

————— **Research Report** —————

**The Net Federal Fiscal Benefit
of CSC Programming**

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of CSC Programming**

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Introductory Statement

This updated report contains data for indeterminate sentences (e.g. life) that were not available when the original report was prepared. The addition of these data improved the precision of the economic model and resulted in an increase in the economic benefits from correctional programs. A copy of the original report may be obtained from:

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Final Report: February 2009 Update

The Net Federal Fiscal Benefit of CSC Programming

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Executive Summary

The Conference Board of Canada (CBoC) was the successful bidder in a competition that was tendered by the Correctional Service of Canada (CSC) to undertake a cost-benefit study of seven categories of correctional programming. The seven categories of programming were: violence prevention, family violence, substance abuse, sex offender, living skills, education, and employment. Only programs of national scope that were provided within the correctional institution were to be included in the cost-benefit analysis.

The first stage of the study involved an extended review of the literature on the costs of crime and the benefits of correctional programming. This review was useful because a number of comprehensive cost-benefit studies have been conducted in Britain and in the United States, and these provided a basis for securing cost information and for validating and informing the CBoC's methodology for the empirical portion of the work. The review also provided information on the effectiveness of different types of correctional programming that was helpful in providing context for the review of CSC outcome studies.

Once the literature review was completed, the CBoC created a present discounted value based model, predicated on the framework of a seminal Washington State Institute for Public Policy study¹ to estimate the federal government's net fiscal benefits associated with the seven key correctional programming areas operated by CSC in fiscal year 2006-07. Recidivism rates for control and treatment groups were drawn from the outcomes of CSC programs. Using this model, the CBoC prepared an analysis to determine the federal government's net fiscal benefit of offering selected programs to offenders in institutions operated by CSC.

The cost-benefit analysis revealed that most correctional program areas provide a positive fiscal net benefit to the federal government. The only program areas showing a negative federal fiscal return were the education and employment program areas. When the programs were viewed in total, net federal fiscal benefits outweigh costs by a factor of 2.71 to 1. The total costs of delivering the correctional programs cited above in 2007 were \$21,516,102, while total benefits were \$58,354,544, yielding a net federal government fiscal benefit of \$36,838,442. Table 1 provides details on benefits per program participant.

¹ Aos, S., Miller, M., and Drake, E. (2006). Evidence-Based Public Policy Options to Reduce Future Prison Construction, Criminal Justice Costs, and Crime Rates. Olympia: Washington State Institute for Public Policy.

**Table 1-Net Benefits (\$2007) - per Program Participant²**

Programs	Federal Gov't Benefits	Federal Gov't Costs	Federal Gov't Net Benefits
Violence Prevention	\$8,092	\$1,919	\$6,173
Sex Offender	\$10,555	\$2,089	\$8,466
Substance Abuse	\$8,926	\$1,222	\$7,704
Living Skills	\$4,604	\$1,692	\$2,912
Family Violence	\$7,784	\$1,335	\$6,449
Employment	\$302	\$308	-\$6
Education	\$729	\$1,428	-\$701

Source: The Conference Board of Canada

Although the CBoC's core analysis focused on the net federal fiscal costs and benefits associated with correctional program participation, the CBoC also estimated broader "expanded" tangible costs and benefits of CSC programming. These expanded figures capture the tangible full income-accrued benefits of the reduced crime to those individuals directly victimized, as well as the net value of federal fiscal benefits.

The cost-benefit analysis shows that the majority of correctional program areas provide a positive tangible net expanded benefit to society. The only CSC programming areas showing a negative expanded net return are the education and employment areas. When the programs are viewed in total, net expanded benefits outweigh costs by a factor of 3.94 to 1. The total costs of delivering the correctional programs was \$21,516,102 while total expanded benefits were \$84,852,457, yielding a net expanded benefit of \$63,336,355.

² For purposes of this analysis "a program participant" refers to offenders who participated in treatment programs that were generally available on a national basis in the majority of institutions. Many programs that are offered on a more selective basis or in the community have been excluded. Therefore, it is likely that the analysis underestimates the net benefits of correctional programming in the seven programming areas.



1 Introduction

The CBoC was the successful bidder in a competition that was tendered by the CSC to undertake a cost-benefit study on the impact of correctional programming on the fiscal situation of the federal government. The study was expected to provide both overall and program specific net federal fiscal benefits for seven selected areas of correctional programming. These areas included: violence prevention, family violence, sex offender, substance abuse, education, employment, and living skills.

As the first step in the study, the CBoC undertook a comprehensive review of the existing international and Canadian literature on the costs surrounding criminality. The majority of the literature reviewed focused on the cost-effectiveness and cost-benefit of different types of criminal interventions. The CBoC also reviewed CSC outcome studies that were related to the specific correctional programs under scrutiny.

The CBoC then created a present discounted value based model, predicated on the framework of a seminal Washington State Institute for Public Policy study³, to estimate the federal government's net fiscal benefits associated with the seven key correctional programming areas operated by CSC in fiscal year 2006-07. Recidivism rates for control and treatment groups were drawn from the outcomes of the CSC programs and were supplemented using data from the crime literature. Using the model, the CBoC prepared an analysis to determine the federal government's net fiscal benefits of offering selected programs to offenders in institutions operated by CSC.

2 Findings of the Literature Review

In conducting the literature review, the CBoC considered two main classes of documents. The first class included journal articles and research publications from the criminology literature that dealt with cost-benefit and cost-effectiveness analysis including articles on the costs of crime and the benefits of correctional programming. The second class included outcome evaluations of CSC correctional programs that were conducted by research professionals for CSC.

2.1 Literature on the Costs of Crime

The adoption of the tools of cost-benefit analysis in the study of criminal justice has lagged behind many other public policy areas, such as the environment and infrastructure planning. In part, this has been due to a lack of evidence on the complete costs of crime borne by victims and society. Fortunately, this has been changing rapidly because of the availability of new data and heightened public pressure on governments for increased accountability in program spending. In recent years, there have been a number of increasingly sophisticated cost-benefit analyses

³ Aos, S., Miller, M., and Drake, E. (2006). Evidence-Based Public Policy Options to Reduce Future Prison Construction, Criminal Justice Costs, and Crime Rates. Olympia: Washington State Institute for Public Policy.



released by organizations such as the British Home Office, the Washington State Institute for Public Policy, the National Institute for Justice and the National Academy of Sciences, which have attempted to fill some of these data gaps.

Such analyses, and others, were helpful to the CBoC research team in a number of ways. A review of their contents and technical appendices helped to validate and inform the methodology that CBoC used to conduct its empirical work. The studies also helped to provide a basis for calculating the tangible costs of crime and for establishing the context for outcome effects of differing types of correctional interventions.

Miller, Cohen and Wiersama (1996) provide the most comprehensive estimates of the costs of crime incurred by victims across multiple cost categories, such as: productivity, medical care/ambulance, mental health care, police and fire services, social victim services, property loss/damage, and quality of life. The cost estimates per victimization, shown in Table 2, were converted to Canadian dollars using Purchasing Power Parity (PPP) exchange rates and inflated to 2007 dollars using the Canadian Consumer Price Index (CPI).

Three major lessons were drawn from the work of Miller et al. (1996). First, when calculating the economic costs of crime on a per capita basis, the literature typically sources its data on the incidence of crime from either victimization surveys, which attempt to measure both reported and unreported incidents of crime, or from police statistics. The former source risks underestimating the costs per incidence of crime that leads to incarceration, whereas the latter potentially underestimates the true incidence of crime. Furthermore, cost estimates vary widely subject to the definition of what “victimization” constitutes.⁴ It is important to note that Miller et al. (1996) measure costs entirely on a per-victimization basis, whereas the CBoC adopted a per-offence approach to cost-benefit analysis. The CBoC chose the per-offence approach because it is the only tractable method of estimating federal fiscal costs and benefits associated with correctional programming participation, since the flow of inmates into the programs is determined not by the true rate of crime, but rather by the rate of criminal conviction.

⁴Ibid, p.2, illustrate the wide variety of definitional uses of the term “victimization” using an example of habitual domestic assault in which a man beats his wife weekly. Under a broad definition of victimization, each beating would constitute a separate incidence of assault whereas, under a narrower specification, the collective set of assaults would be classified as a single victimization.

**Table 2 - Costs of Crime per Victimization (\$2007), as Estimated by Miller et al. (1996)⁵**

Cost	Homicide	Sex Crimes	Robbery	Assault	Property
Productivity	\$1,091,102	\$2,334	\$1,014	\$1,130	\$19
Medical, ambulance	\$17,863	\$532	\$395	\$451	\$6
Mental health care	\$5,125	\$2,887	\$70	\$332	\$6
Police, fire services	\$1,287	\$42	\$139	\$60	\$104
Social, victim services	\$0	\$189	\$27	\$216	\$2
Property loss/damage	\$2,789	\$92	\$801	\$27	\$712
Tangible costs	\$1,118,166	\$6,076	\$2,446	\$2,216	\$849
Quality of life	\$2,058,880	\$88,160	\$6,085	\$11,354	\$177
Total costs	\$3,177,046	\$94,236	\$8,531	\$13,570	\$1,026

Sources: Miller, Cohen and Wiersama (1996), Statistics Canada, The Organisation for Economic Co-Operation and Development.

Second, costs of crime incurred by victims were principally determined by lost victim productivity in the analysis of Miller et al. (1996). From a definitional perspective, this cost segment was considerably broader than the metric used by the CBoC to capture lost victim income resulting from crime and, naturally, it generates a larger estimated penalty to victims. As will be detailed in the following section, the CBoC's estimate of foregone victim income was derived solely from lost wages earned in labour markets. In contrast, Miller et al. (1996) included a plethora of costs incurred by victims' family members and employers in the "productivity" category.⁶ The fiscal impact of crime incurred by employers could not be explicitly identified as

⁵ Miller, Cohen and Wiersama (1996). Cost categories listed in Table 2 (p.9) were compressed using the "series=1" incidence of victimization in Table 1 (p.3). *Homicide* includes the following fatal crimes: rape-murder, robbery-deaths, child abuse deaths, child neglect deaths, other fatal assault, arson deaths, and drunk driving deaths. *Sex Crimes* include: child sex abuse (including rape) and rape and sex assault (excluding child abuse). *Assault* includes: Child physical and emotional abuse, and other assault or attempts. *Property* crimes include: arson, larceny/attempt, burglary/attempt, and motor vehicle theft/attempt.

⁶ Ibid, p.13. In Miller et al. (1996), productivity includes, but is not limited to: wages, fringe benefits, housework, school days lost by victims and their families, productivity lost by co-workers and supervisors recruiting and training replacements for victim, lost productivity of people caught in traffic jams caused by drunk driving crashes, insurance claims processing costs, and legal expenses incurred in recovering productivity losses from drunk drivers and their insurers.



the literature provided no explicit breakdown of the proportion of productivity losses incurred by businesses from those of individuals.⁷

Third, the literature placed considerable emphasis on the psychic or “quality of life” losses incurred by victims of crime. Although the CBoC’s core analysis focused on the net federal fiscal costs and benefits associated with correctional program participation, the CBoC also estimated some of the broader net benefits associated with correctional programming in the analysis that follows. A discussion of the rationale for focusing only on the tangible costs of crime is detailed in section 3.1.

The Washington State Institute of Public Policy study systematically compared the costs and benefits of correctional programs and monetarily qualified all tangible costs and benefits. It presented the costs-benefit analysis from two perspectives—that of taxpayers and crime victims. Although it used Washington State estimates where available, it drew heavily on costs from Miller, Cohen and Wiersema (1996). The study yielded useful information for the CBoC analysis. In particular, it demonstrated that benefits can exceed costs even if the crime reduction benefits of correctional programming interventions were modest. Dubourg and Hamed (2005) also provided fairly comprehensive estimates of criminal justice system costs, and expanded the scope of their analysis to costs incurred in anticipation of crime commission, such as the purchase of a cellular phone or home burglar alarm.⁸

The literature also cited a number of important issues that impact the implementation of a cost-benefit analysis. Despite the best efforts of any analyst to base their estimates on sound assumptions, there is always some uncertainty about the costs and benefits of programs that are being evaluated. Sometimes the correctional program under scrutiny is being evaluated based on the results of a program that was implemented elsewhere even though the programs are not identical. In addition, there are usually issues around the demographics of the prisoner populations, the curricula and/or the instructors. Thus, data and information on the impacts of correctional programming need to be carefully reviewed and possibly deflated to account for sample bias.

2.2 Literature on the Outcomes of Correctional programming

Measuring the reduction in recidivism emerges in the literature as an important way of evaluating the impact of criminal justice interventions. In fact, all of the 571 studies that were reviewed in the Washington State Institute for Public Policy meta-analysis identified at least one crime outcome. However, measuring recidivism, and its offshoot reduced recidivism, is a

⁷ For example, bundled in the definition of “productivity losses” in Miller et al (1996) were costs incurred by employers and fellow employees in recruiting a replacement for the victim. The CBoC reasoned that a temporary loss of worker hours spent recruiting the replacement of a victim might not influence employer profits adversely if other workers take up the slack. In this sense, the CBoC provides a conservative estimate of the victim costs of crime.

⁸ For details, please see Dubourg and Hamed (2005), pp.7-8.



complex matter because there does not appear to be one sole measure of recidivism. Some studies measure only a reduction in violent crime, others measure reduced severity of crime or a reduction in parole violations or a reduction in the mean sentence associated with the next offence. Such a wide variation in approaches to defining reduced recidivism in the literature provides significant challenges in trying to compare the results of international evaluations on correctional programming outcomes.

Fortunately the CBoC was supplied with CSC outcome studies that were relatively consistent in their definition and use of recidivism outcomes. For example, all studies contained an overall measure of the reduction in all categories of crime; this extended to more elaborate measures of the reduction in violent crime and parole violations in a few studies. The CBoC was then able to use these Canadian outcomes in its cost-benefit analysis because they related closest to the scope and intensity of the programs currently provided by CSC.

3 Methodology

The CBoC created a present discounted value based model to estimate the federal government's fiscal benefits and costs associated with seven key correctional programming areas operated by CSC in fiscal year 2006-07. Reductions in recidivism rates for control and treatment groups were drawn from outcome studies pertinent to CSC programs. To control for potential self-selection bias in the treatment groups and for other methodological issues in the outcome studies, the reductions in recidivism rates were deflated by rates consistent with those used in the meta-analysis undertaken by the Washington State Institute for Public Policy. For the most part, this meant that the reductions in recidivism rates were deflated by 25 percent in those outcome studies where the control and treatment groups were not randomly assigned. For a few outcome studies, the reductions in recidivism rates were deflated by 50 percent to account for less robust studies that may have also included the use of significantly different follow-up periods between the control and treatment groups.

The benefits derived from participating in correctional programs were calculated based on successful program completion. Not all participants in a correctional program end up as successful program completers. Following completion of a correctional program, all participants are assigned a status category. While a few of the status categories refer directly to program completion, for example, "successful" or "not successful", there are other status categories such as "released" and "transferred" that refer to situations where program interruption occurred. For purposes of this analysis, CBoC assumed that released or transferred participants had received the same proportional benefits as program completers (successful or not successful). In this regard, the analysis assumes that released or transferred program participants benefited to the



same degree as program participants that were not released or transferred.⁹ Appendix 1 provides a detailed description of the status categories associated with correctional program participation.

The projected recidivism for successful program completers and associated control groups were forecast over a thirteen year time horizon. This period was the maximum time horizon for follow-up used in the cost-benefit literature reviewed. Over the thirteen year period, the CBoC assumed that recidivism rates associated with the control group would increase a further 20 percent¹⁰ over those reported during the relatively short 1-2 year follow-up period typically observed in the outcome studies. In addition, the CBoC assumed that the long-term reduction in recidivism rates between the control and treatment groups would also decay by 20 percent from the end of the study period to the end of the 13 year period used for its analysis. This latter adjustment is consistent with the methodology used in the Washington State meta-study.

Given participation in a correctional program, the reduced likelihood to re-offend and the reduced severity of re-offence were both factored into a model to calculate the federal fiscal benefits. These federal fiscal benefits include: lower federal institutional detention costs, reduced federal justice and justice partner (National Parole Board) costs, higher federal direct and indirect tax collections and lower health transfers to the provinces. It should be noted that throughout the analysis, per offender rates of crime were adjusted to account for multiple offences and multiple crime adjudications. Accordingly, all cost of crime estimates are quite conservative since they neither account for unreported nor unconvicted crimes.

The stream of federal fiscal benefits for the next thirteen years, arising from participation in the programs in fiscal year 2006-07, were converted into 2006-07 dollars using a real discount rate of four percent. The technique of discounting is a way to express a future stream of benefits or costs as a single value in current dollars, and is a conventional practice in cost-benefit analysis.¹¹ This discounting requires an assumption about the appropriate discount rate. In the context of the CBoC's analysis, a bond with a medium term to maturity offers the best proxy for a composite discount rate, as it captures long-term macroeconomic prospects which typically influence decision-making by businesses and individuals. The CBoC selected a conservative annual real discount rate of four percent, which is consistent with the long-term CBoC forecast of the real interest rate on a medium-term federal government bond. Typical real discount rates in the

⁹ The determination of successful program completion rates in each program area involved dividing the number of participants assigned successful completion by the total number of participants, excluding those released or transferred.

¹⁰ Florida Department of Corrections (2001). Recidivism Rate Curves- Recidivism Report (May 2001). A 20 percent rate of decay was calculated for all prison releases since 1993, using a 3-year horizon. When extended to a 13-year horizon, the actual rate of decay in recidivism rates would likely be higher.

¹¹ An example of discounting would be calculating the net present value for the federal government of incarceration costs that span over many years. For instance, the mean sentence length determined for a single count of homicide (including first and second degree murder as well as manslaughter) is over 16 years. Using 2007 incarceration costs, this sentence would cost the federal government \$800,850 over 16 years. Meanwhile, discounting by a 4 per cent real annual discount rate to offset any interest earned in the meantime, implies the net present value of the incarceration costs for the federal government would be \$635,218.



literature vary widely and, unlike the CBoC's analysis, are based wholly on historical interest rate data and include no forward-looking information at the time of publication.

This benefit estimate was compared to the costs of providing the programs for each of the seven programming areas in fiscal year 2006-07 (the latest year for which data on the cost of programming were available for the seven program areas) in order to derive a net federal fiscal benefit of providing each of the seven program areas in fiscal year 2006-07.

3.1 Approach to Estimating Federal Fiscal Benefits

Based on the literature, the CBoC synthesized a broad range of crime costs associated with six crime categories: homicide/manslaughter, sex offences, robbery, assault, drug-related, and property-related. Following the methodology of Cohen et al. (1996)¹², the CBoC further disaggregated the six crime cost categories into costs borne by victims, costs incurred by offenders, and costs directly borne by taxpayers.

Particular emphasis was placed on disentangling the tangible costs of crime from the psychic or emotional costs incurred by victims. Although several of the articles reviewed in the literature on the costs of crime attempted to estimate and include the intangible costs of a victim's pain and suffering in estimates of the costs of crime, the CBoC analysis has purposely omitted these intangible costs. The intent of the CBoC analysis is to present the pure federal government fiscal net benefits accruing as a result of crime prevention programming. The CBoC's analysis is predicated on a fiscal cost-benefit analysis and, as a result, hinges on estimates of the changes in federal tax collections and spending as a result of CSC programming. In such an analysis, the intangible costs of crime are, by definition, excluded.

3.1.1 Estimating Federal Government Benefits

From the perspective of the federal government, tangible benefits stemming from correctional programming include: cost reductions associated with federal incarceration, federal justice and justice partners (National Parole Board), and health transfers to the provinces. In addition, the federal government also benefits as a result of increased federal income tax and GST collections by post-treatment inmates who are less likely to re-offend and be incarcerated, and as a result are more likely to find employment. Those who do find employment will provide the federal government with additional personal income and indirect sales taxes. The federal government also benefits from reduced recidivism because individuals who would have been victims, particularly homicide victims, instead continue to be contributing taxpayers for their lifetime. Appendix 2 provides additional details on how benefits were allocated across correctional programs for treatment and control groups.

¹² Miller, T.R., Cohen, M.A. and Wiersema, B. (1996). *Victim costs and consequences: A new look*. Washington, DC: U.S. Department of Justice, National Institute of Justice.



3.1.2 Federal Incarceration Costs

The reduction in federal incarceration costs was calculated by considering the effect of selected treatment programs on the rate of recidivism and the reduced severity of crime over a 13 year horizon. Only national programs offered by CSC within federal institutions were included in the analysis. The full cost of incarceration for each of the six types of crimes was determined using average sentence lengths and adjusted according to the type of facility and level of security required to accommodate offenders. Institutional costs provided by the CSC initially included correctional programming costs. These correctional programming costs were netted out of the initial institutional cost figures.

The 13-year streams of expected incarceration costs for both treatment and control groups were then determined by multiplying the incidence of each type of crime, based on expected recidivism rates, by the average cost of incarceration for each type of crime. Adjustments were made to account for the progression of inmates from high- to low-security facilities throughout the period of incarceration. The incarceration savings of correctional programming were estimated by subtracting the net present value of the incarceration costs of the treatment group from the net present value of the expected incarceration costs of the control group.

In calculating the total savings in incarceration costs, the CBoC used internal CSC data for 2006 on average sentence length for a single count of a given category of offence, excluding indefinite homicide sentences. While some outcome studies indicated early release benefits as a result of successful completion of correctional programming, other outcome studies countered this notion by suggesting that the timing of correctional programming in many instances extends the length of incarceration within federal institutions. Because of the lack of conclusive evidence of early release benefits from successful completion of correctional treatment programs, the CBoC's analysis did not include any cost savings as a result of early release. To integrate any potential cost savings associated with early release into the cost-benefit analysis, specific data from CSC would need to be sourced and then broken down to isolate the influence tied to successful completion of correctional programming. Unfortunately, due to time constraints, these data were not available. In this respect, the cost savings associated with correctional programming can be considered conservative. A detailed breakdown of the incarceration costing measures employed is included in Table 3.

**Table 3 - Federal Incarceration Costs, 2006-07**

Facility Security	Average Inmate Population	Total Costs	Annual Per-Offender Costs
Maximum security ¹³	3,137	\$380,466,800	\$121,294
Medium security ¹⁴	7,743	\$623,668,000	\$80,545
Minimum security ¹⁵	2,262	\$188,443,100	\$83,297
Women's facilities ¹⁶	471	\$78,500,000	\$166,830
Community ¹⁷	7,718	\$178,108,900	\$23,076

Source: The Correctional Service of Canada

As a result of discussions with CSC officials, it was assumed that for most offences, excluding homicide, two thirds of the prescribed sentence length was served in a federal institution, with the remaining one third of the sentence spent under community supervision. In the case of homicide, the average sentence length for offenders convicted of either a first or second degree murder offence was assumed to be life. Special tabulations conducted by CSC of homicide offenders released between 1997 and 2007 determined that inmates convicted of either first or second degree murder spent an average of 20.32 or 12.32 years, respectively, in federal custody. Meanwhile, those inmates convicted of manslaughter offences and released between 1997 and 2007 spent an average of 3.71 years in federal custody. Overall, homicide related offenders released during 1997 to 2007 spent an average of 7.05 years in federal custody.

In order to prevent over-estimating the savings on incarceration costs from reduced recidivism outcomes associated with successful correctional programming, our analysis considered the average sentence length for a single count of a given offence within each of the most serious offence categories. For most of the offence categories, the average sentence length on a per offence basis was available from custom data provided by CSC of new federal admissions during the 2006 calendar year. To estimate the average time spent in federal custody per single offence for homicide, the observed time spent in federal custody was reduced by a factor of 1.27. This figure was estimated to represent the average number of non-concurrent offences served by homicide offenders.¹⁸ After adjustment, the average time spent by homicide-related offenders in federal custody, per offence, was 5.54 years. As well, it is assumed that the federal government is required to provide community, or parole-related, services to offenders convicted of either first

¹³ This category includes all maximum security, including maximum units in other types of institutions and treatments centres.

¹⁴ The category includes all medium security, including medium units in other types of institutions.

¹⁵ The category includes all minimum security, including minimum units in other types of institutions.

¹⁶ This category includes the women offenders in a co-location situation in RPC-Prairies.

¹⁷ This category includes: Federal Day Parolees, Provincial Day Parolees, Federal Full Parolees, Provincial Full Parole and Federal Statutory Release, and CCC.

¹⁸ The 1.27 figure was derived by dividing the average sentence length of determinate sentences for homicide-related offences by the average sentence length for a single count of a homicide-related offence in 2006.



and second degree murder until the age of 65. Considering the average age at release and accounting for the large share of homicide-related offenders convicted of manslaughter, the average number of years for community supervision was calculated to be 10.90 years. The net present value of the total incarceration costs for homicide-related offences, at the time of the crime, are calculated to be \$635,218 (details are presented in Table 4).

Table 4 – Mean Sentencing and Average Annual Incarceration Costs, by Offence (\$2007, where applicable)¹⁹

	Homicide	Sex crimes	Robbery	Assault	Drug	Property
Mean sentence (years)	16.44	2.35	2.32	1.33	1.81	1.13
Average years in prison	5.54	1.57	1.55	0.89	1.21	0.76
Average years in community	10.90	0.78	0.77	0.44	0.60	0.38
Average annual incarceration cost (prison)	\$99,155	\$85,420	\$89,291	\$89,652	\$89,707	\$89,158
Average annual incarceration cost (community)	\$23,076	\$23,076	\$23,076	\$23,076	\$23,076	\$23,076
Total incarceration costs ²⁰	\$800,850	\$151,945	\$156,170	\$89,824	\$122,049	\$76,081
Average net present value of total incarceration costs²¹	\$635,218	\$141,510	\$145,529	\$84,979	\$118,704	\$72,102

Sources: The Correctional Service of Canada, Statistics Canada.

The average annual incarceration costs (prison) vary by crime because offenders are housed in different institutions with varying security levels and costs. The average annual incarceration costs (community) do not vary by crime because the cost of housing offenders in the community is the same for all types of offenders. Incarceration costs (prison) were calculated using the proportion of offenders by crime that were housed in high, medium and low security facilities at the time of the *One day Snapshot of Inmates in Canada's Adult Correctional Facilities* (1999).

Goerdt et al. (1989) acknowledge that there is an implicit court delay between the time of arrest and conviction of offenders. They estimate delays conservatively an average court-induced delay of 0.4 years resulting from homicide trials, and a 0.33 year delay for the remaining crime categories. In calculating the present discounted values of federal incarceration costs, the CBoC delayed discounting by these magnitudes. A broader sample of court dealings would likely result in longer delays as a result of the inclusion of appeal processes and follow-up hearings.

¹⁹ The mean sentence length for homicide includes 1st and 2nd degree murder convictions as well as manslaughter.

²⁰ Totals may not add up due to rounding.

²¹ Includes calculations associated with discounting (see discussion on discounting in section 3, Methodology) as well as accounting for delays in court sentencing.



3.1.3 Health Care Costs

To calculate the reduction in federal transfers to provinces for health care costs associated with crime, the expected incidence of each type of criminal offence for both the treatment and the control groups was multiplied by the average health costs associated with each offence. Average health and medical costs associated with crime were obtained primarily through U.S. cost of crime meta-analyses, and then adjusted to reflect the relative cost of health care in Canada.²² U.S. cost estimates were first converted to Canadian dollars in the period of reference using PPP exchange rates, which are generally thought to reflect long-term equilibrium exchange rates between two economies. Historical costs were then inflated to 2007 Canadian dollars using the Canadian CPI for healthcare services. For all categories of crime, the CBoC's estimates of medical costs include medical and ambulance fees, in addition to mental health treatment costs.

There is ample evidence in the medical literature suggesting that Canadian medical costs are substantially lower than for equivalent procedures performed in the U.S. For instance, McKinsey Global Institute uses benchmarking data from the Organization of Economic Co-Operation and Development and postulates that lower relative physician salaries contribute to the Canada-U.S. medical cost gap.²³ However, another key source of cost divergence is the public administration of healthcare in Canada, which reduces administrative and insurance costs drastically compared to the American system. Health Canada estimates that hospital care in Canada costs 40 percent less per patient than in the United States for comparable treatment.²⁴ The federal government share of provincial health care costs was set at 40 percent based on federal government estimates.²⁵ Both of these figures were used to scale down raw U.S. cost estimates to derive comparable Canadian federal government medical cost estimates (see Table 5 for details).

²² For details, see: Aos et al. (2006), Evidence-based public policy options to reduce future prison construction, criminal justice costs, and crime rates; Aos et al. (2006), Evidence-based adult corrections programs: What works and what does not; and Aos et al. (2001), The comparative costs and benefits of programs to reduce crime.

²³ On average, Canadian generalist physicians earned \$US 118,000 in 2003 compared to \$US 173,000 by American generalists. Similarly, Canadian specialists earned \$US 177,000 in 2003 versus \$US 274,000 by American specialists. See Angrisano et. al. (2007) p.54 for details.

²⁴ For details, see Hurley (1993) p. 62 and Weil (1995) p.11. Referenced originally in "Appendix D" of Health Canada (2002). These estimates are consistent with the findings of Redelmeier and Fuchs (1993), who estimate that medical costs in California are 46 percent higher than in Ontario.

²⁵ Department of Finance Canada (2004).



Table 5- Federal Government Canadian Medical Costs for Crime Victims at Time of Offence, by Crime (\$2007)

Cost	Homicide	Sex crimes	Robbery	Assault	Drug	Property
Medical, ambulance fees	\$12,632.09	\$376.43	\$279.34	\$319.17	\$0.00	\$4.15
Mental health treatment	\$3,623.89	\$2,041.46	\$49.83	\$234.49	\$0.00	\$4.38
Total medical costs	\$16,255.98	\$2,417.89	\$329.17	\$553.66	\$0.00	\$8.54

Sources: Miller, Cohen and Wiersama (1996), Statistics Canada, The Organisation for Economic Co-operation and Development, Health Canada, Department of Finance Canada.

3.1.4 Justice and Federal Justice Partner Costs

Justice costs and expenses incurred by federal justice partners (National Parole Board) encompassed: the reduction in costs associated with the National Parole Board, federal jurisdiction court expenditures (salaries and benefits of federal judges, law library and witness fees, and operating expenditures²⁶) and federal contributions to legal aid.²⁷

National Parole Board costs for the 2006-2007 fiscal year were obtained from the National Parole Board Performance Report for that year. The average cost of providing a conditional release decision by the National Parole Board was calculated by dividing the allocated expenditures on conditional release decisions (\$33.96 million) by the volume of conditional release decisions made (17,949). The CBoC also calculated the average costs associated with an open, accountable conditional release and a pardon by dividing the National Parole Board's allocated expenditures for these activities by the volumes associated with each of those activities. For parole violations, only the costs associated with conditional release decisions apply. For new offences, additional costs are assumed to apply, since the National Parole Board may be required to provide update information to victims of crime and to accommodate pardon requests (see Table 6 for details).

²⁶ Excludes building occupancy costs, capital costs related to building construction, maintenance, leasing, staff expenditures associated with Crown prosecutions, costs associated with coroner inquests, and prisoner escort services external to court service. Includes Section 96 judges' language training and development costs, as well as annuities and allowances of Section 96 judges paid by Office of the Commissioner for Federal Judicial Affairs (OCFJA) which are entered under provincial jurisdictions instead of OCFJA.

²⁷ In Canada, the majority of criminal justice costs associated with courts is borne by provincial governments even though offenders may be sentenced to a federal institution. See Statistics Canada (2002), *Courts and Personnel Expenditures, 2000/01*.



Per-capita estimates of federal court expenditures and legal aid were obtained using 2000-2001 Statistics Canada data on Courts and Personnel Expenditures²⁸ and Legal Aid in Canada²⁹, respectively, and were inflated to 2007-denominated dollars. This cost segment included salaries of the judiciary (including section 96 judges, except those presiding in the Supreme Court of Canada) and court staff employed in the Supreme Court, Federal Court, Tax Court, and the Office of the Commissioner for Federal Judicial Affairs (OCFJA). The CBoC analysis also accounted for the benefits of section 96 judges financed by the federal Treasury Board Secretariat.

An analogous per-capita comparison was made against 2003 U.S. federal judicial and legal aid expenditures to calculate the appropriate share of court and legal aid expenditures incurred by category of crime in Canada relative to the U.S.³⁰ The U.S. per-capita figures were converted to Canadian dollars using PPP exchange rates and inflated to 2007 Canadian dollars for direct comparability. The ratio of per-capita Canadian federal court and legal aid expenditures to U.S. per-capita federal judicial and legal expenditure was applied to the PPP inflated and 2007 Canadian-denominated estimates of criminal justice spending by crime category estimated in the Washington State meta study (e.g. homicide, robbery, etc.) to determine the total federal Canadian court and legal aid costs of crime (see Table 6 for details).

Table 6- Justice and Federal Justice Partner Costs at Time of Offence, by Offence (\$2007)

Cost	Homicide	Sex crimes	Robbery	Assault	Drug	Property	Parole Violation
Justice Cost	\$81,498	\$3,622	\$970	\$970	\$970	\$970	\$378
Federal Justice Partner Cost	\$2,388	\$2,388	\$2,388	\$2,388	\$2,082	\$2,388	\$1,892

Sources: The Conference Board of Canada, National Parole Board Performance Report (2006-2007 fiscal year).

3.1.5 Lost Earnings and Taxes

3.1.5.1 Victims

The CBoC developed a Canadian estimate of the present discounted value of foregone earnings of homicide victims based on 2006 census population demographic characteristics (e.g. age, gender). Estimates of homicide victims' average employment income were segmented by age, and were grown forward based on average incomes by victims' corresponding demographic category to account for rising lifetime wage profiles. The cumulative lifetime sum of these estimates were discounted at a real rate of four percent per annum to arrive at an estimate of the gross lost employment income of homicide victims in 2007. The federal fiscal impact of this lost

²⁸ Ibid.

²⁹ Statistics Canada (2002). Legal Aid in Canada: Resource and Caseload Data Tables, 2000-01.

³⁰ United States Department of Justice (2006).



income (averaging \$39,447 in 2007) was calculated using average implicit federal income tax (11 percent) and effective GST (3.2 percent) rates.

Aside from determining the victim lost income associated with homicide, victim lost income for other crimes were based on figures presented in the Washington State Institute for Public Policy study. The ratio of Canadian foregone homicide victim income to total U.S. homicide victim productivity losses in the Washington Institute for Public Policy study was then applied to the remaining non-homicide crime productivity cost categories to estimate foregone Canadian victim income resulting from non-homicide crimes. In addition, adjustments were made to reflect inflation, and PPP exchange rates standardized all values to 2007 Canadian dollars (See Table 7).

Table 7- Average Pre-Tax Incomes of Homicide Victims, by Age (\$2007)

Age	0-11	12-17	18-24	25-29	30-39	40-49	50-59	60+
Net present value of lifetime income, as calculated at time of homicide ³¹	\$448,944	\$645,126	\$864,745	\$951,086	\$915,959	\$737,644	\$379,939	\$90,645
Distribution of victims (%)	5.3	4.7	22.4	14.1	20.1	15.4	9.8	8.1

Sources: Statistics Canada, The Conference Board of Canada.

3.1.5.2 Offenders

The CBoC also developed a Canadian estimate of the present discounted value of foregone earnings of offenders while they are incarcerated based on 2001 census demographic characteristics (e.g. age, highest level of educational attainment) of the inmate population.³² To account for divergences between educational attainment and ages between the overall Canadian population and the inmate population, the CBoC weighted the inmate population's demographic characteristics using Statistics Canada data on inmates in Canadian adult correctional facilities in 1996.³³ Simply accounting for different levels of education, Canadian inmates' earnings were 23 percent lower than the general population in the same age cohort. After factoring in a higher unemployment rate among the incarcerated relative to the general population (43 percent versus 6 percent, respectively), foregone criminal earnings in each educational attainment bracket were calculated as being 53 percent lower than average Canadian earnings. Again, the federal fiscal impact of this lost income (averaging \$18,382 in 2007) was calculated using average implicit federal income tax (5.5 percent) and effective GST (3.5 percent) rates (See Table 8).

³¹ Using data from the 2006 federal census, the midpoint of age ranges was employed in calculation of the net present value of foregone murder victim incomes. The analysis assumed retirement at age 62, the national average age at retirement according to the 2006 census, from which point no further employment income would be earned.

³² The 2006 census breakdown of average income by highest level of educational attainment was not yet publicly available at the time of the CBoC's study and, accordingly, 2001 census data were used.

³³ Statistics Canada (1999). A One-Day Snapshot of Inmates in Canada's Adult Correctional Facilities. Ottawa: Canadian Centre for Justice Statistics, Catalogue no. 85-601-XIE.

**Table 8 - Average Pre-Tax Incomes of Federal Offenders, by Age (\$2007)**

Age	15-24	25-34	35-44	45-54	55-64	65+
Net present value of average annual income foregone due to federal incarceration	\$7,386	\$23,435	\$28,594	\$30,368	\$27,961	\$0
Distribution of offenders (%)	45	40	5	5	5	0

Sources: Statistics Canada, The Conference Board of Canada.

3.1.5.3 *The Costs Associated with Correctional Programming*

The operating costs associated with correctional treatment programs in the seven program areas during 2006-2007 were provided by CSC. CSC also supplied the CBoC with data on the number of participants in each of the seven program areas as well as the average cost per participant. Details on these costs are provided in Appendix 3. Medical costs such as methadone maintenance are not included under costs for correctional programming. These medical related costs are covered by Health Services.

3.2 Establishing Concordance between Correctional Programs and Outcomes

CSC provided the CBoC with a list of the correctional programs to be assessed in the cost-benefit analysis. For each program, they also provided the number of program participants and the actual cost of delivering the program for fiscal year 2006-2007. In order to establish a one-to-one concordance between the programs to be assessed and the outcome studies provided, the CBoC reviewed all of the outcome studies and matched each of the programs to be assessed with recidivism measures from the outcome studies.

Three federal recidivism measures were used: the overall reduction in recidivism for any reason (including parole violations), the reduction in new offences resulting in a sentence, and the reduction in violent crime.³⁴ The CBoC also extracted the base rates for each of these recidivism measures for the control group so that treatment and control group comparisons could be made. The recidivism measures provided in the outcome studies were not always consistent. Some studies provided all three measures of recidivism, while others only estimated the overall measure of the reduction in recidivism. Where a specific recidivism rate was unavailable or was positive, it was assumed that no outcome effect had taken place. All evaluation studies used in the analysis had a control or comparison group.

³⁴ For modelling purposes, correctional programming outcomes on reduced recidivism rates for violent crime were restricted to include homicide, sex crimes, and robbery. To be conservative, assault was not included as a violent crime category because of the span of offenses in the category and because common assault, the least serious offence in the category, accounts for 80% of offenses. Common assault involves assault without a weapon or serious bodily injury.



In some instances, outcome studies were unavailable for certain programs. In these instances, the CBoC inferred recidivism rates from the most closely aligned outcome study from the same area of correctional programming. For example, in the education category, outcome studies were only available for the Adult Basic Education programs (475 and 476) so the CBoC used the recidivism rates for those two programs as proxies for the recidivism rates for other education programs (470, 471, 474, 477 and 478). In some instances, “booster” or “maintenance” programs were included in the programs to be assessed, yet no corresponding outcome studies were available. In these instances, the CBoC used the cost relationship between the booster/maintenance program and the full program to pro rate the outcome effects identified in the studies.

A full listing of programs evaluated in the cost-benefit analysis and the outcome studies used to derive the recidivism rates is included in Appendix 4. A more comprehensive table showing the reported recidivism rates provided in the outcome studies is included in Appendix 5 of the Technical Appendix.

3.3 Derivation of Recidivism Rates

Recidivism rates capture the likelihood that a criminal will reoffend, and reductions in these rates serve as a useful barometer of the effectiveness of selected correctional programming outcomes across control and treatment groups. As mentioned previously, the rates used in the cost-benefit analysis are shown in Appendix 5 of the Technical Appendix. In conducting the cost-benefit analysis, the CBoC deflated the rates shown in Appendix 5 to account for: the methodological quality of the outcome studies, self-selection bias of program participants, the relevance or quality of the outcome measure used in the study, and the degree to which the research professionals executing the study were invested in the study design. This deflation resulted in a reduction of the majority of recidivism outcomes by 25 percent, which is consistent with the deflation factor used in the Washington State study for a level 4 study. In some special cases, outcomes were deflated by 50 percent to account for less robust study methodologies that may have also included the use of significantly different follow-up periods between the control and treatment groups. A 50 percent deflation rate is consistent with a level 3 study in the Washington State analysis.³⁵ A comprehensive table of the adjusted rates used for each correctional program is shown in Appendix 6.

For purposes of the cost-benefit analysis, CSC asked the CBoC to report results by each of the seven correctional programming areas. In order to establish average recidivism rates for each of the seven categories of correctional programming, the CBoC calculated weighted averages for each of the seven categories using the adjusted rates shown in Appendix 6. Appendix 7 of the Technical Appendix details the average rate used by correctional program category.

³⁵ To account for the differences in the quality of research designs, the Washington State Study used a 5 point scale as a way of deflating reported results. This scale is based on the 5 point scale developed by researchers at the University of Maryland in *Preventing Crime: What Works, What Doesn't, What's Promising*.



4 Findings From the Cost-Benefit Analysis

The cost-benefit analysis illustrates that the majority of correctional program areas provide a positive fiscal net benefit to the federal government. The only program areas exhibiting a negative return are the education and employment program areas. When the programs are viewed in total, net benefits outweigh costs by a factor of 2.71 to 1. The total cost of delivering the correctional programs cited below was \$21,516,102 while total benefits were \$58,354,544 yielding a net federal government fiscal benefit of \$36,838,442.

Table 9 presents the findings of the analysis on a per participant basis, while Table 10 provides the total net benefits based on the number of participants involved in the programs for which outcome studies are available.

Table 9 provides rates for reduced recidivism based on two criteria: overall readmission for any reason and readmission for a new offence. While correctional programs in all program areas show a measurable effect on reducing recidivism for overall readmissions, they do not always show a measurable effect on reducing recidivism for new offences. Proportionately, the largest part of federal government benefits accrue from a reduction in new offences since fewer new offences result in reduced incarceration costs, justice costs, health care costs and lost taxes on earnings for both victims and offenders. The reduction in readmissions, excluding those for new offences, tends to have a more minor impact on benefits.

Table 9-Net Federal Fiscal Benefits per Participant (\$2007)

Programs	Avg. Reduced Recidivism Rate (Overall Readmissions)	Avg. Reduced Recidivism Rate (New Offences Only)	Federal Gov't Benefits	Federal Gov't Costs	Federal Gov't Net Benefits
Violence Prevention	7.2%	11.4%	\$8,092	\$1,919	\$6,173
Sex Offender	24.9%	22.0%	\$10,555	\$2,089	\$8,466
Substance Abuse	8.1%	18.8%	\$8,926	\$1,222	\$7,704
Living Skills	6.0%	12.1%	\$4,604	\$1,692	\$2,912
Family Violence	11.2%	17.7%	\$7,784	\$1,335	\$6,449
Employment ³⁶	5.3%	0.0%	\$302	\$308	-\$6
Education ³⁷	7.3%	2.5%	\$729	\$1,428	-\$701

Source: The Conference Board of Canada

³⁶ Rates for successful completion of correctional programs in the employment and education areas are very low (38.5% and 41.2% respectively). This low completion rate significantly impacts the estimates of program benefits. Overall net benefits are negative but for each individual who successfully completes the program, benefits are positive and actually outweigh costs. Relative to other correctional programs, Employment and Education offerings tend to be ongoing and longer in duration. Fewer participants are able to participate in the programs for their entire duration so fewer are considered successful completers. A definitional list of the potential factors impacting successful completion is included in Appendix 1.

³⁷ See footnote 32 for full explanation.

**Table 10-Net Federal Fiscal Benefits-Program Participants (\$2007)³⁸**

Programs	Program Participants	Average Successful Program Completion Rate	Federal Gov't Benefits	Federal Gov't Costs	Federal Gov't Net Benefits
Violence Prevention	1,156	76.2%	\$9,354,480	\$2,217,856	\$7,136,624
Sex Offender	310	86.4%	\$3,272,114	\$647,512	\$2,624,602
Substance Abuse	3,411	80.1%	\$30,446,853	\$4,167,036	\$26,279,817
Living Skills	847	77.4%	\$3,899,519	\$1,433,495	\$2,466,024
Family Violence	551	76.8%	\$4,288,868	\$735,620	\$3,553,248
Employment	5,611	38.5%	\$1,692,778	\$1,728,632	-\$35,854
Education	7,411	41.2%	\$5,399,933	\$10,585,951	-\$5,186,018
Total	19,297	52.7%	\$58,354,544	\$21,516,102	\$36,838,442

Source: The Conference Board of Canada.

In calculating the net federal fiscal benefits, The Conference Board has been purposefully conservative in its estimates. It has followed guidelines used in major meta-analyses and accounted for methodological concerns by reducing the magnitude of recidivism outcomes by 25% and in some cases by 50%. In calculating the long term reduction in recidivism between control and treatment groups, CBoC assumed a decay rate of 20% from the end of the study period to the end of the 13 year period used for the analysis. Throughout the analysis, per offender rates of crime were adjusted to account for multiple offences and multiple crime adjudications. Accordingly, all cost of crime estimates are conservative since they neither account for unreported or unconvicted crimes. Only the benefits that accrued from offering national programs within federal institutions were included in the analysis. Many programs that are offered on a more selective bias or in the community have been excluded (see Table 10 for details).

Therefore, it is likely that the analysis underestimates the net benefits of correctional programming in the seven programming areas. Also, any benefits that would accrue due to the early release of offenders have been excluded due to data constraints adding a further dimension of conservatism to the analysis.

³⁸ For purposes of this analysis “program participants” refers to offenders who participated in treatment programs that were generally available on a national basis in the majority of institutions. Many programs that are offered on a more selective bias or in the community have been excluded. Therefore, it is likely that the analysis underestimates the net benefits of correctional programming in the seven programming areas.



4.1 Beyond Federal Government Benefits

Costs associated with crime are far-reaching and extend well beyond the confines of a federal government fiscal cost-benefit framework. The above analysis focused exclusively on the fiscal impacts of crime on the federal government and, as a result, only the federal tax shares of incomes for victims and offenders were captured in the cost-benefit figures. This section acknowledges that there are wider (“expanded”) productivity costs associated with crime for both victims and offenders, namely in the form of foregone income resulting from death, injury, or incarceration. In the discussion that follows, the full value of lost income is captured for both victims of crime and federally incarcerated offenders.

The cost-benefit analysis, when expanded to include all tangible income costs incurred by crime victims and incarcerated offenders, shows that the majority of correctional program areas provide a positive tangible net expanded benefit to society. The only CSC programming areas showing a negative expanded net return are the education and employment areas. When the programs are viewed in total, net expanded benefits outweigh costs by a factor of 3.94 to 1. The total costs of delivering the correctional programs were \$21,516,102, while total expanded benefits were \$84,852,457, yielding a net expanded benefit of \$63,336,355.

Table 11 presents the findings of the expanded cost-benefit analysis on a per-participant basis while Table 12 presents the benefits on an aggregate basis. As with the federal government analysis, total net benefits are based on the number of participants involved in the programs for which outcome studies are available.

In conducting its analysis of expanded benefits, the CBoC maintained the conservative approach to estimating benefits described in the previous section. Moreover, although some of the cost benefit analyses in the literature include the lost wages of the victim’s family, co-workers and friends as well as pain and suffering estimates in their calculation of benefits, the CBoC has only included the tangible lost wages of the victim.

**Table 11-Expanded Net Benefits-Per Participant (\$2007)³⁹**

Programs	Net Benefits, Per Participant		
	Expanded Benefits	Expanded Costs ⁴⁰	Expanded Net Benefits
Violence Prevention	\$12,467	\$1,919	\$10,548
Sex Offender	\$15,178	\$2,089	\$13,089
Substance Abuse	\$13,345	\$1,222	\$12,123
Living Skills	\$6,398	\$1,692	\$4,706
Family Violence	\$11,952	\$1,335	\$10,617
Employment	\$304	\$308	-\$4
Education	\$878	\$1,428	-\$550
Weighted average per participant⁴¹	\$4,397	\$1,115	\$3,282

Source: The Conference Board of Canada

Table 12- Net Benefits-All Program Participants (\$2007)

Programs	Net Benefits, All Program Participants		
	Expanded Benefits	Expanded Costs	Expanded Net Benefits
Violence Prevention	\$14,412,157	\$2,217,856	\$12,194,301
Sex Offender	\$4,705,028	\$647,512	\$4,057,516
Substance Abuse	\$45,518,102	\$4,167,036	\$41,351,066
Living Skills	\$5,419,396	\$1,433,495	\$3,985,901
Family Violence	\$6,585,371	\$735,620	\$5,849,751
Employment	\$1,704,631	\$1,728,632	-\$24,001
Education	\$6,507,773	\$10,585,951	-\$4,078,178
Total	\$84,852,457	\$21,516,102	\$63,336,355

Source: The Conference Board of Canada

³⁹ See note 23 for details.⁴⁰ Expanded costs per participant and for all participants, respectively, in Table 10 are equal to federal fiscal costs as displayed in Tables 8-9. Also, see note 29 for details on the definition of "program participants".⁴¹ The weighted average is calculated using the number of participants from each program area.



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Technical Appendix

Appendix 1 – Program Status Categories

a) SUCCESSFUL COMPLETION -The offender successfully completed the program (attendance and an indication of treatment gain). The degree of positive treatment gain can only be fully assessed by consulting the content and overall conclusion of the final evaluation.

b) ATTENDED ALL SESSIONS - The offender completed the program but there was no evidence of treatment gain. This type of status should usually result in a negative final assessment /evaluation of the offender's participation in the program or an indication that the offender failed to demonstrate that he/she has internalized all the skills of the program.

Other programs assignments which indicate interruptions to program participation:

c) PROGRAM CANCELLED - This program status indicates offenders were participating in the program (Assigned or Temporarily Reassigned) and the program was cancelled while the offender was participating in it. The cancellation of the program was due to circumstances beyond the control of the offender. Where offenders are actively participating in a program and the program is cancelled, each offender should be immediately reviewed with the intent to record a new program referral. Typically this designation would not apply to work-related assignments. Such assignments are usually continuous and have only one schedule.

d) SUSPENDED - This program status, indicates the offender was enrolled in the program and will not be readmitted without a new placement decision by the Program Board. Normally used to identify disciplinary concerns that have arisen during the program or when the offender's quality of participation does not meet participation, behavioural or other related program standards / expectations. This status would also include offenders who either quit or were fired from the assignment, or who are otherwise not working to the best of their ability, or exhibit poor attendance.

e) RELEASED - This program status indicates an offender was assigned to and participated in a program up to and immediately prior to the time of a scheduled release from incarceration on Day parole, Full parole, or Statutory Release.

f) TRANSFERRED - This program status indicates the offender was transferred outside the current facility but was assigned to and participated in a program immediately prior to transfer from the facility. Since the program was never completed, this will indicate the status of the offender's involvement. It also applies in the community setting where an offender transfers to a different supervision office or location and the current program participation ends with the



transfer of supervision. This status should NEVER be used for re-assignment from one program placement to another at the same site.

g) ASSIGNMENT TRANSFER - The offender is assigned or temporarily reassigned to a program and permanently leaves the program to attend another assignment at the same site. Typically this will apply to offenders who are changing from one work assignment to another with no planned expectation to return to the original assignment.

h) INCOMPLETE - The offender was participating in a program but did not complete the assignment and/ or was removed from the program. Typically used when an offender is admitted to segregation or removed from the program assignment for a non-program / non-work related offence or for outside court or outside hospital. Also used for offenders under supervision in the community who have not completed their program due to suspension of their conditional release for reasons unrelated to their participation in the program.

i) WED REACHED -The offender was participating in a program (Assigned or Temporary Reassigned) and he/she hit their Warrant Expiry Date.



Appendix 2 – Benefit Allocation

A. Federal Fiscal Benefits per Federal Program Participant (Treatment-control differential) (\$2007)

Offence	Justice and Federal Justice Partner Costs	Federal Incarceration Costs	Federal Expenditures on Medical Costs ⁴²	Net Present Value of Foregone Victim Income	Net present value of foregone criminal income from incarceration	Total
Violence Prevention	\$669	\$5,266	\$59	\$601	\$80	\$6,675
Sex Offender	\$1,416	\$6,905	\$85	\$581	\$101	\$9,087
Substance Abuse	\$700	\$6,115	\$60	\$585	\$94	\$7,554
Living Skills	\$367	\$3,466	\$23	\$228	\$54	\$4,137
Family Violence	\$637	\$5,100	\$58	\$567	\$78	\$6,440
Employment	\$76	\$90	\$0	\$0	\$0	\$166
Education	\$165	\$369	\$2	\$19	\$4	\$559

*Note: Present discounted values of costs calculated over a 13-year horizon.

⁴² The federal figures shown only represent 40% of the total medical costs calculated by crime category. The remaining 60% of costs are incurred by other levels of government.



B. Expanded Tangible Benefits per Federal Program Participant (Treatment-control differential) (\$2007)

Offence	Justice and Federal Justice Partner Costs	Federal Incarceration Costs	Federal Expenditures on Medical Costs ⁴³	Net Present Value of Foregone Victim Income	Net present value of foregone criminal income from incarceration	Total
Violence Prevention	\$669	\$5,266	\$59	\$4,071	\$892	\$10,956
Sex Offender	\$1,416	\$6,905	\$85	\$4,085	\$1,127	\$13,618
Substance Abuse	\$700	\$6,115	\$60	\$3,966	\$1,041	\$11,882
Living Skills	\$367	\$3,466	\$23	\$1,449	\$596	\$5,901
Family Violence	\$637	\$5,100	\$58	\$3,859	\$865	\$10,519
Employment	\$76	\$90	\$0	\$0	\$3	\$169
Education	\$165	\$369	\$2	\$121	\$50	\$706

*Note: Present discounted values of costs calculated over a 13-year horizon.

⁴³ The federal figures shown only represent 40% of the total medical costs calculated by crime category. The remaining 60% of costs are incurred by other levels of government.



Appendix 3 – Correctional Programming Costs, 2006-07

Program	Enrollments	Gross Costs	Per-Enrollee Costs
900- Family Violence	551	\$735,620	\$1,335.06
918: Nat Moderate Intensity FV Pre	274	\$296,569	\$1,082.37
919: Nat High Intensity FV Prevent	138	\$438,902	\$3,180.45
921: Nat Family Viol Maintenance	139	\$149	\$1.07
930- Living Skills	847	\$1,433,495	\$1,692.44
933: Cog Skills Maintenance Pgm	103	\$114,186	\$1,108.60
945: Reasoning and Rehabilitation	744	\$1,319,309	\$1,773.26
530- Sex Offender Programs	310	\$647,512	\$2,088.75
543: National Low Intensity	93	\$46,142	\$496.15
544: National Moderate Intensity	86	\$531,194	\$6,176.67
545: National Maint Sex Offender Trtmt	131	\$70,176	\$535.69
560- Substance Abuse⁴⁴	3,411	\$4,167,036	\$1,221.65
590: Nat Substance Abuse Maintenance	727	\$42,675	\$58.70
597: Nat Sub Abuse Pre Rel Booster	316	\$81,607	\$258.25
595: Nat Substance Abuse Mod Int	1,845	\$2,181,375	\$1,182.32
598: Nat Aboriginal Offender Sap	113	\$64,588	\$571.58
594: Nat Substance Abuse High Int	410	\$1,796,791	\$4,382.42
400- Violent Offenders	1,156	\$2,217,856	\$1,918.56
444: Moderate Intensity VPP			
447: Violence Prevention	122	\$732,413	\$6,003.39
449: In Search of Warrior- High In.	91	\$322,706	\$3,546.22
448: Viol Prev Maintenance	93	\$13,051	\$140.33
934: Anger/Emotion Management	791	\$1,130,831	\$1,429.62
935: Anger/Emot Mgmt- Booster	46	\$6,152	\$133.74
942: Other Anger and Emotion Programs	13	\$12,703	\$977.15

⁴⁴ Medical costs such as methadone maintenance are not included under costs for correctional programming. These medical related costs are covered by Health Services.



Program	Enrollments	Gross Costs	Per-Enrollee Costs
460- Education	7,411	\$10,585,951	\$1,428.41
470: Eng/Fr as a Second Language	20	\$79,982	\$3,999.10
471: Spec Ed./Learning Disab Remed	89	\$450,189	\$5,058.30
474: ABE I: Grade 1 to 5.9	1,651	\$3,928,445	\$2,379.43
475: ABE II: Grade 6 to 8.9	2,079	\$1,621,009	\$779.71
476: ABE III: Grade 9 to 10.9	1,764	\$2,263,391	\$1,283.10
477: ABE IV: Gr 11 to H Sch Diploma	1,056	\$1,773,701	\$1,679.64
478: GED: Completion of GED	752	\$469,234	\$623.98
Employment	5,611	\$1,728,632	\$308.08
CORCAN	4,251	\$1,588,540	\$373.69
472: Emp Skills and Career Cons	892	\$112,757	\$126.41
480: Nat Employability Skills Pgm	468	\$27,335	\$58.41

Source: The Correctional Service of Canada.



Appendix 4 – Recidivism Outcomes by Source

National Program Data with Institutional Delivery (FY2006-2007)	Source of Recidivism Outcomes
All Programs	
900 - FAMILY VIOLENCE	
918 - NAT MODERATE INTENSITY FV PRE	BC Institute Against Family Violence. (2004). Evaluation of CSC's national family violence prevention programs, British Columbia, Canada.
919 - NAT HIGH INTENSITY FV PREVENT	
921 - NAT FAMILY VIOL MAINTENANCE	
930 - LIVING SKILLS	
933 - COG SKILLS MAINTENANCE PGM	Robinson, D. (1995). The impact of cognitive skills training on post-release recidivism among Canadian federal offenders. Research Report R-41. Ottawa, ON: Correctional Service of Canada.
945 - REASONING AND REHABILITATION	
530 - SEX OFFENDER PROGRAMS	
543 - NATIONAL LOW INTENSITY	Cortoni, F., Nunes, K.L., (2007). Assessing the effectiveness of the national sex offender program. Research Report R-183. Ottawa, ON: Correctional Service of Canada.
544 - NATIONAL MODERATE INTENSITY	
545 - NATL MAINT SEX OFFENDER TRTMT	
560 - SUBSTANCE ABUSE - PROGRAMS	
592 - NAT SUBSTANC ABUSE MAINTENANCE	Porporino, F., Robinson, D., Millson, B., and Weekes, J. (2002). An outcome evaluation of prison-based treatment programming for substance users. Substance use & misuse, 37, 1047-77.
597 - NAT SUB ABUSE PRE REL BOOSTER	Same as Program 592
595 - NAT SUBSTANCE ABUSE MOD INT	Same as Program 592
598 - NAT ABORIGINAL OFFENDER SAP	Kunic, D., & Varis, D.D. (in press). The Aboriginal Offender Substance Abuse Program (AOSAP): Examining the effects of successful AOSAP completion on post-release outcomes for a cohort of male, Aboriginal offenders released from federal custody. Research Report submitted for publication. Ottawa, ON: Correctional Service of Canada.
594 - NAT SUBSTANCE ABUSE HIGH INT	Grant, B., Kunic, D., MacPerson, P., McKeown, C., and Hanson, E. (2003). The high intensity substance abuse program (HISAP): Results from the pilot programs. Research Report R-140. Ottawa, ON: Correctional Service of Canada.
440 - VIOLENT OFFENDERS	
444 - MODERATE INTENSITY VPP	
447 - VIOLENCE PREVENTION	Cortoni, F., Nunes, K.L., and Latendresse, M. (2006). An examination of the effectiveness of the violence prevention programming. Research Report R-178. Ottawa, ON: Correctional Service of Canada.
449 - IN SEARCH OF WARRIOR - HIGH IN.	Trevethan, S., Moore, J.-P., and Allegri, N. (2005). The "in search of your warrior" program for aboriginal offenders: A preliminary evaluation. Research Report R-172. Ottawa, ON: Correctional Service of Canada.
448 - VIOL PREV MAINTENANCE	Same as program 447
934 - ANGER/EMOTION MANAGEMENT	Dowden, C., Blanchette, K., and Serin, R. (1999). Anger management programming for federal male inmates: An effective intervention. Research Report R-82. Ottawa, ON: Correctional Service of Canada.
935 - ANGER/EMOT MGMT - BOOSTER	
942 - OTHER ANGER AND EMOTION PROGRAMS	
460 - EDUCATION	
470 - ENG/FR AS A SECOND LANGUAGE	Boe, R. (1998). A two-year release follow-up of federal offenders who participated in the adult basic education (abe) program. Research Report R-60. Ottawa, ON: Correctional Service of Canada.
471 - SPEC ED/LEARNING DISAB REMED	
474 - ABE I: GRADE 1 TO 5.9	
475 - ABE II: GRADE 6 TO 8.9	
476 - ABE III: GRADE 9 TO 10.9	
477 - ABE IV: GR 11 TO H SCH DIPLOMA	
478 - GED: COMPLETION OF GED	
* EMPLOYMENT	
CORCAN	Motiuk, L., and Belcourt, R. (1996). Prison work program and post-release outcome: A preliminary investigation. Research Report R-43. Ottawa, ON: Correctional Service of Canada.
472 - EMP SKILLS & CAREER COUNS	
480 - NAT EMPLOYABILITY SKILLS PGM	



Appendix 5 – Reported Recidivism Outcomes

National Program Data with Institutional Delivery (FY2006-2007)	Source of Recidivism Outcomes	Comments	Reduced Recidivism		
			Readmission	New Convictions	Violent Offences
All Programs					
900 - FAMILY VIOLENCE					
918 - NAT MODERATE INTENSITY FV PRE	BC Institute Against Family Violence. (2004). Evaluation of CSC's national family violence prevention programs, British Columbia, Canada.	Full outcome effect used	-20.0%	-47.4%	-69.2%
919 - NAT HIGH INTENSITY FV PREVENT		Full outcome effect used	-20.0%	-47.4%	-69.2%
921 - NAT FAMILY VIOL MAINTENANCE		Outcomes for the maintenance program were generated by pro-rating the outcome effect based on the ratio of the cost of the maintenance program to the cost of the full violence prevention program.	-0.01%	-0.03%	-0.04%
930 - LIVING SKILLS					
933 - COG SKILLS MAINTENANCE PGM	Robinson, D. (1995). The impact of cognitive skills training on post-release recidivism among Canadian federal offenders. Research Report R-41. Ottawa, ON: Correctional Service of Canada.	Full outcome effect used	0.0%	-16.1%	0.0%
945 - REASONING AND REHABILITATION		Full outcome effect used	0.0%	-16.1%	0.0%
530 - SEX OFFENDER PROGRAMS					
543 - NATIONAL LOW INTENSITY	Cortoni, F. and Nunes, K.L., (2007). Assessing the effectiveness of the national sex offender program. Research Report R-183. Ottawa, ON: Correctional Service of Canada.	Full outcome effect used	-77.0%	-68.0%	-83.0%
544 - NATIONAL MODERATE INTENSITY		Full Outcome Effect Used	-77.0%	-68.0%	-83.0%
545 - NATL MAINT SEX OFFENDER TRTMT		Outcomes were linked to the moderate intensity sex offender program and were generated by pro-rating the outcome effect based on the ratio of the cost of the maintenance program to the cost of the moderate intensity sex offender program	-12.8%	-11.3%	-13.8%



National Program Data with Institutional Delivery (FY2006-2007)	Source of Recidivism Outcomes	Comments	Reduced Recidivism		
			Readmission	New Convictions	Violent Offences
All Programs					
560 - SUBSTANCE ABUSE - PROGRAMS					
592 - NAT SUBSTANC ABUSE MAINTENANCE	Porporino, F., Robinson, D., Millson, B., and Weekes, J. (2002). An outcome evaluation of prison-based treatment programming for substance users. Substance use & misuse, 37, 1047-77.	Outcomes were linked to the moderate intensity substance abuse program (595) and were generated by pro-rating the outcome effect based on the ratio of the cost of the maintenance program to the cost of the moderate intensity substance abuse program	-0.5%	-1.2%	-1.4%
597 - NAT SUB ABUSE PRE REL BOOSTER	Same as Program 592	Same as above	-2.20%	-5.30%	-6.20%
595 - NAT SUBSTANCE ABUSE MOD INT	Same as Program 592	Full outcome effect used.	-14.0%	-30.0%	-53.0%
598 - NAT ABORIGINAL OFFENDER SAP	Kunic, D., and Varis, D.D. (in press). The Aboriginal Offender Substance Abuse Program (AOSAP): Examining the effects of successful AOSAP completion on post-release outcomes for a cohort of male, Aboriginal offenders released from federal custody. Research Report submitted for publication. Ottawa, ON: Correctional Service of Canada.	Full outcome effect used.	-25.5%	-75.0%	0.0%
594 - NAT SUBSTANCE ABUSE HIGH INT	Grant, B., Kunic, D., MacPerson, P., McKeown, C., and Hanson, E. (2003). The high intensity substance abuse program (HISAP): Results from the pilot programs. Research Report R-140. Ottawa, ON: Correctional Service of Canada.	Full outcome effect used	-14.3%	-47.1%	0.0%
440 - VIOLENT OFFENDERS					
444 - MODERATE INTENSITY VPP					
447 - VIOLENCE PREVENTION	Cortoni, F., Nunes, K.L., and Latendresse, M. (2006). An examination of the effectiveness of the violence prevention programming. Research Report R-178. Ottawa, ON: Correctional Service of Canada.	Full outcome effect used	-34.7%	-40.0%	-61.0%
449 - IN SEARCH OF WARRIOR - HIGH IN.	Trevethan, S., Moore, J.-P., and Allegri, N. (2005). The "In Search of Your Warrior" program for Aboriginal offenders: A preliminary evaluation. Research Report R-172. Ottawa, ON: Correctional Service of Canada.	Full outcome effect used	0.0%	0.0%	-29.2%



National Program Data with Institutional Delivery (FY2006-2007)	Source of Recidivism Outcomes	Comments	Reduced Recidivism		
			Readmission	New Convictions	Violent Offences
All Programs					
448 - VIOL PREV MAINTENANCE	Same as program 447	Outcomes were linked to the core Violence Prevention Program (447) and were generated by pro-rating the outcome effect based on the ratio of the cost of the maintenance program to the cost of the full Violence Prevention Program	-0.80%	-0.90%	-1.40%
934 - ANGER/EMOTION MANAGEMENT	Dowden, C., Blanchette, K., and Serin, R. (1999). Anger management programming for federal male inmates: An effective intervention. Research Report R-82. Ottawa, ON: Correctional Service of Canada.	Full outcome effect used	0.0%	-15.6%	-19.0%
935 - ANGER/EMOT MGMT - BOOSTER		Outcomes were linked to the Anger Management program (935) and were generated by pro-rating the outcome effect based on the ratio of the cost of the booster program to the cost of the full Anger Management Program	0.0%	-1.5%	-1.8%
942 - OTHER ANGER AND EMOTION PROGRAMS		Full outcome effect used	0.0%	-15.6%	-19.0%
460 - EDUCATION					
470 - ENG/FR AS A SECOND LANGUAGE	Boe, R. (1998). A two-year release follow-up of federal offenders who participated in the adult basic education (abe) program. Research Report R-60. Ottawa, ON: Correctional Service of Canada.	Full outcome effect used	-9.8%	-3.3%	0.0%
471 - SPEC ED./LEARNING DISAB REMED		Full outcome effect used	-9.8%	-3.3%	0.0%
474 - ABE I: GRADE 1 TO 5.9		Full outcome effect used	-9.8%	-3.3%	0.0%
475 - ABE II: GRADE 6 TO 8.9		Full outcome effect used	-9.8%	-3.3%	0.0%
476 - ABE III: GRADE 9 TO 10.9		Full outcome effect used	-9.8%	-3.3%	0.0%
477 - ABE IV: GR 11 TO H SCH DIPLOMA		Full outcome effect used	-9.8%	-3.3%	0.0%
478 - GED: COMPLETION OF GED		Full outcome effect used	-9.8%	-3.3%	0.0%
EMPLOYMENT					
CORCAN	Motiuk, L., and Belcourt, R. (1996). Prison work program and post-release outcome: A preliminary investigation. Research Report R-43. Ottawa, ON: Correctional Service of Canada.	Full outcome effect used	-7.0%	0.0%	0.0%
472 - EMP SKILLS & CAREER COUNS		Outcome was linked to Research Report R-43. Full outcome effect was used.	-7.0%	0.0%	0.0%
480 - NAT EMPLOYABILITY SKILLS PGM		Outcome was linked to Research Report R-43. Full outcome effect was used.	-7.0%	0.0%	0.0%

Source: CSC Corporate Reporting System (CRS), July 2008



Appendix 6 – Adjusted Recidivism Outcomes

National Program Data with Institutional Delivery FY 2006-2007	Reduced Recidivism (All rates have been adjusted for bias)			
	Readmission	New Convictions	Violent Offenses	Adjustment Factor
All Programs				
900 - FAMILY VIOLENCE				
918 - NAT MODERATE INTENSITY FV PRE	-10.0%	-23.7%	-34.6%	50.0%
919 - NAT HIGH INTENSITY FV PREVENT	-10.0%	-23.7%	-34.6%	50.0%
921 - NAT FAMILY VIOL MAINTENANCE				
930 - LIVING SKILLS				
933 - COG SKILLS MAINTENANCE PGM	0.0%	-12.1%	0.0%	75.0%
945 - REASONING AND REHABILITATION	0.0%	-12.1%	0.0%	75.0%
530 - SEX OFFENDER PROGRAMS				
543 - NATIONAL LOW INTENSITY	-57.8%	-51.0%	-62.3%	75.0%
544 - NATIONAL MODERATE INTENSITY	-57.8%	-51.0%	-62.3%	75.0%
545 - NATL MAINT SEX OFFENDER TRTMT	-9.6%	-8.5%	-10.3%	75.0%
560 - SUBSTANCE ABUSE - PROGRAMS				
592 - NAT SUBSTANC ABUSE MAINTENANCE	0.0%	-0.9%	-1.1%	75.0%
597 - NAT SUB ABUSE PRE REL BOOSTER	-1.7%	-4.0%	-4.7%	75.0%
595 - NAT SUBSTANCE ABUSE MOD INT	-10.5%	-22.5%	-39.7%	75.0%
598 - NAT ABORIGINAL OFFENDER SAP	-19.1%	-56.3%	0.0%	75.0%
594 - NAT SUBSTANCE ABUSE HIGH INT	-10.7%	-35.3%	0.0%	75.0%



Appendix 6 – Adjusted Recidivism Outcomes (continued)

National Program Data with Institutional Delivery FY 2006-2007	Reduced Recidivism (All rates have been adjusted for bias)			
	Readmission	New Convictions	Violent Offences	Adjustment Factor
All Programs				
440 – VIOLENT OFFENDERS				
444 – MODERATE INTENSITY VPP				
447 – VIOLENCE PREVENTION	-26.0%	-30.0%	-45.8%	75.0%
449 – IN SEARCH OF WARRIOR – HIGH IN.	0.0%	0.0%	-21.9%	75.0%
448 – VIOL PREV MAINTENANCE	-0.1%	-0.1%	-1.1%	75.0%
934 – ANGER/EMOTION MANAGEMENT	0.0%	-11.7%	-14.3%	75.0%
935 – ANGER/EMOT MGMT - BOOSTER	0.0%	-1.1%	-1.4%	75.0%
943 – OTHER ANGER AND EMOTION PROGRAMS	0.0%	-11.7%	-14.3%	75.0%
460 – EDUCATION				
470 – ENG/FR AS A SECOND LANGUAGE	-7.4%	-2.5%	0.0%	75.0%
471 – SPEC ED/LEARNING DISAB REMED	-7.4%	-2.5%	0.0%	75.0%
474 – ABE 1: GRADE 1 TO 5.9	-7.4%	-2.5%	0.0%	75.0%
475 – ABE II: GRADE 6 TO 8.9	-7.4%	-2.5%	0.0%	75.0%
476 – ABE III: GRADE 9 – 10.9	-7.4%	-2.5%	0.0%	75.0%
477 – BE IV: GR 11 TO h SCH DIPLOMA	-7.4%	-2.5%	0.0%	75.0%
478 – GED: COMPLETION OF GED	-7.4%	-2.5%	0.0%	75.0%
*EMPLOYMENT				
CORCAN	-5.3%	0.0%	0.0%	75.0%
472 – EMP SKILLS & CARERR COUNS	-5.3%	0.0%	0.0%	75.0%
480 – NAT EMPLOYABILITY SKILLS PGM	-5.3%	0.0%	0.0%	75.0%

Source : CSC Corporate Reporting System (CRS), July 2008



Appendix 7 – Recidivism Outcomes by Category of Correctional Programming

National Program Data with Institutional Delivery FY 2006-2007	Enrollments	Expenditures	Reduced Recidivism (all rates have been weighted by enrollments and adjusted for bias)			
			Parole Violations	New Convictions	Overall Readmission	Adjustment Factor
Programs						
900 - FAMILY VIOLENCE	551	\$735,620	0.0%	-17.7%	-11.2%	50%
930 - LIVING SKILLS	847	\$1,433,495	0.0%	-12.1%	-6.0%	75%
530 - SEX OFFENDER PROGRAMS	310	\$647,512	-29.6%	-22.0%	-24.9%	75%
560 - SUBSTANCE ABUSE - PROGRAMS	3,411	\$4,167,036	0.0%	-18.8%	-8.1%	75%
440 - VIOLENT OFFENDERS	1156	\$2,217,856	0.0%	-11.4%	-7.2%	75%
460 - EDUCATION	7,411	\$10,585,951	-12.9%	-2.5%	-7.3%	75%
EMPLOYMENT	5,611	\$1,728,632	-7.7%	0.0%	-5.3%	75%
Total	19,297	\$21,516,102				

Source: CSC Corporate Reporting System (CRS), July 2008

*Employment numbers are provided by CSC Evaluation Branch as the CRS does not offer this data.