

OPPORTUNITIES IN TRANSITION:

An Economic Analysis of Investing in
Youth Aging out of Foster Care in their 20s

REPORT 2 OF 3: THE COSTS OF THE ADVERSE OUTCOMES



Marvin Shaffer, PhD, Principal Investigator
Lynell Anderson, CPA, CGA, Family Policy Researcher
Allison Nelson, Research Associate

FOREWORD:

For most young people, family is there to lend a hand with things like rent, groceries, and support as they make the first few steps into adulthood. Unless they've been in foster care.

Fostering Change commissioned this research to provide an economic perspective on the challenges and opportunities associated with youth aging out of government care. Over three reports we consider: (1) current educational, economic, social and wellness outcomes; (2) the costs of those outcomes; and (3) the costs of increased supports in relation to the potential savings and benefits they offer.

This series of reports offers important new insights into the economic consequences and issues for youth aging out of care. To our knowledge, no previous study in BC has attempted to estimate the costs of current outcomes and the potential benefits from better preparing and supporting youth from care in the early years of their adulthood.

The findings are very clear. First, youth aging out of government care do not receive the same financial, social and other supports that most young people receive from their parents. Second, educational, economic, social and wellness outcomes are poor for many youth aging out of government care. Third, the immediate and long-term costs of these adverse outcomes are very high — hundreds of millions of dollars every year. Last, the cost of increased supports is small relative to the potential savings and benefits to youth from care, and to society as a whole.

We hope that by providing this research we offer clear evidence that a basic package of support is justified to improve outcomes for youth aging out of foster care across BC.

Advisory Committee

Fostering Change would like to extend special thanks to our advisory committee for their insights, knowledge, and expertise during the development of these reports.

Linda Hughes, Associate Deputy Representative, Office of B.C.'s Representative for Children & Youth

Tami Currie, A/Assistant Deputy Minister, Ministry of Children & Family Development

Adrienne Montani, Executive Director, FirstCall BC

Meredith Graham, Youth & Family Development, St. Leonard's Society

Drew Stewart, Director, Aunt Leah's Place

Sanja Simic, Executive Director, Conconi Foundation

Lana Quinn, Director, Trevor Linden Foundation

Staff:

Mark Gifford, Director, Youth Engagement, Grants & Community Initiatives, Vancouver Foundation

Trilby Smith, Lead Evaluator, Youth Engagement, Grants & Community Initiatives, Vancouver Foundation

Fostering Change is an initiative of Vancouver Foundation to improve policy, practice and community connections for young people in British Columbia transitioning from foster care to adulthood. In consultation with community and young people, we are developing and promoting solutions that increase supports for young people aging out of care. For more information about our work please visit www.fosteringchange.ca.

CONTENTS

- EXECUTIVE SUMMARY **2**
- 1.0 INTRODUCTION..... **7**
- 2.0 KEY COST DRIVERS..... **8**
- 3.0 ESTIMATED MAGNITUDE OF COSTS **13**
 - 3.2 Health **16**
 - 3.3 Criminal Activity..... **18**
 - 3.4 Early Pregnancy **18**
 - 3.5 Homelessness and Substance Abuse **20**
 - 3.6 Premature Loss of Life **20**
 - 3.7 Summary of Estimated Costs **21**
- REFERENCES **23**

EXECUTIVE SUMMARY

PURPOSE OF REPORT

The adverse educational, economic, social and wellness outcomes for youth aging out of care identified in the first phase of this Fostering Change Economic Analysis Project impose significant costs for the youth themselves, government (taxpayers), and society as a whole. The purpose of this second phase report is to describe and, to the extent possible, provide estimates of the magnitude of these costs.

KEY COST DRIVERS

- The adverse outcomes for youth aging out of care and the costs they entail are driven by three key interrelated factors: low educational attainment, poverty and poor mental wellbeing.
- Educational attainment is a key determinant of an individual's opportunities and wellbeing. Low educational attainment limits employment and earnings potential, imposing costs for the youth in terms of their material wellbeing and for government because the lower earnings reduce tax payments and increase the need for income assistance. Low educational attainment is also associated with poorer health and life expectancy and with increased incidence of crime. This imposes costs for the youth themselves, government and society as a whole.
- Poverty is highly correlated with educational attainment and gives rise to similar adverse consequences and costs. There are the low taxes paid and high reliance on government assistance due to the low income levels of people living in poverty. There are as well strong links between poverty and health care costs, incidence of criminal activity and the intergenerational costs associated with the children of poor families.
- Poor mental wellbeing exacerbates the costs of low educational attainment and poverty. It is a factor underlying limited earnings potential and, particularly in conjunction with drug and alcohol abuse, it can markedly increase health, criminal justice and other government service-related costs. In addition to exacerbating government costs, mental wellbeing imposes severe costs on the youth themselves. As well as affecting quality of life, in the extreme it can lead to the unacceptably high rate of premature loss of life that youth aging out of care experience.

The most direct economic cost of low educational attainment is limited earnings potential.

Individuals with less education have more limited employment opportunities and markedly lower wages.

ESTIMATED MAGNITUDE OF COSTS

- The costs driven by low educational attainment, poverty and poor mental wellbeing include: limited earnings potential; health and criminal activity-related expenditures and costs; immediate and intergenerational costs of early pregnancy; homelessness and substance abuse; and the risk of premature loss of life.
- **Limited Earnings Potential:** Statistics Canada data clearly show markedly different levels of income for individuals with different levels of educational attainment, not only when they enter the workforce but over their entire working lives. The data indicate that the present value of lifetime income for individuals without grade 12 completion is an estimated \$209,000 to \$303,000 (in 2015\$) less than those with grade 12; \$383,000 to \$495,000 less than those with some post-secondary; and \$678,000 to \$836,000 less than those with university degrees.

Based on these differences in lifetime income, the cost (more precisely the opportunity cost) of not closing the educational attainment gap between the 1000 youth aging out each year and the grade 12 graduation, post-secondary participation and university graduation rates of the general population is estimated at \$142 to \$180 million in present value — an average of \$142,000 to \$180,000 per youth. At least 30% of this cost is borne by government in foregone tax revenues alone.

- **Health:** Studies indicate that one of the costs of dropping out of high school is poorer health and reduced life expectancy. Based on the estimated impact on quality life years and a US FDA estimate of the value of a quality life year, a Canadian study estimated this health cost at \$227,000 per drop-out or \$107,000 in present value. This in turn implies that the health cost due to the lower grade 12 completion rate for youth aging out of care than the general population (with some 300 fewer graduates than there would be with the same high school completion rate as the general population) totals \$32.4 million in present value. And this estimate does not include wellness costs youth aging out of care may uniquely experience because of their care experience and challenges.

In addition to the wellness/life expectancy cost borne by the youth, there are higher health care expenditures borne by government. Studies clearly demonstrate that per capita public health care expenditures are higher for people with lower incomes. Because youth-aging-out-of-care incomes are low, with virtually all youth aging out of care living in the lowest quintile of income from age 19-24, and those not completing high school likely to remain in the lowest quintile over their entire lives, health care expenditures for youth aging out of care are disproportionately high. The incremental health care expenditures for youth aging out of care in British Columbia (just in relation to the per capita costs incurred for the second lowest income quintile) is estimated at some \$16.5 million in present value. This too does not include higher health care costs for youth aging out of care due to their unique circumstances and needs.

- **Criminal Activity:** Studies indicate that there is a link between poverty, literacy rates and the incidence and costs of crime. Based on estimates of the impact of poverty on criminal activity and the total cost of crime in British Columbia, including both criminal justice system related expenditures and victim costs, it is estimated that the incremental cost of crime due to poverty is some \$860 per person living at the lowest quintile of income. Applying that per capita incremental cost to youth aging out of care in their first five years of aging out and to those youth aging out of care who do not complete high school (and therefore are likely to remain at the lowest quintile of income) results in a total present value youth-aging-out-of-care criminal activity-related cost of \$11.5 million (\$2 million in incremental government expenditures and \$9.5 million in incremental victim costs).
- **Early Pregnancy:** Data on relative rates of early pregnancy and parenting for youth aging out of care versus the general population and on the consequences for the youth-aging-out-of-care parents and their children that we have been able to develop in this study are too limited to develop reliable estimates of the magnitude of the costs. Suffice to say the costs are multi-dimensional and significant. For the young parents, there is the challenge of parenting with limited resources and support as well as the risk and associated trauma of their children being apprehended by MCFD. For government, there is the risk of immediate costs of providing care. And, regardless of whether children are brought into care there are the intergenerational costs with those children growing up in poverty. An estimated 20-25% of the children raised in poverty will remain in poverty with all of the consequent costs that entails.

- **Homelessness and substance abuse:** Data that could be developed for this study are too limited to provide meaningful estimates of the costs of homelessness and homelessness compounded by substance abuse issues, but these too are multi-dimensional and significant. For the youth, there are the costs in wellness, quality of life and vulnerability to violent and other crime. For government there are very high incremental health care, criminal justice-related, shelter, counselling and other service costs. And for society as a whole there is the cost simply in the awareness of and concern about these unacceptable conditions and outcomes in the community.
- **Premature Loss of Life:** The high death rate of youth aging out of care implies there will be 3 to 4 more deaths of youth aging out of care between ages 19 to 25 than there would be if they faced the same death rate as the general population. Government guidelines recommend assigning a value of \$7 million per life saved or lost when evaluating proposed regulations or investments. At \$7 million per life, the cost of the higher death rate for youth aging out of care totals some \$21 to \$28 million. This, of course, is not a measure of the human suffering and moral cost, but does indicate an amount government should be willing to allocate to reduce the risks of these deaths to be consistent with what it does in evaluating other decisions it makes.

TOTAL ESTIMATED COSTS

- The total costs estimated in dollar terms amount to some \$222-\$267 million in present value — an average \$222,000 to \$267,000 per youth aging out of care each year. In addition there are the very significant costs not estimated in dollar terms: incremental wellness and health care expenditures youth aging out of care uniquely experience (beyond the incremental costs associated with high school drop-outs and poverty); the immediate and inter-generational costs of high early pregnancy and parenting rates; the costs of homelessness and homelessness compounded by substance abuse.

The dollar estimates are rough and based on a number of assumptions. However, it is clear that whatever the precise numbers, the costs, both monetized and non-monetized, are substantial and indicate a major failing of current policies. By the same token they provide some perspective to the magnitude of the opportunity for measures that can improve outcomes, in particular that can improve on the low educational attainment, income, and mental wellbeing that underlie much of the costs.

1.0 INTRODUCTION

This is the second part of a three phase economic analysis of the policies and programs government should consider to improve outcomes for youth aging out of care. This economic analysis has been undertaken as part of Vancouver Foundation’s Fostering Change Initiative and adds an economic rationale to the social and moral argument that society has the same obligation to assist these youth for which we are collectively responsible, as individual families do for their own children in their transition to adulthood.

The first phase of the analysis documents key educational, economic, social and wellness outcomes for youth aging out of care. While there are limitations in the data because there is no systematic tracking of youth after leaving care, voluntary survey and other studies in BC and elsewhere do indicate a clear pattern with respect to a wide range of youth-aging-out-of-care outcomes:

- Grade 12 graduation rates and levels of post-secondary education are well below those of the general population;
- Employment rates and earnings are low, reliance on government assistance is high and income from all sources is commonly below the poverty line;
- Housing arrangements are often inadequate and/or transient;
- Rates of involvement with the criminal justice system are relatively high;
- Rates of early pregnancy and parenting are relatively high;
- There are relatively high rates of substance abuse; youth both in care and after aging out constitute a disproportionate number of street-involved youth with substance abuse problems;
- A relatively large percentage of youth aging out of care have mental health symptoms and concerns;
- There is a high rate of premature loss of life — death rates are far above those of the general population.

These adverse outcomes impose significant costs on the youth themselves, on government (taxpayers) and on society as a whole. The purpose of this second phase of the analysis is to describe and, to the extent possible, provide estimates of the magnitude of these costs. The third phase identifies measures that can improve outcomes and reduce costs, and assesses their potential net benefits in relation to the incremental costs they entail.

2.0 KEY COST DRIVERS

While all of the adverse outcomes that have been documented for youth aging out of care can have their own direct costs, in many respects the outcomes and the costs they entail are driven by three key interrelated factors: low educational attainment; poverty; and poor mental wellbeing. The different costs these key factors give rise to are discussed below.

LOW EDUCATIONAL ATTAINMENT:

It is well established that low educational attainment imposes a wide range of costs. Studies in Canada and the United States have found that “an individual’s educational attainment is one of the most important determinants of their life chances in terms of employment, income, health status, housing and many other amenities”¹

The most direct economic cost of low educational attainment is limited earnings potential. Individuals with less education have more limited employment opportunities and markedly lower wages. This is a major cost borne not only by the youth themselves in terms of their material well-being, but also by government because unemployed and lower paid people pay less income and other taxes and have greater need for income assistance.

The limited earnings potential due to low educational attainment is the principal factor underlying the finding in a number of benefit-cost studies that government (taxpayers) would benefit financially from measures that delay and/or provide greater support for youth aging out of care. Extended care and greater support have been found to improve educational attainment and earnings potential. The consequent increase in taxes and reduction in income and other social assistance have in themselves been estimated to exceed the incremental costs these measures would entail.

That was the finding in the widely cited Chapin Hall benefit-cost analysis² that estimated improvements in educational attainment and consequent increase in taxes and reduction in income assistance resulting from extending foster care to 21.³ It was also the finding in the Ontario “25 is the new 21” study that estimated the improvements in educational attainment and consequent increase in taxes and reduction in income assistance that would result from extending foster care from age 21 to 25.⁴

In its analysis of this issue, the Conference Board of Canada (2014) compared youth-aging-out-of-care lifetime tax and income assistance in two scenarios: (i) the status quo educational attainment and mental wellness for youth aging out of care and (ii) educational attainment and mental wellness comparable to youth not in care (taking into account the aboriginal/non-aboriginal and gender mix in the cohort of youth aging out of care it was studying). It found major costs for the status quo and by the same token potential benefits from improvement.

1 H. Levin et al. (2007), p.2. See also, O. Hankivsky (2008).

2 Courtney et al. (2009).

3 Other US studies with similar findings include: Delgado et al. (2008) that analyzed the impacts of transition guardian plans providing income and mentoring support for youth aging out of care through age 25, and Washington Institute of Public Policy (2010) that analyzed the impacts of extending foster care from age 19 to 21 based on the experience of Washington state foster youth that had remained in care to that age as compared to other foster youth who aged out at 19.

4 The Office of the Provincial Advocate for Children and Youth (2012). See also, Sherlock and Culbert (2014) who in a Vancouver Sun series applied the Ontario estimates of impacts on educational attainment to a hypothetical program of extending foster age in BC to age 25.

There are links to health costs because of disproportionately high incidence of high blood pressure, obesity, stress and depression as well as negative health behaviour (e.g. cigarette smoking) for individuals with low educational attainment.

The Conference Board estimated that government could invest up to some \$126,000 per youth and still benefit financially from improvements in educational attainment because of the incremental taxes and reduction in income assistance it would generate.

While limited earnings potential is the most direct cost of low educational attainment, there are a number of other well documented, significant costs as well. Following the earlier work of Levin et al. (2007) and the seminal article on non-market costs of poor education by Haveman and Wolfe (1984), Hankivsky (2008) analyzed the link between low educational attainment (dropping out of high school in Canada) and health, criminal activity and early pregnancy.

There are links to health costs because of disproportionately high incidence of high blood pressure, obesity, stress and depression as well as negative health behaviour (e.g., cigarette smoking) for individuals with low educational attainment. There is also the link through low income and poverty that is associated with low educational attainment. Socio-economic conditions are a key determinant of health. Hankivsky noted that it was because of the strong evidence linking educational attainment to health that the 2002 Romanow Commission on the Future of Health Care in Canada stated that investing in education is “part of the solution leading to a healthier Canada”.

The health costs are borne by the individuals themselves in higher morbidity and mortality rates (which Hankivsky estimated in terms of an expected loss of quality adjusted life years) and by government through higher health care expenditures.

With respect to criminal activity, there is evidence of a disproportionate share of prison populations accounted for by school drop-outs. The criminal activity-related costs of poor educational attainment are borne by government in higher criminal justice-related expenditures. There are also significant material and other costs borne by the victims of crime, including the youth and adults who are engaged in criminal activity, as they themselves are at increased risk of being victims of violent and other crime.

The costs associated with homelessness compounded by mental health and substance abuse issues are not only a significant cost for government, but also for society as a whole. Many people place a value on the quality of life for all residents in their community, and the widely reported and visible existence of homelessness and street-involved youth with mental health and substance abuse problems is a cost felt by the entire community.

Finally, with respect to early pregnancy, there is evidence that youth with poor educational attainment are less able or likely to achieve well-planned, desired family size. There are higher early pregnancy and parenting rates despite the greater material and other challenges these youth face. The costs here are in part intergenerational in nature, where there is the potential for the children to repeat the adverse outcomes and circumstances of their parents. And there are more immediate costs as well, both for government and for the youth themselves, where children are at risk of being apprehended by child welfare services because of an inability of the young parents to provide the basic necessities for their children.

POVERTY:

Studies of the costs of poverty mirror the costs identified with low educational attainment. The incidence of poverty is highly correlated with low educational attainment and its consequences much the same.

There are, of course, the low taxes paid and high reliance on government assistance due to the low income levels of people living in poverty. There are as well strong links between poverty and health care costs, incidence of criminal activity, and the intergenerational costs associated with the children of poor families.

In an analysis of the costs of poverty in Ontario, Laurie (2008) cited a number of studies identifying poverty as a cause of poor health. Underlying factors include: poor nutrition; inadequate housing; stress; financial barriers to prescription drugs and regular dental and eye care; lack of knowledge about what will contribute to good health. For aboriginal people, who constitute a disproportionate number of people living in poverty, there is higher incidence of some chronic diseases including arthritis, diabetes, cancer, heart ailments and hypertension.

In his study, Laurie estimated the difference in public health care expenditures for people in the first through fifth quintile of family income, based on a detailed Manitoba study of the percentage of health care expenditures accounted for by people at different income levels. The lowest income quintile (20% of the population) accounted for the highest percentage (30.9%) of public health care expenditures. The per capita expenditures for this lowest income group were almost double the expenditures for people in the 3rd or middle income quintile.

Studies also show the marked difference in wellness and life expectancy for poor versus higher income people. The Health Officers Council in British Columbia (2013) found that low income people in British Columbia were 29% less likely to report having excellent or good health as compared to high income people. The life expectancy of low income people is almost 5 years less than high income people and 2.5 years less than people with average income.

As with educational attainment, there are links between poverty and criminal activity. Laurie (2008) noted that literacy has been found to be a key determinant of criminal activity and likelihood of incarceration, and people with low income (and highly correlated low educational attainment) tended to have the poorest distribution of literacy skills. Poverty is also associated with criminal activity because of need, inadequate housing, neighbourhood characteristics and limited family guidance.

The intergenerational costs of poverty result from the links between poverty, parents' school achievement (often limited) and their children's school achievement. There is greater intergenerational mobility of socio-economic conditions in Canada than the United States,

but even in Canada an estimated 20-25% of children born and raised in poverty will remain in poverty as adults. There are high risks of the cycle of poverty and related costs being repeated.

MENTAL WELLBEING:

A third key driver of the costs associated with the adverse outcomes for youth aging out of care is poor mental wellbeing.

Poor mental wellbeing exacerbates the costs of low educational attainment and poverty. As recognized in the Conference Board (2014) study, it is a factor underlying limited earnings potential. Also, poor mental wellbeing, particularly in conjunction with drug and alcohol abuse, can markedly increase health, criminal justice and other government service-related costs.

In a study of 1150 youth aging out of care in Australia, Morgan Disney Associates (2006) found that government health, criminal justice-related, and other support expenditures for youth aging out of care with significant mental health and drug and alcohol abuse problems were roughly 10 to 20 times greater than for the general population.

In a BC study, Somers et al. (2008) conservatively estimated that public sector costs directly attributable to homeless adults with mental health and drug addiction issues totalled some \$55,000 per year per adult. A large percentage of their sample was people formerly in care. More recently in 2016, Somers reported the direct health, criminal justice and other public sector costs incurred over a five-year period for a sample of 300 high offenders in the Downtown East Side of Vancouver, almost all of whom had mental illness and substance abuse problems and a large percentage of which were people formerly in care. The costs totalled between \$168,000 and \$247,000 per offender.

The costs associated with homelessness compounded by mental health and substance abuse issues are not only a significant cost for government, but also for society as a whole. Many people place a value on the quality of life for all residents in their community, and the widely reported and visible existence of homelessness and street-involved youth with mental health and substance abuse problems is a cost felt by the entire community.

In addition to exacerbating government costs and having impact on society as a whole, mental wellbeing imposes severe costs on the affected youth themselves. As well as affecting quality of life, in the extreme it can lead to the unacceptably high rate of premature loss of life that youth aging out of care experience.

One can never adequately capture loss of life in economic terms, but governments do use estimates of people's willingness to pay (allocate resources) to reduce the risk of loss of life in developing regulatory policy, highway safety standards and other measures. On the basis of estimates of that willingness to pay, benefit-cost guidelines in BC and elsewhere recommend assigning a value of approximately \$7 million (in 2015\$) for each life saved or lost.⁵ That is what these guidelines say should be recognized as an economic measure of the premature loss of youth aging out of care lives and what government should be willing to invest per youth aging out of care life it could save to be consistent with what it does elsewhere.

⁵ Treasury Board of Canada Secretariat (2007); BC Ministry of Transportation (2012).

3.0 ESTIMATED MAGNITUDE OF COSTS

In Table 1 below, the costs of the adverse outcomes driven by low educational attainment, poverty and poor mental wellbeing, as discussed in the previous section, are summarized.

TABLE 1 – SUMMARY OF COSTS OF ADVERSE YOUTH-AGING-OUT-OF-CARE OUTCOMES

	Borne by youth aging out of care	Government	Society as a Whole
Limited Earnings Potential	low income; poor material well-being	low taxes; high levels of income assistance	
Health	diminished wellness and life expectancy	high health care costs	
Criminal Activity	vulnerability to violent and other crime	high criminal justice related costs	material and non-tangible victim costs
Early Pregnancy	risk of child apprehension	risk of immediate care costs and intergenerational costs	risk of intergenerational costs
Homelessness; Substance Abuse	diminished wellness and quality of life; increased vulnerability to crime	very high health care, criminal justice and other government service costs	adverse impact on community values and concerns
Premature Loss of Life	risk of premature loss of life		value placed on risk of loss of life

Not all of these costs can be adequately or reliably measured in dollar terms and, in any event, limitations in the data prevent precise measurement of costs for youth aging out of care in BC and elsewhere. Nevertheless, there is sufficient information on outcomes and consequences to develop order-of-magnitude estimates of some of the major costs. This is important because the rough estimates of costs provide perspective to the magnitude of the opportunity and benefit that better youth-aging-out-of-care policies and outcomes can provide.

3.1 LIMITED EARNINGS POTENTIAL

Statistics Canada data on average income by age and educational attainment are shown in Table 2.⁶ Average incomes are lowest without grade 12 and highest, over time, for those with a bachelor or higher university degree.

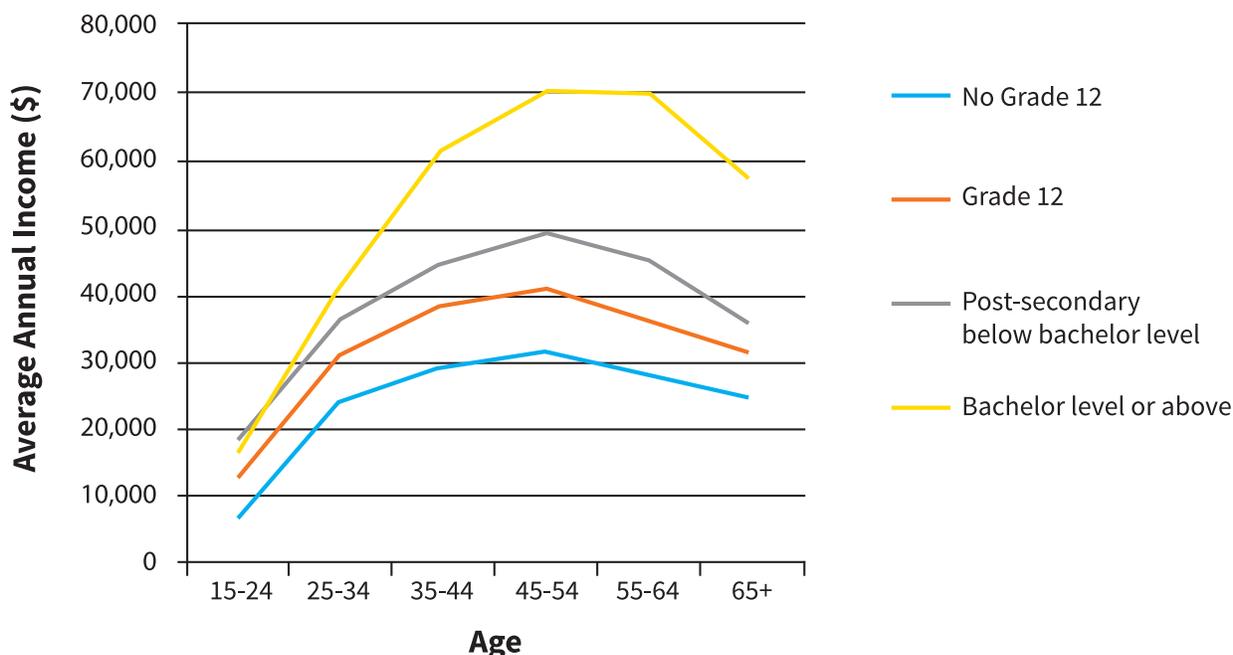
⁶ Statistics Canada, National Household Survey (2011). Income includes earnings, investment income and government transfers before tax. The averages are calculated for all persons in the age bracket reporting income received or earned.

TABLE 2 – 2010 INCOME BY AGE AND EDUCATIONAL ATTAINMENT (\$)

Age	No Grade 12	Grade 12	Post-secondary below bachelor level	Bachelor level or above
15-24	7,359	12,858	18,440	16,572
25-34	24,460	30,950	36,327	41,118
35-44	29,265	38,593	44,694	61,364
45-54	31,805	41,255	49,264	70,196
55-64	28,217	37,071	45,119	69,478
65+	24,728	31,801	35,454	56,875

There are significant differences in average annual income when individuals first enter the workforce (age 15-24) and, as clearly illustrated in Figure 1 below, these differences persist and grow over the individuals’ working lives. In 2010, average annual income in the 15-24 age grouping for individuals without grade 12 was \$5,500 to \$11,000 less than for individuals with grade 12 and higher levels of education. By age 45-54 the average annual income for individuals without grade 12 was \$9,500 to \$40,000 less than for individuals with grade 12 and higher levels of education.

FIGURE 1 – 2010 INCOME BY AGE AND EDUCATIONAL ATTAINMENT



The annual differences cumulate over time to very large differences in lifetime income. Table 3 below shows the estimated differences in the present value⁷ of lifetime income by educational attainment level based on the average annual income levels in Table 2. It is assumed that the average annual income for different age groupings in 2010 roughly reflects the lifetime pattern of earnings an individual at each educational attainment level could expect over time. The range in values for grade 12 graduation and higher attainment levels correspond to a range of assumptions about growth in labour productivity and real wages over time. The lower value conservatively assumes no growth; the higher value assumes a modest growth rate of ½ of one percent per year. (No growth in real wages is assumed for the no grade 12 attainment level given the limited scope for productivity improvements and the impact of globalization on this least skilled set of workers).

As shown Table 3, the estimated difference in the present value of lifetime income *with* versus *without grade 12* is \$209,000 to \$304,000 (expressed in 2015\$). The estimated difference in the present value of lifetime income *with some post-secondary* versus *no grade 12* is \$383,000 to \$495,000. And the difference in the present value of lifetime income *with a university bachelor’s degree or higher* versus *no grade 12* is \$678,000 to \$836,000.

TABLE 3 — PRESENT VALUE LIFETIME INCOME BY EDUCATIONAL ATTAINMENT (\$’000)

Based on 2010 Average Annual Income by Age Grouping

	No Grade 12	Grade 12	Post-secondary below bachelor level	Bachelor level or above
Lifetime Present Value	596.4	791.2 - 879.0	952.4 - 1056.9	1,227.6 - 1,373.9
Relative to No Grade 12		194.8 - 282.6	356.0 - 460.5	631.2 - 777.5
Relative to No Grade 12 (2015\$)		209.3 - 303.6	382.6 - 494.9	678.4 - 835.6

These differences in the present value of lifetime income provide a measure of the cost (or in more precise economic terms, the opportunity cost) of the limited earnings potential due to low educational attainment — a cost that could be reduced by measures and support designed to improve educational outcomes.⁸

Data presented in the phase 1 report indicated that grade 12 graduation rates for youth aging out of care are 50% to 70% as compared to over 90% for the general population. For purposes of this analysis, it is assumed the youth-aging-out-of-care grade 12 graduation rate is 30 percentage points less than the general population. The phase 1 report also indicated that the rate of youth-aging-out-of-care participation in post-secondary education is in the order of 20% as compared to 40% for the general population (20 percentage points lower); and university

7 The present values reflect the sum of the average annual incomes for ages 20 through 64 discounted at a real rate of 3%. A discount rate is used to reflect the present weight that people give to future benefits or costs. The 3% discount rate used in this calculation is consistent with what economists term a time preference rate and is commonly used in social, health and educational evaluations.

8 Differences in earnings by level of educational attainment can overstate the causal effect that an improvement in educational attainment in itself may have. The reason is that educational attainment can be correlated with other factors that also impact earnings. In this context the differences in earnings provide a measure of the opportunity cost that can be significantly reduced, if not entirely avoided, by improvements in educational attainment combined with other measures that enable youth aging out of care to secure employment in well-paying jobs in accordance with their potential and interests.

graduation (BA or higher) 3% to 5% as compared to 18% to 20% or more for the general population (some 15 percentage points lower).

To indicate the opportunity cost of the limited earnings potential due to low educational attainment for the cohort of youth aging out of care aging out each year, the increase in earnings that would result from closing these grade 12 graduation, post-secondary and university graduation attainment gaps are estimated.

Closing the gap in grade 12 completion would require an increase of some 30 percentage points in the graduation rate. With roughly 1000 youth aging out each year, that would mean 300 more grade 12 graduates. Closing the gap in post-secondary would require an increase of 20% or 200 more youth aging out of care in college, trade school or other post-secondary study. Closing the gap in university graduation (BA or higher) would require at least 15% or 150 more youth aging out of care completing a university degree.

Based on the differences in lifetime income shown in Table 3, closing those educational attainment gaps would increase the total present value of lifetime income for the 1000 youth aging out each year by \$142 to \$180 million (in 2015\$), or an average of \$142,000 to \$180,000 per youth.

This limited earnings potential opportunity cost is shared by youth aging out of care in their material wellbeing and by government because of the impact higher earnings would have on tax revenues and income assistance. Some 30% of the cost of this cost is borne by government from the tax impact alone.⁹

3.2 HEALTH

There are two components to the health costs of current outcomes for youth aging out of care. There is the diminished wellness and life expectancy for the youth aging out of care themselves, and there are high public health care expenditures borne by government.

WELLNESS AND LIFE EXPECTANCY:

In her study of the costs of dropping out of high school, Hankivsky (2008) provides some perspective to the costs of diminished wellness and life expectancy that youth aging out of care who do not complete grade 12 may face.

Based on a US study by Muennig (2005) on the impact of low educational attainment on wellness and life expectancy expressed in terms of quality life years, and on what she considered to be a conservative US FDA estimate of the value of a quality life year, Hankivsky calculated that the health cost of not completing high school could be valued at some \$211,500 per drop-out (\$227,000 in 2015 dollars). In present value terms, assuming an equal annual willingness to pay over the course of one's life for quality life years whenever they should be manifested, the health cost would be \$108,000 per drop-out (in 2015\$).

As noted above, the grade 12 completion rate for youth aging out of care is some 30 percentage points lower than for the general population. The health and wellness cost of this lower grade 12 completion rate — 300 fewer grade 12 graduates in the cohort of youth aging out each year

⁹ Combined federal provincial marginal income tax rates in British Columbia are between 20% and 31% for annual incomes up to \$90,000 (Canadian Tax and Financial Information 2016). In addition to generating more income tax revenue, higher youth-aging-out-of-care incomes would generate more GST, PST and other consumption-related tax revenues.

than there would be with completion rates comparable to the general population — totals \$32.4 million in present value. As with limited earnings potential, this is an estimate of the opportunity cost — the benefits of improved wellness and life expectancy that closing the grade 12 educational gap for youth aging out of care could have.

This estimate is rough and problematic in some respects¹⁰, but it indicates very clearly that whatever the precise number, the wellness cost borne by youth aging out of care is a very significant amount. And the \$32.4 million estimate is based only on the wellness costs associated with not completing grade 12. It doesn't include any additional wellness costs youth aging out of care uniquely may experience because of their care experiences and challenges.

PUBLIC HEALTH CARE EXPENDITURES:

While there are some longitudinal studies that track the public health care expenditures of sub-populations of youth aging out of care (for example street-involved youth with substance abuse problems) there are no studies of the youth-aging-out-of-care population as a whole that compare expenditures on youth aging out of care to those of the general population.

However, the cost of poverty study undertaken by Laurie (2008) in Ontario and a follow-up study in British Columbia by Ivanova (2011) provide estimates of public health care expenditures for people at different levels of income. The difference in expenditures for people at different income levels can be used to infer how much more is spent per capita on youth aging out of care than the general population.

Ivanova analyzed the distribution of 2010 health care expenditures in British Columbia by income level (the first through fifth quintile of family income). Based on the earlier work of Laurie (2008), she calculated that the first (lowest income) quintile accounted for \$5.3 billion of the \$17.2 billion of BC public health care expenditures in 2010; the second quintile \$4.2 billion; and the third (middle income) quintile \$2.8 billion.

On a per capita basis with BC's population of 4.35 million in 2010, the lowest income quintile public health care expenditures were \$1232 greater than the second or next lowest income quintile and \$2715 greater than people in the third or average income quintile.

Because youth-aging-out-of-care incomes are low, with virtually all youth aging out of care in the lowest quintile of income from age 19-24, and those not completing high school likely to remain in the lowest quintile over their entire lives, public health care expenditures for youth aging out of care are disproportionately high. Just in relation to the per capita expenditures incurred for the second income quintile, the incremental health care cost for youth aging out of care due to their poverty level income in the first five years after aging out and the low lifetime incomes for those not completing high school is some \$15.3 million in present value (\$16.5 million in 2015\$).¹¹

10 Hankivsky's methodology, based on the seminal work of Haveman and Wolfe (1968) and consistent with benefit-cost principles, values quality life years on the basis of willingness to pay. Although she used an FDA estimate of willingness to pay for quality life years that she considered conservative, it would reflect a willingness to pay by the general population for improved health and longevity. For youth aging out of care, with markedly lower incomes than the general population the willingness to pay would be less, and Hankivsky's methodology does not take that into account. On the other hand, on moral grounds her estimate of the value of a quality life year reflects what arguably would be appropriate with valuation principles based on a more equitable distribution of income. And the quality life year impact estimate on which her calculations are based is conservative. Hankivsky assumed dropping out of high school results in a loss of just over one quality life year. The Health Officers Council of BC (2013) report on life expectancy for people at different income levels would suggest a higher impact.

11 Age-specific data on differences in per capita health care expenditures by income level are not available. The differences in average costs for the whole population are used to estimate the incremental costs for youth aging out of care in their first five years after transition as well as over the lifetimes for those youth aging out of care who remain in poverty.

This \$16.5 million estimate does not specifically include the incremental health care costs for youth aging out of care due to mental wellness issues, special needs, and disproportionately high pregnancy and parenting rates. However, it does provide a measure of the opportunity cost that could be mitigated if youth aging out of care were not living in poverty when they first age out (largely without the family supports that low income youth in the general population have) and if so many didn't stay in poverty because of a failure to complete grade 12 and further their education.

3.3 CRIMINAL ACTIVITY

Again, while there are no studies that track criminal activity-related costs for youth aging out of care as compared to those of the general population, the studies by Laurie (2008) and Ivanova (2011) provide estimates of the impact of poverty on criminal activity-related costs that can be used to infer the incremental costs for youth aging out of care.

There are both criminal justice system-related costs of crime (policing, court-related, incarceration) borne by government and the material losses and intangible costs borne by the victims of crime. Based on detailed analysis of the costs of crime by Zhang (2011), Ivanova estimated that the costs of criminal activity in British Columbia totalled \$18.6 billion in 2008. Of this, government criminal justice system-related costs totalled \$3.3 billion, and victim costs, including a very significant intangible cost component, totalled \$15.3 billion.

Following the methodology developed by Laurie (2008) linking poverty, literacy rates and crime, Ivanova estimated that 4% of the costs of crime could be attributed to poverty. This implies an incremental cost of crime due to poverty of some \$860 per person living at the lowest quintile of income (\$152 in incremental government expenditures and \$708 in victim costs). Applying these per capita incremental costs to youth aging out of care in their first five years of aging out and to those youth aging out of care who do not complete high school results in a total present value cost of \$11.5 million in 2015\$ (\$2 million in incremental government expenditures and \$9.5 million in incremental victim costs).

3.4 EARLY PREGNANCY

Data on relative rates of early pregnancy and parenting for youth aging out of care versus the general population and on the consequences for the young youth-aging-out-of-care parents and their children that we have been able to develop in this study are too limited to develop reliable estimates of the magnitude of the costs. Suffice to say the costs of the high rates of pregnancy and parenting for youth aging out of care are multi-dimensional and significant.

For the young parents, there are the challenges of parenting, exacerbated by the family support and income constraints they face, and the limitations parenting places on furthering their education, which as discussed above, can be so important for their future wellbeing. There is also the risk, and associated trauma, of their children being apprehended by Ministry of Child and Family Development if they are unable to provide or demonstrate the ability to provide the basic necessities their children need.

Because youth-aging-out-of-care incomes are low, with virtually all youth aging out of care in the lowest quintile of income from age 19-24, and those not completing high school likely to remain in the lowest quintile over their entire lives, public health care expenditures for youth aging out of care are disproportionately high.

For government, there are the very significant immediate costs of any children they have to bring into care as well as the full range of adverse outcomes and associated costs associated with these children while in care and after they age out. Even for those children not brought into care, if they are raised in poverty, which is highly likely given the circumstances of most youth-aging-out-of-care parents, Laurie (2008) estimates there is a 20 to 25% chance the children will remain in poverty through their adult lives. For government and society as a whole, there are the intergenerational limited earnings, health and crime-related costs as the cycle of poverty is repeated.

3.5 HOMELESSNESS AND SUBSTANCE ABUSE

One of the greatest challenges for youth aging out of care in major urban centres is finding adequate housing. A high percentage have transient or other inadequate housing arrangements and many experience homelessness. This homelessness in itself imposes significant costs for the youth, government and society as a whole.

It is also evident that a significant number of street-involved youth aging out of care have mental wellness and substance abuse issues. Studies indicate that youth aging out of care and youth still in care account for as much as 50% of the street-involved youth with substance abuse problems in Vancouver. As reported in a number of studies, the costs associated with these youth are very high.¹² The measurable government costs alone were estimated by Somers et al. (2008) at some \$55,000 per person per year.

Again, data that could be developed for this study are too limited to provide meaningful estimates of the total homelessness and homelessness combined with substance abuse costs for the cohort of youth aging out of care each year. However, these costs too are multi-dimensional and significant.

For the youth, there are the costs in wellness, quality of life and vulnerability to violent and other crime. For government there are very high incremental health care, criminal justice-related, shelter, counselling and other service costs. And for society as a whole there is the cost simply in the awareness of and concern about these unacceptable conditions and outcomes in the community. In economic terms, there is a willingness to pay or allocate resources to avoid or lessen these outcomes; that willingness to pay, which would require contingent valuation or other surveys to estimate, is a measure of the cost.

3.6 PREMATURE LOSS OF LIFE

One of the most well reported and upsetting adverse outcome for youth aging out of care is the high rate of premature loss of life. As noted in the Phase 1 report, Turpel-Lafond and the Provincial Health Officer (2006) reported that the death rate for youth aging out of care aged 19 to 25 is 5.5 to 6.5 times that of the general population. In terms of numbers of deaths out of a cohort of 1000 youth aging out each year, that higher death rate suggests there will be 3 to 4 more deaths of youth aging out of care between ages 19 to 25 than there would be if they faced the same death rate as the general population.

¹² See Somers et al. (2008) and Morgan Disney and Associates (2006).

One of the greatest challenges for youth aging out of care in major urban centres is **finding adequate housing.**

The economic cost of this loss of life can be measured by the amount of resources people and governments are willing to allocate to reduce the risk of loss of life. As noted earlier, both BC and federal government benefit-cost guidelines recommend a value of approximately \$7 million (2015\$) per life lost or saved.¹³

At \$7 million per life, the cost of the higher death rate for youth aging out of care totals some \$21 to \$28 million. This, of course, is not a measure of the human suffering and moral cost, but does indicate an amount government should be willing to allocate to reduce the risks of these deaths, or a value it should assign to these deaths to be consistent with what it does in evaluating other investments, expenditures or regulations it makes.

3.7 SUMMARY OF ESTIMATED COSTS

Table 4 presents a summary of the costs of the different adverse outcomes for a cohort of 1000 youth aging out of care. The costs estimated in dollar terms amount to some \$222-\$268 million in present value — an average of \$222,000 to \$268,000 per youth aging out of care each year.¹⁴

In addition there are the costs that have not been estimated in dollar terms: incremental wellness and public health care costs youth aging out of care uniquely experience because of their care experience and challenges; the immediate and intergenerational costs of high early pregnancy and parenting rates; and the costs of homelessness compounded in many cases by substance abuse. Though not estimated in dollar terms these too are very significant costs for the youth themselves, government and society as a whole.

¹³ Treasury Board of Canada Secretariat (2007); BC Ministry of Transportation (2012).

¹⁴ This range of average costs will not bracket the individual costs for all youth. The costs for different youth can vary greatly depending on their characteristics and circumstances. This average cost range simply indicates the total costs one could expect averaged over the full cohort of youth aging out each year.

TABLE 4 – SUMMARY OF ESTIMATED COSTS OF ADVERSE YOUTH-AGING-OUT-OF-CARE OUTCOMES

\$millions (2015 present value)

	Borne by youth aging out of care	Government	Society as a Whole	TOTAL
Limited Earnings Potential	99 - 126	43 - 54		142 - 180
Health	32	16		48
Crime		2	9	11
Early Pregnancy	risk of child apprehension	risk of immediate and intergenerational costs	risk of intergenerational costs	
Homelessness and Substance Abuse	impact on wellness; quality of life; vulnerability to violent crime	incremental health; criminal justice-related and other costs	impact on community values and concerns	
Premature Loss of Life				21 - 28

It is important to recognize that the dollar estimates are rough and based on a number of assumptions. What is clear, however, is that the costs, not only those estimated in dollar terms but the non-monetized costs as well, are substantial and indicate a major failing of current policies.¹⁵ By the same token, they provide some perspective to the magnitude of the opportunity for measures that can improve outcomes, in particular those that can improve on the low educational attainment, income, and mental wellness that underlie much of the costs.

¹⁵ This is in fact what has been found in other studies that have addressed this same question in other jurisdictions. See, e.g., Jim Casey Opportunity Youth Initiative (2013) that estimated the cost of the adverse outcomes for youth aging out of care in the United States averaging \$300,000 per youth, and Forbes et al. (2006) that estimated the cost of the adverse outcomes for youth aging out of care in Australia averaging over \$700,000 per youth. The methodologies and scope of costs considered in these studies are different in some respects from this report but the qualitative conclusion is the same. The costs are very high.

REFERENCES

- BC Ministry of Transportation (2012). Default Values for Benefit Cost Analysis in BC. Retrieved from: <https://www.th.gov.bc.ca/publications/planning/Guidelines/Business%20Case%20Guidelines/DefaultValues-BenefitCostAnalysis.pdf>
- Canadian Tax and Financial Information (2016) BC 2015 and 2016 Personal Marginal Income Tax Rates. Retrieved from: <http://www.taxtips.ca/taxrates/bc.htm>
- Conference Board of Canada. (2014). *Success For All: Investing in the Future of Canadian Children in Care*. Ottawa, Ontario. Retrieved from <http://auntleahs.org/wp-content/uploads/2014/06/Success-for-all.pdf>
- Courtney, M. E., & Pollack, H., Peters, C., M., Dworsky, A., (2009). *Extending Foster Care to age 21: Weighing the Costs to Government against the Benefits to Youth* (pp. 1–9). Chapin Hall: University of Chicago. Retrieved from https://www.chapinhall.org/sites/default/files/publications/Issue_Brief%2006_23_09.pdf
- Delgado, M., Packard, T., Fellmeth, R., McCready, K., Packard, T., McCready, K. (2008). A cost-benefit analysis of transitional services for emancipating foster youth. *Children and Youth Services Review*, 30(11), 1267–1278.
- Forbes, C. et al. (2006). *Measuring the Cost of Leaving Care in Victoria*. Monash University Department of Econometrics and Business Statistics.
- Hankivsky, O. (2008). *Cost Estimates of Dropping Out of High School in Canada: Technical Report* (pp. 1–79). Canadian Council on Learning, Health and Learning Knowledge Centre. Retrieved from <http://site.ebrary.com.proxy.lib.sfu.ca/lib/sfu/detail.action?docID=10277022>
- Haveman, R. H., & Wolfe, B. L. (1984). Schooling and Economic Well-Being: The Role of Nonmarket Effects. *Journal of Human Resources*, 19(3), 377–407.
- Health Officers Council of British Columbia. (2013). *Health Inequities in BC* (pp. 3–19). British Columbia. Retrieved from <https://healthofficerscouncil.files.wordpress.com/2012/12/health-inequities-in-bc-april-15-2013.pdf>
- Ivanova, I. (2011). *The Cost of Poverty in BC* (pp. 5–44). Canadian Centre for Policy Alternatives. Retrieved from https://www.policyalternatives.ca/sites/default/files/uploads/publications/BC%20Office/2011/07/CCPA_BC_cost_of_poverty_full_report.pdf
- Jim Casey Youth Opportunities Initiative Issue Brief (2013). *Cost Avoidance: The Business Case for Investing in Youth Aging Out of Foster Care*.
- Laurie, N. (2008). *The Cost of Poverty* (pp. 2–34). Ontario: Ontario Association of Food Banks. Retrieved from <http://www.oafb.ca/assets/pdfs/CostofPoverty.pdf>
- Levin, H., Belfield, C., Muennig, P., & Rouse, C. (2007). *The Costs and Benefits of an Excellent Education for All of America's Children* (pp. 1–24). New York: Columbia University. Retrieved from <http://cbcse.org/wordpress/wp-content/uploads/2013/03/2007-Levin.Excellent-educatin-for-all-of-america%C2%B4s-children.pdf>
- Morgan Disney & Associates. (2006). *The transition from care: Avoidable costs to governments of alternative pathways of young people exiting the formal child protection care system in Australia*. Australia: Department of Social Services, Australian Government. Retrieved from <https://www.dss.gov.au/our-responsibilities/communities-and-vulnerable-people/publications-articles/the-transition-from-care-avoidable-costs-to-governments-of-alternative-pathways-of-young-people-exiting-the-formal-child-protection-care-system-in-australia>

Muennig, P. (2005). The economic value of health gains associated with education interventions (Draft). Paper presented at the Equity Symposium on The Social Costs of Inadequate Education at Teachers' College, Columbia University.

Sherlock, T., & Culbert, L. (2014, February 19). The costs and benefits of extending foster care to age 24. *Vancouver Sun*. Vancouver, B.C. Retrieved from <http://www.vancouversun.com/news/costs+benefits+extending+foster+care/9532917/story.html>

Somers, J., Patterson, M., McIntosh, K., Shiell, A., Frankish, C.J. (2008) Housing and Supports for Adults with Severe Addictions and/or Mental Illness in BC. Retrieved from http://www.health.gov.bc.ca/library/publications/year/2007/Housing_Support_for_MHA_Adults.pdf

The Office of the Provincial Advocate for Children and Youth. (2012). *25 is the New 21: The Costs and Benefits of Providing Extended Care & Maintenance to Ontario Youth in Care until Age 25* (pp. 1–59). Ontario. Retrieved from <http://provincialadvocate.on.ca/documents/en/ylc/25istheNew21.pdf>

Treasury Board of Canada Secretariat (2007) Canadian Cost-Benefit Analysis Guide: Regulatory Proposals. Retrieved from: <https://www.tbs-sct.gc.ca/rtrap-parfa/analys/analys-eng.pdf>

Statistics Canada (2011) National Household Survey.

Turpel-Lafond, M.E. & Provincial Health Officer (2006) Joint Special Report: *Health and Well-Being of Children in Care in British Columbia: Report 1 on Health Services Utilization and Mortality*. Retrieved from http://www2.gov.bc.ca/assets/gov/health/about-bc-s-health-care-system/office-of-the-provincial-health-officer/reports-publications/special-reports/complete_joint_report.pdf

Washington State Institute for Public Policy. (2010). *Extending Foster Care to Age 21: Measuring Costs and Benefits in Washington State*. Olympia, Washington. Retrieved from http://www.wsipp.wa.gov/ReportFile/1065/Wsipp_Extending-Foster-Care-to-Age-21-Measuring-Costs-and-Benefits-in-Washington-State_Full-Report.pdf

Zhang, Ting. (2011). Cost of Crime in Canada, 2008. Department of Justice Canada. www.justice.gc.ca/eng/pi/rs/rep-rap/2011/rr10_5/index.html

fostering CHANGE

fosteringchange.ca

TWITTER: @FosterChangeBC | #fosteringchangebc

FACEBOOK: fosteringchangebc