visitation programs have been cited as providing quite positive results. The Nurse Family Partnership for Low Income Women has been listed as providing \$2.88 in benefits per dollar of cost, and Home Visiting Programs for At Risk Mothers and Children have been found to yield \$2.24 in benefits per dollar of cost.⁷⁴

Generally, the benefit-cost ratio is higher for programs concentrating on disadvantaged families or where children are at risk. A Rand Corporation study quotes findings from a benefit-cost analysis carried out by others for the Nurse-Family Partnership program. For a higher risk sample of mothers and children the benefit-cost ratio was found to be 5.70 and for a lower-risk sample 1.26.⁷⁵

Programs such as these also provide an additional important benefit. In addition to parenting education, they provide program staff with the opportunity to make assessments of the need for referrals to other programs where services are needed beyond home visitation.

As with other intervention programs, the quality of the staff involved is an important determinant of the program's effectiveness. That coupled with a focus on disadvantaged families is key to success of home visitation programs. Otherwise, there is a risk that such a program may not yield remarkably positive results – many home visitation programs suffer that result.⁷⁶

⁷² Aos et al, *supra*, n.70

⁷³ Aos et al, *supra*, n.70

⁷⁴ Aos et al, *supra*, n.70

⁷⁵ Karoly, L. Kilburn, R. Cannon, J. *Carly Childhood Interventions: Proven Results, Future Promise*. The Rand Corporation, 2005. http://www.rand.org/pubs/monographs/2005/RAND_MG341.pdf Accessed December 21, 2009.

⁷⁶ Daro, D. Prenatal/Postnatal Home Visiting Programs and Their Impact on Young Children's Psychosocial Development (0-5): Commentary on Olds, Kitzman, Zercher and Spiker. Centre of Excellence for Early Childhood Development; *Encyclopedia on Early Childhood Development*. Published online July 27, 2004, revised August 25, 2006, http://www.child-encyclopedia.com/Pages/PDF/DaroANGxp_rev.pdf Accessed December 21, 2009.

In the United States, President Obama has proposed a very large extension of the Nurse-Family Partnership program: “The President has also proposed an historic investment in providing home visits to low-income, first-time parents by trained professionals.”⁷⁷

In British Columbia, there has been a long history of visits by nurses to the homes of mothers and new born infants. There has been a practice of nurses calling new mothers by telephone within 48 hours of the time of discharge from hospital to ask them if they would like a nurse to visit their home, check the baby and provide advice relevant to the situation.

Based upon conversations with several nurses involved in the management of these types of services in the province, we understand that consideration is now being given to extending this visitation program. In future it might include more systematic identification of situations where there is a risk of vulnerability of the family or child requiring further intervention such as coaching in parenting skills or referrals to other services that might be needed. It appears that this might resemble the services provided through the Nurse-Family Partnership in the United States.⁷⁸ As noted above, that program has demonstrated strong benefit-cost ratios.

⁷⁷ The White House (web site), *Issues: Family*, <http://www.whitehouse.gov/issues/family>. Accessed December 21, 2009.

⁷⁸ As described elsewhere in this report and in Aos et al., *supra*, n.70.

5. LEARNING DISABILITIES

Learning Disabilities Defined

Learning disabilities have been defined with variations that have differed over time and according to the parties formulating the definition. In 2002, the Learning Disabilities Association of Canada adopted the following definition:

“Learning Disabilities” refer to a number of disorders which may affect the acquisition, organization, retention, understanding or use of verbal or non-verbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning. As such, learning disabilities are distinct from global intellectual deficiency.⁷⁹

One of the leading websites on learning disabilities provides the following perspective:

A learning disability is a neurological disorder. In simple terms, a learning disability results from a difference in the way a person's brain is "wired." Children with learning disabilities are as smart as or smarter than their peers. But they may have difficulty reading, writing, spelling, reasoning, recalling and/or organizing information if left to figure things out by themselves or if taught in conventional ways.

A learning disability can't be cured or fixed; it is a lifelong issue. With the right support and intervention, however, children with learning disabilities can succeed in school and go on to successful, often distinguished careers later in life.⁸⁰

“Fifteen per cent of the U.S. population, or one in seven Americans, has some type of learning disability, according to the National Institutes of Health.”⁸¹

The Learning Disabilities Association of America notes that “Typical learning difficulties include dyslexia, dyscalculia and dysgraphia – often complicated by associated disorders such as attention deficit/hyperactivity disorder.”⁸²

Reading Disability: Dyslexia

This is the most common learning disability. “Of all students with specific learning disabilities, 70-80 per cent have deficits in reading. The term ‘Dyslexia’ is often used as a synonym for reading disability; however, many researchers assert that there are different types of reading disabilities, of which dyslexia is one.”⁸³

“Scientists have identified four genes --- in which mutations appear to play a significant role in dyslexia ---.” A current major research project concerning these genes among other things has a goal of devising “--- a practical genetic test for dyslexia, making it possible for parents and teachers of children with dyslexia to begin educational interventions early in life, the time when

⁷⁹ *LD Defined – Official Definition of Learning Disabilities*, The Learning Disabilities Association of Canada, http://www.ldac-taac.ca/Defined/defined_new-e.asp Accessed October 23, 2009.

⁸⁰ LD Online, *What is a Learning Disability?*, <http://www.ldonline.org/ldbasics/whatisld> Accessed October 28, 2009.

⁸¹ LD Online, *supra*, n. 80

⁸² Learning Disabilities Association of America, <http://www.ldanatl.org/> Accessed October 27, 2009

⁸³ Wikipedia, *Learning Disability*, http://en.wikipedia.org/wiki/Learning_disability Accessed October 27, 2009.

researchers have shown those interventions to have the most significant and lasting impact on reading ability.”⁸⁴

Such a test would be particularly important, given the current situation:

“Unfortunately, a lot of kids, possibly as many as one-third, are missed—either misdiagnosed or not diagnosed at all. Now you’ve got a kid who hits fourth or fifth grade and they’re struggling, their self-esteem begins to diminish, and it almost becomes a self-fulfilling prophecy —.”⁸⁵

“If you can identify these kids early, by third grade, and get them into an intervention program, you can frequently get them reading up to grade-level, and that effect is long-lasting. That’s a wonderful thing.”⁸⁶

Mathematical Disability: Dyscalculia

Dyscalculia exists in a number of different varieties, each involving a specific difficulty in solving mathematical tasks. It corresponds with mathematical performance to dyslexia in the area of reading. The majority of children and adults who are subject to dyscalculia have the ability to read and the ability to understand what is read unimpaired, although about 20–30 per cent of those who are subject to dyscalculia are characterized by having difficulties reading and with mathematics.⁸⁷

Individuals diagnosed with dyscalculia tend to be of normal intelligence, but are likely to have problems with speed in counting, problems with understanding a conventional clock face and the perception of time. They may have difficulty in planning. This learning disability affects approximately 6 per cent of the population.⁸⁸

Dysgraphia

Disgraphia is a learning disability involving difficulty in expressing thoughts in writing and graphing. It generally refers to extremely poor handwriting. It can manifest itself as difficulties with spelling, poor handwriting and trouble putting thoughts on paper.⁸⁹

The Relationship Between Learning Disabilities and Criminal Activity

“Many scholars have recognized the close relationship between juvenile delinquency and learning disabilities.”⁹⁰ “Learning disabilities are present in offender populations at a rate well beyond that which would be expected in non-offender populations ---.” However, “- the overwhelming majority of individuals who are learning disabled do not become delinquent, and approximately one-half are free of any significant psychological problems ---.”⁹¹

⁸⁴ “\$5 million grant funds dyslexia study”, *Medicine@Yale*, March/April 2009, vol. 5 Issue 2, http://www.medicineat Yale.org/v5i2_march_april_2009/index.html.

⁸⁵ Gruen J., principal researcher, quoted in “\$5 million grant funds dyslexia study”, supra.

⁸⁶ Guren, supra, n.85

⁸⁷ Adler B. *What is Dyscalculia?* Cognitive Centre Sweden, <http://www.dyscalculiainfo.org/index.htm> Accessed October 28, 2009.

⁸⁸ Adler, supra, n.87

⁸⁹ LD Online, *What is Dysgraphia?* <http://www.ldonline.org/article/12770> Accessed October 28, 2009.

⁹⁰ Winters, C. *Adolescence*, 1997; 32:451

⁹¹ Brier N., “The Relationship Between Learning Disability and Delinquency: A Review and Reappraisal”, *Journal of Learning Disabilities*, vol. 22, no. 9, November 1989.

“Research consistently illustrates that poor academic achievement is a major factor in crime and delinquency.”⁹² It is also clear that learning disabilities are an important determinant of poor academic performance.

Economic Costs of Learning Disabilities

In 2002, the Roeher Institute prepared for the Learning Disabilities Association of Canada a report on *Learning Disabilities in Canada: Economic Costs to Individuals, Families and Society*.⁹³ Based on information extracted from Statistics Canada surveys of the Canadian population, this analysis estimates the difference in costs between persons in the population who have learning disabilities versus those without cognitive difficulties. The costs included those incurred by the families of these individuals with respect to the learning disabilities of their family members, and costs to society in general.

The types of costs included those with respect to:

- Health care
- Education
- Criminal justice
- Income transfers through the Canada Pension Plan, Employment Insurance, Workers Compensation and provincial Welfare programs
- Services provided by community agencies to assist with everyday activities because of disability

In addition, indirect costs borne by persons with learning disabilities were included particularly reductions in earnings and reductions in household incomes.

The study estimated that the total cost differential from birth to retirement at age 65 between a person with learning disability and a person with no cognitive difficulty would be almost \$2 million. Discounting the annual cost stream to the year 2000 at a 5 per cent discount rate yields a present value of the cost difference as \$455,000. Translating this to 2008 levels to incorporate the effects of inflation yields a total of \$544,000 in 2008 dollars.

The analysis assumes a prevalence rate of learning disabilities in the Canadian population of 5 per cent, and cites this as a widely accepted prevalence rate. On that basis, the total cost in terms of 2000 dollars and in terms of the 2001 population would have been \$707 billion. The report states that “The research found that the \$707 billion figure is a conservative, middle range estimate of the (present value) cost of (learning disabilities) in Canada.”⁹⁴ However, indexing that number by the rate of inflation (Consumer Price Index) and population growth to 2008 yields a revised total of \$907 billion.

Fortunately, “Available evidence suggests that these costs could be contained through policy and funding measures to prevent significant disruptions to the education of people with (learning disabilities) and to improve educational attainment. For instance, other research has already

⁹² Brier N. *supra*, n.91

⁹³ Cameron C., The Roeher Institute, *Learning Disabilities in Canada: Economic Costs to Individuals, Families and Society*, prepared for the Learning Disabilities Association of Canada, <http://www.pacfold.ca/download/Supplementary/Economic.pdf> Accessed October 26, 2009.

⁹⁴ Cameron C., *supra*, n.93

shown that educational attainment is a key factor that fosters the paid employment of people with disabilities”⁹⁵

--- while significant economic costs are likely to remain for all concerned parties living with and working to address issues of (learning disabilities), the available evidence suggests that measures can be implemented to address the issue. It does appear that public policy and investments to further the education of people with learning disabilities, and to prevent major delays and disruptions to their learning, hold promise for improving economic outcomes for people with (learning disabilities) later in life, and for reducing long-term public costs through income support programs.⁹⁶

⁹⁵ Cameron C., *supra*, n. 93

⁹⁶ Cameron C., *supra*, n. 93

6. ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

Nature of ADHD

Attention Deficit Hyperactivity Disorder (ADHD) is a condition that becomes apparent in some children in the pre-school and early school years. It is hard for these children to control their behavior and/or pay attention.⁹⁷

The core symptoms of AD/HD are developmentally inappropriate levels of inattention, hyperactivity, and impulsivity. These problems are persistent and usually cause difficulties in one or more major life areas: home, school, work, or social relationships.⁹⁸

A key perspective differentiating ADHD from other psychiatric disorders is captured by the words “impulsive” or “poorly inhibited”. Dr. Russell Barkley, a leading authority on the subject, explains that “--- among the most discerning symptoms for distinguishing ADHD from other psychiatric disorders as well as the general non-disordered population” are “‘makes decisions impulsively’ and others related to it (acts before thinking, has difficulty waiting for things, etc.)”⁹⁹

The diagnosis of ADHD involves a licensed professional such as a pediatrician, psychologist, neurologist, psychiatrist, or clinical social worker making a comparison of the individual’s behaviour with specific diagnostic criteria laid out in a standard issued by the American Psychiatric Association.^{100 101}

Prevalence of ADHD

It is estimated that between 3 and 5 per cent of children have ADHD, or approximately 2 million children in the United States. This means that in a classroom of 25 to 30 children, it is likely that at least one will have ADHD.¹⁰²

Results announced recently by the National Institute of Mental Health (U.S.) from a study funded in part by the Institute indicates that in the United States, 8.6 per cent of children and adolescents ages 8 to 15 have ADHD. This is based on analysis of a survey carried out between 2001 and 2004.¹⁰³

Based upon data from British Columbia for 2004-2005, the 2009 report of the Public Health Officer of Canada projects that 6.6 per cent of children in Canada aged 2 to 5 years exhibit high

⁹⁷ LD Online, *ADHD Basics*, <http://www.ldonline.org/adhdbasics>, Excerpted from the website of [National Institute of Mental Health](http://www.nimh.nih.gov). Material is included from a revision of "Attention Deficit Hyperactivity Disorder," a brochure first printed in 1994 and revised 1996, with selected updates from 2006. Accessed October 28, 2009.

⁹⁸ Fowler, M. *ADD/ADHD NICHCY: Attention Deficit/Hyperactivity Disorder*, National Information Center for Children and Youth with Disabilities (NICHCY) briefing paper. LD Online. <http://www.ldonline.org/article/5970> Accessed January 5, 2010

⁹⁹ Barkley, Russell A. *ADHD in Adults: History, Diagnosis, and Impairments*. (2007) course content. [ContinuingEdCourses.Net. http://www.continuingeducation.net/active/courses/course034.php](http://www.continuingeducation.net/active/courses/course034.php)

Accessed January 3, 2010.

¹⁰⁰ Fowler M., *supra*, n.98

¹⁰¹ Barkley, *supra*, n.99

¹⁰² LD Online, *ADHD Basics*, *supra*, n.98

¹⁰³ *National Survey Tracks Rates of Common Mental Disorders Among American Youth*, National Institute of Mental Health, press release, December 14, 2009.

<http://www.nimh.nih.gov/science-news/2009/national-survey-tracks-rates-of-common-mental-disorders-among-american-youth.shtml> Accessed January 3, 2010. The study referred to was published online ahead of print December 14, 2009, in the journal *Pediatrics*; Merikangas, Kathleen, lead author.

levels of hyperactivity and/or inattention.¹⁰⁴ However, another data source cited in the report of the Public Health Officer indicates a prevalence rate of 4.8 per cent for ADHD among Canadian children 4 to 17 years of age.¹⁰⁵

Prior to the publication of the estimate for the United States referred to earlier, the range of the similar estimates for that country tended to significantly lower. It is not clear that the rates for Canada noted above are expressed on a basis comparable to the new U.S. estimate.

Typically, symptoms of ADHD decline as a child gets older.¹⁰⁶ However, it is not just children that exhibit ADHD. “The disorder does not affect only children. In many cases, problems continue through adolescence and adulthood.”¹⁰⁷ “---it appears from both childhood follow-up studies and, more directly, from studies of adult general population samples that the prevalence of ADHD in adults in the United States is approximately 5%.”¹⁰⁸ The author of this statement goes on to calculate that based on this rate, at least 11 million adults in the United States probably had ADHD as of 2005. Other research has reported that “--- adult ADHD leads to 120 million days of annual work lost in the US labor force.”¹⁰⁹

Disorders that Commonly Co-Occur with ADHD

Several other disorders frequently co-occur with ADHD, including:

- Oppositional Defiant Disorder (ODD), a pattern of negative, hostile, and defiant behaviour;
- Conduct Disorder (CD), a pattern of behaviour that persistently violates the basic rights of others or society’s rules;
- Learning Disabilities;
- Anxiety; and
- Depression.¹¹⁰

The first three of these are dealt with in other sections of this report.

¹⁰⁴ Butler-Jones, David. *The Chief Public Health Officer’s Report on the State of Public Health in Canada, 2009: Growing Up Well – Priorities for a Healthy Future*. <http://www.phac-aspc.gc.ca/publicat/2009/cphorsphc-respcacsp/pdf/cphorsphc-respcacsp-eng.pdf> Accessed January 8, 2010.

¹⁰⁵ Waddell, C. McEwan, DR. Shepherd, CA. Offord, DR. Hua, JM. (2005) A Public Health Strategy to Improve the Mental Health of Canadian Children, *Canadian Journal of Psychiatry*, 50(4), 226-233., cited in Butler-Jones, David, *supra*, n.104

¹⁰⁶ Langberg, JM. Epstein, JN. Altaye, M. Molina, BSG. Arnold, LE. Vitiello, B. The transition to middle school is associated with changes in the developmental trajectory of ADHD symptomatology in young adolescents with ADHD. *Journal of Clinical Child and Adolescent Psychology*. 2008; 37(3): 651-663. Cited in: Age-related Decline of ADHD Symptoms Disrupted by Middle School. *Science News about Attention Deficit Hyperactivity Disorder (ADHD)*. <http://www.nimh.nih.gov/science-news/science-news-about-attention-deficit-hyperactivity-disorder-adhd.shtml> Accessed January 6, 2010

¹⁰⁷ Fowler, M. *supra*, n.98

¹⁰⁸ Barkley, Russell A., *supra*, n.99

¹⁰⁹ Kesler, RC. Adler, L. Ames, M. Barkley, RA. Bimbaum, H. Greenber, P. Johnston, JA. Spenser, T. Ustun, TB. The prevalence and effects of adult attention deficit/hyperactivity disorder on work performance in a nationally representative sample of workers. *J Occup Environ Med* 2005; 47(6): 565-572, cited in: Fletcher, J. Wolfe, B. *Long-term Consequences of Childhood ADHD on Criminal Activities*. *J Ment Health Policy Econ* 12, 119-138 (2009). <http://publichealth.yale.edu/news/october09/pdf/ADHD-Fletcher.pdf> Accessed January 2, 2010.

¹¹⁰ Fowler M., *supra*, n.98

ADHD and Crime

ADHD in childhood is a significant risk factor for criminal activity later in life. Although most individuals with ADHD do not engage in criminal activity, a recently published study cites a recent FBI report showing that “--- adolescents with ADHD symptoms had more adversarial contacts with law enforcement agencies than other adolescents (19:3 odds) and are more likely to be in juvenile justice facilities (5:1 odds).”¹¹¹ The same study found that children with ADHD “-- were nearly twice as likely [as other children] to commit theft later in life and were 50 per cent more likely to sell drugs.”¹¹² “The evidence presented [in the study] leads to a clear conclusion: persons with symptoms of ADHD during the period 5-12 years of age, whether they be of the hyperactivity, inattentive or combined subtype, are far more likely to report criminal activity as young adults than other individuals. This clear pattern prevails even while other factors that might be expected to influence risk taking are taken into account ---.”¹¹³

Cost of ADHD-Related Crime

The study referenced in the previous paragraph goes on to calculate the approximate economic cost of the increased incidence of crime attributable to persons who appear to have symptoms of ADHD during childhood. These costs are “--- borne by the individuals, their families, and society more generally. A rough estimate of this cost to victims is between \$50 and \$170 million dollars per year and our estimate of the total cost to society is between \$2 and \$4 billion dollars per year ---” [in the United States].¹¹⁴ The authors of this research suggest that early interventions to reduce the effects of ADHD could have substantial economic benefits. Elsewhere in our report the results of research concerning youth at risk indicate that diverting a youth from a life of crime has a benefit to the individual and society of more than \$2.6 million.

Treatment of ADHD

In most cases, ADHD can be treated effectively with medication, with psychosocial accommodations, or a combination of both.¹¹⁵

No treatments have been found to cure this disorder, but many treatments exist which can effectively assist with its management. Chief among these treatments is the education of the family and school staff with its management, in the case of children with the disorder, and the education and counseling of the adult with ADHD and their family members. But among the treatments that result in the greatest degree of improvement in the symptoms of the disorder, research overwhelmingly supports the use of the stimulant medications for this disorder ---.

Psychological treatments, such as behavior modification in the classroom and parent training in child behavior management methods, have been shown to produce short-term benefits in those settings.¹¹⁶

¹¹¹ Fletcher J. Wolfe B. Long-term consequences of childhood adhd on criminal activities. *J Ment Health Policy Econ* 12, 119-138 (2009). <http://publichealth.yale.edu/news/october09/pdf/ADHD-Fletcher.pdf> Accessed January 2, 2010.

¹¹² *Research identifies link between childhood ADHD and adult crime*. Yale School of Public Health, Yale University, New Haven, Connecticut. News release posted 10-22-09 <http://publichealth.yale.edu/news/october09/adhd-fletcher.html> Accessed January 2, 2010.

¹¹³ Fletcher J. Wolfe B. *supra*, n.111

¹¹⁴ Fletcher J. Wolfe, B. *supra* n.111

¹¹⁵ Barkley, RA. *Attention Deficit-Hyperactivity Disorder, Third Edition: A Handbook for Diagnosis and Treatment*. Guilford Publications, 2006. Excerpt: Part I, The Nature of ADHD, chapter 1: History. Posted online: <http://www.russellbarkley.org/images/BarkleyCh01.pdf>. Accessed January 8, 2010.

In the United States, since 1991, special education services have been mandated for individuals with ADHD.¹¹⁷

“For many people, the stimulants dramatically reduce their hyperactivity and impulsivity and improve their ability to focus, work, and learn. The medications may also improve physical coordination, such as that needed in handwriting and in sports.”¹¹⁸

“Children with attention deficit hyperactivity disorder (ADHD) who take medication to treat the condition tend to do better in math and reading compared to their peers who also have ADHD but do not take medication, according to data from a national survey.” “The findings echo previous studies that have found that the use of ADHD medication can improve children’s attention and memory skills, which can help them to do better in school.” “However, --- the gains are not enough to eliminate the achievement gap typically seen between children with ADHD and those without the disorder.”¹¹⁹

A somewhat dated (1997) estimate is that the rate of treatment for ADHD in the United States then was 3.4 per 100 children.¹²⁰

A review of research on psychotherapies has found that behaviour therapy is a well-established, effective treatment for ADHD among children and youth. In particular, behavioural parent training, behavioural classroom management and behavioural peer interventions have been found to be well-established.¹²¹

Studies have produced conflicting results as to whether behaviour therapy or medications for ADHD or a combination is the most effective or cost-effective in the treatment of ADHD,¹²² However, as noted above a recent posting by a leading authority on the subject states that “--- among the treatments that result in the greatest degree of improvement in the symptoms of the disorder, research overwhelmingly supports the use of stimulant medication for this disorder ---”¹²³

¹¹⁶ Barkley, RA. *A Fact Sheet by Doctor Barkley*, <http://www.russellbarkley.org/adhd-facts.htm> Accessed January 8, 2010.

¹¹⁷ Fletcher, J. Wolfe, B. *supra*, n.112

¹¹⁸ LD Online, *ADHD Basics*, *supra*, n.98

¹¹⁹ Scheffler, RM. Brown, TT. Fulton, BD. Hinshaw, SP. Levine, P. Stone, S. Positive association between attention deficit/hyperactivity disorder medication use and academic achievement during elementary school. *Pediatrics*.2009 May. 123(5): 1273-1279. Cited in ADHD Medication Treatment Associated with Higher Academic Performance in Elementary School

<http://www.nimh.nih.gov/science-news/science-news-about-attention-deficit-hyperactivity-disorder-adhd.shtml> Accessed January 6, 2010.

¹²⁰ Olfson, M. Gameroff, MJ. Marcus, SC. Jensen, PS. National trends in the treatment of attention deficit hyperactivity disorder. *Am J Psychiatry* 2003;160: 1071-1077, cited in: Fletcher, J. Wolfe, B. *supra*, n.12

¹²¹ Pelham, WE. Fabiano, G.A. Evidence-based psychosocial treatments for Attention Deficit/Hyperactivity Disorder. *Journal of Clinical Child & Adolescent Psychology*, 37, 184-214. Cited in Attention Deficit Hyperactivity Disorder, *Evidence-Based Mental Health Treatment for Children and Adolescents*, http://www.abct.org/sccap/?m=sPublic&fa=pub_Hyper. Accessed January 7, 2010.

¹²² LD Online, Multimodal Treatment of Children with ADHD (MTA) Study. <http://www.ldonline.org/article/6223> Accessed January 7, 2010. Based on:

The MTA Cooperative Group. A 14-Month Randomized Clinical Trial of Treatment Strategies for Attention-Deficit/Hyperactivity Disorder. *Arch Gen Psychiatry*. 1999;56:1073-1086.

The Multimodal Treatment Study of Children With Attention-Deficit/Hyperactivity Disorder (the MTA study) is a cooperative treatment study performed by 6 independent research teams in collaboration with the Division of Services and Intervention Research, National Institute of Mental Health, and the Office of Special Education Programs, US Department of Education, Washington, DC.

¹²³ Barkley RA. *supra*, n.117

Regardless of the debate on the subject, it is clear that there are generally effective treatments for the disorder. Given the humanitarian factors and the cost considerations discussed below, there are compelling arguments for ensuring that persons with ADHD have treatment available appropriate to their condition.

Treatment is likely to be multidisciplinary, requiring the assistance of the mental health, educational, and medical professions at various points in its course. Treatment must be provided over long time periods to assist those with ADHD in the ongoing management of their disorder. In so doing, many with the disorder can lead satisfactory, reasonably adjusted, and productive lives.¹²⁴

Overall Cost of ADHD

A fairly comprehensive analysis of the cost of ADHD has been carried out, but based on a limited number of studies and with some rough approximations used to arrive at a total cost.¹²⁵

The principal focus of this study was on the cost of ADHD in children and adolescents. Based upon a review of 13 relevant studies, the research used a cost of illness (resource consumption) approach to estimating financial impacts. The factors taken into account with respect to health and mental health systems included the costs of pharmacological treatment, the costs of psychosocial mental health treatments, and the use of other health services. Educational costs incorporated were those incurred for children with ADHD above costs for children without the disorder. The costs of crime and delinquency were projected based on existing studies. Information concerning the cost of alcohol and substance abuse was not available.

Based on the studies and the cost categories noted above, the researchers estimated that the annual cost of illness for a child/adolescent with ADHD was in the range of \$12,005 to \$17,458 (US), with a mean estimate of \$14,576. These costs are expressed in terms of 2005 dollars.

“Using the 2000 census of 60 million school-aged children in the U.S. and assuming a commonly accepted prevalence rate of 5 per cent, these individual estimates translate into an annual aggregate [cost] of \$42.5 billion for the school-aged cohort in the United States (range, \$36-\$52.4 billion). The authors stress that given the relatively small number of studies on which these figures are based and their limitations, the estimates are preliminary, “--- particularly in the areas of treatment costs, other health care costs, education and juvenile justice.”¹²⁶

The costs of medication is likely to be substantially understated because the studies reviewed were conducted before the surge that occurred in the use of new, patented ADHD formulations in 1999/2000 and before guidelines were established that “--- call for more frequent prescribing physician contact with ADHD families.”¹²⁷

The study also outlines other elements of the cost of ADHD that are not included in the analysis. A key aspect is the cost of ADHD in adults. The authors cite another study that deals with that

¹²⁴ Barkley RA. *supra*, n.116

¹²⁵ Pelham, EP. Foster, EM. Robb, JA. The Economic Impact of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents, *Journal of Pediatric Psychology* 2007 32(6):711-727; doi:10.1093/jpepsy/jsm022. <http://jpepsy.oxfordjournals.org/cgi/reprint/32/6/711.pdf> Accessed January 7, 2010.

¹²⁶ Pelham et al, *supra*, n.125

¹²⁷ Pelham et al, *supra*, n.125

subject, and arrives at an estimate of \$31.6 billion annually in the U.S.¹²⁸ This figure is also qualified in that it does not include some key cost components such as the cost of substance abuse or criminal activity.

Combining the cost estimate for children with that for adults yields a preliminary and incomplete estimate of at least \$74.1 billion annually as the cost of ADHD in the United States for all age groups. This is comparable to the costs of several other major health care conditions such as stroke and asthma.

The study points out that the cost calculations used a rate of 5 per cent for the prevalence of ADHD among children. If the true rate were at the upper bound of estimates at 9 per cent, the cost of ADHD in the United States would be roughly \$80 billion annually even without the cost elements not included in the analysis. As cited earlier in our report, results of a more recent study as announced by the National Institute of Mental Health and funded in part by the Institute indicate that in the United States, 8.6 per cent of children and adolescents ages 8 to 15 had ADHD.

The authors conclude that “These costs are staggering and comparable in magnitude to other serious medical and [mental health] problems in both children and adults.” They also point out that the cost estimates stated are upper limits (apart from data limitations). To the extent that interventions are limiting or can limit the adverse impacts on costs attributable to ADHD, these costs are or can be reduced. While the cost of crime may be a small component of the long-term total cost of ADHD, as noted earlier in this report, that component is significant.

¹²⁸ Birnbaum HG. Hessler RC. Lowe SW. et al (2005). Costs of attention deficit-hyperactivity disorder (ADHD) in the US: excess cost of persons with ADHD and their family members in 2000. *Curr Med Res Opin*, 21, 195-205, cited in Pelham et al, *supra*, n.125

7. AGGRESSION: CONDUCT DISORDER AND OPPOSITIONAL DEFIANT DISORDER

Nature of Conduct Disorder and Oppositional Defiant Disorder

"Conduct Disorder (CD) is a pattern of behaviour that persistently violates the basic rights of others or society's rules." "Oppositional Defiant Disorder (ODD) is a pattern of negative, hostile, and defiant behaviour."¹²⁹

Aggression

"Aggression is often the primary characteristic of oppositional defiant disorder and conduct disorder."¹³⁰

--- aggressive-disruptive behaviour problems are the most common reason for mental health service referral in childhood. [These problems] disproportionately affect children living under conditions of socio-economic disadvantage, compounding the educational and social deprivation experienced by these children. [These problems] are highly stable, and, if left untreated, increase the risk for future delinquency, substance use, depression, and school failure, resulting in extremely high costs to the individuals and families involved, and to society in general.¹³¹

--- without prevention, early risk factors tend to accumulate and escalate over time, so that children who complete the pre-school years without learning to control their aggression enter grade school at high risk for continuing and escalating adjustment problems. Negative consequences include peer rejection and victimization, as well as academic discouragement, and escalating frustration, setting the stage for adolescent disengagement, school failure, alcohol and substance use, and criminal activity.¹³²

Evidence indicates that mental disorders and emotional health problems that occur during childhood and youth may affect children throughout their lives, especially in terms of overall health, happiness and productivity. For example, the development of physically aggressive behaviours in children generally occurs between the ages of two and three years. These behaviours may continue as children age and can increase their risk for delinquency, substance use and mental disorders in adulthood.¹³³

Children exhibit aggression at an early age. By the time that they are one year of age, they have the capacity to hit, bite and kick. By the time they are three, "--- they are capable of a wide range of physical aggression." However, beyond that age, for most children aggressive

¹²⁹ Fowler M. *ADD/ADHD NICHCY: Attention Deficit/Hyperactivity Disorder*, National Information Center for Children and Youth with Disabilities (NICHCY) briefing paper. LD Online. <http://www.ldonline.org/article/5970> Accessed January 5, 2010.

¹³⁰ Tremblay RE. Gervais J. Petitclerc A. *Early learning prevents youth violence*, Montreal, Quebec. Centre of Excellence for Early Childhood Development: 2008; 32 pages. http://www.excellence-earlychildhood.ca/documents/Tremblay_AggressionReport_ANG.pdf Accessed January 11, 2010

¹³¹ Bierman KL. Programs and services proven to be effective in reducing aggression in young children. Comments on Webster-Stratton, Domitrovich and Greenberg, and Lochman. *Encyclopedia on Early Childhood Development*. Centre of Excellence for Early Childhood Development. Published online May 20, 2003; <http://www.child-encyclopedia.com/documents/BiermanANGxp.pdf> Accessed January 11, 2010.

¹³² Bierman KL. *supra*, n.131

¹³³ Waddell C. McEwan DR. Shepherd CA. Offord DR. Hua JM. (2005) A Public Health Strategy to Improve the Mental Health of Canadian Children, *Canadian Journal of Psychiatry*, 50(4), 226-233., cited in Butler-Jones D. *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2009: Growing Up Well – Priorities for a Healthy Future*. <http://www.phac-aspc.gc.ca/publicat/2009/cphorsphc-respcacsp/pdf/cphorsphc-respcacsp-eng.pdf>. Accessed January 11, 2010.

behaviour declines as they learn more constructive ways to express frustration. However, 5 to 10 per cent of Canadian children fail to progress to less aggressive behaviour and are more likely to encounter trouble ranging “--- from difficulty at school and substance abuse to risk-taking, mental illness and criminal activity.”¹³⁴

Prevalence of Aggression, Conduct Disorder

The 2009 report of the Public Health Officer of Canada cites a prevalence rate of 4.8 per cent for Conduct Disorder among Canadian children 4 to 17 years of age. Based upon data from British Columbia for 2004-2005, the 2009 report of the Public Health Officer of Canada projects that 14.2 per cent of children in Canada aged 2 to 5 years exhibit high levels of physical aggression, opposition and/or conduct disorder.¹³⁵

In the United States, results of a national survey indicate that 2.1 per cent of children and adolescents ages 8 to 15 had conduct disorder.¹³⁶ A report concerning the survey notes that the prevalence rates found for conduct and other mental disorders except ADHD were “--- generally lower than those reported in other published findings of mental disorders in children, but they are comparable to other studies that employed similar methods and criteria.”¹³⁷

Predisposition to Aggression

Aggressive behaviour is instinctive; children do not need to see aggressive behaviour to act aggressively.

Aggression is part of the normal evolution of human life. “Young children simply use aggression to get what they want. As long as physical aggression works and there are not negative consequences, they will keep on using it.”¹³⁸

Several factors affect the aggressive tendencies of an individual:

- Gender heritage: As they grow, boys tend to be more aggressive than girls.
- Family heritage: Including boys “--- whose mothers have a low level of education and who had their first child when they were relatively young ---.” Young children with parents who have or had behaviour problems are in turn more likely to be physically aggressive. Physical aggression may be an inherited characteristic.
- Abuse and neglect: “--- children who were abused and neglected during childhood are at higher risk of violent behaviour as adolescents and adults.”
- Conversely, “--- parents who are sensitive, responsive, involved, and proactive and who provide their young children with structure are most likely to raise children who are socially and emotionally well-adjusted.”

¹³⁴ Tremblay et al, *supra*, n.130

¹³⁵ Waddell et al, *supra*, n.133

¹³⁶ *National Survey Tracks Rates of Common Mental Disorders Among American Youth*, National Institute of Mental Health, press release, December 14, 2009.

<http://www.nimh.nih.gov/science-news/2009/national-survey-tracks-rates-of-common-mental-disorders-among-american-youth.shtml> Accessed January 3, 2010. The study referred to was published online ahead of print December 14, 2009, in the journal of Pediatrics; Merikangas, Kathleen, lead author.

¹³⁷ Merikangas K. quoted in *supra*, n.136.

¹³⁸ Several sources where Richard Tremblay is author or co-author, cited in Tremblay et al, *supra*, n.130

- Prenatal: “The use of alcohol, cigarettes and cocaine by the mother during pregnancy has all been associated with increased risk for developmental or behavioural problems in the child.”
- Temperament: An individual’s predisposition as part of personality, influenced by genetic inheritance and the environment in which the child develops.¹³⁹

Prevention

Like most types of problems, aggression is best addressed early – and the earlier, the better. Even the youngest children can be taught to modulate their behaviour and share space with the rest of the world.

The research literature demonstrates that interventions with aggressive adolescents often substantially increase the likelihood of criminal behaviour while interventions with at risk pre-school children have long-term beneficial effects.¹⁴⁰

“Skilled observation makes it possible to intervene in time to prevent an aggressive act, or to intervene appropriately when an aggressive act has occurred.”¹⁴¹

There are a variety of factors that can help children to develop without abnormal aggression. These include:¹⁴²

- *An optimal prenatal environment.* During pregnancy it is important that women have good nutrition, that they have adequate rest and have relief from stress. They must not use alcohol and must not use tobacco or other drugs that have negative impacts. Similarly their environment needs to be free of second hand tobacco smoke, “--- pollutants, pesticides, herbicides, varnishes, solvents, ---” etc.
- *Healthy diet.* A healthy diet for children in their early years “--- contributes directly to growth of healthy brain structures, which permits children to learn to manage their moods, impulses and behaviour. Dietary deficiencies in young children are related to cognitive deficits and behavioural problems, including aggression.”
- *Stimulating Environment.* Stimulation in early life is crucial to positive child development, including learning normal socialization. “The development of motor control, the ability to wait, speak and seek solutions to problems is all tied to early stimulation in infancy.” “Babies obtain necessary stimulation through games, face-to-face contact, music and rhythm, physical activities, and interaction with adults and other children.”

Intervention programs for at risk families as well as intensive, high-quality pre-school programs where children receive good stimulation from qualified early childhood workers reduce the risks for persistent pre-school aggression, and violent and non-violent delinquency in adolescence and adulthood.¹⁴³

Development of Peaceful Interaction

Adults play a key role in discouraging aggression in the early years of a child’s life and encouraging peaceful behaviour. Parents and other caregivers need to help children to reduce

¹³⁹ Tremblay et al, *supra*, n.130

¹⁴⁰ Tremblay et al, *supra*, n.130

¹⁴¹ Tremblay et al, *supra*, n.130

¹⁴² The following factors are summarized from: Tremblay et al, *supra*, n.130

¹⁴³ Tremblay et al, *supra*, n.130

aggressive behaviour, learn to have empathy towards others, and engage in problem solving as an alternative to aggression. Caregivers should neither under-react nor over-react to aggressive behaviour by children. It is important not to expect “---children to solve aggression problems on their own when they are not able to do so.”¹⁴⁴

Some ways to help children learn not to act aggressively include “timely interruptions to defuse explosive situations, separating combatants with a ‘timeout’, teaching new skills, such as using words instead of screams to express feelings,” and “not putting children in situations that create pointless frustration.” Caregivers should not impose punishment that is inappropriate to the age of the child. Consistency is important.¹⁴⁵

One result of this approach is the development of social skills in children, which tends to decrease their use of physical aggression.

Language as a Means of Decreasing Aggression

Language is another path that can help to reduce aggression. It offers a means for the child to express frustration and anger without overtly aggressive behaviour. The use of language provides a way for adults to communicate with children to help them deal with emotions in a constructive way. It also enables children to deal with one another to understand and resolve differences. Thus, stimulating the development of language capability in children is a step towards the reduction of potential aggression.¹⁴⁶

Need to Seek Professional Help

If a child does not respond to adult discipline, learn to control aggressive behaviour and create positive ties with adults and children around them, it is important to seek professional help without delay. The problem will not simply go away and can have serious long-term consequences.

The Cost of Aggressive Behaviour

Earlier in this section it was noted that if aggression is not curbed in children, it can lead to later delinquency, substance abuse, mental disorders, school failure and criminal activity. These involve high costs to the individual, family and society. For example, the cost to keep an adolescent in detention in Canada is more than \$100,000 a year.¹⁴⁷

Research carried out in the United Kingdom has estimated that for persons who had conduct disorder in childhood, the costs of government funded services for these individuals at age 28 were 10 times more than for persons with no behavioural problems. The comparison in terms of U.S. funds is cited as \$137,450 versus \$14,571.¹⁴⁸

¹⁴⁴ Tremblay et al, *supra*, n.130

¹⁴⁵ Tremblay et al, *supra*, n.130

¹⁴⁶ Tremblay et al, *supra*, n.130

¹⁴⁷ Tremblay et al, *supra*, n.130

¹⁴⁸ Scott S. Knapp M. Henderson J. Maughm B. Financial cost of social exclusion: follow up study of anti-social children into adulthood. *BMJ* 2001;323:191, cited in Edwards R. Ceilleachiar A. Bywater T. Hughes D. Hutchings J. Parenting programme for parents of children at risk of developing conduct disorder: cost effectiveness analysis, *BMJ* 2007;334:682-; originally published online 9 Mar 2007; doi:10.1136/bmj.39126.699421.55, downloaded from bmj.com 2 August 2007.

“Parenting training programmes are effective in helping families with children at risk of developing conduct disorders.”¹⁴⁹ An analysis in the United Kingdom of a parenting program for parents of children at risk of developing conduct disorder found that the program had strong clinical effect at modest costs, “---suggesting it would represent good value for money for public spending.”¹⁵⁰

As another indication, in a comprehensive, penetrating analysis, leading U.S. researchers have estimated the monetary value of saving a high-risk youth from a life of crime. Taking into account the costs of crimes to victims, criminal justice costs and costs incurred by the criminal (e.g., foregone wages), the costs of drug use and the cost of dropping out of high school, they estimated that the present value at age 18 of diversion from a life of crime is in the range of \$2.6 to \$5.3 million (2007 U.S. dollars).¹⁵¹

It is clear that aggression rooted in childhood can be extremely costly not only in humanitarian terms, but also in terms of economic costs. Conversely, there appear to be approaches to preventing conduct disorder that can have good effects if utilized while the child is at an early age.

¹⁴⁹ Edwards R. Ceilleachiar A. Bywater T. Hughes D. Hutchings J. Parenting programme for parents of children at risk of developing conduct disorder: cost effectiveness analysis, *BMJ* 2007;334:682-; originally published online 9 Mar 2007; doi:10.1136/bmj.39126.699421.55, downloaded from bmj.com 2 August 2007, citing Webster-Stratton C, Hancock L. Training for parents of young children with conduct problems: content, methods, and therapeutic processes. In: Schaefer CE. Friesmeister JM. eds. *Handbook of parent training*. New York: John Wiley, 1998.

¹⁵⁰ Edwards R. Ceilleachiar A. Bywater T. Hughes D, Hutchings J. Parenting programme for parents of children at risk of developing conduct disorder: cost effectiveness analysis, *BMJ* 2007;334:682-; originally published online 9 March 2007; doi:10.1136/bmj.39126.699421.55, downloaded from bmj.com 2 August 2007.

¹⁵¹ Cohen M. and Piquero A., New evidence on the monetary value of saving a high risk youth. *J Quant Criminology* (2009) 25:25-49. Published online: 7 August 2008. Available at: <http://www.springerlink.com/content/ahn381645901514n/fulltext.pdf> Accessed August 24, 2009.

8. FETAL ALCOHOL SPECTRUM DISORDERS (FASD)

Fetal Alcohol Spectrum Disorder

Fetal Alcohol Spectrum Disorder (FASD) is estimated to affect 1 in 100 live births in Canada, and is cited as “---the leading cause of developmental and cognitive disabilities in Canada.”¹⁵² It is estimated that FASD affects 300,000 persons in this country. In British Columbia, conservative estimates indicate that there are about 140 FASD births per year.

FASD is caused only by maternal alcohol use during pregnancy. The disorder can result in a constellation of manifestations at different stages in life, including: delayed development in infancy, attention and language problems in childhood, later learning problems, poor impulse control, and problems with judgment. This leads to an increased risk of involvement with the criminal justice system.¹⁵³

“While presentation of FASD symptoms vary, most children exhibit low intelligence, learning disorders, memory difficulties and deficits in independent living skills.”¹⁵⁴

FASD is also reported to be a significant cause of Attention Deficit Hyperactivity Disorders (ADHD).¹⁵⁵ Those disorders are dealt with elsewhere in this report.

The average annual cost of FASD in Canada has been estimated to be approximately \$21,600 per individual patient, expressed in 2007 dollars.¹⁵⁶ On average, FASD costs \$1-2 million through the lifetime of a person affected.¹⁵⁷ This cost is borne by both the individual and the taxpayer.

The components of these costs include medical, education, social services and direct out-of-pocket costs such as for transportation and losses from acts of violence and stealing by individuals diagnosed with FASD. Also included are productivity costs from lost work time on the part of parents or other caregivers. Of the total costs, 25 per cent are “--- paid by the caregivers caring for their child or family members with FAS.” Not included in the total are costs in the criminal justice system incurred from the involvement of individuals with FASD, an involvement that is more common than for the population at large.¹⁵⁸

For Canada as a whole, the total cost of FASD on this basis is estimated to be \$5.3 billion annually. “The largest single components of costs (are) education and medical costs accounting for 28% and 35% respectively.” As stated in the study that calculated these costs, “--- the burden of prenatal exposure to alcohol is profound.”¹⁵⁹

¹⁵² Stade B, Ali A, Bennett D, Campbell D, Johnston M, Lens C, Tran S, Koren G. The burden of prenatal exposure to alcohol: revised measurement of cost. *Can J Clin Pharmacol* Vol 16(1) Winter 2009:e91-e102; January 23, 2009.

¹⁵³ Maughan A. *Kids 'N Crime: Report on the development and prevention of criminality among children and youth*. Park D. ed. Vancouver, British Columbia: The Vancouver Board of Trade; 2006.

¹⁵⁴ Herman L, Acosta M, Chang P. Gender and attention deficits in children diagnosed with a fetal alcohol spectrum disorder. *Can J Clin Pharmacol* Vol 15(3) Fall 2008:e411-e419; October 24, 2008.

¹⁵⁵ O'Malley K. ed. *ADHD and fetal alcohol spectrum disorders (FASD)*. 2007. Hauppauge, NY: Nova Science Publishers.

¹⁵⁶ Based on calculations re the ages from birth to 53 years.

¹⁵⁷ Public Health Agency of Canada. *Fetal Alcohol Spectrum Disorder: a framework for action*. Retrieved July 30, 2006: http://www.phac-aspc.gc.ca/publicat/fasd-fw-etcaf-ca/pdf/fasd-fw_e.pdf

¹⁵⁸ Stade et al, *supra*, n.152

¹⁵⁹ Stade et al, *supra*, n.152

Neonatal Abstinence Syndrome (NAS)

Women who use illicit drugs during pregnancy risk giving birth to children addicted to drugs, withdrawal from which causes an affliction known as Neonatal Abstinence Syndrome (NAS). Newborns with such problems are at higher risk to develop poorly in childhood, which can cause learning problems, mental illness and conduct disorders, all of which are risk factors for criminal activity. This problem is not unlike that of FASD.

Prevention, Early Diagnosis and Early Treatment of FASD

The surest strategy for the prevention of FASD is obviously for women to avoid consuming alcohol when they are pregnant. Programs supporting this approach are prevalent. Education of potential parents concerning this risk is a key aspect of dealing with this major societal problem.

However, many children still are born with FASD. Programs and actions to minimize the adverse effects of their condition exist, but a review of literature suggests that generally these are not extensive enough nor effective enough to largely offset the problems these children experience and that impact society throughout their lives.

Once an FASD child is born, early identification and intervention become critical and should incorporate the following services:

- family-focused interventions that provide support to both the parent and child;
- school-based interventions; and
- residential programs that include individual psychotherapy, parenting education, child care and vocational training.¹⁶⁰

A recent study [2005] suggests children with fetal-alcohol brain damage, once thought to be untreatable, can develop at the same level as normal children if they get constant mental stimulation and nurturing in their first two years.

The several hundred children who have passed through a unique Toronto program do “way, way better” than others born to drinking mothers, says a project participant.

If implemented more widely, it could have great impact on the epidemic of fetal-alcohol disease that afflicts an estimated 300,000 Canadians, said Dr. Gideon Koren of Toronto’s Sick Children’s Hospital.

“Forever, people thought, once you cause damage to a baby, nothing can happen [to improve them],” said Koren, who heads Toronto’s respected Motherisk clinic, which examines the link between drugs and congenital birth defects.¹⁶¹

This program is discussed in detail in a thorough report on the first ten years of operation of Breaking the Cycle, which is associated with The Hospital for Sick Children in Toronto. This initiative is “--- one of Canada’s first early identification and prevention programs for pregnant women and mothers who are using alcohol or other substances, and their young children.”

¹⁶⁰ Encyclopedia on Early Childhood Development; *Fetal Alcohol Spectrum Disorder*, Centre of Excellence for Early Childhood Development, published on line 2005, revised 2007.

<http://www.child-encyclopedia.com/en-ca/fetal-alcohol-spectrum-disorder/what-can-be-done.html>

Accessed, August 9, 2009.

¹⁶¹ Sin L. Province helping FASD children deal with their disorder, *The Province*, Vancouver, September 10, 2006, p.A6.

“Clinical outcome data indicated that BTC children are functioning within the normal range of development, and that they are developing along a trajectory that is consistent with their age over time.”¹⁶²

Through the single-access model of care, BTC facilitates access to on-site health/medical, parenting, child development, diagnostic, and addiction treatment, and basic needs supports. Through a case management approach, BTC also promotes accessibility to other social determinants of health including housing and income stability, education, and social inclusion.¹⁶³

This program has trained over 15,000 individuals regionally, nationally and internationally, has issued significant publications and developed resources, and has been highlighted by the United Nations Office on Drugs and Crime.¹⁶⁴

Given the profound cost of FASD and the success of this program, there appears to be a strong case for funding like programs widely so as to achieve comparable results on a broad scale.

In British Columbia, specialized support related to FASD and the results of other adverse substance use is being provided through two targeted programs.

Sheway, located in the Downtown Eastside of Vancouver, is an “--- enhanced pregnancy outreach program – sponsored through a partnership of the Vancouver Coastal Health Authority, the Ministry of Children and Family Development, YWCA Crabtree Corner, and the Vancouver Native Health Society. Sheway offers highly specialized services to a population with complex needs, namely pregnant women and women with infants under 18 months who are dealing with current or previous substance use. The focus is helping women have healthy pregnancies and positive parenting experiences.”¹⁶⁵

The Fir Square Combined Care Unit located at the BC Women’s Hospital and Health Centre in Vancouver is another example of support related to FASD and other adverse substance use:

Working from a harm-reduction and woman-centred framework, Fir Square provides medical and nursing care for pregnant women wishing to stabilize or withdraw from drug use. After delivery, mothers and babies room together and receive supportive care from a multidisciplinary team of nurses, family physicians, pediatricians, a social worker and addictions counsellor. The family physician group also provides provincial consultation for physicians in rural communities. There is a nursery for babies who need specialized treatment.¹⁶⁶

The goal of the program is to help women become ready for addiction treatment, support the women to safely parent their babies, and connect them with appropriate services in their own community.¹⁶⁷

¹⁶² Breaking the Cycle: Measures of Progress 1995-2005 *JFAS Int* 2006;4:e22 Nov.10, 2006. Available at: http://www.motherisk.org/JFAS_documents/BTC_JFAS_ReportFINAL.pdf. Accessed August 8, 2009

¹⁶³ Breaking the Cycle: Measures of Progress 1995-2005. *supra*, n.162

¹⁶⁴ Breaking the Cycle, *supra*, n.162

¹⁶⁵ British Columbia Ministry of Children and Family Development. *Fetal Alcohol Spectrum Disorder: Building on Strengths, A Provincial Plan for British Columbia 2008-2018*. March, 2008.

http://www.mcf.gov.bc.ca/fasd/pdf/FASD_TenYearPlan_WEB.pdf Accessed March 25, 2010.

¹⁶⁶ British Columbia Ministry of Children and Family Development. *supra*, n.165

¹⁶⁷ British Columbia Ministry of Children and Family Development. *supra*, n.165

“Despite the existence of Sheway and Fir Square, housing for at risk women and their children remains a critical need in B.C. and throughout Canada.”¹⁶⁸

The Maxxine Wright Community Health Centre in Surrey “--- is an enhanced pregnancy outreach program which, like Sheway, serves women whose lives are impacted by substance addiction, mental illness, violence or abuse, and are having difficulty accessing health and support services.”¹⁶⁹

One of the keys to combating the negative effects of FASD is early diagnosis of the condition. Corresponding early treatment as outlined above can significantly improve the outcome.

Early diagnosis and assessment of FASD-related disabilities has been shown to play a significant role in the planning and provision of appropriate support. This support and intervention can potentially mitigate the development of subsequent “secondary disabilities,” such as trouble with the law, unemployment, mental health problems and disrupted school experience.¹⁷⁰

Recent research has identified potential genetic markers that could be used for early diagnosis of FASD. While substantial additional work remains to confirm the approach, initial results are encouraging.¹⁷¹

There are substantial efforts underway in Canada to combat FASD. At the federal government level, in consultation with provinces, territories, Aboriginal organizations, communities and other stakeholders, a comprehensive national action plan addressing FASD was prepared and released in 2003. “The Framework articulates a common two-pronged vision for prevention of alcohol affected births, and improvement of outcomes for those affected by FASD. While the provinces and territories are responsible for most service delivery, the federal government responded to their request for its leadership with respect to FASD.”¹⁷² The federal government plays a special role with respect to alcohol and drug programs for First Nations individuals and communities.¹⁷³

In 2008, the federal government released another key report on FASD prevention. This document “--- describes what has been learned about the prevention of FASD in the course of implementation of health promotion and prevention strategies across Canada.

It outlines a four-part framework for FASD prevention and promotion of women’s and children’s health which has been identified by a group of Canadian experts as they have developed and evaluated FASD prevention initiatives at the community, provincial/territorial and national levels. This prevention resource reflects a pan-Canadian

¹⁶⁸ British Columbia Ministry of Children and Family Development. *supra*, n.165

¹⁶⁹ British Columbia Ministry of Children and Family Development, *supra*, n.165

¹⁷⁰ Stressguth A. Barr H. Kogan J. Bookstein F. Primary and Secondary Disabilities in Fetal Alcohol Syndrome, in: Stressguth A. Kanter J. editors, *The Challenge of Fetal Alcohol Syndrome: Overcoming Secondary Disabilities*, Seattle: University of Washington Press; 1997. pp 25-39. Cited in British Columbia Ministry of Children and Family Development, *supra*, n.165.

¹⁷¹ Chong S. Queensland Institute of Medical Research, quoted with respect to study results. Australia: Herald Sun. January 15, 2010.

¹⁷² Public Health Agency of Canada. Government Response to the Standing Committee on Health: Even One is Too Many: *A Call for a Comprehensive Action Plan on Fetal Alcohol Spectrum Disorder*. Modified 2007. <http://www.phac-aspc.gc.ca/fasd-etcaf/govresfasd-resgovetcaf-eng.php> Accessed August 9, 2009.

¹⁷³ Health Canada, *First Nations, Inuit and Aboriginal Health: Alcohol, Drugs and Solvents*. <http://www.hc-sc.gc.ca/fniah-spnia/substan/ads/index-eng.php> Accessed August 10, 2009.

vision for both preventing FASD and improving the outcomes for those who are already living with it.¹⁷⁴

The approach advocates four levels of FASD prevention as follows:

- Level 1: Broad awareness building and health promotion efforts to engage and involve a broad range of people at the community level.
- Level 2: Discussion of alcohol use and related risks with all women of childbearing years and their support networks.
- Level 3: Specialized, holistic support of pregnant women with alcohol and other health/social problems.
- Level 4: Postpartum support for new mothers assisting them to maintain/initiate changes in their health and social networks and to support the development of their children. Early interventions for children who potentially have FASD are important at this stage.¹⁷⁵

The Government of British Columbia is mounting an extensive effort to prevent and offset the effects of FASD.¹⁷⁶ Building on the Province's first FASD strategic plan released in 2003, *Fetal Alcohol Spectrum Disorder: Building on Strengths*, a provincial plan for British Columbia 2008-2018, is being pursued.¹⁷⁷ The lead ministry with respect to provincial FASD programs states that British Columbia is “--- a leader in FASD prevention, assessment, diagnosis, and in the development of supports for families.”¹⁷⁸

The current provincial plan reports progress in British Columbia in preventing and combating FASD, including a cross-ministry initiative launched in 2006 “--- to improve prevention, diagnosis, assessment, intervention and expert consultation.” Aspects of this effort have included public awareness initiatives; regional FASD prevention plans; specialized support for pregnant and parenting women; increased provision for early diagnosis and assessment; enhanced supports for individuals, families and caregivers; and training and support for communities and caregivers to improve outcomes for children and youth with FASD.¹⁷⁹

The 2008-2018 plan has a series of cross-government strategic objectives:

1. British Columbians are aware of the risk of alcohol and substance abuse in pregnancy and of FASD as a lifelong disability.
2. All women of childbearing age and their partners and support systems have access to early support and follow up.
3. All pregnant women and mothers experiencing substance abuse problems, and their partners and support systems have access to focussed intervention and support.

¹⁷⁴ Poole N. Public Health Agency of Canada, *Fetal Alcohol Spectrum Disorder (FASD) Prevention: Canadian Perspectives*, 2008, <http://www.phac-aspc.gc.ca/fasd-etcaf/pdf/cp-pc-eng.pdf> Accessed August 24, 2009.

¹⁷⁵ Poole N. *supra*, n.169.

¹⁷⁶ British Columbia Ministry of Children and Family Development. *Factsheet: Fetal Alcohol Spectrum Disorder (FASD)*. February 2009. http://www.mcf.gov.bc.ca/fasd/pdf/Factsheet_FASD_Feb_2009.pdf Accessed August 9, 2009.

¹⁷⁷ British Columbia Ministry of Children and Family Development. *Fetal Alcohol Spectrum Disorder: Building on Strengths, A Provincial Plan for British Columbia 2008-2018*. March, 2008. http://www.mcf.gov.bc.ca/fasd/pdf/FASD_TenYearPlan_WEB.pdf Accessed August 9, 2009.

¹⁷⁸ British Columbia Ministry of Children and Family Development. *supra*, n.176

¹⁷⁹ British Columbia Ministry of Children and Family Development. *supra*, n.177

4. Children, youth and adults living with FASD have access to timely diagnosis and assessment.
5. Children, youth and adults and their families and support networks have access to comprehensive and lifelong intervention and support.
6. Service systems are coherent, integrated and coordinated, and benefit from strong research and evaluation.¹⁸⁰

“British Columbia is a member of the Canada Northwest FASD Partnership—an alliance of the four western provinces and three territories that share expertise and resources in FASD prevention, diagnosis and support, and the advancement of research.”¹⁸¹

¹⁸⁰ British Columbia Ministry of Children and Family Development, *supra*, n.177

¹⁸¹ British Columbia Ministry of Children and Family Development. *Factsheet: Fetal Alcohol Spectrum Disorder (FASD)*, *supra*, n.176

9. TRAUMA

The first years of life are important, because what happens in early childhood can matter for a lifetime.¹⁸²

Stable, responsive, nurturing relationships and rich learning experiences in the earliest years provide lifelong benefits for learning, behavior and both physical and mental health. In contrast, research on the biology of stress in early childhood shows how chronic stress caused by major adversity, such as extreme poverty, abuse or neglect, can weaken developing brain architecture and permanently set the body's stress response system on high alert, thereby increasing the risk for a range of chronic diseases.¹⁸³

In the original *Kids 'N Crime* document there was no explicit discussion of childhood trauma as a determinant of youth or adult criminal activity. However, it is clear that trauma in various forms is a significant factor in precipitating and continuing addiction. In turn, addiction is a motivating force in criminal activity undertaken to secure money for the purchase of illicit drugs. Accordingly, this discussion of trauma has been drafted for addition to the current document.

Early life adversity or trauma may lead to a range of problems, including depression, aggression, substance abuse, health problems and general unhappiness, years after the end of maltreatment. As adults, victims of maltreatment have high rates of anxiety and post-traumatic stress disorder and are more likely to engage in criminal behaviours.¹⁸⁴

"Trauma is a prevailing antecedent to substance use, and is also related to current psychopathology and patterns of substance use."¹⁸⁵ "Common personal and behavioural effects of emotional trauma include substance abuse."¹⁸⁶

In turn, addiction to illicit drugs is a major factor driving crime committed to pay for those drugs.

The huge cost of crime associated with drug addiction warrants an analysis of the cost of treatment for addiction and the cost of treatment for trauma as a key preventative measure. That analysis is largely beyond the current project. However, the magnitude of the challenge and the importance of it are outlined below.

Each year in the United States approximately five million children experience some form of traumatic experience. More than two million of these are victims of physical or sexual abuse. Millions more are living in the terrorizing atmosphere of domestic violence. Natural disasters, car accidents, life-threatening medical conditions, painful procedures, exposure to community violence – all can have traumatic impact on the child. By the time a child reaches the age of eighteen, the probability that any child will have been touched directly by interpersonal or community violence is approximately one in four. Traumatic experiences can have a devastating impact on the child, altering their physical,

¹⁸² Shonkoff J. Investment in early childhood development lays the foundation for a prosperous and sustainable society, *Encyclopedia on early childhood development*, published online December 9, 2009, <http://www.child-encyclopedia.com/pages/PDF/ShonkoffANGxp.pdf>

¹⁸³ Shonkoff J. *supra*, n.182.

¹⁸⁴ Heim C. Childhood trauma and adult stress responsiveness, *Encyclopedia on early childhood development*, published online June 11, 2009, <http://www.child-encyclopedia.com/pages/PDF/HeimANGxp.pdf> Accessed April 12, 2010.

¹⁸⁵ Krausz M. in introductory overview of conference: *Wounded Souls and the Vulnerable Self, Trauma and Addiction: Causes, Consequences and Treatment*, Vancouver, October 27-29, 2009.

¹⁸⁶ Krausz M. *supra*, n.185

emotional, cognitive and social development. In turn, the impact on the child has profound implications for their family, community and, ultimately, us all.¹⁸⁷

Traumatic events in childhood increase risk for a host of social (e.g., teenage pregnancy, adolescent drug abuse, school failure, victimization, anti-social behavior), neuropsychiatric (e.g., post-traumatic stress disorder, dissociative disorders, conduct disorders) and other medical problems (e.g., heart disease, asthma).¹⁸⁸

The Canadian Centre for Substance Abuse has stated that “Illicit drug use costs Canadian society approximately \$8.2 billion each year.” “60 per cent of illicit drug users in Canada are between the ages of 15 and 24; the average age of first use is as young as 11 among some high-risk groups.”¹⁸⁹ While the proportion of illicit substance abuse that might be attributed to trauma is uncertain, trauma appears to be a significant contributor to that abuse.

“The cost of unresolved trauma to society is incalculable. Trauma has been correlated to physical and mental illness; learning disabilities; addictions; deviant or aggressive behaviour; --- violence in individuals; ---.”¹⁹⁰

“Because of the development of brain scan technology, scientists can now observe the brain in action ---. These scans reveal that trauma actually changes the structure and function of [a specific part of] the brain ---.”¹⁹¹

“--- potential sources of psychological trauma (that) are often overlooked (include): ---

- surgery, particularly emergency, and especially in the first three years of life
- serious illness, especially when accompanied by very high fever
- birth trauma¹⁹²

In addition, traumatic stress in childhood that influences the brain is by poor or inadequate relationship with a primary caretaker. Sources of this developmental or relationship trauma include the following:

- forced separation very early in life from the primary caregiver; and
- chronic mis-attunement of caregiver to child’s attachment signals (“mal-attachment”) or reasons such as physical or mental illness, depression or grief.¹⁹³

It is acknowledged that early life trauma creates a vulnerability for experiencing future traumatic responses.¹⁹⁴

The impact of trauma in many cases underlies the types of problems dealt with in other sections of this report.

¹⁸⁷ Perry B. *Helping Traumatized Children*, ChildTrauma Academy, Parent and Caregiver Education Series, vol. 1 no. 3, August 1999, <http://www.childtrauma.org/ctamaterials/Principles2.asp> Accessed November 11, 2009.

¹⁸⁸ Perry B. *supra*, n.187

¹⁸⁹ *2008/2009 Annual Report: The Gathering Effect*, Canadian Centre on Substance Abuse, <http://www.ccsa.ca/2009%20CCSA%20Documents/ccsa-annrpt-2009-e.pdf> Accessed November 16, 2009.

¹⁹⁰ *What is Trauma*, The International Trauma-Healing Institute, <http://www.traumainstitute.org/trauma.php> Accessed November 11, 2009.

¹⁹¹ *Emotional and Psychological Trauma: Causes and Effects, Symptoms and Treatment*, Healing Resources.info, <http://www.traumainstitute.org/trauma.php> Accessed November 11, 2009.

¹⁹² Healing Resources info, *supra*, n.191

¹⁹³ Healing emotional and psychological trauma: symptoms, treatment and recovery, Helpguide.org, http://www.helpguide.org/mental/emotional_psychological_trauma.htm Accessed January 27, 2010.

¹⁹⁴ Helpguide.org, *supra*, n.193

Children who experience parental abuse and/or neglect are more likely to show negative outcomes that carry forward into adult life. These children are more likely to show problems with emotional regulation, self-concept, social skills and academic motivation. Over time, studies have reported that individuals who experience abuse often show serious learning and adjustment problems, including academic failure, severe depression, aggressive behaviour, peer difficulties, substance abuse and delinquency.¹⁹⁵

Martin Teicher in his studies of brain development and function in relation to neglect, physical or sexual abuse, and family violence, found adverse environments led to changes in the child's brain structure. He found that severe stress --- leaves an indelible effect on brain structure and function that can appear in adult life as depression, anxiety, post-traumatic stress, aggression, impulsiveness, delinquency, hyperactivity, or substance abuse.¹⁹⁶

¹⁹⁵ McCain M. Mustard J. Shanker S. *Early Years Study 2: Putting Science Into Action*, Council for Early Child Development, Toronto 2007.

¹⁹⁶ McCain M. Mustard J. Shanker S. *Early Years Study 2: Putting Science Into Action*, Council for Early Child Development, Toronto 2007.

10. YOUTH AT RISK

Youth at Risk

In a comprehensive, penetrating analysis, leading U.S. researchers have estimated the monetary value of saving a high-risk youth from a life of crime. Taking into account the costs of crimes to victims, criminal justice costs and costs incurred by the criminal (e.g., foregone wages), the costs of drug use and the cost of dropping out of high school, they estimated that the present value at age 18 of diversion from a life of crime is in the range of \$2.6 to \$5.3 million (2007 U.S. dollars).¹⁹⁷ Similar results hold for all ages from birth to adulthood.

In British Columbia it costs up to \$20,000 per year for each youth under community supervision, and approximately \$215,000 per year for each youth in custody.¹⁹⁸ It is clear that in addition to the humanitarian motivations for improving the potential outcomes for youth at risk, there are strong economic reasons for achieving that.

In other sections of this report, adverse factors are explored that can impact children and have serious psychological effects leading to criminal behaviour in later life. Given the early stages of most programs that can prevent or remedy these effects, a significant number of children grow into youths that are at risk of a life of crime. However, there are numerous programs that offer promise of being effective in reducing the delinquency of youths at risk.

--- longitudinal studies of delinquency and crime have repeatedly documented a strong link between past and future behavior and have identified a small subset of offenders who commit a large share of criminal offenses. These findings suggest that if these offenders can be identified early and correctly and provided with prevention and treatment resources early in the life course, their criminal activity may be curtailed.¹⁹⁹

As noted earlier in this report, the Washington State Institute for Public Policy has carried out several studies to identify programs that offer good returns to the expenditure of government funds. The Institute has concluded that “--- there are some programs for juvenile offenders that produce especially attractive long-run economic returns.”

For example, for a Functional Family Therapy program, the average cost per juvenile participant was \$2,325 (U.S.), versus \$34,146 in life cycle benefits, “---measured in terms of the taxpayer and crime victim costs that are avoided because of the reduced long-run level of criminal activity of the youth.”²⁰⁰

The following programs are for youth in the juvenile offender system in Washington State, and are listed in descending order of per cent change in crime outcomes measured for the program.²⁰¹

¹⁹⁷ Cohen M. Piquero A. *supra*, n.151

¹⁹⁸ Turpel-Lafond M.E. Kendall P. *Kids, Crime and Care – Health and Well-Being of Children in Care: Youth Justice Experiences and Outcomes*, joint special report by the Representative for Children and Youth and the Provincial Health Officer. February 2009.

<http://www.rcybc.ca/Images/PDFs/Reports/Youth%20Justice%20Joint%20Rpt%20FINAL%20.pdf>

Accessed various dates in 2009 and 2010.

¹⁹⁹ Turpel-Lafond M.E. Kendall P. *supra*, n.198

²⁰⁰ Aos et al., *supra*, n.27.

²⁰¹ Aos et al., *supra*, n.27.

- Multidimensional Treatment Foster Care (vs. regular group care)
- Adolescent Diversion Project (for lower-risk offenders)
- Family Integrated Transitions
- Functional Family Therapy on probation
- Multisystemic Therapy
- Aggression Replacement Training
- Teen courts
- Juvenile sex offender treatment
- Restorative justice for low-risk offenders

While these programs have produced attractive economic returns, the reduction in crime generally is fairly low. The per cent change in crime outcomes for these programs as cited by the Institute ranges from a high of 22 per cent to a low of 7.3 per cent.

This underlines the importance of programs that remedy situations encountered by children very early in their lives, as described in other sections of this report.

These programs also may have achieved results for which monetary benefit could not yet be quantified.

Study by Public Safety Canada

A study carried out under the auspices of Public Safety Canada, a department of the Government of Canada, has produced a comprehensive review of programs that are intended to prevent or reduce juvenile delinquency. The following material is largely drawn from that source.²⁰²

Factors Affecting Risk of Delinquency

Bad parenting practices, such as a lack of supervision, over-permissiveness, inconsistent or overly strict discipline, a weak bond of affection and the inability to set clear limits, represent significant risk factors for delinquency, drug use, poor academic performance, and membership in youth gangs.²⁰³

According to researchers, parental supervision and control play a key role in the adoption of delinquent behaviour.²⁰⁴

Just as a relatively small number of offenders are responsible for a majority of crimes, a small proportion of families are responsible for a large proportion of crime. This has been confirmed by studies in both the U.S. and France.²⁰⁵

--- family functioning is influenced by the surrounding social context. Parents living in a poor neighbourhood and who have few resources have more difficulty in steering their children clear of deviant and at risk behaviour.

²⁰² Savignac J. *Families, Youth and Delinquency: the state of Knowledge, and Family-based Juvenile Delinquency Prevention Program*, Research Report 2009-1, National Crime Prevention Centre, Public Safety Canada, Ottawa. <http://www.publicsafety.gc.ca/res/cp/res/2009-01-knw-delinq-eng.aspx> Accessed December 17, 2009.

²⁰³ Several sources cited in: Savignac J. *supra*, n.202

²⁰⁴ Savignac J. *supra*, n.202

²⁰⁵ Savignac J. *supra*, n.202

Thus, young children living in a poor neighbourhood and growing up in a family where parental supervision is deficient are at risk of developing delinquent behaviour in adolescence.²⁰⁶

A number of risk factors must be considered in relation to the area of residence: the presence of youth gangs and young offenders, the availability of drugs and firearms, neighbourhood integration, a high level of disorganization, scarce availability of resources and services, and local poverty.²⁰⁷

Cost-Benefit Analysis

Cost-benefit analyses of programs put in place for youth at risk and their families, show that some programs save taxpayers 7 to 10 times the program cost. For example, the best programs with a good cost-benefit ratio are Multidimensional Treatment Foster Care (MTFC), where for each dollar invested, the taxpayers save up to \$11.60; Multisystemic Therapy (MST), with savings of up to \$7.70; and Functional Family Therapy, with \$7.50.²⁰⁸

Intervention Strategies that Work with Families

Three types of intervention strategies appear to be effective for family programs: parental training programs; family therapy programs; and, integrated approach programs.

Programs based on parental education are designed essentially to improve parental responsibilities and behaviours.

Parental training uses a structured approach designed to:

- Help parents identify positive and antisocial behaviours in their children, and use appropriate childrearing techniques.
- Improve family relations by strengthening ties of affection.
- Improve parental skills in such areas as problem-solving, family conflict and self-control.²⁰⁹

Family therapy programs follow a multidimensional approach combining parental training session(s), youth training session(s) and improvements in family dynamics. These programs are generally carried out by qualified therapists in a clinical setting.

--- family therapy programs are designed essentially to:

- Improve communication and interactions between parents and children, and resolve problems that arise.
- Improve family functioning.
- Improve parenting practices.

The Integrated approach is based on the principle that a youth and his or her family do not live in isolation. An effective intervention must first, replace the family to its environment; and second, focus on risk factors coming from several areas (for example,

²⁰⁶ Savignac J. *supra*, n.202

²⁰⁷ Savignac J. *supra*, n.202

²⁰⁸ Greenwood P. (2004), "Cost-effective Violence Prevention through Targeted Family Interventions." *Youth Violence – Scientific Approaches to Prevention, Annals of the New York Academy of Science*, 1036:201-214, cited in Savignac J. *supra*, n.202.

²⁰⁹ Savignac J. *supra*, n.202

community, neighbourhood, school, friends, family and the youth himself or herself); and third, develop an integrated approach that involves participation by a number of key partners: health and social services, education, justice, mental health, substance abuse and so on.²¹⁰

²¹⁰ Savignac J. *supra*, n.202

Programs based on an integrated approach are designed to:

- Reduce the use of predetermined traditional treatment programs.
- Support and guide families through the process.
- Improve the care and services available for most at risk-youth.
- Combine a number of services and support networks surrounding young people at risk in a personalized way.²¹¹

A quite detailed analysis of specific programs of these types is presented in the report from which most of the information in this section is drawn: Savignac J. *Families, Youth and Delinquency: the state of Knowledge, and Family-based Juvenile Delinquency Prevention Program*, Research Report 2009-1, National Crime Prevention Centre, Public Safety Canada, Ottawa. <http://www.publicsafety.gc.ca/res/cp/res/2009-01-knw-delinq-eng.aspx>

Key Success Factors for Family-based Programs

The results described in the report cited above “--- show that it is possible to work effectively with vulnerable families to reduce and prevent the risk of juvenile delinquency.” Key success factors in these programs include:²¹²

A Combination of Intervention Strategies

- Current knowledge shows that programs combining training sessions for youth and for parents have a more significant impact on the mitigation of risk factors and the reinforcement of protective factors than programs that target only youth or parents.²¹³
- Programs that combine diversified intervention strategies use an integrated approach and involve several stakeholders, have a better chance of success.
- From this point of view, to obtain better effective results, it is mainly recommended to combine intervention in family setting and in school setting.
- Work on risk factors that can be changed (such as dynamic risk factors rather than static ones: parenting practices, supervision, conflict management and so on).

Program Design and Implementation

- Use a structured approach and propose a range of activities.
- Work over a sufficient period of time, particularly with high risk families, to generate long-term effects.
- Take the age and gender of the young people into account.
- Also take into account ethnic and cultural characteristics.²¹⁴

Conclusion re Family-Based Programs

--- prevention and treatment programs for vulnerable families are effective and should therefore be included in a comprehensive approach and strategy to prevent and reduce delinquency and recidivism for youth at risk.

²¹¹ Savignac J. *supra*, n.202

²¹² Savignac J. *supra*, n.202

²¹³ Kumpfer K. Alvarado R. *Effective Family Strengthening Interventions*, Justice Juvenile Bulletin: Family Strengthening Series, US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. 1998. Cited in Savignac J., *supra*, n.200

²¹⁴ Savignac J. *supra*, n.202

Since the family is a key factor in a young person's development, --- working with those who are at risk by offering integrated, personalized treatment plans, individual or family therapy, or parental education activities, is a casework strategy with proven effectiveness.

--- there is no absolute truth and no single program that applies to all families at risk. The reality of families at risk ranges over a continuum, and personalized, individualized casework taking into account the specific characteristics of each family enables accurate targeting of the central risk factors that must be addressed, as well as the existing protective factors that must be reinforced.²¹⁵

The Situation in British Columbia

British Columbia has a strong delivery system of youth justice programs and services. There is no crisis here – B.C.'s youth crime rate is low and has been declining for more than ten years. The Canadian Centre for Justice Statistics recently reported that in 2007, B.C. had an overall youth crime rate and a violent crime rate well below the national average, and second lowest in Canada (behind Quebec). Nonetheless, a strengthened focus is necessary to improve the quality and consistency of supports for the most vulnerable children in the province.²¹⁶

Examples of Services Provided in British Columbia

There are a variety of Youth Custody Services and Community Youth Justice Services provided in British Columbia by the Ministry of Children and Family Development. The following examples are based on a summary of Youth Justice Programs for Vancouver Island.²¹⁷

Youth Custody Services

Secure Custody—intended for youth who have been found guilty of serious offences or for young people who have a persistent pattern of offending and cannot be reasonably supervised in a community setting or in open custody.

Open custody—intended for youth who are not appropriate for placement in a community setting but who can manage effectively with less stringent controls and greater privileges within an open custody centre.

Programs available to youth in custody fall into four categories. (Examples include):

Basic Programs: --- education, religion and recreation/leisure programs, as well as family visits.

Core Programs: --- substance abuse management, violence intervention, and life skills.

Specialized Programs: --- services for Aboriginal youth, female youth, violent offenders, and youth requiring mental health services or drug and alcohol counseling.

Reintegration Programs: (supporting)—a youth's return to the community through the provision of community based services.

²¹⁵ Savignac J., *supra*, n.202

²¹⁶ Turpel-Lafond M.E. Kendall P., *supra*, n.198

²¹⁷ John Howard Society, *Youth Justice Programs-Vancouver Island*, http://www.mcf.gov.bc.ca/youth_justice/pdf/youth_justice_booklet07.pdf
Accessed March 29, 2010.

Community Youth Justice Services

Youth Probation: ---Youth Probation Officers work in multi-disciplinary teams---. (They) are peace officers of the court who supervise youth subject to court orders and agreements. They work collaboratively with professionals from the justice system and community services to meet the needs of young offenders and reduce the risk of re-offending.

Youth Forensic Psychiatric Services

Using a multi-disciplinary approach --- provides court-ordered and court-related psychological assessment and treatment services.

Intensive Support and Supervision

(Youth Support workers) --- provide support and supervision to high risk youth in developing healthy functioning in education, work, family, and community settings.

Full Time Attendance Programs

A variety of full-time attendance programs are provided including an outdoor experiences program; a community-based, court-ordered bail monitoring program as an alternative to incarceration; a program providing sentenced youth with short-term stays involving support and supervision in private care homes in the community; and community-based residential programs.

Youth Criminal Justice Act Family Support

--- assists high-risk youth to make healthier lifestyle choices through short- or long-term individual/family support, assessment, referral to other community agencies, advocacy, crisis intervention, and case planning and management.

Youth Community Service Order

Youth perform community service hours, enabling them to connect to positive resources and learn job skills and/or work habits. This encourages accountability and responsibility while enforcing consequences for the offence committed.

Restorative Justice

A voluntary process, Restorative Justice brings together a young offender, the person harmed by the offence, their respective families and supporters, other key people affected by the harm and relevant community members. The goal of Restorative Justice is to find a mutually satisfying resolution to the harm caused by the offence.

Youth in Care

The following excerpts are drawn from a comprehensive and penetrating study of youth in care who become involved with the youth justice system in British Columbia. The study, *Kids, Crime and Care*, was issued as a joint report by the British Columbia Representative for Children and Youth and the Provincial Health Officer.²¹⁸

Children and youth in care are wards of the province on either a continuing or temporary basis. There are approximately 9,000 children and youth in that status. In addition, about 4,500 children in B.C. live with relatives under the Child in a Home of a Relative program (CIHR). Another 1,500 First Nations children live in the home of a relative under a federally administered program. A further 1,000 children and youth are under other kinship and out of care placements

²¹⁸ Turpel-Lafond M.E. Kendall P. *supra*, n.198

and independent youth agreements.²¹⁹ The following statements apply to children and youth in care unless otherwise noted.

The federal *Youth Criminal Justice Act* applies to youth aged 12 to 17 years.

Thirty-six per cent of all youth in care appeared before youth court, in contrast to less than five per cent of the general youth study population.

A higher proportion of children and youth in care in B.C. become involved with the youth justice system (35.5 per cent) than graduate from high school (24.5 per cent).

Once youth in care entered the youth justice system, their likelihood of graduating from high school dropped to just 13 per cent.

The life experience of the 4,500 children in the CIHR program is not well understood, but these children graduate from school and get involved with the youth justice at similar rates as children in care.

Of the youth in care involved with the youth justice system, almost 72 per cent have been reported with intensive behavioural problems or serious mental illness within the school system, compared with just over two per cent for the general youth study population.

--- nearly 70 per cent of the children in care studied were identified with educational special needs, in contrast to 15.5 per cent of the general youth population.

Over half of the children in care in B.C. are Aboriginal, and approximately one-third of youth in the youth justice system are Aboriginal.

A greater proportion of children in care have involvement in the youth justice system than children who aren't in care. However, it is important to note that many children and youth in care, including Aboriginal children and those in CIHR (Children in the Home of a Relative) do fine despite considerably adverse circumstances in their lives. In fact, the substantial majority of children in care do not become formally involved in the justice system at all, despite the risk factors.²²⁰

It is clear that there is a significant correlation between behavioural problems or mental illness and involvement of youth in care with the youth justice system. As described elsewhere in this report, many of those problems are related to conditions impacting some children at an early age, and even before birth. Some of these conditions can be remedied and the effects of some can be at least partially offset.

Each of these stages (early childhood, middle years and adolescence) and transitions (kindergarten, the onset of puberty and entering high school) can be impacted by negative risk factors. These factors include exposure to toxic substances during their mother's pregnancy, physical or sexual abuse or neglect, involvement with negative peer groups and alienation in school. The more risk factors a child is exposed to, the greater the chance that they have of coming into contact with the justice system and having serious life problems such as mental illness, lower educational attainment, higher rates of crime and unemployment as an adult.²²¹

²¹⁹ Turpel-Lafond M.E. Kendall P. *supra*, n.198

²²⁰ Turpel-Lafond M.E. Kendall P. *supra*, n.198

²²¹ Turpel-Lafond M.E. Kendall P. *supra*, n.198

Every child should have a loving, supportive relationship with one or more adults to help guide them through the important transitions from birth to adulthood, and to develop the resilience required to deal with life's adversities. There are many stages of development and important transitions throughout childhood and adolescence. Strong attachment to a positive adult role model can help a child through these stages and to achieve their full potential.²²²

- there is still much yet to be done to enhance the resiliency of the vulnerable children and youth who come into care and do not have successful encounters. The most challenging work remaining is to improve the life opportunities of the most vulnerable children, so their developmental trajectory will not lead them to a jail cell but to a pro-social and positive future, equipping them to be part of society while pursuing opportunities equal to others.²²³

Investing in a range of social supports for both Aboriginal and non-Aboriginal children and youth is in itself an effective youth crime prevention strategy. Without these investments and interventions, too many of the vulnerable youth involved in the youth justice system today will unfortunately become the adult offenders that crowd the courts and jails and put an economic burden on society.

It is also important to recognize that while early intervention is the long-term key to strengthening the resilience of vulnerable children, youth and families and building stronger communities, it is never too late to intervene. It is never too late to help a youth turn his or her life around and to gain the confidence and trust needed to succeed and become a productive adult.²²⁴

²²² Turpel-Lafond M.E. Kendall P. *supra*, n.198

²²³ Turpel-Lafond M.E. Kendall P. *supra*, n.198

²²⁴ Turpel-Lafond M.E. Kendall P. *supra*, n.198

11. HIGH SCHOOL GRADUATION

Graduation from High School

“Currently, approximately 20 per cent of Canadians aged 20 years and over have never completed high school.”²²⁵ The most recent figures for British Columbia indicate that presently 79 to 80 per cent of students are completing high school.^{226 227 228} More than 11,000 British Columbia students annually do not graduate from high school.²²⁹

Directly or indirectly, high school non-completion has enormous fiscal implications in terms of expenditures on health, social services and programs, education, employment, criminality and lower economic productivity.²³⁰

A study carried out by Professor Olena Hankivsky of Simon Fraser University for the Canadian Council on Learning estimates the tangible costs of dropping out of high school.²³¹ The following statistics are from that analysis. The author of that study notes that only the most conservative cost calculations were used.

On an annual basis, the average cost per dropout is calculated to be \$8,100 in private health care costs.²³² Comparable data for public health care costs are not available.

The average annual social assistance costs per dropout are estimated to be \$4,200. Mean earnings losses to the individual dropout are approximately \$3,500 annually.

Tax revenue loss to the public purse and revenue loss in employment insurance premiums per dropout together are close to \$300 annually. Payments in employment insurance are calculated to be nearly \$2,800.

The estimated cost savings from a one percentage point increase in the high school graduation rate for all students in Canada are estimated to be over \$7.7 billion annually in terms of 2008 cost levels. This is based on projected cost savings in social assistance payments, the costs of crime, earning losses of individuals graduating, tax revenues, employment insurance, and intangible costs.

²²⁵ Statistics Canada, *2006 Census of Population*, (Ottawa 2006), Catalogue no. 97-560XCB2006007, cited in “No ‘drop’ in the bucket: the high costs of dropping out”. *Lessons in Learning*, Canadian Council on Learning. February 4, 2009. <http://www.ccl-cca.ca/CCL/Reports/LessonsInLearning/LinL20090204CostofDroppingout.htm> Accessed August 12, 2009.

²²⁶ Defined as percentage of students that graduate with a Dogwood Diploma within six years of entering Grade 8. Statistics cited in British Columbia Ministry of Education, *2008/09 Service Plan Report*, http://www.bcbudget.gov.bc.ca/Annual_Reports/2008_2009/educ/educ.pdf Accessed August 13, 2009.

²²⁷ BC Ministry of Education, Media Room. <http://www.bced.gov.bc.ca/news> Accessed August 13, 2009.

²²⁸ British Columbia Ministry of Education, *Six-Year Completion and Grade 12 Graduation Rates – 2008/09, Province – Public and Independent Schools Combined*, <http://www.bced.gov.bc.ca/reports/pdfs/graduation/prov.pdf> Accessed March 29, 2010.

²²⁹ ReadNow BC. *Working Together for Literacy: British Columbia’s Literacy Action Plan*. British Columbia Ministry of Education. <http://www.readnowbc.ca/pdfs/booklet.pdf> Accessed August 13, 2009.

²³⁰ Olena H. *Cost estimates of dropping out of high school in Canada*. Prepared for Canadian Council on Learning. December 2008. <http://www.ccl-cca.ca/pdfs/OtherReports/CostofdroppingoutHankivskyFinalReport.pdf> Accessed August 12, 2009.

²³¹ Olena, *supra*, n.230

²³² For purposes of this presentation, figures in this series of estimates have been rounded to avoid an undue impression of accuracy.

Leading U.S. researchers have estimated that the lifetime costs of an individual student dropping out of high school discounted to a present value at age 18 are between \$420,000 and \$630,000, expressed in 2007 U.S. dollars. The amount includes estimates of lost wage productivity, fringe benefits and nonmarket losses.²³³

The magnitude of potential savings emphasizes the importance of efforts to increase the graduation rate.

Crime is another area where dropping out of high school has adverse effects.

The relationship between education and crime is most obvious when considering rates of incarceration.²³⁴

High school leavers are disproportionately represented among prison populations. For example, in British Columbia, non-graduates represent 34 per cent of the overall population, but they make up 74 per cent of the prison population.²³⁵ The annual costs to the entire criminal justice system (not only related to incarceration) are estimated at over \$200 per high school leaver, or \$350 million per year²³⁶ [for Canada as a whole].

In a comprehensive, penetrating analysis, the U.S. researchers mentioned above have estimated the monetary value of saving a high risk youth from a life of crime. Taking into account the costs of crimes to victims, criminal justice costs and costs incurred by the criminal (e.g., foregone wages), the costs of drug use and the cost of dropping out of high school, they estimated that the present value at age 18 of diversion from a life of crime is in the range of \$2.6 to \$5.3 million (2007 U.S. dollars).²³⁷ To the extent that graduation from high school helps to divert a youth from a life of crime, that contributes to a huge benefit to society and the individual.

Given the increasing competition in the labour market, high school dropouts are at a disadvantage to those with a high school diploma. The Canadian Council on Learning mentions that unemployment for 25- to 44-year old dropouts was 12 per cent, compared to 7 per cent for those who completed high school.²³⁸

With that in mind, programs should address youth at risk of not completing high school. Dr. Ben Levin defines an 'at risk' student as "one whose past or present characteristics or conditions are

²³³ Cohen M. Piquero A. "New Evidence on the Monetary Value of Saving a High Risk Youth", *J Quant Criminol* (2009) 25:25-49 <http://www.springerlink.com/content/ahn381645901514n/fulltext.pdf> Accessed August 24, 2009.

²³⁴ Levine J. Emery C. Pollack H. "The well-being of children born to teen mothers", *J Marriage Fam. Vol. 69(2007)*, pp. 105-122, cited in: "No 'drop' in the bucket: the high costs of dropping out". *Lessons in Learning*, Canadian Council on Learning. February 4, 2009.

<http://www.ccl-cca.ca/CCL/Reports/LessonsInLearning/LinL20090204CostofDroppingout.htm>

Accessed August 12, 2009.

²³⁵ Ungerleider C. and Burns, T. "The State and Quality of Canadian Public Elementary and Secondary Education", presented at the Social Determinants of Health across the Life-Span Conference, Toronto, November 2002, cited in "No 'drop' in the bucket: the high costs of dropping out". *Lessons in Learning*, Canadian Council on Learning. February 4, 2009. <http://www.ccl-cca.ca/CCL/Reports/LessonsInLearning/LinL20090204CostofDroppingout.htm>

Accessed August 12, 2009.

²³⁶ "No 'drop' in the bucket: the high costs of dropping out". *Lessons in Learning*, Canadian Council on Learning. February 4, 2009. <http://www.ccl-cca.ca/CCL/Reports/LessonsInLearning/LinL20090204CostofDroppingout.htm>

Accessed August 12, 2009.

²³⁷ Cohen M. Piquero A., *supra*, n.233. These figures have been adjusted by the authors to account for the fact that some of the costs are not mutually exclusive.

²³⁸ Canadian Council on Learning. *Good News: Canada's High School Dropout Rates are Falling*. December 16, 2005. Retrieved June 14, 2006: <http://www.ccl-cca.ca/CCL/Reports/LessonsInLearning?LiL-16Dec2005.htm>

associated with a higher probability of failing to attain desired life outcomes”.²³⁹ Such outcomes include graduation, positive labour force attachment, higher income, less involvement in crime, and better health.

Factors that increase the risk of dropout are both internal and external. “Increasingly, the concept has expanded from one based on presumptions of deficit in the learner to encompass sensitivity to the educational, home and community environments of children’s and youth’s development.”²⁴⁰

Specific examples of risk factors from the literature that Dr. Levin reviewed include:

- Low socio-economic status, leading to poor mental health, physical health, and lost opportunities
- Low parental education (especially the mother’s)
- Punishing parenting style
- Adolescent parenthood
- Problems in child development
- Poor labour market
- Living in a deprived neighbourhood
- Lack of community support
- School populated by disadvantaged youth
- Loss of a parent (through death or divorce)^{241 242}

In addition, the Canadian Council on Learning has pointed out that youth in rural areas achieve less than those in urban areas, and they are at higher risk for dropping out of high school. The council attributes this gap to less available qualified teaching staff and fewer skilled labour jobs in rural areas.²⁴³

Significantly, educational differences explain approximately 30 per cent of the occupational differences between Aboriginal and non-Aboriginal workers. Low education has been identified as the key factor in explaining the relatively weak performance of Aboriginal Canadians in the labour market.²⁴⁴

It is evident that these factors are analogous to those affecting other areas of development discussed elsewhere in this report. As discussed, some of these factors may begin to affect children even before birth. Many of these factors stem from influences beyond school – “inequities in education may be primarily the result of other social inequities rather than of school practices. It is also possible that the most effective points of intervention lie outside the schools.”²⁴⁵ Thus, Dr. Levin suggests a preventative strategy that includes early childhood programs and integrated support services.

²³⁹ Ben Levin, *Students At Risk: A Review of Research*, Prepared for The Learning Partnership, Accessed June 14, 2006: www.thelearningpartnership.ca/policy_research/studentsatrisk_by_Ben_Levin.pdf, p.6

²⁴⁰ Wotherspoon T. Schissel B. *The Business of Placing Canadian Children and Youth ‘at risk’*. Canadian Journal of Education, 26(3), 321. Retrieved July 16, 2006:

<http://www.csse.ca/CJE/Articles/FullText/CJE26-3/CJE26-3-Wotherspoon.pdf>

²⁴¹ Levin, *supra*, n.239, pp.11-18

²⁴² The Learning Partnership. *Press Release, February 26, 2006*. Retrieved June 14, 2006:

http://www.thelearningpartnership.ca/PressRoom/SAR_Vancouver06.pdf

²⁴³ Canadian Council on Learning: *The Rural-Urban Gap in Education*. Retrieved June 14, 2006 from: <http://www.ccl-cca.ca/CCL/Reports/LessonsInLearning/LiL1March2005.htm>

²⁴⁴ Comfort D. Dejong M. Kozij J. *A Portrait of the Labour Market Outcomes of Aboriginal Canadians*. Human Resources and Skills Development Canada, Aboriginal Affairs Directorate Research Note, 2005, cited in Olena, *supra*, n.230.

²⁴⁵ Levin, *supra*, n.239, p.30

The British Columbia Ministry of Education is committed to improved academic achievement for the overall student population in the province. As a performance measure, the Ministry tracks the high school completion rate in terms of “--- the percentage of students who graduate with a Dogwood Diploma within six years of starting Grade 8 ---.”²⁴⁶

The overall completion rate for all students was 79 per cent from school years 2002/2003 through 2005/2006.²⁴⁷ For 2006/2007 it was 80 per cent, and for 2007/2008 it was 79 per cent.²⁴⁸ The Ministry’s target for 2008/2009 was 82 per cent;²⁴⁹ the actual rate was 79.2 per cent.²⁵⁰ The forecast rate for 2009/2010 is 80 per cent, the 2010/2011 target is 81 per cent, the 2011/2012 target is 82 per cent and the 2012/2013 target is 82 per cent.²⁵¹

“While the completion rate has increased five percent since 2001, there is still more work to be done.”²⁵²

The Ministry is pursuing two particular strategies to help enhance the high school completion rate.²⁵³ One of these is to enhance the choice of courses and programs for secondary school students to keep them interested and attracted to complete high school. For example, apprenticeship training programs have been established in cooperation with colleges, providing a path for students to enter trades and to gain college credits.

Another approach is being undertaken by newly created Ministry of Education superintendents of achievement working in cooperation with school districts. Students whose performance indicates that they may not succeed in achieving high school graduation are identified. These students then may be actively helped in the school system, with positive results in terms of performance.

In addition, the Ministry is working cooperatively with others to improve the high school completion rate for Aboriginal students, which will also help to increase the overall completion rate. That aspect is covered in another section of this report.

²⁴⁶ British Columbia Ministry of Education, *2009/10 – 2011/12 Service Plan*, Budget 2009. February 2009. <http://www.bcbudget.gov.bc.ca/2009/sp/pdf/ministry/educ.pdf> Accessed August 14, 2009.

²⁴⁷ British Columbia Ministry of Education, *2007/08 Summary of Key Information*, February 2008. <http://www.bced.gov.bc.ca/keyinfo/archive/ski08.pdf> Accessed August 24, 2009.

²⁴⁸ *2008/09 Annual Service Plan Report*. http://www.bcbudget.gov.bc.ca/Annual_Reports/2008_2009/educ/educ.pdf Accessed August 14, 2009

²⁴⁹ *2008/09 Annual Service Plan Report*. *supra*, n.248

²⁵⁰ Columbia Ministry of Education, *Six-Year Completion and Grade 12 Graduation Rates – 2008/09, Province – Public and Independent Schools Combined*, <http://www.bced.gov.bc.ca/reports/pdfs/graduation/prov.pdf> Accessed March 29, 2010.

²⁵¹ British Columbia Ministry of Education, *2010/11 – 2012/13 Service Plan*, March 2010, <http://www.bcbudget.gov.bc.ca/2010/sp/pdf/ministry/educ.pdf> Accessed March 29, 2010.

²⁵² British Columbia Ministry of Education, *2009/10 – 2011/12 Service Plan*, *supra*, n.246

²⁵³ Personal communication, Public Affairs Bureau, British Columbia Ministry of Education, Victoria, August 14, 2009.

12. ABORIGINAL YOUTH

Aboriginal Youth

Aboriginal youth have a risk trajectory similar to that described throughout this report, but research indicates overrepresentation of Aboriginals in many of the risk categories. Similarly, statistics show an overrepresentation of Aboriginals in the prison population, which may be the outcome of greater exposure to risk factors.

Aboriginal youth are significantly less likely than the population of youth as a whole to achieve high school graduation. In turn, for the population as a whole there is a correlation between lack of academic achievement and involvement in the criminal justice system. As demonstrated elsewhere in this report, both the lack of academic achievement and criminal justice system involvement carry with them large costs to the individual and society.

Aboriginal Criminal Involvement

On-reserve criminal incidents occur at a rate far higher than in the rest of Canada, though it is important to remember that approximately 44 per cent of the registered Indian population in Canada lives off reserves.²⁵⁴

In 2004, *Criminal Code* incidents on reserves across Canada represented 4 per cent of the national total, according to police-reported data examining crimes committed on reserve.²⁵⁵

Over half of on-reserve incidents were classified as "other" *Criminal Code* offences, such as mischief and disturbing the peace, while 25 per cent were violent and 21 per cent were property offences.²⁵⁶

Rates of violent crime committed on reserves were eight times higher for assaults, seven times higher for sexual assaults and six times higher for homicides than rates in the rest of Canada. The only violent crime with a lower on-reserve rate was robbery, which had a rate that was about half of that in the rest of Canada.²⁵⁷

Aboriginal people are highly represented among persons in custody in adult correctional services. "In 2003/2004, Aboriginal adults represented 21 per cent of admissions to provincial/territorial sentenced custody and 18 per cent of admissions to federal facilities."²⁵⁸ However, they represented only 2.6 percent of the national population.²⁵⁹

Among the provinces, the highest proportions of Aboriginal correctional admissions were in Saskatchewan, Manitoba and Alberta. In Saskatchewan, Aboriginal people made up 80 per cent of those who were admitted to provincial sentenced custody, compared to their representation of 10 per cent of the provincial adult population.²⁶⁰

²⁵⁴ Based on statistics from Northern and Indian Affairs Canada, *Registered Indian Population by Sex and Residence: 2007*. <http://www.ainc-inac.gc.ca/ai/rs/pubs/sts/ni/rip/rip07/rip07-eng.asp#Reg> Accessed August 18, 2009.

²⁵⁵ Statistics Canada, "Aboriginal people as victims and offenders", *The Daily*, June 6, 2006.

<http://www.statcan.gc.ca/daily-quotidien/060606/dq060606b-eng.htm> Accessed August 18, 2009.

²⁵⁶ Statistics Canada, *supra*, n.255

²⁵⁷ Statistics Canada, *supra*, n.255

²⁵⁸ Statistics Canada, *supra*, n.255

²⁵⁹ Based upon 2001 Census data.

²⁶⁰ Statistics Canada, *supra*, n.255

In Manitoba, Aboriginal people represented 68 per cent of admissions to provincial custody compared to 11 per cent of the provincial adult population and in Alberta, 39 per cent of admissions to provincial facilities were Aboriginal persons compared to 4 per cent of the provincial adult population.²⁶¹

In British Columbia, Aboriginal people accounted for 20 per cent of admissions to provincial sentenced custody, while Aboriginals formed only 3.6 per cent of the provincial population.²⁶²

According to the Integrated Correctional Services Survey, Aboriginal adults involved in correctional services were on average three years younger than non-Aboriginal adults, with a greater proportion of Aboriginal persons between the ages of 20 and 29 compared to non-Aboriginal persons.²⁶³

About three-quarters of Aboriginal adults involved in correctional services had not completed their secondary school education, compared to one-third of non-Aboriginal adults.²⁶⁴ [Underlining added for emphasis.]

Aboriginal people were also less likely to be employed at the time of admission to correctional services compared to non-Aboriginal persons.²⁶⁵

Aboriginal offenders continue to be disproportionately represented at all levels of the Canadian criminal justice system. At the end of March 2007, Aboriginal people comprised 17.0 per cent of federally sentenced offenders although the general Aboriginal population is only 2.7 per cent of the Canadian adult population.²⁶⁶

Statistics Canada population projections to 2017 suggest that the disproportionate representation of Aboriginal peoples among newly sentenced offenders will continue to grow in federal and provincial/territorial correctional systems, particularly in the West and in the North. This expectation is based on projected growth in the 20-29 age group (40 per cent for Aboriginal Canadians compared to 9 per cent for non-Aboriginal Canadians). In 2004/2005, 50.4 per cent of offenders admitted to federal custody were under the age of 30, compared to 38.5 per cent of non-Aboriginal offenders.²⁶⁷

Aboriginal Youth and Criminal Development

In general, Aboriginal youth are at greater risk of succumbing to many of the negative factors in the trajectory outlined throughout this report. For example, the Aboriginal Initiatives Directorate at Correction Service Canada writes that “the Aboriginal woman offender is generally 27 years old with a Grade 9 education and single with two or three children. She has limited education and employment skills and she is usually unemployed at the time of her crime.”²⁶⁸ The

²⁶¹ Statistics Canada, *supra*, n.255

²⁶² Statistics Canada, *supra*, n.255

²⁶³ Statistics Canada, *supra*, n.255

²⁶⁴ Statistics Canada, *supra*, n.255

²⁶⁵ Statistics Canada, *supra*, n.255

²⁶⁶ Correctional Service of Canada, *Aboriginal Initiatives*. <http://www.csc-scc.gc.ca/text/prgrm/abinit/who-eng.shtml>
Accessed August 18, 2009.

²⁶⁷ Correctional Services of Canada, Facts and Figures, Strategic Plan for Aboriginal Corrections: Innovation, Learning and Adjustment, 2006-07 to 2010-11. <http://www.csc-scc.gc.ca/text/prgrm/abinit/plan06-eng.shtml#7>
Accessed August 18, 2009.

²⁶⁸ Correction Service Canada. *Aboriginal Initiatives Directorate: Profile of an aboriginal woman serving time in a federal institution*. Norma Green (2000) Retrieved July 26, 2006 from: http://www.csc-scc.gc.ca/text/prgrm/correctional/abissues/know/5_e.html.

Directorate mentions contributing factors such as moving to an urban centre, alcoholism and violence, lack of familial support and lack of social interaction.

The following passages are drawn from: Turpel-Lafond M.E. Kendall P. *Kids, Crime and Care – Health and well-being of children in care: youth justice experiences and outcomes*, joint special report by the Representative for Children and Youth and the Provincial Health Officer. February 2009.²⁶⁹ The term “children in care” refers to “--- children and youth in care under the *Child, Family and Community Service Act* for whom the B.C. government is the parent.”²⁷⁰

Aboriginal children and youth are over-represented in many of the – vulnerable at risk groups (of children and youth living outside the parental home in B.C.).

In the group studied for this report, more than one in five Aboriginal youth had either been in care, in the home of a relative or both, in contrast to less than one in 30 non-Aboriginal youth.

Over half of the children in care in B.C. are Aboriginal, and approximately one-third of youth in the youth justice system are Aboriginal. The estimate of the number of Aboriginal children in the CIHR (Children in the Home of a Relative) program ranges from 40 to 50 per cent. As mentioned, another 1,500 First Nations children are in the federally administered Guardianship Financial Assistance Program, which mirrors the CIHR program on reserves

A greater proportion of children in care have involvement in the youth justice system than children who aren't in care. However, it is important to note that many children and youth in care, including Aboriginal children and those in CIHR do fine despite considerably adverse circumstances in their lives. In fact, the substantial majority of children in care do not become formally involved in the justice system at all, despite the risk factors.²⁷¹

In B.C., youth custody average counts (have dropped substantially),

The number of Aboriginal youth in custody has also declined, but not to the extent of the non-Aboriginal youth. (As a result) – the proportion of Aboriginal youth in custody has increased from 29 per cent in 2000/2001 to 40 per cent in 2007/2008.²⁷²

(The study found that) Aboriginal youth were five times more likely to be incarcerated than youth in the general study population.

Strategies have been developed and action plans implemented to attempt to address and reduce the number of Aboriginal youth in custody, including research and consultation with the Aboriginal communities, staff training and services to promote Aboriginal cultural awareness and community re-integration. The Vancouver Coastal and Vancouver Island regions now have specialist Aboriginal liaison probation officers with capped caseloads.²⁷³

²⁶⁹ Turpel-Lafond M.E. Kendall P. *supra*, n.198

²⁷⁰ Turpel-Lafond M.E. Kendall P. *supra*, n.198

²⁷¹ Turpel-Lafond M.E. Kendall P. *supra*, n.198

²⁷² Source: MCFD Youth Justice Branch, cited in: Turpel-Lafond M.E. Kendall P., *supra*, n.198

²⁷³ Turpel-Lafond M.E. Kendall P. *supra*, n.198

Aboriginal Education

There is a clear inverse correlation between level of education attained and involvement in the criminal justice system. This appears to hold true for the Aboriginal population in Canada as it does for the population as a whole.

Historical discrimination against First Nations, Métis, and Inuit peoples and policies of assimilation and forced attendance at residential schools have left a deep legacy of mistrust, resentment, and a population that continues to struggle with academic achievement. Provinces and territories have worked with First Nations, Métis, and Inuit communities to develop innovative solutions and programs and some progress has been made. However, the educational attainment of Aboriginal students remains one of the greatest challenges in education across Canada.²⁷⁴

In Canada, Aboriginal education has been established as a priority by the Council of Ministers of Education. Canada and every jurisdiction [in Canada] have policies and resources in place to foster academic achievement of Aboriginal students.²⁷⁵

The teaching of Aboriginal languages and cultures is part of classrooms across Canada.²⁷⁶ Directly or indirectly, high school non-completion has enormous fiscal implications in terms of expenditures on health, social services and programs, education, employment, criminality and lower economic productivity.²⁷⁷

For purposes of this analysis, high school completion is taken as a key indicator of academic achievement.

“A recent study by the Caledon Institute for Social Policy, *Aboriginal Peoples and Postsecondary Education in Canada*, provided a statistical overview of the highest level of schooling achieved by Aboriginal people and by the total population aged 15 and older, based on the 2001 census.”²⁷⁸ This analysis shows that of the total population of Canada, 31 per cent had less than secondary school graduation. For the Aboriginal population of Canada, 48 per cent had less than secondary school graduation.

Figures from the Census of Canada and from the Aboriginal Peoples Survey show that Aboriginal youth are much less likely to receive a high school diploma than non-Aboriginal youth. In fact, despite improvement in overall graduation levels in British Columbia,²⁷⁹ the gap between Aboriginal high school graduation and non-Aboriginal high school graduation has not changed appreciably in recent years. As discussed, the current competitive labour market is

²⁷⁴ Council of Ministers of Education, Canada. *The Development of Education Reports for Canada. Report Two: Inclusive Education in Canada: The Way of the Future*. October, 2008. Prepared by The Council of Ministers of Education, Canada, in Collaboration with The Canadian Commission for UNESCO.

²⁷⁵ Council of Ministers of Education, Canada. *The Development of Education Reports for Canada. Report Two: Inclusive Education in Canada: The Way of the Future*. *supra*, n.274

²⁷⁶ Council of Ministers of Education, Canada. *The Development of Education Reports for Canada. Report Two: Inclusive Education in Canada: The Way of the Future*. *supra*, n.274

²⁷⁷ Olena H. *Cost estimates of dropping out of high school in Canada*. Prepared for Canadian Council on Learning. December 2008. <http://www.ccl-cca.ca/pdfs/OtherReports/CostofdroppingoutHankivskyFinalReport.pdf> Accessed August 12, 2009.

²⁷⁸ Council of Ministers of Education, Canada. *The Development of Education Reports for Canada. Report Two: Inclusive Education in Canada: The Way of the Future*. *supra*, n.274.

²⁷⁹ Canadian Council on Learning: *Good News: Canada's High School Dropout Rates are Falling*. Retrieved June 14, 2006: www.ccl-cca.ca/CCL/Reports/LessonsInLearning/LiL-16Dec2005.htm

increasingly difficult to penetrate without a high school diploma, putting Aboriginal students as a group at a distinct disadvantage.²⁸⁰

From the 2003/2004 school year to the 2007/2008 school year, the high school completion rate for Aboriginal students varied between 46 and 48 per cent, with no clear trend. The completion rate for female students was approximately 10 per cent higher than for male students. In comparison, the high school completion rate for non-Aboriginal students during this period varied between 72 and 76 per cent.²⁸¹ Thus, there has been a gap of approximately 27 per cent.

In addition, BC Adult Graduation Diplomas (Adult Dogwood Diplomas) were earned by a further four to six per cent of the Aboriginal Grade 12 students, and three per cent of the non-aboriginal students.

Towards the end of the period, a BC School Completion Certificate was introduced in addition to the BC Certificate of Graduation (Dogwood Certificate). A further four to five per cent of Aboriginal students and one per cent of non-Aboriginal students were awarded the School Completion Certificate.²⁸²

Taking each of these three types of high school completion qualifications into account, on average there was a 21 to 22 per cent difference in the achievement of Aboriginal versus non-Aboriginal students.

The *2008/2009 Annual Service Plan Report* of the Ministry of Education set a target of 58 per cent for Aboriginal students that school year; the actual rate reported was 48.8 per cent.²⁸³ The 2009/2010 forecast is 50 per cent, the 2010/2011 target 52 per cent, the 2011/2012 target 55 per cent, and the 2012/2013 target 56 per cent.²⁸⁴

Significantly, educational differences explain approximately 30 per cent of the occupational differences between Aboriginal and non-Aboriginal workers. Low education has been identified as the key factor in explaining the relatively weak performance of Aboriginal Canadians in the labour market.²⁸⁵

[In British Columbia] Less than half of Aboriginal students are completing school. It doesn't have to be this way.²⁸⁶

²⁸⁰ Ministry of Advanced Education. *Aboriginal Report - How Are We Doing? 2004-2005*. Retrieved August 10, 2006: <http://www.bced.gov.bc.ca/abed/perf2005.pdf>

²⁸¹ British Columbia Ministry of Education, *Aboriginal Report 2003/2004 – 2007/08: How Are We Doing?* <http://www.bced.gov.bc.ca/abed/perf2008.pdf> Accessed August 18, 2009. Data are for public schools only.

²⁸² British Columbia Ministry of Education, *Aboriginal Report 2003/2004 – 2007/2008: How Are We Doing? supra*, n.281

²⁸³ British Columbia Ministry of Education, *Six-Year Completion and Grade 12 Graduation Rates – 2008/09, Province – Public and Independent Schools Combined*, <http://www.bced.gov.bc.ca/reports/pdfs/graduation/prov.pdf> Accessed March 29, 2010.

²⁸⁴ British Columbia Ministry of Education, *2010/11 – 2012/2013 Service Plan*, March 2010, <http://www.bcbudget.gov.bc.ca/2010/sp/pdf/ministry/educ.pdf> Accessed March 29, 2010.

²⁸⁵ Comfort D. Dejong M. Kozij J. *A Portrait of the Labour Market Outcomes of Aboriginal Outcomes*. Human Resources and Skills Development Canada, Aboriginal Affairs Directorate Research Note, 2005, cited in Olena H. *Cost estimates of dropping out of high school in Canada*. Prepared for Canadian Council on Learning. December 2008. <http://www.ccl-cca.ca/pdfs/OtherReports/CostofdroppingoutHankivskyFinalReport.pdf> Accessed August 12, 2009.

²⁸⁶ British Columbia Ministry of Education, *2009/10 – 2011/12 Service Plan*, Budget 2009. February 2009. <http://www.bcbudget.gov.bc.ca/2009/sp/pdf/ministry/educ.pdf> Accessed August 14, 2009.

In April 2007, the Ministry of Education in British Columbia (B.C.) released a draft framework for early learning for children up to five years of age in order to stimulate dialogue with parents, early childhood educators, service providers, communities and governments on the vision, principles, and areas of early learning that reflect their aspirations for young children. The document discusses how to support early learning and the key areas of early learning are—well-being and belonging, exploration and creativity, languages and literacies, and social responsibility and diversity. A special section looks at early learning for First Nations populations in British Columbia.²⁸⁷

Through the Canadian Rural Partnership, the Government of Canada is helping address the challenges of improving literacy skills in rural children through an initiative called Tiny Pencils. It has been adopted in a number of provinces. Once a week, parents and pre-school children get together to do crafts, play games, read, and participate in activities aimed at building self-esteem, problem-solving, and developing social skills. Both parents and children benefit, as parents also build their self-esteem and social skills and become more involved in the community. The federal government also funds Aboriginal Head Start to enhance the development and school-readiness of Indian, Métis, and Inuit children living in urban centres and large northern communities across Canada, as well as First Nations children living on reserve.²⁸⁸

The [British Columbia] Ministry of Education is working with school districts and Aboriginal communities across the province to sign Aboriginal education enhancement agreements. With over 40 district-wide agreements now²⁸⁹ coordinating local efforts to honour, engage and challenge Aboriginal students, communities around B.C. are already seeing significant benefits.²⁹⁰

The Qualicum school district signed their first Aboriginal education enhancement agreement in 2003. Between 2002/2003 and 2005/2006, the number of Aboriginal students meeting or exceeding expectations in Foundation Skills Assessments rose from 74 per cent to 94 per cent.²⁹¹

Many school districts have seen encouraging results following the signing of an Aboriginal education enhancement agreement. For example, the Quesnel school district signed its enhancement agreement in 2003. The district's six-year completion rate increased from 41 per cent in 2003, to 57 per cent in 2007/2008. Similarly, the Qualicum school district signed an enhancement agreement in 2003. The six-year completion rate in that district increased from 47 per cent to 60 per cent in 2007/2008.²⁹²

We are proud to have signed Aboriginal education enhancement agreements in more than three quarters of all B.C. school districts as part of our efforts to improve Aboriginal achievement levels. These agreements ensure that Aboriginal culture is integrated in public schools, and Aboriginal communities are involved in the design of programs, services, and

²⁸⁷ Council of Ministers of Education, Canada. *The Development of Education Reports for Canada. Report Two: Inclusive Education in Canada: The Way of the Future.* *supra*, n.274

²⁸⁸ Council of Ministers of Education, Canada. *The Development of Education Reports for Canada. Report Two: Inclusive Education in Canada: The Way of the Future.* *supra*, n.274

²⁸⁹ As of March, 2010, the number of district-wide Aboriginal education enhancement agreements signed in British Columbia had risen to 48, as indicated in: British Columbia Ministry of Education, *2010/11 – 2012/13 Service Plan*, March 2010, <http://www.bcbudget.gov.bc.ca/2010/sp/pdf/ministry/educ.pdf> Accessed March 29, 2010.

²⁹⁰ British Columbia Ministry of Education, *2009/10 – 2011/12 Service Plan*, Budget 2009. February 2009. <http://www.bcbudget.gov.bc.ca/2009/sp/pdf/ministry/educ.pdf> Accessed August 14, 2009.

²⁹¹ British Columbia Ministry of Education, *2009/10 – 2011/12 Service Plan*, *supra*, n.290

²⁹² Historic agreement helps aboriginal students succeed. BC Ministry of Education, news release, June 25, 2009. http://www2.news.gov.bc.ca/news_releases_2009-2013/2009EDUC0002-000038.htm Accessed August 15, 2009.

curriculum delivery for our Aboriginal students.²⁹³ Along with increased funding and a system-wide focus on Aboriginal achievement, these agreements help Aboriginal students build academic success, a sense of belonging, youth leadership, and a stronger connection to their Aboriginal culture.²⁹⁴

Aboriginal education enhancement agreements ensure that Aboriginal culture is integrated in public schools, and Aboriginal communities are involved in the design of programs, services and curriculum delivery aimed at improving Aboriginal student achievement.²⁹⁵

Aboriginal education enhancement agreements are just one component of the collaborative processes that the Province is undertaking to improve Aboriginal student achievement. Others include the new First Nations education jurisdiction agreement and developing Aboriginal content for the K-12 curriculum.²⁹⁶

The province is investing an estimated \$52.6 million a year—\$1,014 per student—for Aboriginal education in 2009/2010, based on district-estimated enrolments. The funds are used to support Aboriginal language and culture programs, Aboriginal support service programs, and other localized Aboriginal education programs.²⁹⁷

The Government of British Columbia signed the Transformative Change Accord with the Government of Canada and the First Nations Leadership Council in November 2005. The accord aims to close the gap that exists between First Nations and other British Columbians in health, housing, education and economic opportunities.²⁹⁸

The province has enacted the *First Nations Education Act*, recognizing First Nations' authority to enact laws with respect to education on First Nations land. Developed in consultation with the First Nations Education Steering Committee, the *First Nations Education Act* also allows greater cooperation between boards of education and First Nations, and builds increased consultation between the Province and the First Nations Education Authority.²⁹⁹

The British Columbia Ministry of Education in its *2009/2010—2011/2012 Service Plan*³⁰⁰ cites improved student achievement as Goal 1. Under that goal, the Ministry states a strategy “To improve Aboriginal student achievement by supporting school districts as they complete and implement Aboriginal education enhancement agreements”.

In early 2007, the Peace River North school district looked at the dramatic reading improvements that one elementary school had seen with a teaching technique called facilitated collaboration between teachers and decided to extend the program district wide.

The district used a provincial literacy innovation grant to create school teams of teachers, pay for collaboration time to assess local literacy data and build common goals. With access to literacy support teachers and a collaborative working environment, literacy teams worked with low-literacy learners in groups using one-on-one coaching techniques.

²⁹³ Honourable Margaret MacDiarmid, Minister of Education and Minister Responsible for Early Learning and Literacy, in British Columbia Ministry of Education, *2010/11 – 2012/13 Service Plan*, March 2010, <http://www.bcbudget.gov.bc.ca/2010/sp/pdf/ministry/educ.pdf> Accessed March 29, 2010.

²⁹⁴ Honourable Shirley Bond, Minister of Education, Province of British Columbia, in British Columbia Ministry of Education, *2009/10 – 2011/12 Service Plan*, *supra*, n.290.

²⁹⁵ Historic agreement helps aboriginal students succeed. BC Ministry of Education, *supra*, n.292

²⁹⁶ Historic agreement helps aboriginal students succeed. BC Ministry of Education, *supra*, n.292

²⁹⁷ Historic agreement helps aboriginal students succeed. BC Ministry of Education, *supra*, n.292

²⁹⁸ British Columbia Ministry of Education, *2009/10 – 2011/12 Service Plan*, *supra*, n.290

²⁹⁹ British Columbia Ministry of Education, *2009/10 – 2011/12 Service Plan*, *supra*, n.290

³⁰⁰ British Columbia Ministry of Education, *2009/10 – 2011/12 Service Plan*, *supra*, n.290

In 2007/2008, their efforts had a significant effect on reading improvement. In five of seven grades, the numbers of children meeting or exceeding reading expectations increased. The gains were particularly dramatic for Aboriginal Learners.³⁰¹ [Underlining added for emphasis.]

The British Columbia Government set out a plan to work with educators, students and parents to ensure a high level of student achievement for every student in the province. The *Ministry of Education's 2007/2008-2009/2010 Service Plan* focuses on student achievement as one of its primary goals. The measures for this success include secondary school completion rates and performance on pan-Canadian and international assessments such as PISA and PICAP. As in many jurisdictions, British Columbia has particular concerns with the secondary school completion rates of Aboriginal students and has created specific targets for this group, as well as extensive programs and agreements to support their achievement. Other measures that British Columbia has identified for improvement are the transition rate to postsecondary education and participation in industry training programs.³⁰²

Residential Schools

Throughout much of the Twentieth Century, government initiatives attempted to assimilate Aboriginals into Canadian culture. This was often done through residential schools funded by government and run by churches. There, Aboriginal youth would spend up to ten months of the year speaking English and living away from home. Research has shown that family is an especially important component of Aboriginal lifestyle. In addition to the documented cases of overt abuse (psychological, sexual and physical), residential schools prevented youth from establishing bonds with their families and prevented the formation of traditional Aboriginal parenting skills. This has created a cycle that may perpetuate itself in current Aboriginal youth.

Involvement with Foster Care and the Justice System

Since the 1960's, many Aboriginal children have been in foster care. "Aboriginal children account for approximately 9 per cent of the child population in British Columbia, but make up 49 per cent of children-in-care and 42 per cent of youth-in-custody."³⁰³

A more recent study of children and youth in British Columbia found that "--- more than one in five Aboriginal youth had either been in (foster) care, in the home of a relative (under a government care program) or both, in contrast to less than one in 30 non-Aboriginal youth." "Nearly one-third of the youth in the youth justice system were Aboriginal. Aboriginal youth were five times more likely to be incarcerated than youth in the general study population."³⁰⁴

In Canada, Aboriginal youth make up 4 per cent of the population, but made up 15 per cent of the alternative measures cases.³⁰⁵ Aboriginal youth are similarly overrepresented in custody and on probation.³⁰⁶ Aboriginal adults are also overrepresented: making up 2 per cent of the

³⁰¹ British Columbia Ministry of Education, *2009/10 – 2011/12 Service Plan*, *supra*, n.290

³⁰² Council of Ministers of Education, Canada. *The Development of Education Reports for Canada. Report Two: Inclusive Education in Canada: The Way of the Future.* *supra*, n.274

³⁰³ Ministry of Children and Family Development 2006-2007 Budget and Workplan

³⁰⁴ Turpel-Lafond M.E. Kendall P. *supra*, n.198

³⁰⁵ Statistics Canada. *Aboriginal Peoples in Canada.* June 2001. Retrieved July 17, 2006: <http://www.statcan.ca/english/freepub/85F0033MIE/85F0033MIE2001001.pdf> p. 8

³⁰⁶ Statistics Canada, *supra*, n.305, p. 8

population in Canada, but accounting for at least 18 per cent of inmates and 13 per cent of offenders on probation.³⁰⁷

Child Death Rate

The *British Columbia Coroners Service Child Death Review Report* speaks to the amplified risk to youth in the Aboriginal prenatal and post-natal environment:

“There were a disproportionately higher number of deaths of Aboriginal children in B.C. Approximately 20 per cent of reviewed deaths were of Aboriginal children, although Aboriginal children comprise less than 10 per cent of the population of B.C.”³⁰⁸ The report elaborates that Aboriginal children made up 26 per cent of Sudden Unexpected Infant Death³⁰⁹, and 27 per cent of deaths while receiving services from the Ministry of Children and Family Development.³¹⁰ Moreover, the lower average birth weight of Aboriginal children elevates their risk of death from disease during their first two years.³¹¹

Though such problems are not limited to the Aboriginal population, the overrepresentation suggests that early in life, Aboriginal children are exposed to many of the negative factors that increase risk of future criminal behaviour.

Learning Differences

The school system and curricula in Canada have been designed to serve a broad-based population, but there are shortfalls pertaining to particular ethnic groups, such as Aboriginals and immigrants.

A 1997 report for the Annual Conference of the Australian Association for Research in Education details Aboriginal learning differences. For example, historically, the Aboriginal society was a non-literate society where elders transferred knowledge. Youth learned through observation and imitation rather than instruction. Thus, learning was largely unstructured and practical, focusing on cooperation rather than competition. Students who are educated in a context different from these traditions are at greater risk of failure.³¹² Traditional Aboriginal teaching/learning practices in Canada appear to parallel this approach.

Charles Ungerleider of the Canadian Council on Learning points to the mobility of Aboriginal youth as a deterrent to proper education. On average, Aboriginal youth change schools more often than their peers. The school system is not designed to accommodate such arrivals and departures, and teachers thus do not have the resources to bring children up to speed when they do not begin the school year in that classroom.³¹³

³⁰⁷ Statistics Canada. *The Daily – Aboriginal Peoples as Victims and Offenders*, June 6, 2006. Retrieved July 17, 2006: <http://www.statcan.ca/Daily/English/060606/d060606b.htm>

³⁰⁸ Ministry of Public Safety and Solicitor General (PSSG). *British Columbia Coroners Service Child Death Review Report (2005)*, retrieved June 21, 2006: http://www.pssg.gov.bc.ca/coroners/child-death-review/reports/BCCS_Child_Death_Review_Report_2005.pdf p. II

³⁰⁹ PSSG, *supra*, n.308, p.23

³¹⁰ PSSG, *supra*, n.308, p.34

³¹¹ PSSG, *supra*, n.308, p.19

³¹² Paul Hughes, Arthur J. More, *Aboriginal Ways of Learning and Learning Styles*. Working paper for the Annual Conference of the Australian Association for Research in Education. December 4, 1997.

³¹³ C. Ungerleider, private communication. June 12, 2006, cited in Maughan A. Park D. (ed.) *Kids 'N Crime: Report on the development and prevention of criminality among children and youth*. The Vancouver Board of Trade, October 2006. May be accessed at: <http://www.boardoftrade.com/policy/CrimeTaskForceReport-FINAL-OCT24-06.pdf>

Conclusion

This report section concerning Aboriginal youth has laid out the challenges and potential responses concerning this important part of the youth population. While there is good reason for concern regarding this part of our youth, as sketched in other sections of this report and in this section there are measures that are helping to improve the situation, and there is potential for much more to be done.