

# Department of Justice

## Economic Evaluation of the Court Integrated Services Program (CISP)

### Final report on economic impacts of CISP

November 2009



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- Publicly available reports and other material
- Documents and materials held by DOJ
- Consultation with stakeholders.

We have prepared this report on the basis that such material is accurate and, where represented by management as such, complete. The information contained in this report has not been subject to an audit.

## Executive summary

The Court Integrated Services Program (CISP) is an integrated service delivery model, based in the Magistrates Court of Victoria, which seeks to address the cycle of re-offending by defendants. The program is available in three Victorian Magistrate court locations – Melbourne, Sunshine and the Latrobe Valley.

The economic evaluation of the CISP seeks to identify the costs and benefits associated with CISP in monetary terms. To this end, the economic evaluation report has estimated:

- The costs and benefits of CISP
- The net benefits of CISP as well as a Benefit Cost Ratio (BCR).

Both the benefits and costs are presented in Net Present Value (NPV) terms (i.e. current value of the future stream of costs and benefits).

## Economic evaluation framework

There are two key methods by which an economic evaluation of this nature can be conducted. These are:

- Efficiency – which measures the relationship between program *inputs* and *outputs*
- Cost effectiveness – which measures the relationship between program *inputs* and *outcomes*.

Because of the nature of CISP, the evaluation assesses cost effectiveness.

## Key inputs into the Benefits Costs Analysis

The cost of CISP is represented by the funding for the program. Additional funding provided for CISP is the marginal cost of the program. This is not to suggest that these are the only costs of the program – there are a range of resource inputs from the Magistrates' Court and other service providers for which additional funding was not provided. The analysis assumes that these ongoing costs would have been funded by government anyway, i.e. government would realise these costs even in the absence of CISP.

Key benefits of CISP may accrue through:

- A reduction in re-offending – which will reduce the direct costs of crime (e.g. property damage) and costs associated with sentencing of offenders (e.g. prison)
- A reduction in the number of offenders sentenced to a custodial order following participation in CISP. This will reduce the direct costs associated with imprisonment.
- For those on a Community Based Order or another type of order, a reduction in the number of offenders who breach order conditions. This reduces the cost associated with locating and re-sentencing offenders.

Inputs to be used as a way of estimating the benefits of CISP include the following:

- Client demographics

- CISP completion rate
- Re-offending rates
- Frequency of re-offending
- Sentencing outcomes for re-offending
- Types of crime committed
- The costs of crime and, by extension, the avoided costs of crimes being committed.

## Benefit Cost Analysis outcomes

The BCA which we have undertaken estimates the benefits associated with the CISP program through a reduced rate and length of imprisonment for sentences received upon completion of CISP, and a reduction in the re-offending rate, compared with the costs of administering the program.

The total days of imprisonment imposed across our sample of CISP participants was 1,592 (sentences post CISP completion), compared with our total days of imprisonment imposed on our control group of 8,116 (most recent sentence).

Our sample survey of CISP participants has indicated that the recidivism rate amongst CISP participants is 39.5%. This rate is being compared to the recidivism rate of our control group of 49.5%.<sup>1</sup>

This comparison only measures the current reduction in recidivism rates brought about by the CISP program, and doesn't tell us whether this reduction will change over time.

We have therefore modelled three separate scenarios to identify the impact this will have on the benefits of the CISP program.

- Scenario 1 – CISP permanently reduces the recidivism rate amongst participants for their remaining lifetimes (defined as 30 years after completion of CISP)
- Scenario 2 – CISP reduces the recidivism rate amongst participants for five years, after which the participants propensity to reoffend returns to the benchmark rate.
- Scenario 3 – CISP reduces the recidivism rate for two years, after which the participants propensity to reoffend returns to the benchmark rate.

The results of modelling from the three scenarios are set out in the table below. All values are presented in NPV terms.

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<sup>1</sup> Based on the sample of comparable persons who have not undergone the CISP program

**Table ES1: Benefits from each scenario, CISP\***

Scenario	Avoided cost of crime (\$ NPV)	Avoided cost of sentencing (\$ NPV)	Avoided cost of order breach (\$ NPV)	Avoided cost of imprisonment (\$ NPV)	Total benefits (\$ NPV)
Scenario 1 – 30 year benefits from reduced re-offending	2,839,653	10,866,122	22,377	3,098,267	16,826,420
Scenario 2 – 5 year benefits from reduced re-offending	901,265	3,448,752	22,377	3,098,267	7,470,662
Scenario 3 – 2 year benefits from reduced re-offending	378,754	1,449,328	22,377	3,098,267	4,948,726

\* Numbers may be subject to rounding

Clearly, the greater the reduction in the rate and length of imprisonment and the rate of re-offending, the larger the amount of benefit realised. The quantum of benefit in this instance is driven largely by a reduction in costs associated with imprisonment, rather than the direct costs of crime. In saying this, the analysis cannot estimate the indirect costs of crime, such as pain and suffering, and actions taken by victims of crime to avoid a repeat of the incident (e.g. greater security measures).

## Benefit Cost Ratios

The benefit cost ratios for each scenario are outlined in the table below. All values are presented in NPV terms.

**Table ES2: Benefit Cost Ratios for Scenarios 1, 2 and 3**

Scenario	Benefits (\$ NPV)	Costs (\$ NPV)	Benefit Cost Ratio (\$NPV)
Scenario 1	16,826,420	2,857,152	5.9
Scenario 2	7,470,662	2,857,152	2.6
Scenario 3	4,948,726	2,857,152	1.7

For all three scenarios considered in the BCA, the benefits outweigh the costs of CISP.

The net benefit is simply the gross benefit less the gross cost of CISP. This calculation tells us the net return associated with CISP.

The net benefit for each of the scenarios are outlined in the table below.

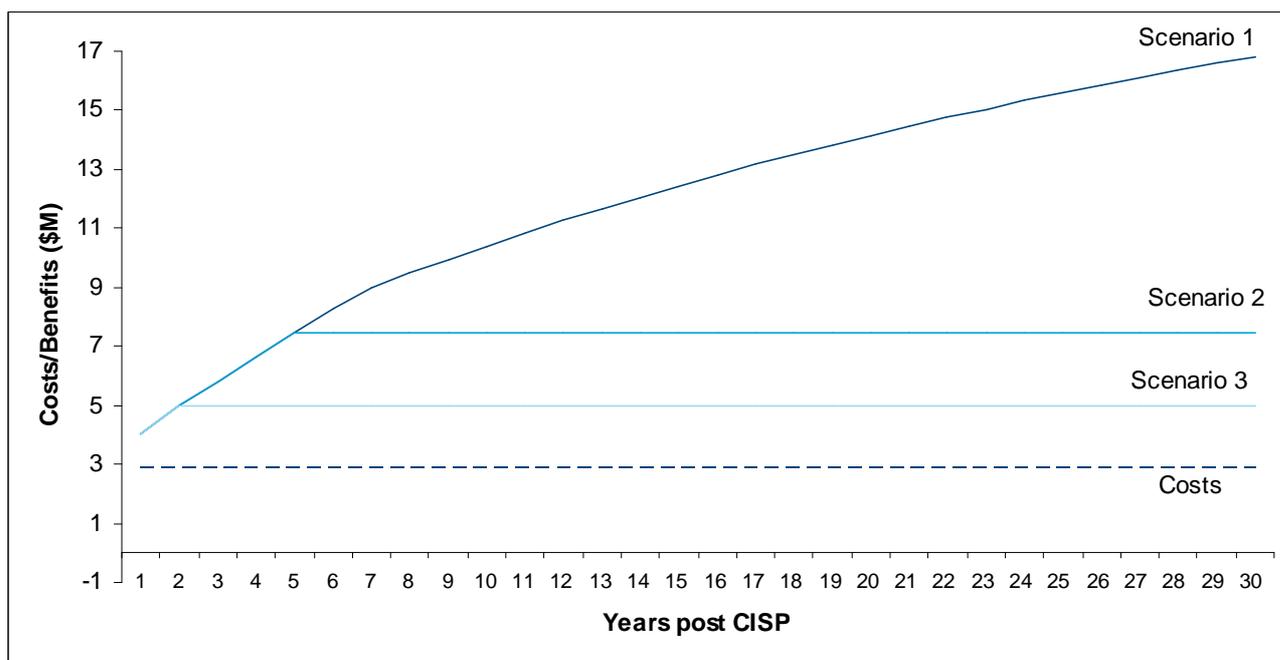
**Table ES3: Net benefit for Scenarios 1, 2 and 3**

Scenario	Benefits (\$ NPV)	Costs (\$ NPV)	Net Benefit (\$ NPV)
Scenario 1	16,826,420	2,857,152	13,969,268
Scenario 2	7,470,662	2,857,152	4,613,510
Scenario 3	4,948,726	2,857,152	2,091,574

## Break even analysis

A survey of CISP participants and a comparable sample indicates that CISP has resulted in avoided costs of imprisonment of \$1.98 million, and a 10% reduction in the recidivism rate. If the reduced recidivism rate amongst CISP participants is maintained for a period of two years, the benefits of CISP will have exceeded the costs. After three years, if the CISP program continues to have a lasting impact on its participants, resulting in a reduced recidivism rate, annual benefits to society will continue to accrue. The longer the impact of CISP lasts, the greater the benefits to society.

**Figure ES1: Benefits and costs over thirty years**



The BCA does not include a number of benefits and costs that cannot be readily quantified in dollar terms.

## Conclusions

Key findings include:

- There are significant potential benefits associated with CISP
- The key driver of changes will be a reduction in re-offending and concomitant reduction in factors such as the costs associated with sentencing for re-offenders

- The biggest quantifiable component of change is linked with imprisonment and the justice system. There are smaller but still significant benefits associated with the direct costs of crime.



# Contents

Executive summary	i
1 Project overview	1
2 Economic Evaluation framework	3
3 Key inputs into the Benefit Cost Analysis	6
4 Benefit cost analysis	19
5 Qualitative benefits of CISP	24



# 1 Project overview

## 1.1 Objectives of this report

This report represents one part of the evaluation of the Victorian Government's Court Integrated Services Program (CISP).

There are two key objectives of the CISP evaluation. These are:

- To determine the effectiveness of the CISP in meeting its overarching objective to reduce the re-offending rate of defendants.
- To gather objective evidence to support future decision making by the Victorian Government in relation to the cost effectiveness of this initiative, and its expansion State-wide.

This report deals with the second evaluation objective. The evaluation of program effectiveness in reducing re-offending is being undertaken by the Melbourne Centre for Criminological Research and Evaluation at the University of Melbourne.

The cost effectiveness evaluation seeks to identify the costs and benefits associated with CISP in monetary terms. To this end, the economic evaluation report has estimated:

- The costs and benefits of CISP.
- The net benefits of CISP as well as a Benefit Cost Ratio (BCR).

Both the benefits and costs are presented in Net Present Value (NPV) terms (i.e. current value of the future stream of costs and benefits).

## 1.2 Rationale for CISP

Currently there is an over representation in the Magistrates' Court system of defendants whose offences are directly related to one or a combination of drug and alcohol abuse, mental disorder, homelessness, social and economic disadvantage, poverty and isolation. An increasing number of defendants are presenting at court that have multiple and complex needs, for example the high prevalence of both mental illnesses and substance abuse problems. These factors lie at both the cause of their offending behaviour and are also preventing them from making long-term behavioural change.

Traditionally, the Magistrates' Court system dealt with defendants' discrete problems without reference to:

- How to reduce the likelihood of re-offending following sentencing
- What structures or supports could be used to enhance the potential for rehabilitation.

## 1.3 Overview of CISP

CISP is an integrated service delivery model, based in the Magistrates' Court of Victoria, which seeks to address the cycle of re-offending by defendants. The program is available in three Victorian Magistrates' Court locations – Melbourne, Sunshine and the Latrobe Valley.

The development of CISP is based on the need to find more pro-active ways of addressing the underlying causes of offending behaviour and in response to the profile of offenders in the Magistrates'

Court and the strong prevalence of social disadvantages. The program aims to reform the court process consistent with best practice to respond cost effectively to defendants with multiple and complex needs. The program is focused on early intervention to reduce re-offending.

As defendants pass through the court system they are screened and assessed based on a risk/needs model. Those selected for the program are considered most in need, at risk of re-offending, and responsive to the services offered. Participants are serviced by a coordinated team, utilising a range of intervention approaches. These include mental and physical health, disability, housing, drug and alcohol dependence, counselling and other support services. CISP provides participants with coordinated targeted intervention, priority access to treatment and support services and coordinated case management, to prevent service and administration overlaps and gaps in service delivery.

The main objective of the program is to provide interventions to stabilise defendants with multiple and complex problems. It facilitates optimal pre-sentencing and sentencing outcomes aimed at reducing the likelihood of reoffending. In particular, CISP aims to achieve a reduction in the re-offending rate by the following cumulative percentages:

- 10% in 2006-07
- 12% in 2007-08
- 15% in 2008-09.

## 2 Economic Evaluation framework

There are two key methods by which an economic evaluation of this nature can be conducted. These are:

- Efficiency – which measures the relationship between program *inputs* and *outputs*
- Cost effectiveness – which measures the relationship between program *inputs* and *outcomes*.

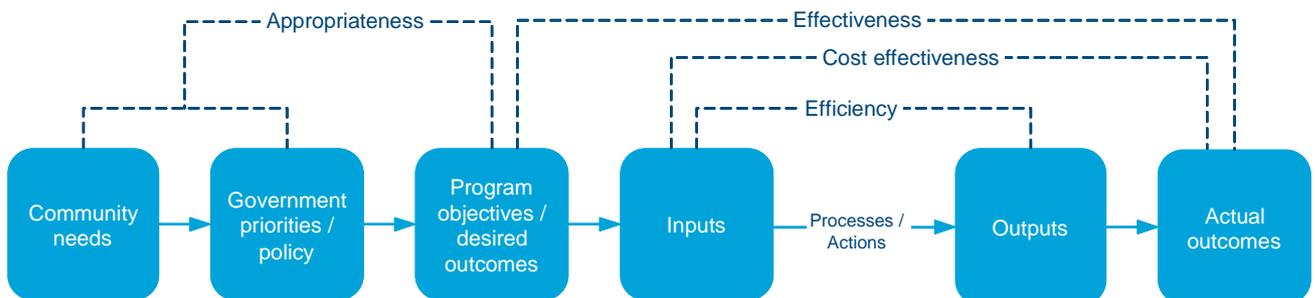
Because of the nature of CISP, the evaluation assesses cost effectiveness. The rationale for this approach, and the concepts behind it, are detailed below.

### 2.1 Generic program evaluation framework

Program evaluations generally consider one or more of the following issues: appropriateness or relevance, effectiveness and efficiency, which are analysed against the key data requirements of program inputs, outputs and outcomes. Inputs are the resources (e.g. people, money, infrastructure) used to deliver the program. Outputs relate to the key deliverables of the program – that is, the products and/or services that have been produced. Outcomes relate to the intended and unintended achievements and impacts.

The relationship of these program evaluation considerations is summarised in Figure 2.1.

**Figure 2.1: Generic Evaluation Framework**



### Efficiency

Efficiency refers to the extent to which:

- Program resources or inputs are minimised for a given level of program outputs; or
- Outputs are maximised for a given level of resources or inputs. The concept of efficiency is usually expressed in dollar terms.

An example of an output for CISP may be the successful completion of the CISP program by an offender. Efficiency is therefore an examination of the cost involved in ensuring that this output happens.

## Cost effectiveness

Cost effectiveness is a related concept that measures the number of inputs required to achieve certain outcomes, or vice versa. Typically, a benefit cost analysis (BCA) is used to quantify the costs and outcome benefits.

An example of outcomes in this instance could be a reduction in re-offending by someone who has completed the CISP program, compared to what otherwise would have been the case.

## 2.2 Rationale for adopting cost-effectiveness

For the purposes of this study, the most useful form of economic analysis is cost effectiveness.

### Cost effectiveness

Cost effectiveness provides an opportunity to assess the benefits associated with CISP outcomes, i.e. changes in offender behaviour and the attendant benefits or costs associated with this. This captures the impact not just for government but for the community more broadly.

Cost effectiveness in this context will capture the costs and benefits of criminal activity across society – the costs of crimes, medical and employment costs, and the costs to government of dealing with criminal matters. By contrast, efficiency analysis will only consider the justice system costs, without consideration of concomitant benefits.

Cost effectiveness is a useful measure in assisting Government to determine *whether* a program should go ahead or not, i.e. whether the benefits of a program outweigh its costs. By contrast, efficiency is a useful measure to determine *how* a program should be implemented or administered, as it considers the unit cost of each output.

### Efficiency

A simple comparison of inputs (cost) to outputs (number of cases) is not a useful measure to assess the economic impact of CISP. The reasons include:

- Efficiency in a court setting tends to be driven by the number of cases (demand), which in turn are driven by factors beyond the control of the court. So year to year efficiency can vary significantly, according to the number of cases brought before the court
- At the same time, inputs (costs) for the court is generally fixed. Courts need to manage the volume of cases presented within a fixed annual budget. Inputs are not, therefore, responsive to change in demand
- Efficiency in of itself is a meaningless measure without a baseline against which it can be compared.

An alternative approach to measuring efficiency is to develop a model which examines the cost per case. This type of model needs to make a large number of assumptions about a “typical” case, and for that reason may not reflect the diversity of matters heard within the court system. Furthermore, this analysis is meaningless without a baseline against which it can be compared.

## Conclusion

For these reasons, an efficiency analysis will not provide the department with the analysis it requires to determine the value provided to government and the community of CISP. By contrast, the cost effectiveness evaluation will provide a means by which the benefits and costs of CISP can be compared against the benefits and costs of other programs.

## 2.3 Methodological approach for the economic evaluation of CISP

The key tool for the cost effectiveness assessment is Benefit Cost Analysis (BCA).

As the name suggests, a BCA estimates the costs and benefits of a program in financial terms. This technique seeks to quantify the benefits derived and costs incurred by those parties affected by a program to determine the aggregate net impact to society and the economy. The net impact is then compared to a base case or the status quo.

As part of the benefit cost analysis, monetary values can be assigned to direct impacts that may not be easily quantified (such as cost of specific crimes) and weighted for its relative importance.

Some of the benefits and costs may have been realised in the past or may be realised in the future. To take account for this, any past and future benefits and costs are translated into present value terms by applying a discount rate. At present, the Victorian Government prefers the use of a 3.5% real discount rate for government projects.<sup>2</sup> Higher discount rates tend to be applied to riskier projects.

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<sup>2</sup> Victorian Competition and Efficiency Commission, Guidance Note on Discounting

## 3 Key inputs into the Benefit Cost Analysis

The analysis of CISP requires identification of both the costs and benefits of the program. This chapter identifies and quantifies the costs and benefits of CISP. This chapter also documents the assumptions used in calculating individual benefits and costs.

### 3.1 General assumptions

The benefit side of the indicative benefit-cost analysis was developed using data on the costs of crime and sentencing that have been avoided through defendants participation in CISP. Set out below are the data assumptions that underlie these potential benefits.

#### Demographic profile of CISP participants

Of the 2,697 clients engaged in the CISP program in the first two years of operation, the average age was 32.7 years old, 81 per cent were male and 19 per cent were female.<sup>3</sup>

#### Time frame

The analysis seeks to quantify the benefits compared against the costs of the year ended 30 June 2008.

#### Crime profile of CISP Participants

Data on the most serious offence types for CISP participants includes the types and number of offences committed by participants before commencing the program, and the types and number of offences committed by CISP participants who reoffend. This data has been used to construct the crime profile of CISP participants.

#### CISP completion rate

The program completions data is from the 2007 calendar year and first half of 2008. There were 764 exits from CISP during the period July 2007-June 2008. The reasons for exit are outlined in Table 3.1.

**Table 3.1: Reasons for exit from CISP for the period July 2007-June 2008**

Reason for exit	Number	Percentage
Completed program	429	56.2%
Did not complete program (i.e. pulled out, non-attendance)	335	43.8%
<b>Total</b>	<b>764</b>	<b>100.0%</b>

Source: Court Integrated Services Program: Implementation Report, August 2008

<sup>3</sup> Please note that the benefit cost model has been undertaken on the basis of 2007 data only. That is, 1,205 cases with an average age of 33 years.

## 3.2 Costs

The cost of CISP is represented by the funding for the program. Additional funding provided for CISP is the *marginal cost* of the program. This is not to suggest that the only costs of the program – there are a range of resource inputs from the Magistrates’ Court and other service providers for which additional funding was not provided. The analysis assumes that these ongoing costs would have been funded by government anyway (i.e. government would realise these costs even in the absence of CISP).

The purpose of this analysis is to compare the marginal costs of the CISP program, with the marginal benefits. In this case, the marginal costs are limited to CISP’s annual direct budget funding. The marginal benefits (such as a reduction in reoffending) are those benefits that are a direct result of the client’s contact with the CISP program.

### CISP budget

Annual funding for CISP is outlined in Table 3.2.

**Table 3.2: Funding for CISP**

	2005-2006 \$m	2006-2007 \$m	2007-2008 \$m	2008-2009 \$m
Additional funding	\$1.24	\$1.50	\$2.86	\$2.92

Source: Department of Justice, *Breaking the Cycle of Reoffending*, submission to ERC, 9 February 2005

These amounts are actual and anticipated expenditure for CISP. These amounts are the basis for calculating the cost component of the BCA.

Items funded as part of CISP are outlined below.

#### Staff costs and administrative costs

This includes the cost associated with case managers program management, and administrative costs associated with program administration and coordination.

#### Mental health services

DOJ has contracted with the Mental Health Branch of DHS and Forensicare for access to the mental health services required by CISP. The program funds a number of dedicated positions to enhance access to a range of mental health services.

#### Disability services

DOJ has also contracted staff to deliver Acquired Brain Injury (ABI) support services for CISP. Staff manage cases, coordinate services for participants, undertake mentoring and support of other staff, build local networks and perform other general services. Staff are based at all three CISP sites.

#### Housing

Part of the services that CISP offers to its participants is access to priority housing. Homelessness is a factor affecting half of the eligible defendants who present at the Magistrates’ Court. DOJ has arranged with the Office of Housing for the leasing of properties for Latrobe Valley, Melbourne and Sunshine.

Homeground services have also been contracted to support housing referrals and services (housing information and referrals workers, to be based over the three sites).

### Drugs and Alcohol treatment services

DOJ and DHS signed a Memorandum of Understanding (MOU) for the provision of drug and alcohol treatment services for CISP participants.

Funds have been budgeted to purchase drug and alcohol treatment through existing DHS funding and service agreements. Service provision in this context consists largely of referral and brokerage to assist CISP participants to access services such as supported accommodation, community residential drug withdrawal, counselling, consultancy, drug residential rehabilitation, home-based withdrawal, methadone services and youth and Koori specialised services.

### Additional costs not included in our estimate

CISP may result in additional costs which are not captured in the additional funding costs. For example, CISP may result in participants having increased interaction with the Magistrates' Court while undertaking the program than they otherwise would have. This would occur if participants were required to appear in court during or at the completion of CISP, resulting in the attendance of persons such as legal aid, private lawyers and Magistrates' Court officials. This would result in additional costs which are not included in the additional funding costs of CISP.

Although CISP may result in additional court processes in the short term, it is anticipated that contact with the CISP program will result in less interaction with the courts in the future. We have therefore not attempted to quantify either the costs of this additional interaction with the court in the short term, nor the benefit from reduced interaction with courts in the future.

## 3.3 Benefits

There are a range of potential benefits associated with CISP. At the highest level, these can be broadly defined as:

- Quantifiable benefits – benefits which can be estimated in financial terms
- Qualitative benefits – benefits for which the financial value is difficult to reliably measure.

Because the BCA relies on quantifiable inputs, the benefits discussed in this section are restricted to those that are *quantifiable*. All benefits and costs are presented in NPV terms.

The key potential benefits of CISP that can be quantified are predominately the 'avoided costs of crime' that result from a reduction in re-offending amongst CISP participants. In addition, there may be benefits associated with a reduction in factors such as not complying with bail conditions or the conditions of any subsequent non-custodial sentences (i.e. orders).

Key benefits of CISP will therefore accrue through:

- A reduction in the rate and length of imprisonment for sentences received post completion of CISP
- A reduction in re-offending – which will reduce the direct costs of crime (e.g. property damage) and costs associated with sentencing of offenders (e.g. prison)

- For those on a Community Based Order or another type of order, a reduction in the number of offenders who breach order conditions. This reduces the cost associated with locating and re-sentencing offenders.

The key inputs that are required to estimate the benefits of CISP are defined and outlined below. This section also includes the rationale for the assumptions that underpin the BCA.

## Reduced rate and length of imprisonment

A key benefit that should result from CISP relates to the impact that completion of the program should have on client sentencing outcomes. Economic benefits are likely to accrue if completion of CISP results in either a reduced rate of imprisonment, or reduced imprisonment lengths. Both outcomes could bring about a reduced number of days of imprisonment.

Sample data was collected on total days of imprisonment for sentences received by 200 clients that had completed the CISP program, across three sites. Sample data was also collected of total days of imprisonment for a control group of 200 persons who had not completed the CISP program (for most recent offences).

**Table 3.3: Outcomes from sample of cases, CISP sites**

Site	Sample size	Total days of imprisonment	Average days of imprisonment per person
CISP	200	1,592	8.0
Control group	200	8,116	40.6

The difference in the average days of imprisonment per person between our CISP sample and control group is significant. CISP clients on average spent 32.6 days less in prison than the control group, from their most recent sentencing outcomes. This includes persons who received custodial sentences, and those that did not.

In order to attribute this reduced days of imprisonment to contact with the CISP program, the assumption must be that all other factors surrounding the offences that the CISP participants and persons in the control group were sentenced for were the same. While there are likely to be variations in the type and number of offences committed by CISP clients and the control group, the control group has been identified on the basis that they are similar to CISP participants in respect of age, gender, type of offence and offending history.

For the purposes of quantifying the impact that CISP has on the rate and length of imprisonment (i.e. total days of imprisonment), we have assumed that any differences on total days of imprisonment between the CISP sample and our control group can be attributed to completion of the CISP program.

On a per person basis, completion of the CISP program will result in a reduced length of imprisonment of 32.6 days, including those that receive custodial sentences, and those that do not.

## Reduction in the re-offending rate

A key benefit that should result from CISP relates to the reduction in re-offending that it effects. The following questions were used to quantify this reduction of offending for the participants in relation to the control group:

- Did the program affect the proportion of the population that re-offended?
- Did the program effect the type (i.e. seriousness) of the re-offence?
- Of those that re-offended did the program change the timing of the offence?

A sample of recidivism data was gathered from the three CISP sites. The following table outlines the results for the three sites plus the outcomes for the whole sample. The BCA draws on the overall outcomes in its analysis.

**Table 3.4: Outcomes from sample of cases, CISP sites**

	Sample size	Recidivism – post or during CISP	Rate of recidivism
Total	200	79	39.5%

The recidivism rate of 39.5% needs to be compared against a base case. This is challenging because:

- Recidivism is often difficult to determine because individual cases are hard to track. Offenders may use aliases, or may commit an offence in a different jurisdiction
- Recidivism rates amongst populations will typically vary depending on the length of elapsed time since the completion of their prior sentences. The longer the period of elapsed time since a prior sentence the higher the recidivism rate tends to be. When comparing recidivism rates amongst two separate populations, it is therefore important that the amount of elapsed time until the re-offence is taken into consideration, to ensure that the comparison is valid. This makes comparing the CISP recidivism rate with published recidivism rates very challenging
- Those eligible for CISP have a number of characteristics (e.g. repeat offenders, substance dependency) which may make their propensity to re-offend higher than the general offender population. Identifying a control group against which to compare CISP outcomes is, therefore, challenging.

With these factors in mind, the Department of Justice have conducted a survey of persons comparable to CISP participants who have not undergone CISP or a similar program. The persons in the sample set are similar to CISP participants in respect of age, gender, type of offence and offending history.

Additionally, the survey has measured the rate of recidivism within an elapsed time period of 100 weeks since the completion of the prior sentencing outcome, for both CISP participants and the comparable sample. Amongst this sample of comparable persons, the rate of recidivism was 49.5%. This recidivism rate has therefore been used as the benchmark rate against which we have compared CISP outcomes.

## Re-offending throughout a lifetime

One of the key potential benefits of the CISP program is the impact that the program has in reducing an individual's propensity to re-offend over the course of their life-time.

A recent study undertaken in New Zealand measured the reconviction rates and re-imprisonment rates for prisoners released between 1995 and 1998.<sup>4</sup> One of the key findings of this study was that prior convictions and age were the most significant factors in estimating a released prisoners' propensity to re-offend.

<sup>4</sup> P. Spier (2002), *Reconviction and reimprisonment rates for released prisoners*, Ministry of Justice

One of the key assumptions in our analysis is that criminals that re-offend will continue to do so through their lifetimes (defined as a further 30 years after 2007), but at a declining rate dependent on their age.

For the participants of CISP that do not re-offend as a result of their engagement with the CISP program, the question will be whether they do not re-offend for their entire lifetime, or whether after a period of time they commence re-offending.

We were unable identify any studies which have looked at the impact of programs on serial re-offenders propensity to re-offend over their lifetime, so we have modelled three alternative scenarios under which the CISP program reduces re-offending rates for set time periods.

One of the determinants of the propensity to re-offend is age. The New Zealand study gives an age break-down for offenders who are re-convicted within a two year period.<sup>5</sup> These are set out in the table below.

**Table 3.5: Re-imprisonment by age group**

Age group	% re-convicted within 2 years
15-19	91.4%
20-24	84.2%
25-29	75.7%
30-39	65.3%
40+	42.6%

It can be observed that offenders are less likely to offend as they grow older. Therefore, factors have been included in the analysis that reflects this change in the frequency of re-offending over the life span of offenders.<sup>6</sup>

This understanding of the link between re-offending and age assists in determining the potential rate of re-offending in the future.

## Sentencing outcomes for re-offending

For those who do re-offend, determining the cost of this recidivism is dependent on understanding the method of re-sentencing.

Table 3.6 sets out the method of sentencing following an event of re-offending post-CISP by principal re-offence classification.

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<sup>5</sup> P Spier, *ibid*, p.5

<sup>6</sup> This pattern of re-offending, i.e. the reduced propensity to re-offend with age, is also demonstrated in the 2007 study “*Who returns to prison?: Patterns of recidivism among prisoners released from custody in Victoria in 2002-03*”.

**Table 3.6: Outcome of sentencing for CISP re-offenders (CISP sample only)**

Principle re-offence classification	Fine, warning or dismissed	Order	Prison
Assault	2	2	17
Behaviour in public	1	2	
Burglary	1	1	5
Driving infringement	7	1	4
Drugs (possession & trafficking)	2	1	4
Possession of stolen goods	1	2	1
Theft	4	3	9
Weapons possession	1	1	7
Total	19	13	47

Source: Department of Justice

These sentencing outcomes have been used as the potential outcomes for both the CISP participants and the control group. This approach helps to eliminate differences between the control group and the CISP participants, due to different sentencing outcomes of different court systems. The shortcoming of this approach is that it fails to measure whether CISP has an impact on the sentencing outcome once a participant is reconvicted. Sentencing outcomes will differ depending on the type of re-offence which is committed, and we have therefore used the specific sentencing outcomes by type of re-offence.

### Custodial sentences

There is no data available on likely prison lengths for re-sentencing. There is, however, data on Magistrates Court sentence lengths handed by principal offence committed.

**Table 3.7: Average length of sentence in Magistrates Court, by offence**

Offence	Time (years)	Time (months)
Theft	0.37	4
Assault	0.42	5
Driving (traffic offences)	0.29	3.5
Weapons (possession)	0.26	3.1
Drug offences	0.42	5
Burglary	0.67	8
Behaviour in public	0.32	4
Stolen goods (possession)	0.32	3.8

Source: Sentencing Statistics of the Magistrates Court of Victoria

## Unsentenced prisoners

Unsentenced prisoners refer to those on remand. The most recent data available demonstrates that for the 12 months ending 30 June 2007, the average length of remand for males was 2.4 months for cases from the lower courts.<sup>7</sup> Separate data is not available for men and women.

## Cost of sentencing

The cost of imprisonment and administering orders per annum were taken from the productivity Commission's *Report on Government Services 2009*, which identified the average expenditure per prisoner per day of \$221.40 in 2007-08 in Victoria. This equates to \$80,811 per annum. We have assumed that all offenders who receive custodial sentences will cost the Government this average daily amount. This amount only refers to the operating (recurrent) cost of maintaining prisoners each year.

Similarly, the Productivity Commission report estimates the daily cost of administering a CBO at \$16.20, or \$5,913 per annum. This amount only refers to the operating (recurrent) cost of maintaining prisoners each year. When an order is breached, we have made an assumption that they are breached at the midpoint of the order, and the remaining time is served in prison. The average length of court orders is assumed to be twelve months.

Similar to the cost of crime from re-offending the benefits of the CISP program is the avoided cost of re-imprisonment resulting from a reduction in re-offending, brought about by the offender's contact with the CISP program. The magnitude of this benefit will depend on the size of the reduction in re-offending.

## Time to another offence

A prospective analysis of recidivism, the ACT Recidivist Offenders Study undertaken by the AIC in 2004 (Makkai et al. 2004) found the average time to re-arrest to be 311 days. This time period is broadly consistent with the findings of the study by the NZ Ministry of Justice (Spier, 2002) which found that the average time for reconviction was between six months and one year.

For the proportion of offenders who were sentenced to a community order it was assumed they did not re-offend for the length of their sentence. The time until they re-offended was therefore the length of their sentence plus the 311 days. For all other offenders their time to re-offending was assumed to be 311 days post-release.

One of the key assumptions in our analysis is that criminals that re-offend will continue to do so through their 'average' lifetimes (defined as a further 30 years after they participate in the CISP program).

## Types of crime

In estimating the impacts of crime, an understanding of the types of crimes typically committed by CISP clients is useful. This approach has limitations, as CISP clients have usually committed numerous offences. In addition, court data only records the most serious offence. So while the BCA takes into account the most serious offence likely to be committed by CISP clients, it understates the likely impact of multiple offences.

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<sup>7</sup> *Statistical profile of the Victorian prison system, 2002-03 to 2006-07*, Department of Justice

DOJ has provided data on the most serious offence types for CISP participants. This data includes the types and number of offences committed by CISP participants before undergoing the CISP program, and the types and number of offences committed by CISP participants who reoffend. The types and number of offences committed by CISP participants when they reoffend are shown in the table below.

**Table 3.8: Most serious offence/charge, CISP participants (re-offence)**

Most serious charge/offence	Number	Percentage
Theft	16	20.3%
Assault	21	26.5%
Traffic offences	12	15.2%
Possession of weapons	9	11.4%
Drug offences	7	8.9%
Burglary	7	8.9%
Behaviour in public	3	3.8%
Possession of stolen goods	4	5.0%
Total	79	100.0%

Source: Most serious offence for CISP participants. Data provided by Department of Justice

The analysis will focus on the categories of offence listed above on the basis that these are the re-offences which CISP clients have committed.

For the analysis, persons in the comparable sample are assumed to have committed these same offences in the same proportions as CISP participants.

## Avoided cost of crime

Various groups in society are affected differently by crime. To measure the direct benefits of a reduction in crime the costs avoided to individuals or groups must be considered.

The avoided cost of crime to the victim is the loss of physical and psychological quality of life from experiencing personal violence or harassment. In the case of fraud, theft, burglary or property damage they suffer financial loss from loss or damage of their property.

The avoided cost of crime to society takes the form of police, judicial and correctional costs related to the investigation of a crime and the prosecution of the defendant and any sentencing outcome. The cost to society of the crime will vary according to the distance the crime goes through this process, from being reported, investigated, suspect charged, tried and sentenced.

There is also the less tangible cost of a loss of sense of security caused by crime in their community.

## Estimating the avoided cost of crime

The cost of crime is far reaching and complex. Estimating accurately these costs will be limited by available data, potential for double counting, and the multi faceted, economic and social impacts of crime on individuals and the community.

The costs of crime fall into two categories: financial and economic.

Financial costs include the direct losses associated with crime (e.g. theft). These are straight forward to measure as they represent a loss as a result of a crime (usually property related, including theft and damage).

Economic costs of crime arise when crime causes society to divert time, energy and resources from more productive purposes. These include the diversion of scarce medical resources to the treatment of victims of crime, the quality of life losses incurred by victims, and the time spent by victims assisting police with enquiries, as well as the more obvious costs of public and private resources used against crime.

The crimes that were included in this part of the analysis were assault, robbery, burglary criminal and property damage and theft. The per unit cost of these crimes to the community, as calculated in the report *Counting the Cost of Crime in Australia* (Mayhew 2004), are set out below in Table 3.9. The Mayhew estimates include three main categories of cost associated with crimes. These are:

- Costs incurred in anticipation of crime – this category includes security expenditure, insurance and individual precautionary behaviour
- Costs that arise as a direct consequence of crime – this category includes stolen or damaged property, lost output, health services, victim support services and lost earnings of prisoners
- Costs incurred from responding to crime – this category includes the costs to the criminal justice system (such as police, courts and prosecution), criminal injury compensation, and the costs of dealing with offenders (such as probation or prison).

The Mayhew estimates represent an average only. Clearly, within each different type of crime, there will be a spectrum of cost impacts.

**Table 3.9: Estimated costs associated with different crimes**

Crimes	Unit cost 2004	Inflated to 2008 cost
Assault	\$1,800	\$2,037
Burglary	\$2,400	\$2,715
Vehicle theft	\$6,000	-
Theft from a vehicle	\$550	-
Shop theft	\$110	-
Weighted average theft	\$262	\$296

Source: *Counting the costs of crime, Mayhew 2004*

The components of the estimated cost of assault include

- Medical treatment, including hospitalisation and non-hospitalisation medical treatment
- Lost output (where medical treatment was required) owing to absenteeism from work or reduced capacity at work
- Intangible losses, relating to a reduced quality of life following assault.

The components of the estimated cost of vehicle theft, theft from a vehicle and shop theft include:

- Property loss
- Lost output where victims lose their mode of transport and are forced to sacrifice work and leisure time to report the theft
- Intangible losses, relating to an estimate of the victim's desired compensation' following the incident.<sup>8</sup>

We have not been able to estimate a direct cost associated with several of the crimes committed by CISP participants. These crimes include:

- Drugs (possession, trafficking)
- Possession of stolen goods
- Possession of weapons
- Traffic offences
- Behaviour in public.

These crimes represent a significant proportion of all crimes committed by CISP participants (44 per cent of most serious crimes committed). Our analysis may therefore under-estimate the benefits associated with avoidance of such crimes in the future.

Many of the indirect costs associated with these crimes are accounted for elsewhere in the costs of other crimes. For example, for a person to be in possession of stolen goods, a theft, robbery or burglary must have occurred. The cost of the goods stolen will typically have been included in the cost of the initial crime.

For these crimes for which no direct cost is estimated, we use the associated sentencing costs when a person is convicted of these crimes to determine the societal costs.

## Breaches of court orders

Court orders such as community based orders or intensive corrections orders are an alternative sentencing outcome to imprisonment. A significant proportion of CISP participants who commit re-offences are sentenced to a court order rather than imprisonment. When a court order is breached the resulting outcome may be that the offender is imprisoned for the remaining period of time which they were required to serve under their court order. One of the potential benefits of CISP is a reduction in the rate at which court orders are breached amongst participants. The table below shows the percentage of orders breached by CISP participants and a sample of comparable persons.

**Table 3.11: Number and breaches of Community Based Orders, sample and control group**

Cohort	No. receiving court order	No. of order breaches	Percentage of order breaches
CISP participants	70	32	45.7%
Comparable sample	84	41	48.8%

<sup>8</sup> Intangible costs is not included as a component of the cost of shop theft

As is shown in the table, a lower percentage of orders are breached amongst CISP participants compared to the control group. The difference between the rates at which orders are breached between the two samples, 3.1%, is used in our benefit cost model to quantify the benefits associated with this reduced rate of breaches of court orders.

## 3.4 Limitations

There are a number of limitations with this analysis as it currently stands. These are outlined below.

### Data limitations

There are a significant number of data gaps in the analysis. As documented in this section, we have endeavoured to fill these from a variety of sources. Key data issues are outlined below.

#### Re-offending

- Relatively small survey sample size may understate or overstate recidivism rate amongst CISP participants.
- The timing of CISP may overstate the re-offending data. CISP is undertaken pre-sentence. During this time, a CISP client may be charged with offences that occurred *after* the initial offence but prior to the commencement of CISP. The recording of subsequent offences may overstate the re-offending rate for CISP participants
- Difficult to measure 'lifetime' impact of reduced rate of recidivism
- Assumption that re-offenders continue to re-offend for their lifetime may be overstating the benefits of CISP.

#### Sentencing outcomes

- Limited data on sentencing lengths for various types of crime:
  - Sentence lengths may vary which would significantly impact upon the estimated benefits under CISP
  - Require sentencing data for "re-offenders". Likely to be different sentence lengths than the average.

#### Crime profiles of CISP participants

- Difficulty in obtaining data on other benefits of CISP such as reduced rate of failure to appear at court.

#### Use of proxy data

As noted above, there are several of data gaps that have been addressed by using proxy data, i.e. data from other sources and studies against which comparisons with CISP can be made. The weaknesses in this approach include:

- Comparison data may be from populations that are not directly comparable with the CISP sample

- Comparison data is often from different periods of time. This means that external factors (e.g. economic conditions at the time the data was collected) are not comparable.

## Time lags

Because of the nature of CISP, and the need to identify and track behavioural changes over time, there are significant time lags that have an impact on the analysis. While the standard definition of re-offending encompasses a two year time frame, the reality is that greater benefits accrue when re-offending lasts for a longer duration.

## 4 Benefit cost analysis

This chapter sets out the result of the Benefit cost analysis, including sensitivity analysis using different scenarios.

### 4.1 Benefit cost analysis outcomes

The BCA which we have undertaken estimates the benefits associated with the CISP program through a reduction in the re-offending rate, compared with the costs of administering the program.

Our sample survey of CISP participants has indicated that sentences received resulted in 1,592 days of imprisonment, or an average of eight days per person. The total days of imprisonment observed for the control group was 8,116, or an average of 40.6 days per person. The per person benefit of the CISP program, is the avoided time of imprisonment of 32.6 days.

Our sample survey of CISP participants has indicated that the recidivism rate amongst CISP participants is 39.5%. This rate is being compared to the recidivism rate of our control group of 49.5%.

This comparison only measures the current reduction in recidivism rates brought about by the CISP program, and doesn't tell us whether this reduction will change over time.

We have therefore modelled three separate scenarios to identify the impact this will have on the benefits of the CISP program.

- Scenario 1 – Participants of CISP who do not re-offend as a result of contact with the program, do not re-offend again.
- Scenario 2 – Participants of CISP who do not re-offend as a result of contact with the program, do not re-offend for five years, and then recidivism rates return to the rate of the control group.
- Scenario 3 – Participants of CISP who do not re-offend as a result of contact with the program, do not re-offend for two years, and then recidivism rates return to the rate of the control group.

The results of modelling from the three scenarios are set out in Table 4.1.

**Table 4.1: Benefits from each scenario, CISP\***

Scenario	Avoided cost of crime (\$ NPV)	Avoided cost of sentencing (\$ NPV)	Avoided cost of order breach (\$ NPV)	Avoided cost of imprisonment (\$ NPV)	Total benefits (\$ NPV)
Scenario 1 – 30 year benefits from reduced re-offending	2,839,653	10,866,122	22,377	3,098,267	16,826,420
Scenario 2 – 5 year benefits from reduced re-offending	901,265	3,448,752	22,377	3,098,267	7,470,662
Scenario 3 – 2 year benefits from reduced re-offending	378,754	1,449,328	22,377	3,098,267	4,948,726

\* Numbers may be subject to rounding

## Scenario 1

Scenario 1 assumes that the CISP participants, who do not re-offend as a result of their contact with CISP will not re-offend again. Those CISP participants who do re-offend will continue to re-offend for the rest of their lives. This frequency of re-offending, will be impact by our assumptions as to the average time to next offence, and their age.

This scenario provides by far the greatest benefits for the CISP program, as the benefits in the reduced recidivism rate continued to be reaped for 30 years.

## Scenario 2

In this scenario, the benefits of the CISP program are limited to a five year period. By this rationale, after five years as passed, the recidivism rate of CISP participants will return to the benchmark rate of 49.5%.

## Scenario 3

In this scenario, the benefits of the CISP program are limited to the initial two year period. By this rationale, after two years as passed, the recidivism rate of CISP participants will return to the benchmark rate of 49.5%.

## Summary

The greater the reduction in the rate and length of imprisonment, and the rate of re-offending, the larger the benefit. The quantum of benefit in this instance is driven largely by a reduction in costs associated with imprisonment, rather than the direct costs of crime. In saying this, the analysis cannot estimate the indirect costs of crime, such as pain and suffering, and actions taken by victims of crime to avoid a repeat of the incident (e.g. greater security measures).

The greatest amount of benefit is predicated on long term behavioural change. It is unclear at this stage, however, whether this assumption is realistic.

## Benefit Cost Ratios

The benefit cost ratios for each scenario are outlined below.

**Table 4.2: Benefit Cost Ratios for Scenarios 1, 2 and 3**

Scenario	Benefits (\$ NPV)	Costs (\$ NPV)	Benefit Cost Ratio
Scenario 1	16,826,420	2,857,152	5.9
Scenario 2	7,470,662	2,857,152	2.6
Scenario 3	4,948,726	2,857,152	1.7

All the scenarios result in the benefits outweighing the costs, with the quantum of benefits rising as the reduced re-offending rate is maintained over time.

## Net benefits

The net benefit is simply the gross benefit less the gross cost of CISP. This calculation tells us the net return associated with CISP.

The net benefit for each of the scenarios are outlined in the table below.

**Table 4.3: Net benefit for Scenarios 1, 2 and 3**

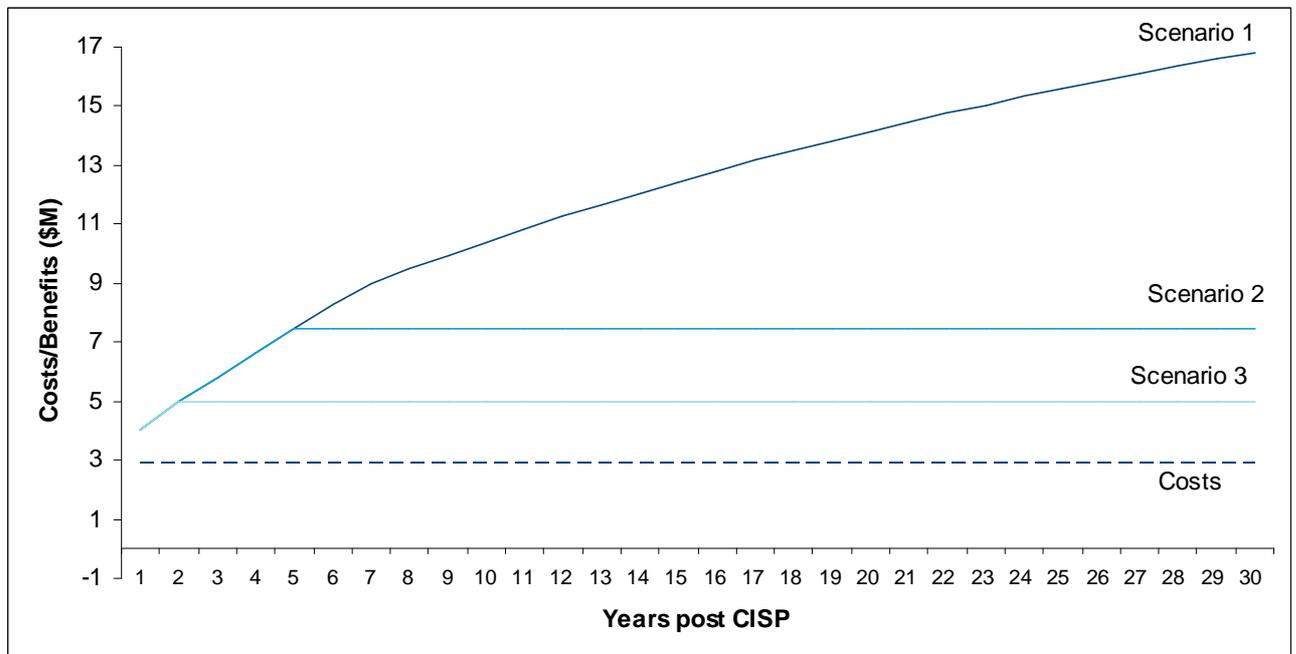
Scenario	Benefits (\$ NPV)	Costs (\$ NPV)	Net Benefit (\$ NPV)
Scenario 1	16,826,420	2,857,152	13,969,268
Scenario 2	7,470,662	2,857,152	4,613,510
Scenario 3	4,948,726	2,857,152	2,091,574

As noted above, the net benefit increases as re-offending and imprisonment costs decrease.

## Break even analysis

A survey of CISP participants and a comparable sample indicates that CISP has resulted in a 10% reduction in the recidivism rate. If the reduced recidivism rate amongst CISP participants is maintained for a period of three years, the benefits of CISP will have exceeded the costs. After three years, if the CISP program continues to have a lasting impact on its participants, resulting in a reduced recidivism rate, annual benefits to society will continue to accrue. The longer the impact of CISP endures, the greater the benefits to society.

**Figure 4.1: Benefits and costs over thirty years**



## Sensitivity analysis – individual benefits and costs

The above analysis considers an average of the benefits and costs for all users of CISP. The benefits only take into account those who complete CISP, whereas the cost side incorporates the costs of all CISP users, whether or not they complete the program.

A different form of analysis considers the benefits and costs associated with solely an individual who successfully completes with CISP.

The source of data to form these individual scenarios is from the CISP records, specifically, the records of CISP re-offenders. These records, which are de-identified, show that, for the majority of re-offenders, the subsequent offence committed is of a less serious nature than the original offence.

Table 4.3 outlines several examples from CISP records of the original and subsequent offences for CISP participants.

**Table 4.3: First and subsequent offences, CISP participant sample**

First offence	Subsequent offence
Theft	Driving
Burglary	Driving
Assault	Theft
Burglary	Theft

With these examples, the estimated cost of each incident is as follows:

**Table 4.4: Costs of first and subsequent offences**

First offence		Subsequent offence	
Nature of offence	Cost of crime (\$ 2008)	Nature of offence	Cost of crime (\$ 2008)
Theft	296	Driving	0
Burglary	2,715	Driving	0
Assault	2,037	Theft	296
Burglary	2,715	Theft	296

These estimates do not include the cost associated with police responses or subsequent court proceedings. They provide, however, an indication about how subsequent offending with a lesser offence may still reduce community costs compared to a situation where the seriousness of subsequent offences either remains the same or escalates.

## Case study

The quantitative benefits identified in this analysis can be supported through anecdotal evidence from CISP practitioners. CISP officers have provided the following case study, which highlights the links between services such as pharmacotherapy permit and Acquired Brain Injury case management.

Eric referred himself to the CISP while in custody at the Melbourne Custody Centre. Eric was applying for bail on shop theft charges and a breach of a Community Based Order (CBO) but was homeless, had no income benefits, a 30-year history of drug and alcohol misuse, lack of community supports and was highly institutionalised after more than 30 years in the prison system.

He was assessed by a CISP case manager and found to be eligible for case management, with the issues above identifying his need for support and treatment. Eric was granted bail and referred to CISP as a bail condition. He was housed in supported accommodation, with CISP paying two weeks of rent, and referred to the housing case manager for assistance in obtaining long term housing.

Eric stated he “wanted to stop using drugs” but had found it difficult to access the methadone program in the community. The CISP workers helped Eric to obtain photo ID for the pharmacotherapy permit, a pharmacy and also funded two weeks of treatment. Eric was also referred to the Acquired Brain Injury case manager and subsequently to *arbias* (alcohol related brain injury Australian services) for a neuropsychological assessment. He was also referred to drug and alcohol counselling program.

Eric completed all program requirements including attendance at CISP for four months. Eric was diagnosed with a brain injury. Recommendations were made for long term case management and treatment. During Eric’s period on CISP, his behaviour changed from a very angry, desperate and difficult man, to a calm, polite and respectful person. Eric was extremely grateful for the support and treatment he had received and felt he was just beginning to learn how to live in the community at 51 years of age.

Eric completed bail successfully for the first time in his offending career and received a suspended sentence. Eric has not returned to prison or re-offended for over 12 months.

## 5 Qualitative benefits of CISP

There are several benefits which have been identified in the research for this report, but which cannot be quantified in the model. They are, however, significant, and indicate additional positive benefits associated with CISP.

### Time to reoffending

A comparison of the CISP sample to the control sample group demonstrated clearly that, over time, the proportion of those reoffending who had participated in CISP was substantially lower than for the control group. This supports the findings of reduced recidivism for the CISP group, and also indicates that, where reoffending occurs, the average time to that offence is longer for the CISP group.

Table 5.1 provides an overview of what percentage of the CISP and control sample groups had reoffended after program completion.

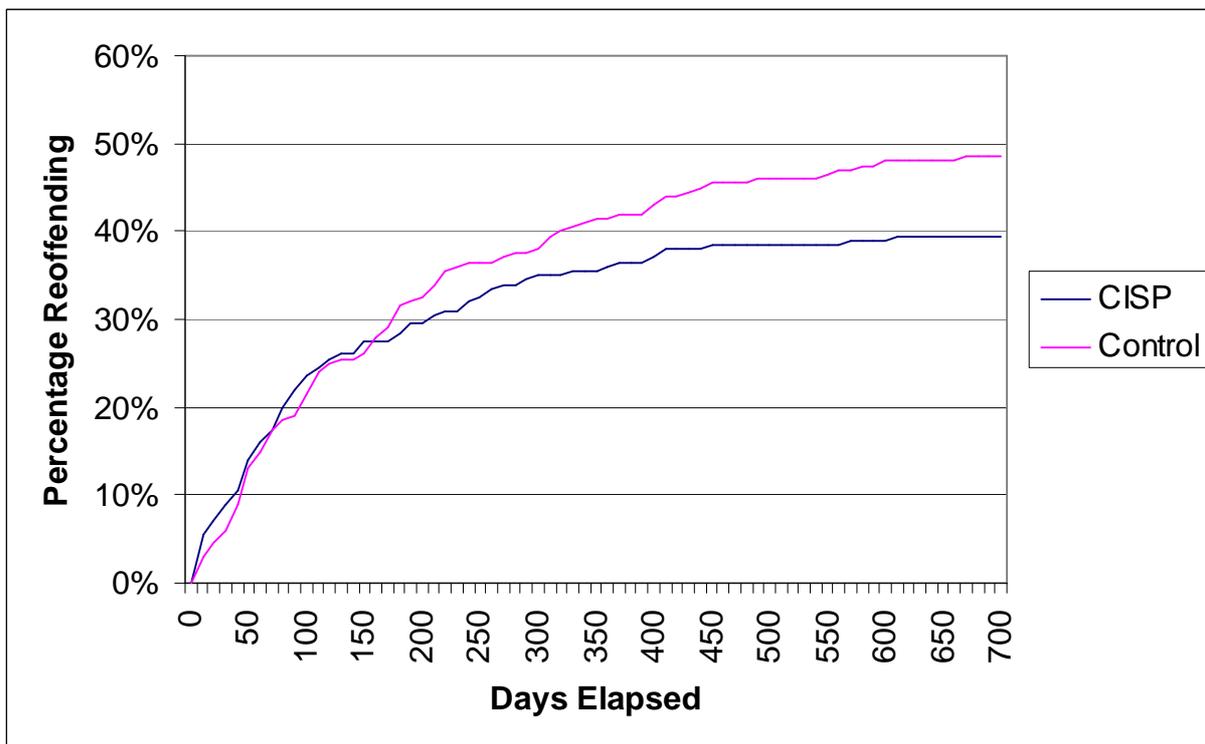
**Table 5.1: proportion of CISP and control group that had reoffended, weeks after program completion or sentence end**

Weeks	CISP group Percentage that has reoffended	Control group % that has reoffended
Week 1	2.0%	2.0%
Week 5	7.5%	7.5%
Week 10	13.5%	15.5%
Week 20	20.0%	22.5%
Week 30	24.5%	30.0%
Week 40	25.0%	33.0%
Week 50	25.0%	35.5%
Week 60	25.0%	36.0%
Week 64	25.0%	36.5%
Week 100	39.5%	49.5%

Source: Department of Justice

By week 100 (the point at which data is available), the difference in reoffending between the two groups is substantial. Represented pictorially, it is clear that a widening of reoffending trends is evident at around week 60 – after that time, the trend for the CISP flattens while it continues to increase for the control group. This pictorial representation is contained in Figure 5.1.

**Figure 5.1: Time to reoffending, CISP and control groups**



Source: Department of Justice

### Seriousness of re-offending

Another trend with positive, but not readily quantifiable, benefits is the seriousness of crimes committed when reoffending occurs for CISP participants. DOJ has made some data available for CISP participants.

This data compares crimes which are provided with a number or rank using the National Crime Recording Standard developed by the Australian Bureau of Statistics. In this index, more serious crimes have a lower number, i.e. 1 indicates a far more serious crime that 50. Examples of crime ranking include:

- A rank of 20 for trafficking cannabis
- A rank of 46 for making an explosive substance
- A rank of 143 for unlicensed driving.

A comparison of initial offence and re-offence for CISP participants that reoffended demonstrated that the mean “seriousness” of the crime was considerably less for the reoffending episode (i.e. the average index number increased from 49 to 71, indicating the average degree of seriousness was decreasing). While this is a difficult benefit to model for a larger group, it represents a clear benefit for the community.

This benefit is not reflected in the benefit cost analysis because there is insufficient data to link a particular type of crime to a likely re-offending outcome. It does, however, indicate that CISP not only has a positive impact on the propensity to re-offend, but, where re-offending takes place, tends to result in less serious (and perhaps less costly) types of offences.

