

Measuring the Economic Costs of Child Abuse and Intimate Partner Violence to New Zealand

2014

Project commissioned by The Glenn Inquiry

Sherilee Kahui
Suzanne Snively

THE
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INQUIRY 

MoreMedia Enterprises
Wellington, New Zealand

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Framework Measuring Economic Costs of Child Abuse and Intimate Partner Violence

Executive Summary

Purpose of the report

There is no excuse for child abuse or intimate partner violence. This would be true, even if the economic cost of these behaviours was zero.

As this fresh perspective on the financial and economic costs of child abuse and intimate partner violence (IPV) demonstrates, however, the costs are unacceptably high. As well as reflecting gross reductions in the wellbeing of those involved, they represent the size of impacts which undermine the effectiveness of other factors that would otherwise contribute positively to economic output.

More importantly, by far the greatest costs are for unalleviated pain and suffering, for the provision of services that treat immediate pain and crisis while failing to address the root cause and provide pathways to positive results and for cleaning up the mess when brought to the attention of families, enforcement agencies, employers and others.

If there was no child abuse and intimate partner violence, the study is conclusive that there would be savings greater than what is currently earned annually from the New Zealand's export of wood. At the high end, the cost of child abuse and intimate partner violence, as estimated by this study, is equal to 60% of what was earned from dairy exports in 2013.

The costings in this report were produced to better understand the economic scale and the nature of the impact of child abuse and intimate partner violence. Even updated New Zealand costings of family violence have been largely based on the Coopers & Lybrand cost of family violence based on evidence collected in 1993/94.

A more recent study estimating the cost of child abuse was published by Infometrics in 2010.

Hence, this is a fresh approach to update both our current state of knowledge, to take another look at what data is available and how to specify the gaps in data. The framework, based on a 2009 KPMG study for Australia, is called the ECCAIPV framework, the Economic Cost of Child Abuse and Intimate Partner Violence framework.

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Key findings

While there has been an impressive amount of primary research undertaken and new data sources developed since 1994, there are still significant data gaps. Given gaps in the data, a complete analysis requires elements of derived costings which are based on assumptions. This is challenging because in the absence of direct measurement, different perspectives shape the way we understand child abuse and intimate partner violence. To consider these different perspectives, this project compiled the key assumptions and data sources into three scenarios.

The three scenarios were designed to cover the range of assumptions and robustness of information. All scenarios are based on more conservative assumptions where there is a choice. The name of the scenarios relates to the prevalence ratio applied.

Table 1: Estimated cost of violence by scenario: Summary Table

Scenario	Cost in 2014 (\$NZD billion)	Cost in 2024 (\$NZD billion – 2014 dollars)	Cumulative cost in 2024 (\$NZD billion – 2014 dollars)
Conservative	4.1	5.0	45.7
Moderate	4.5	5.5	50.3
High end	7.0	8.6	78.2

Source: ECCAIPV framework, Statistics New Zealand population projections, cost projections assume 2% inflation and before policy changes such as in the blue print one incorporated.

Table 1 sets out the totals calculated by the three different sets of assumptions applied for the three scenarios. These show that depending on how different gaps in data are addressed, child abuse and IPV violence is estimated to cost the New Zealand economy \$4.1 billion to \$7.0 billion dollars in 2014.

Over the next ten years, if nothing is done, the costs will continue to grow. The cumulative cost will be close to \$80 billion.

The ECCAIPV framework has been specified to examine the impact of child abuse and intimate partner violence by different groups.

Table 2 reports the prevalence and estimated cost by type of victim. As well as showing the relative differences in costs of intimate partner violence for women victims and child abuse, it is also possible to see from the table the implications of different estimates. Appendix 1 describes the references quoted in greater detail.

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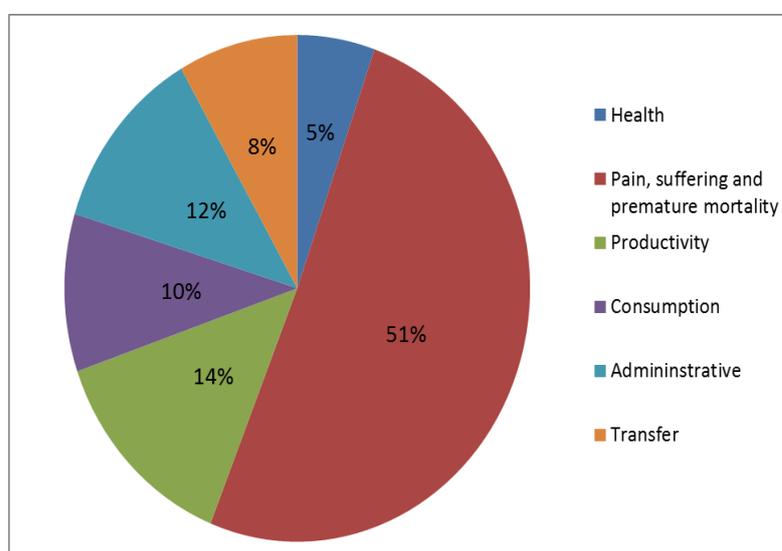
Table 2: Prevalence of violence and estimated cost by type of victim

	IPV - females	IPV – males	Child abuse	Perpetrators	Total
Scenario					
Conservative					
Prevalence	2.7%	1.7%	1.9%	n/a	
Source	general population - NZCASS (2009)	general population - NZCASS (2009)	substantiated cases only - New Zealand Families Commission (2009), CYF		
Cost (millions)	\$2,508.8	\$207.6	\$918.6	\$456.6	\$4,091.6
Moderate					
Prevalence	18.2%	1.9%	9.4%	n/a	
Source	Fanslow & Robinson (2011)	Nowinski & Bowen (2012)	New Zealand Families Commission (2009), CYF		
Cost (millions)	\$2,852.0	\$212.2	\$980.6	\$459.2	\$4,504.1
High-end					
Prevalence	23.6%	18.2%	28.2%	n/a	
Source	Fergusson et al (2008)	assuming same rate as female victimisation - Fanslow & Robinson (2011)	Yates (2012)		
Cost (millions)	\$4,580.8	\$830.3	\$1,134.9	\$462.9	\$7,009.0

Source Appendix 1 of this report describes the references quoted in greater detail.

Figure 1 is a pie diagram setting out the components that make up the costs of intimate partner violence (IPV).

Figure 1: Proportion of each cost category under the high-end scenario



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Insights

Even the high level cost estimates are based on conservative assumptions. Readers may be familiar with some recent studies which published even larger high level total values of child abuse and / or domestic violence. The scope of the costing in the ECCAIPV Framework is a factor here as the analysis only captures IPV and violence perpetrated against children. The majority of costs covered are those direct costs from the impacts. Other studies include some additional indirect costs.

In any case, the cost is high. More importantly, the cost is unsatisfactory as there are solutions.

These impacts are on victims and survivors of violence, with costs being borne by New Zealand society through government agencies. There is a wide variance in the magnitude of the different cost categories. Similar to the Access Economics (2004) and Moore et al (2010) study, the pain and suffering of victims was estimated to be the costliest aspect of violence. In comparison, direct health costs were estimated to be approximately ten times smaller than the cost of pain and suffering (\$3.6 billion compared to \$377.3 million).

The key cost driver behind the large cost of pain and suffering is the high dollar value assigned to a DALY, disability-adjusted life years, a measure of health impact which is partly subjective in nature. As it is calculated using a top-down approach, the estimated cost of pain and suffering does not depend on the varying prevalence rates by scenario. However, it does depend on prevalence rates of the health conditions in victims of violence compared to non-victims.

Higher prevalence rates of these conditions among victims are used in the high-end scenario to reflect the higher costs incurred. The second largest cost category was lost productivity incurred by victims of working age. While the calculations of lost productivity was based mainly on the methodology in Access Economics, some of the referenced studies are at least ten years old at the time of writing this report. We cover the drivers behind the other cost categories in further detail below.

1) Introduction

1.1 Background

Estimating Economic Costs of Child Abuse and Intimate Partner Violence

The Glenn Inquiry aims to create a plan of action, or Blueprint, of the most effective solutions to address child abuse and domestic violence in New Zealand.

As one of the streams of work that will contribute to the Blueprint, the Glenn Inquiry commissioned this report to investigate the Economic Costs of Child Abuse and Intimate partner violence in New Zealand now and to describe projections over the next ten years. For the purposes of this report, the study is referred to as ECCAIPV .

The Glenn Inquiry wanted to better understand the economic scale and impact of child abuse and family violence now and moving into the future, in order to inform the Blueprint and potentially avoid this cost.

This ECCAIPV approach to calculating the current cost of child abuse and intimate partner violence in New Zealand does two key things:

1. It describes the key conditions of child abuse and intimate partner violence in terms of the impact of these conditions externally, taking into account the latest knowledge from the perspective of abused children and victims of intimate partner violence;
2. It compiles costs based on the most recent and robust available data and research to come up with an estimate of current costs for 2014. While these costs are only snapshots, the approach provides a base point for future calculations of the potential for responding in a dynamic way to child abuse and intimate partner violence and estimating the net benefit from solutions aimed at reducing the negative impacts of both.

The cost of inaction

Family violence is a great cost to the New Zealand economy – this was the conclusion of the 1994 Cooper & Lybrand study where the cost of family violence was conservatively estimated to be \$1 billion annually (Snively, 1994). The ECCAIPV estimates are derived from information that suggests that despite apparent increases in government spending to address child abuse and intimate partner violence since then, it appears that the majority of this spending has been on responding to symptoms with only small increased in investment in those providers able to effectively address the solutions and so these costs have escalated considerably.

The total cost of intimate partner violence and child abuse in New Zealand, based on prevalence measures applied to the total population of 4.4 million in 2014, is calibrated using the ECCAIPV framework to be between \$4.1 and \$7.0 billion. The high end figure works out at \$1,509 per capita. In the absence of interventions designed to break the cycle of violence, the total cost over 10 years would be at least ten times this for the same population base.

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In comparison, the 2009 KPMG study for Australia, *The Cost of Violence against Women and their Children*, estimated the cost would be \$13.6 billion in 2011-12 for Australia (population 22.7 million). This works out at around NZ\$675 per capita.

To understand the basis for the range in the calculation for New Zealand in 2014, there is much to learn about the description of the impact of child abuse and intimate partner violence, prevalence, how to best apply existing information to measure the economic cost, to define the significant gaps in information and how to address those gaps.

As the evidence that is available is compiled and added to the framework, the problems relating to child abuse and intimate partner violence become more concerning. It is clear that there is much unnecessary suffering. An alarming feature is the apparent negative cycle that eventuates where providers' roles grow in line with prevalence while the additional expenditure only skims the surface of what's required to end the abuse and violence.

To gain an understanding of the factors that determine the impact of child abuse and intimate partner violence, the range of costs presented has been generated by investigating three scenarios:

1. Conservative estimate
2. Moderate estimate
3. High end estimate

Table 1, below, sets out the total costs based on the range of assumptions and evidence that are specified by the three comparative scenarios. For the purposes of providing clarity about the ECCAIPV framework and the nature of the evidence required to first specify the categories of cost and then to calibrate the costs, this report examines only the "high end" scenario in detail in the succeeding sections. While it is called the high end estimate, when considering what is known about the nature of child abuse and intimate partner violence and the ongoing consequences, the estimated costs may still be on the low side.

Table 1: Cost Estimates by Scenario

Scenario	Cost in 2014 (\$NZD billion)	Cost in 2024 (\$NZD billion – 2014 dollars)	Cumulative cost in 2024 (\$NZD billion – 2014 dollars)
Conservative	4.1	5.0	45.7
Moderate	4.5	5.5	50.3
High end	7.0	8.6	78.2

Source: ECCAIPV framework, Statistics New Zealand population projections, cost projections assume 2% inflation and no other adjustments made

The three scenarios were chosen over presenting a definitive estimate to reflect the fact that due to data collection constraints, the precise value of the cost of intimate partner violence and child abuse is unknown. This study has instead investigated a wide range of literature and administrative data, which has informed the presented range of costs and supports this decision. While undertaking this study, we found a ground swell of interest to consider changes to the way government agencies collect, share and report data about child abuse and intimate

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partner violence. If this happens, it will be possible to get both an accurate profile and a clearer understanding of the scale and nature of intimate partner violence and child abuse in New Zealand. Currently, there are gaps in administrative data that are inconsistent with other empirical research. For a detailed description of the current limitations of available data in New Zealand, the reader is referred to *Family Violence Indicators*, a report produced by the Families Commission in December 2013.

As well as being based on recent Australian studies of the economic cost of family violence, the framework for this report was also based on *Productivity Gains from Workplace Protection of Victims of Domestic Violence* (Snively, et al, 2014).

An estimated 260,531 New Zealand women between the ages of 17 – 65 years will experience intimate partner violence in the period of June Year 2014. This will escalate over the following 10 years if nothing is done to break the cycle.

This report specifies the cost from different perspectives. It calculates costs associated with victims/survivors, children, perpetrators and employers, aggregated for the New Zealand economy.

Other New Zealand data sources provide a basis for measuring the economic costs of child abuse resulting from inaction to address it.

Reason for action

Child abuse and intimate partner violence remains a profound problem and addressing it is one of the greatest challenges for New Zealand. When taken over a lifetime, there is evidence that 55% of New Zealand women experience at least one form of violence; 17% experience sexual abuse and 32% experience physical violence (Fanslow, 2011).

Definition of Domestic Violence

Under the (New Zealand) Domestic Violence Act 1995, domestic violence is defined as:

"Violence against (a) person by any other person with whom that person is, or has been in a domestic relationship".

This report focuses specifically on violence perpetrated by and against intimate partners of any gender (henceforth referred to in this report as intimate partner violence, or IPV) and all forms of child abuse. Excluded from this study are the other forms of abuse (such as elder and sibling abuse) that occur within the wider context of domestic/family violence. When comparing the estimates in this study, it is important to note that the costings of all forms of domestic violence would be even larger than those calculated using the EECAFV framework.

While many agencies do not disaggregate different forms of domestic or family violence when reporting statistics, the prevalence rates that have been calculated are explicitly rates of IPV victimisation. Some Police data disaggregates offences by the relationship between perpetrator and victim. From this, the proportion of all reported domestic violence that is IPV can be estimated.

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Family violence, IPV and child abuse are all defined in this report as a broad range of controlling behaviours commonly of a physical, sexual and/or psychological nature, which may involve fear, intimidation and emotional deprivation (Te Rito, 2002). Explicitly, this report captures the following types of abuse:

- Physical
- Sexual
- Psychological (which may include threats of violence)
- Emotional
- Financial
- Neglect (specific to child abuse)

A single act of violence or a number of acts that form part of a pattern can be regarded as family violence (this also applies to child abuse).

Framework for costing child abuse and Intimate Partner Violence in New Zealand

Child abuse and, Intimate Partner Violence (IPV) carries an enormous economic cost to society. The cost of family violence (relating to women) in New Zealand was conservatively estimated by the Coopers & Lybrand report at \$1 billion in 1994 (Snively, 1994). It was estimated to be \$8.1 billion in 2002-03 in Australia by Access Economics (2004), with \$3.5 billion in costs attributable to pain, suffering and premature mortality and the largest cost burden of domestic violence being associated with victims/survivors (\$4 billion). Access Economics' *The Cost of Domestic Violence to the Australian Economy (2004)* provided the basis for the 2009 KPMG study.

This report is based on the 2009 KPMG study for Australia. It is designed to measure the cost of child abuse and IPV for June year 2014. In calculating the estimates, the most recent data has been used as a basis for updating the costs. This enables a discussion of how the baseline may differ depending on different perspectives as a basis to think about policies that would change things. Another way of looking at things is that the baseline represents the cost to the economy from not changing the current approaches to addressing family violence.

Once the Blue Print has been confirmed, the framework may be applied to ascertain the tradeoffs between doing nothing and from implementing policies and services that break the cycle of violence.

Based on recent analysis of net costs to employers from domestic violence in the workplace, this report was specified to include a more detailed description of the current costs of productivity. This was a further innovation from what was covered by the 2009 KPMG study. Where there are gaps in the data, the Access Economics approach has been applied.

The framework for calculating the cost of IPV and child abuse in New Zealand was designed with the aim of providing a sense of the scale of the problem and its impact on society, in order to provide another perspective on the need for and benefits of interventions. In addition, it

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provides a perspective on the nature of a number of expenditures which can be considered “deficit funding” in the sense that they are more focused on symptoms than on attempting to break the cycle of violence.

Cost categories

There are six cost categories that comprise the headline cost estimate calibrated for this report. These are:

1. Pain, suffering and premature mortality costs associated with the victims'/survivors' experience of violence
2. Health costs
3. Productivity-related costs, based on research carried out for the New Zealand Public Service Association (PSA) in early 2014
4. Consumption-related costs, which include the rise in cost of living as a result of living in a single-earner household
5. Administrative and other costs, including police, incarceration, court system costs, victim/survivor support, and violence prevention programs
6. Transfer costs, which are the inefficiencies associated with government benefits such as victim/survivor compensation and lost taxes

The costs have been allocated across four groups to understand the impact of violence by sector.

These four groups are:

1. abused children
2. adult victims/survivors
3. perpetrators
4. employers

This report examines the economic costs for groups of abused children and intimate partner violence victims that evidence indicates are potentially more vulnerable. When it comes to costing and targeting the Blueprint, it is recommended that consideration be given to specifying the framework so that interventions can be costed and compared to maximise effectiveness, recognising that funding constraints are likely to require targeting and, if this is the case, it is especially prudent to understand the cost of addressing solutions for vulnerable groups.

Additional details of the framework for this report, including details on the approach taken to update and forecast these costs, are in the Appendix to this report. Table 2 that follows below set out the cost categories costed for this report, including a breakdown of the types of costs included.

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The cost categories were based on the 2009 KPMG report. The types of costs included were further refined based on both the logic of the 2009 KPMG report and the availability of New Zealand sourced data.

Table 2: Cost categories of intimate partner violence under high-end scenario

Cost category	Types of costs included
Pain, suffering and premature mortality \$3.6 billion (51%)	<ul style="list-style-type: none"> • Costs of pain and suffering attributable to violence. • Costs of premature mortality (including opportunity costs) measured by attributing a statistical value to years of life lost.
Health costs \$377.3 million (5%)	Includes health costs associated with treating the direct effects of violence on the victim/survivor
Productivity-related costs \$954.1 million (14%)	Includes costs associated with lost productivity (wages plus profit) from: <ul style="list-style-type: none"> • Absenteeism • Lost productivity • Retraining and rehiring
Consumption-related costs \$705.5 million (10%)	Includes costs associated with: <ul style="list-style-type: none"> • Change in economy of scale of consumption – “two can live with less cost than one”
Administrative and other costs \$836.7 million (12%)	Includes costs associated with: <ul style="list-style-type: none"> • legal services • temporary accommodation • victim/survivor support • perpetrator programs
Transfer costs \$582.3 million (8%)	Includes ‘deadweight loss’ to the economy associated with: <ul style="list-style-type: none"> • government payments and services • victim/survivor compensation

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Figure 1: Proportion of each cost category under the high-end scenario

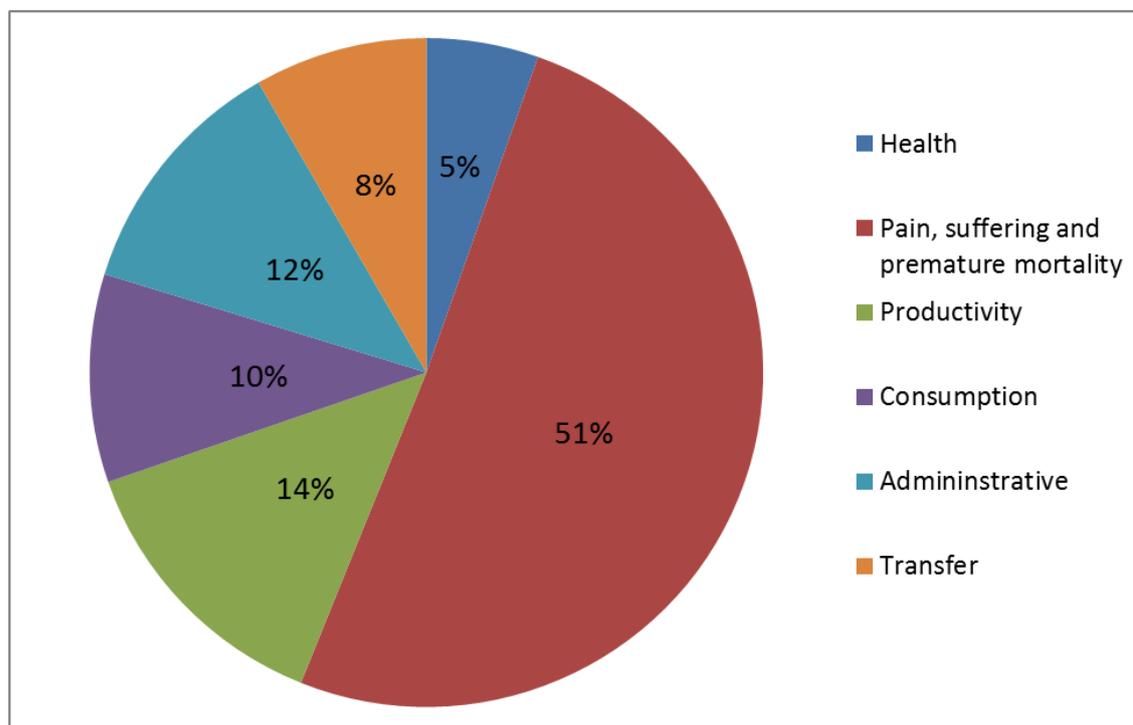


Table 3 below shows which groups in society are impacted by these costs:

Table 3: Summary of Estimated Costs in 2014 by Affected Group (High- End Scenario)

Affected group	Cost (\$NZ billion)	NZ	Proportion of total (%)
Victim/survivor	4.55		64.9
Children	1.12		16.0
Perpetrator	0.39		5.5
Employers ¹	0.95		13.6
Total	7.01		100.0

Prevalence of violence

The cost estimates in this report have been calculated using a prevalence approach based on available knowledge from New Zealand sources and where there are gaps, with reference to data as applied by the Access Economics (2004) report.

A prevalence approach measures the costs associated with family violence in a specific year, based on the number of people experiencing violence in that year. For some costs, the approach follows the KPMG approach of capturing reported violence only. There is growing evidence

¹ Productivity costs are associated with employers for the purposes of Table 3.

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about factors of unreported violence, however, and where this evidence can be supported by more than one reference it has been included in cost calculations.

Next steps

Intimate partner violence and child abuse carries an enormous economic cost to society. Like the 2009 KPMG study for Australia, the New Zealand analysis shows the proportion of the costs associated with child abuse and intimate partner violence - costs that can potentially be avoided with action. Key next steps following this report are those related to describing the action that has the greatest likelihood of addressing this, based on the Peoples' Report and other knowledge about solutions.

Specification of the New Zealand ECCAIPV Framework

1. Intimate Partner Violence only (in contrast, the Australian 2009 KPMG study that also covered other forms of domestic violence).
2. Where there are at least two sources of evidence, the framework included a specification of costing related to un-reported violence based on that evidence.
3. Access Economics, *The Cost of Domestic Violence to the Australian Economy: Part I* and Access Economics, *The Cost of Domestic Violence to the Australian Economy: Part II*, 2004, which form the basis of the 2009 KPMG Study, provides comprehensive analysis that was also applied to specify the framework for this costing study.
4. Note, however, that Access Economics (2004) is focused on intimate partner violence and does not estimate the cost of child abuse.

1.2 Objective

The objective of this report is to describe the factors that contribute to the cost of child abuse and intimate partner violence and present those as a calibrated estimate of the cash and non-cash costs. These are costs that may be anticipated if New Zealanders, their governments and communities do not take action to resolve family violence.

1.3 Scope

The scope of this analysis is on family interpersonal violence (as opposed to violence perpetrated by a stranger). This has been the focus of most New Zealand studies. New Zealand was one of the first countries to attempt to comprehensively calculate the economic costs of family violence for an entire country².

Context

The actual levels of child abuse and intimate partner violence are unknown. What is known is that there is a vast difference between the actual (unknown) rates, the number of cases reported

² Coopers&Lybrand, *The Economic Costs of Family Violence*, December 1994.

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to authorities, and the percentage of those cases that are subsequently counted as abuse cases in our official statistics (Family Violence Death Review Committee, 2013).

Focus

The focus of this study is to gain an understanding of the nature and magnitude of the economic costs of child abuse and IPV. Based on this, the ECCAIPV framework for costing child abuse and IPV was designed to identify the costs that could be avoided for every adult and child whose experience of family violence is prevented. As well as providing an understanding of the cost of the problem, it provides the basis for an analysis that shows what resources would become available to invest in solutions.

Key features of the methodology that underpin this framework include:

- a focus on economic costs, and a clear distinction between economic costs and transfer payments
- use of a prevalence approach that conceptually captures the costs of the key impacts of child abuse and intimate partner violence and its consequences
- allocation of costs to six categories:
 1. pain, suffering and premature mortality;
 2. health costs;
 3. production-related costs;
 4. consumption-related costs;
 5. administrative and other costs;
 6. transfer costs.
- allocation of costs to four groups:
 1. victim/survivor;
 2. perpetrator;
 3. children;
 4. employer.

The aim in adapting the KPMG (2009) and Access Economics (2004) approach in specifying the New Zealand framework is to build on work already done in this area rather than necessarily recreating the estimate from scratch. While the estimates in this report are based on the latest research and references by service providers, researchers and analysts in this field, the report highlights that there is still further work to do to describe the extent of intimate partner violence and child abuse, the cost of addressing it and the benefits of breaking the cycle.

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The caveats placed by the Coopers & Lybrand Report for New Zealand in 1994 and more recently, Access Economics in 2004, still apply in that the overall findings must be considered indicative (and in some cases speculative) and are conditional on numerous assumptions made during the course of the analysis. A considerable margin of uncertainty surrounds the original estimate and is retained in this update. Estimates are based on limited data and on parameters that reflect a large element of judgment.

The project scope involved the following:

1. The model was based on desktop analysis. Cost estimates are indicative only, and should be used for informing decisions rather than as a basis for decision-making.
2. Where sufficient information was not available, assumptions were adopted based on the best available evidence.
3. All assumptions and their bearings on the cost estimates are transparent.
4. The analysis establishes a 'base case' profile (specified in a detailed spreadsheet framework) which would enable forecasts levels of child abuse and intimate partner violence with interventions. The analysis adopts a prevalence-based approach.

1.4 Approach

The approach to this project involved these key steps:

1. Constructing the base case 'prevalence of violence' profile:
 - The number of New Zealanders experiencing violence in June Year 2014 was calculated from New Zealand data sources
2. Calculating the cost impact. This involves:
 - Two workshops with researchers, service providers and experts in family violence to access the most appropriate and recent New Zealand data related to family violence and child abuse
 - Applying the cost per victim/survivor to estimate both the actual costs as a direct result of experiencing violence, as well as the costs that could be avoided for given reductions in violence (except for costs due to pain and suffering; see Section 5 for details).

1.5 Notes on the findings

The report presents (monetised) estimates of the cash and non-cash costs impacts of child abuse and intimate partner violence. Estimates are indicative only – the key strength of the framework is what can be analysed in terms of where there is the potential for more effective resolution to prevent violence.

1.6 Structure of the report

This report of the results from the framework to cost intimate partner violence and child abuse in New Zealand is structured as follows:

1. Section 1: Background

Section 1 has provided a definition of the types of domestic /family violence (child abuse and intimate partner violence) that is applied to estimate the framework and underpins the estimates in the report; it outlined the classification of costs used in the report; and briefly summarised previous New Zealand and Australian studies on the costs of domestic/family violence.

2. Section 2: Population of Abused Children

Section 2 defines and outlines the prevalence of child abuse in New Zealand.

3. Sections 3: Intimate Partner Violence Victims by Household

This section specifies the population of victims and their characteristics by household unit, based on the New Zealand Crime and Safety Survey (2009).

4. Section 4: Health

This section examines the health impact costs from child abuse and intimate partner violence

5. Section 5: Pain, Suffering, Premature Mortality

Section 5 specifies the approach for measuring the economic cost of child abuse and intimate partner violence because of pain, suffering and premature mortality

6. Section 6: Production

Section 6 specifies the approach for measuring the loss of productivity because of family violence

7. Section 7: Consumption

This section specifies the approach for measuring the consumption impact from child abuse and intimate partner violence

8. Section 8: Administration Costs

Administration costs are costs associated with legal services, temporary accommodation, counselling, perpetrator programmes, etc.

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9. Section 9: Transfer Payments

Transfer payments are comprehensively recorded by the Ministry of Social Development – section 8 links them to the number of people that experience child abuse and intimate partner violence

10. Section 10: Vulnerable Groups

Section 10 describes the estimated costs to vulnerable groups, where the classification provides insights relevant to understanding and resolving the determinants of child abuse and intimate partner violence

11. Section 11: Conclusion and Recommendations

Section 11 summarises results and lists recommendations

12. Appendix 1: Components by Cost Categories

This Appendix provides details of cost breakdowns and the method used to calculate costs

13. Appendix 2: Glossary

14. Appendix 3: Bibliography

2) Population of Abused Children

2.1 Prevalence of violence

A prevalence approach measures the costs associated with child abuse in a specific year based on the number of children experiencing violence in that year. The cost estimates in this report have been calculated using a reported prevalence approach based on data from the Ministry of Social Development (Child, Youth and Family) and relevant national and international research. Importantly (as with most studies in this field), the approach captures reported violence only – in other words, unreported violence is not included. For this reason, the prevalence rate of child abuse as presented in this report is thought to be conservative.

2.2 Children experiencing violence

For the purposes of this report, children are defined as being 0-16 years old. This is due to the way in which both the New Zealand Police and Child Youth and Family record and report on child abuse (Family Violence Statistics Report, Families Commission, 2009, p. 16). In New Zealand in 2013, there were a total of 1,002,750 children aged 16 years or younger (Statistics New Zealand, 2014).

In the June year 2013, CYF received a total of 148,659 total notifications (94,099 distinct client notifications) of concern regarding the safety of children.

It is important to note that a child witnessing IPV perpetrated against a parent or adult in a parental role is a form of child abuse in itself.

From Section 3 (2)(c) of The Domestic Violence Act 1995:

Without limiting subsection (2)(c), a person psychologically abuses a child if that person –

- *(a)causes or allows the child to see or hear the physical, sexual, or psychological abuse of a person with whom the child has a domestic relationship; or*
- *(b)puts the child, or allows the child to be put, at real risk of seeing or hearing that abuse occurring*

An increasing number of studies have shown that being exposed to IPV has adverse effects on children, not least, through the high rate of co-occurrence of IPV and direct maltreatment of children (Fanslow et al., 2013, p. 5). Hamby et al (2010) state that: “witnessing partner violence may be a key component in creating conditions that lead to maltreatment.” As well as the link between witnessing IPV and direct maltreatment, children are emotionally and psychologically affected by being exposed to intimate partner violence in their homes. This exposure serves to normalise the role of violence in intimate relationships and leads to the potential perpetuation of the cycle of violence, both in terms of perpetration and victimisation. As being exposed to IPV as a child is risk factor of experiencing IPV as an adult (Fanslow et al, 2013, p. 20), it seems counter-intuitive to include only “substantiated” cases of emotional or psychological abuse (which generates a **Conservative Scenario** prevalence rate of **1.9%**) and exclude the effects of exposure to IPV, in the context of a costing study. There is a growing body of literature that

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suggests substantiated and unsubstantiated cases have more in common than not and that the binary nature of CYRAS (the CYF tool used for decision making in terms of further action required) does not take into account the complex relationship between IPV and child abuse:

... there is tension between the requirement of the CYPF Act 1989 and the wording of CYRAS. The Act specifies that any social worker who "believes, after inquiry, that any child or young person is in need of care or protection ... shall forthwith report the matter to a Care and Protection Co-ordinator" (section 18(1)). The implication of believing there is a need for care and protection assumes a complicated analysis of both the current and future risk of harm. Conversely, recording in CYRAS asks whether abuse, neglect and/or behaviour/relationship difficulties were found or not found, indicating a past occurrence.

(Source: Manion & Renwick, 2008, p. 18)

To recognise the intrinsic link between child abuse and IPV, as well as the low level of reporting child abuse, this report's "**Moderate Scenario**" will take into account the entire population of children referred to CYF and include them in the definition of abused children. This represents **9.4%** of all New Zealand children.

Along with the acknowledgement that child abuse is underreported in New Zealand, it is important then to understand that the estimated prevalence and therefore cost of child abuse in New Zealand is shown in all three scenarios to be conservative. It is this report's recommendation that nationwide, interagency data be collected and reported transparently, so that the true magnitude of this society-wide problem can be revealed and responded to accordingly.

There is some evidence that the rate could be three times this. Waitakere Anti-Violence Essential Services reported in 2012 that Police report only a third of Family Violence incidents where a child is present to CYF (Yates, 2012, p. 11). This information informed the prevalence rate generated in the "**High-end Scenario**", presented below as a prevalence rate of **28.2%**.

Based on population estimates in New Zealand, Table 4 shows the estimated number of children experiencing violence, by type of violence experienced, in 2013.

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Table 4: Estimated Number of Children Experiencing Violence, by Type and Scenario

Type of abuse suffered	2013 (1.9%) – conservative scenario	2013 (9.4%) – moderate scenario	2013 (28.2%) – high-end scenario
1. Emotionally (61%)	11,343	57,400	172,493
2. Physically (17%)	3,161	15,997	48,072
3. Sexually (7%)	1,302	6,587	19,794
4. Neglected (27%)	5,021	25,407	76,350
Total Abused Children*	18,595	94,099	282,776

(*can experience more than one kind of abuse)

Source: Percentage of type of abuse suffered sourced from www.cyf.govt.nz

2.3 Vulnerable Groups of New Zealand Children

Some groups of children in New Zealand are over-represented among the abused. These groups may require interventions specific to their particular contexts.

CYF reports (both in their *Why You Should Care* publication and Annual Report) that of the children they come into contact with:

- 20% have a disability
- 55% are Māori

These two vulnerable groups represent a substantial proportion of abused children and therefore the costs related to both will be expanded on later in the report.

3) Domestic Violence Victims by Household

The household status of victims is an important factor to consider when studying the effects of IPV. This is acknowledged by the National Collective of Independent Women’s Refuges as they find that victims who have dependents differ from victims without dependents in a number of ways including acknowledgment of the abuse and help-seeking behaviours (Snively, Sherilee & Ku, 2014).

Fanslow and Robinson (2010) also noted that a key reason that drove victims to seek help from formal services was concern for the wellbeing of their children. The household status of victims also influences their expenditure, especially if they were previously living in a household where another person contributed to the living expenses of the household. This is explored in detail in Section 6.

Table 5: Household Status of people who reported ever experiencing physical violence of threats of physical violence compared to those who never reported experience of those types of violence

	One person living alone	Solo parent with child / children	Couple without children / children not living at home	Couple with child / children	Extended family / whanau	Flatmates	Family other combination	Total
Estimates	000	000	000	000	000	000	000	000
Victims	55.8	72.6	110.1	140.2	49.5	21.3	41.7	491.1
Non-victims	184.4	76.5	760.3	788.9	139.6	124.8	152.9	2,227.4
Row Percentages	%	%	%	%	%	%	%	%
Victims	11.4	14.8	22.4	28.5	10.1	4.3	8.5	100%
Non-victims	8.3	3.4	34.1	35.4	6.3	5.6	6.9	100%
Row Percentages Margin of Error	±	±	±	±	±	±	±	
Victims	1.78	2.16	2.71	3.27	2.30	1.55	2.15	-
Non-victims	0.73	0.62	1.98	1.86	0.96	1.04	1.04	-

Source: NZCASS (2009)

Information about the household status of victims of IPV for this report was obtained from a data request to the Ministry of Justice using the New Zealand Crime and Safety Survey (2009). This survey recorded lifetime and past year events of physical violence and threats of physical violence by a spouse or legal partner. The survey also asked participants about their household status, among other demographics.

As observed in the row percentages in Table 6 above, victims of lifetime physical violence or threats of physical violence were more likely to be living alone compared to those who never experienced those forms of violence. These differences were estimated to be statistically significant. The NZCASS data also shows that 50.9% of victims were living as part of a couple. The “extended family/whanau” and “family – other combination” categories may also include some respondents who were in a relationship but were also living in a larger household. In

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comparison, 11.4% of victims were living alone and 14.8% were solo parents. The difference in percentage of solo parents among victims (14.8%) is quite striking compared to the percentage of solo parents among non-victims (3.4%). This highlights a possible area of research as it indicates that victims have to suffer the effects of abuse and the struggle of caring for children without the potential assistance of a partner.

4) Health Outcomes of Victims

IPV is associated with a range of negative health outcomes, as stated in a comprehensive review of the literature by Lawrence et al (2012). Victims of violence suffer from poorer physical and psychological health compared to the general population. This section is an attempt at summarising selected research conducted on the prevalence of these health outcomes in victims of family violence compared to non-victims.

The main source of data for estimating the prevalence of health conditions in the 2004 Access Economics study is the Australian Longitudinal Study on Women's Health (ALSWH). Unit record data from this study enabled the researchers to estimate the prevalence and relative risks of health conditions among victims compared to non-victims among Australian women. Consequently, they were able to apply a top-down approach to estimating health costs and costs of pain and suffering using data specific to the Australian population. This was achieved by calculating attributable fractions from the prevalence rates and relative risks from the ALSWH. The health conditions examined in the 2004 Access Economics study are:

- Homicide
- Suicide
- Physical injuries
- Depression
- Anxiety
- Eating disorders
- Tobacco
- Alcohol
- Drug use
- Sexually Transmitted Diseases (STDs)
- Cervical cancer

This report has adopted a similar top-down approach to the one taken in the 2004 Access Economics study with three key differences as discussed below.

Firstly, prevalence rates and relative risks have been obtained from the academic research literature. To the knowledge of the authors, there is no equivalent of the ALSWH conducted in New Zealand. Where available and relevant, information about prevalence rates are drawn from research conducted in New Zealand. Research on prevalence rates from other countries have also be used to fill gaps in the data. These studies will be discussed in more detail according to each health condition in the following sections.

Secondly, this report will not estimate the costs of tobacco, alcohol, suicide, drug use, STDs, and cervical cancer. It is believed that associating these costs with victims of family violence may

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assume that victims are responsible for the negative consequences of abuse due to their lifestyle choices.

The main criteria used to select studies that are appropriate for this report includes the nature of the sample used, the method of diagnosing the health condition, and the date at which the study was conducted. Considerations about the sample include sample size and the representativeness of the sample. Some methods of diagnosis are more structured and specific compared to others. Studies which are more recent in time are preferred over older ones, all other things being equal.

We have deliberately presented the findings of these studies in a descriptive manner. The causal pathways between family violence and negative health outcomes are likely to involve many other factors, and are possibly bidirectional (Lawrence et al, 2012). Understanding causation is beyond the scope of this study and this report does not dictate that family violence is the strongest or sole causal factor behind the development of negative health outcomes among victims.

4.1 Psychological effects

The link between family violence and psychological disorders has been well-studied. This report covers depression, anxiety disorders, and eating disorders. In a meta-analysis of 41 studies from various countries, Trevillion et al (2012) found that women with depressive disorders, anxiety disorders, and PTSD were at higher risk of experiencing partner violence in their lifetime. Another recent meta-analysis by Bundock et al (2013) reviewed studies which researched the link between IPV and eating disorders. They concluded that victims of IPV were at a higher risk of also being diagnosed with an eating disorder.

Depression

A review of the literature presented in Trevillion et al (2012) revealed three studies which were most relevant to the New Zealand context. The rate of major depression among a cohort of women in New Zealand (aged 24-25 years) who experienced one to two events of violence in the past 12 months was 17.6% compared to 14.8% among women who did not experience violence in the same time period (Fergusson et al, 2005). The same study estimated a rate of 17.9% among victims of violence versus 16.3% for non-victims for anxiety disorders. Note that they reported a significant main effect of age at the .05 level but statistical significance between the events of violence experienced was not mentioned. Similar data were available for male victims as well.

A similar study by Fanslow & Robinson (2004) on a random sample of women in New Zealand yielded a prevalence of 8.4% for victims and 4% for non-victims, over a period of twelve months. Depression was specified as an attribute where victims were using medication to reduce depression. Yet another study used a random sample from the Women's Employment Study in the U.S. which found a rate of 31.3% among victims and 15.2% among non-victims (Tolman & Rosen, 2001). This study is preferred because of the method of sampling and a stricter diagnostic criterion of screening questionnaires.

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Anxiety

The same meta-analysis conducted by Trevillion et al (2012) also reviewed anxiety disorders. For anxiety disorders, the rate among victims was 9.2% versus 4.1% for non-victims (Tolman & Rosen, 2001). Specifically, the study looked at Generalised Anxiety Disorder using diagnostic screening questionnaires based on the DSM-III. This rigour in diagnostic method was an important reason for selecting this study.

Eating Disorders

Bundock et al (2013) reviewed studies on the association between eating disorders and intimate partner violence. The authors also scored each reviewed study in terms of methodology, and this report has also taken those scores into consideration when selecting an appropriate study.

Two studies are identified as being most relevant to the purposes of this report:

The first study is conducted by Danielson et al (1998) in New Zealand which indicated that 6.1% of female victims of partner violence had symptoms of eating disorders versus 1.2% for non-victims. The eating disorders studied by Danielson et al (1998) included anorexia nervosa and bulimia nervosa.

The second is an unpublished study from Jonas et al (2008) (see Bundock et al, 2013), which used a probability sample of men and women in the UK. The rate among male victims was 16.4% compared to 3.9% for male non-victims, and 25.1% female victims compared to 3.5% for female non-victims.

Both studies used clinical interviews according to DSM criteria as their diagnostic method, and both were based on violence experienced in the past 12 months. The calculated attributable-fraction by Jonas et al (2008) was approximately three times higher than the attributable-fraction calculated in the Danielson et al (1998) study. Also, it was more than six times higher compared to the attributable-fraction sourced from the ALSWH. Because of this discrepancy, the Danielson et al (1998) study was chosen.

4.2 Physical Injury

From a review of the literature using large samples, two studies were shortlisted for estimating attributable-fractions. In a study of a sample of women in New Zealand, 17.5% of women who experienced physical violence in the past 12 months reported visiting the hospital compared to 6.1% of women who did not experience physical violence (Fanslow & Robinson, 2004).

The other shortlisted study was by Rivara et al (2007) in the US which used a sample of 3,000 women. 5.9% of female victims of violence were hospitalised for assault versus a rate of 0.4% for non-victims. The criterion for determining physical injury was stricter compared to the Fanslow and Robinson (2004) study as emergency department cases were also studied. Compared to another study in the US (Kernic, Wolf & Holt, 2000), it also measured violence that happened within the past five years as opposed to lifetime prevalence.

4.3 Homicide

Table 6 below shows that females are more likely to die as a result of partner violence compared to males (Family Violence Clearinghouse, 2013 from New Zealand Police). There were 23 female homicides and 31 male homicides in 2012. Out of this, 11 female homicides and three male homicides were committed by their partner. The corresponding number of adult deaths due to partner violence from 2007 to 2012 is shown below.

An average taken across this time period gives twelve deaths per year (rounded down for a conservative estimate). This average is used as a crude estimate of the number of deaths in 2014 in the absence of the latest data. The authors would like to note that the actual number of deaths may differ substantially from this average as this statistic appears to be quite variable across time.

For child deaths due to family violence, the pattern is different. From 2007 to 2012, there has been at least one recorded female child death. The statistic for male children is more volatile, as there were no deaths in some years (2007 and 2012) and relatively more deaths in some years (eight in 2009 and six in 2011). Taken across 2007-2012, there is a crude average of six child deaths per year due to family violence.

Table 6: Family violence homicides (family relationship between victim and perpetrator for adult deaths defined as "couple")

Year	Adult female	Adult male	Female child	Male child
2007	8	4	5	0
2008	6	1	3	3
2009	14	4	5	8
2010	9	4	3	1
2011	9	2	2	6
2012	11	3	3	0

Source: New Zealand Family Violence Clearinghouse, 2013

4.4 Cost of homicide

Earlier work on the cost of homicide in New Zealand was done by Fanslow et al (1992) which calculated the direct and indirect costs. Direct costs include police involvement, coroner's costs, funeral services, legal judicial costs, and counselling services to family members. Indirect costs are the loss of productivity. As loss of productivity is covered in this section, they will not be repeated under the Productivity section in this report.

Fanslow et al (1997) estimated that it would cost \$1,012,159 per homicide in 1992, on average. In 2014, this cost would be inflated to \$1,599,211 per victim on average. Note that this is a very

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conservative figure compared to the Value of a Statistical Life approach by Access Economics which placed a value of AUD \$3.7 million in 2003/2004.

More recent work done by O'Dea and Wren (2012) reviewed the methods used in calculating the value of a statistical life by the Ministry of Transport (MoT) and Business Economic and Research Limited (BERL). Also, an update to the MoT valuation of the cost of a traffic accident fatality was published in 2013 (Ministry of Transport, 2013). This value of \$3,879,200 is used here as the most recent source available.

Applying these estimates result in an estimated cost of \$46.55 million in 2014 due to IPV-related homicide, and \$23.28 million due to children dying as a result of homicide by a parent. In total, family violence homicides results in an estimated cost of \$69.83 million.

4.5 Costs to the Health System

Besides the Access Economics (2004) study, other researchers have stated that victims of IPV have increased health care costs (Rivara et al, 2007). In particular, Ulrich et al (2003) estimated that victims of IPV have increased health costs of \$1,114 to \$2,263 per year in the US. The Access Economics (2004) study used information from the Diseases Cost and Impacts Study (DCIS) in Australia. The DCIS contained costs of health conditions to the health care system broken down by gender and age. To the authors' knowledge, there is no equivalent to the DCIS in New Zealand.

A different approach has been taken in to calculate costs for this report. Costs to the health care system are estimated by multiplying unit costs (sourced from the cost-of-illness literature) to the estimated number of victims who use health care services. The proportion of victims who actually access health care is estimated in a study from Rivara et al (2007). The authors reported that 18.9% of victims of IPV sought mental health services, and 9.8% sought outpatient services. In estimating the number of victims, prevalence rates in Section 4.1 to 4.2 are used.

There are several issues with this approach that must be considered when using this information. Firstly, costs are taken from costing studies done in Australia and Europe, and so there will be discrepancies with actual costs in New Zealand. Secondly, different costing studies include different types of services to patients although most cover basic services such as medication and inpatient costs. Finally, the unit costs here have been adjusted for inflation and exchange rates as some of the studies were conducted as far back as 1998.

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Table 7: Cost to health care system / direct health costs (females only)

	Study	Estimated number of victims who seek help	Annual average unit cost (NZD)	Total annual costs (millions of NZD)
Depression	Goldney <i>et al</i> (2004) – Australia	105,471	5,586	112.40
Anxiety	Rovira <i>et al</i> (2012) – Spain	721	2,372	13.93
Physical Injury	Unwin & Codde (1998) – Australia	31,081	4,629	9.04
Eating disorders	Krauth (2002) – Germany	20,608	2,621	10.21
Total				144.83

Source: References in second column

In total, the estimated direct cost of depression, anxiety, physical injury, and eating disorders of is \$145.59 million per year in 2014. Among the four health conditions studied in this report, depression incurs the highest direct costs, with a bill of approximately \$112.40 million per year. The second most costly health condition is anxiety which costs the health care system an estimated \$13.93 million per year. Depression also has the highest average unit cost at \$5,586. This is in contrast with the Access Economics (2004) study which listed anxiety as the most costly health condition, followed by physical injury. The costs here are likely to be an underestimate of the health costs due to IPV because not all health conditions are covered here. Also, patients may visit their GP repeatedly and bear other costs that they pay out of their own pocket (e.g. consultation fees and transportation costs).

The relatively low costs of sexually transmitted diseases estimated in the Access Economics (2004) study also somewhat justifies their exclusion from this section. In that report, syphilis, chlamydia, gonorrhoea, and other STIs constitute 2.6% of the total direct costs.

4.6 Short-term Health Outcomes of Victims of Child Abuse

Like the health effects of IPV, there has been extensive research on the health effects of child maltreatment. Child maltreatment has been linked to a number of psychological conditions including mood disorders, anxiety disorders and conduct disorders (Corwin & Keeshin, 2011). Physical and sexual abuse results in bruises, burns, fractures, and STIs (Corwin & Keeshin, 2011).

These conditions can often have long-term effects, affecting the health of victims into adolescence and adulthood. In fact, Norman *et al* (2012) stated that the majority of survivors of abuse suffered more from long-term effects to their psychological and neurological development compared to short-term effects of physical injury. In research specific to the New Zealand population, Fergusson *et al* (1998) found that young adults (16 to 25 years old) had higher risks of depression, anxiety disorder, conduct/anti-social personality disorder, substance

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dependence, suicidal ideation, and suicide attempts if they experienced physical abuse or sexual abuse as children.

A review of the literature reveals that while the link between maltreatment and health outcomes in adults is well-studied, there are fewer studies on the short-term effects of maltreatment. In support of this, Hussey et al (2006) stated that the link between child maltreatment and adolescent outcomes receives less attention compared to the link between maltreatment and adult outcomes. This section will attempt to present the short-term health costs of child abuse by following the same methods as in section 4.6, using available research conducted outside New Zealand.

Sawyer et al (2007) studied a sample of children and adolescents in foster care, comparing their mental health to a community-based sample in the United States. They discovered that children in foster homes had higher rates of anxiety and depressive disorders compared to children in the community-based sample.

Graham-Bermann and Seng (2004) compared a sample of children up to four years old in the Head Start programme, to a sample in the National Health Survey in the US. Children in the programme had higher rates of asthma and attention deficit hyperactivity disorder, as well as other adverse health outcomes.

Rates of physical injury were based on several sources of data. Rates for physical injury among non-victims were taken from an analysis of unintentional child injury data in New Zealand (Alatini, 2009). The analysis used data from the National Minimum dataset for hospital admissions. Meanwhile, data on injury among victims were taken from a New Zealand Family Violence Clearinghouse (NZFVC) report on children and youth affected by family violence, which was in turn based on data from the Police (NZFVC, 2013). Only assault cases which resulted in hospitalisation from 2005 to 2011 were used to estimate costs.

Table 8: Total short-term health costs of child abuse victims, by scenario

	unit cost (NZD)	Assuming 18.9% of victims use health services		Assuming all victims use health services	
		victims	total costs (million NZD)	victims	total costs (million NZD)
Anxiety/depression	5,586	6,905	38.57	36,533	204.08
Physical injury	4,629	60	0.28	60	0.28
Asthma	1,197	2,263	2.71	11,974	14.33
ADHD	4,839	509	2.46	2,693	13.03
Total			44.02		231.73

Source: Sawyer et al (2007), Graham-Bermann & Seng (2004), NZFVC (2013), Alatini (2009)

Two approaches were applied to reflect the uncertainty in estimating health costs. The first approach assumes that 18.9% of victims of these health conditions access health care, based on research conducted by Rivara et al (2007) on the use of health care services by victims of IPV.

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The other approach assumes that all child abuse victims with the associated health conditions access health care. As a simple average of assaults resulting in hospitalisation could be calculated from the period of seven years, costs of physical injury were fixed across both scenarios. Total costs are assumed to be \$44.02 million under the first approach and \$231.73 million under the second approach.

The costs estimated in Table 9 do not capture the full range of short-term health effects of abuse. However, in the report by Access Economics (2004) on the health costs of child abuse in Australia, depression and anxiety accounted for 67.7% of short-term costs, while physical injury accounted for 22.4% of short-term costs (Taylor et al, 2009). Therefore, it is possible that the total cost estimated in this report captures the major short-term health costs for victims of child abuse.

While the costs of long-term health effects are significant, the key challenge to estimating these costs in this report has been to untangle the estimated number of victims who suffered child abuse from the number of victims who suffered child abuse and IPV. Without a robust estimate of these population groups, estimating long-term health costs with the data at hand would be a misrepresentation.

5) Cost of Pain and Suffering

Similar to the Access Economics (2004) study, this report attempts to measure the cost of pain and suffering using the concept of Disability Adjusted Life Years (DALYs). DALYs are a population-level measure of burden of disease, capturing the years of life lost due to death and the years of life lost due to disability while living with the health condition. Each unit of DALY equates to a year of “healthy” life lost due to a specific health condition.

Data on burden of disease were sourced from the 2006 New Zealand Burden of Disease Study. Workbooks on various statistics on burden of diseases can be obtained from the New Zealand Burden of Diseases Statistical Annexe at <http://www.health.govt.nz/publication/new-zealand-burden-diseases-statistical-annexe> (New Zealand Ministry of Health, 2013). These workbooks also contain the number of DALYs for a wide range of health conditions broken down by gender and age. Estimating the burden of disease that is due to the effects of IPV was done by multiplying the attributable fractions (AFs) to each category of DALY.

A comprehensive treatment of DALYs is outside the scope of this report, but three issues are mentioned here as caveats:

- Firstly, AFs for specific health conditions (which depend on the research literature) cover certain demographics which may not perfectly capture the demographics in the NZBD Statistical Annexe, so there will be some underreporting of health costs.
- Secondly, the data used are dated and may not reflect the actual burden of disease in the year 2014.
- Finally, the defined health conditions in the statistical annexe did not align exactly with the defined health conditions in the research literature.

DALYs specific to depression and anxiety were grouped into one category called “anxiety and depressive disorders” because the statistical annexe did not provide data for depression and anxiety separately. For physical injury, all injury categories in the statistical annexe except for amputations were used. The following tables show the estimated DALYs by each health condition.

5.1 Attributable-Fractions

Table 9: Attributable-Fractions for health conditions due to the effects of violence

	Study	Gender of victim	Attributable Fraction
Depression	Tolman & Rosen (2001) – United States	Women	0.249
	Fergusson, Horwood & Ridder (2005) – New Zealand	Men	0.017
Anxiety	Tolman & Rosen (2001) – United States	Women	0.103
Physical Injury	Rivara <i>et al</i> (2007) – United States	Women	0.032
Eating disorders	Danielson <i>et al</i> (1998) – New Zealand	Women	0.199

Source: References in second column

The next step in estimating the cost of pain and suffering was to assign a dollar value to the calculated DALYs. The calculations were based on existing work done on evaluating the value of a statistical life (O’Dea & Wren, 2012, Ministry of Transport, 2013). Similar to the conclusion reached by Access Economics (2004), the author recommended the use of DALYs to measure the burden of injury (or disease, for the purpose of this report). To assign a cost to a DALY, the value of a “preventable” fatality must be estimated, and then this value is divided across the expected lifespan of a person to obtain the valuation for a single year of life while taking into account an appropriate discount rate. See O’Dea and Wren (2012) for a more comprehensive treatment of the matter in a New Zealand context. There are several valuations by official sources; the one chosen for this report is the most recent estimation by the Ministry of Transport for deaths by traffic accidents (Ministry of Transport, 2013). Applying a discount rate of 3.5%, the value of a year of healthy life is estimated to be \$181, 652.

5.2 Pain and Suffering for Victims of IPV

Table 10: Estimated DALYs and cost by Health Condition for 2014 (DALYs sourced from New Zealand Burden of Diseases Statistical Annexe)

	DALYs	Cost (million)
Depression and anxiety disorders	14,729	2,729.07
Physical Injury	1,026	190.16
Eating disorders	340	62.92
Totals	16,095	2,982.15

Source: Fergusson *et al* (2005), Tolman & Rosen (2001), Rivara *et al* (2007), Danielson *et al* (1998), New Zealand Ministry of Health (2013)

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The total cost due to pain and suffering due to IPV is estimated to be \$2.98 billion. Depression and anxiety constitute the majority of burden of disease for IPV. Note that for men, data were available only for anxiety and depression, and only for the age band of 24 to 25 years. Physical injury was the second highest burden but this was approximately fourteen times smaller compared to the burden for depression and anxiety.

5.3 Pain and Suffering for Victims of Child Abuse

Table 11: Estimated DALYs by Health Condition and Age

	age band	DALYs	Cost (million)
Anxiety/depression	6 to 17 years	1,299	240.63
Physical injury	0-14 years	1,033	191.44
Asthma	0-4 years	63	11.76
ADHD	3-4 years	310	57.35
Totals		2,705	501.18

Source: Sawyer et al (2007), Alatini (2009), NZFVC (2013), Graham-Bermann & Seng (2004)

The burden of pain and suffering from child abuse is estimated to be \$501.18 million. Physical injury was the costliest health condition in terms of pain and suffering for this report, followed by anxiety and depression. However, costs are not comparable across conditions as the prevalence rates obtained from the literature were applicable to different age bands. Sometimes, this may be due to the inherent nature of the health conditions: for example, the concept of depression in infancy is a relatively new concept in mental health (Keren & Tyano, 2006).

6) Productivity Costs

6.1 Productivity costs for victims

Estimating the loss in productivity by victims of IPV is based on the work *Productivity Gains from Workplace Protection of Victims of Domestic Violence* (Snively, Kahui & Ku, 2014).

Cost categories covered include:

1. Hours lost due to victims arriving late to work or leaving early from work (tardiness)
2. Time taken to find a replacement employee and cost of training lost because of termination of employment
3. Time taken to find a replacement employee and cost of training lost because of victim mortality
4. Hours lost due to victims being distracted at work

Productivity lost at work is quantified by multiplying the hours lost due to the average hourly wage from the New Zealand Income Survey (Statistics New Zealand, 2013). Detailed treatment of the cost categories and methodology can be found in the original report. This section will attempt to summarise the key points behind the report.

Some abusers prevent their victims from getting to work on time in order to keep their victims financially dependent (Reeves & O'Leary-Kelly, 2007). Tactics that abusers use may include hiding car keys, materials necessary for work, or even inflicting physical injury on the victim. Victims may also become distracted at work as a consequence of the violence that is experienced at the workplace (e.g. stalking or harassing at the workplace) or violence that is experienced out of the workplace (psychological abuse such as threatening not to pick up their children from school).

As a result of being distracted and repeatedly absent from work, the work performance of victims may suffer. This may even lead to victims of IPV being fired from their jobs. In support of this, Yragui et al (2007) argued that victims of IPV have a higher chance of being terminated from their employment compared to non-victims.

In this report, the loss in productivity due to mortality is covered in a separate section titled Homicide under Section 5 as the methodology in estimating the costs of homicide also include loss of productivity. The loss of productivity can be broke down into the categories as seen in Table 13.

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Table 12: Productivity Costs for Victims

Cost category	Number of victims	Cost (million NZD)
Tardiness	59,864	6.85
Termination of employment	41,892	369.38
Direct effects of violence	25,999	14.22
Distracted at work	246,426	504.00
Total		894.44

Source: Based upon methodology in Snively, Kahui & Ku (2014), extended to male victims using population projections from Statistics New Zealand, Statistics New Zealand (2013)

The estimated total lost productivity incurred by victims is estimated to be \$894.44 million dollars in 2014. Being distracted at work is the largest cost category. However, it could be argued that the termination of employment has more negative consequences for an individual victim. Firstly, while it affects fewer victims, the average cost of termination per victim is high at \$8,817 per victim. In contrast, the average cost of being distracted at work is \$2,045 per victim. Also, firing an employee may also mean that knowledge and training specific to functioning within an organisation will be lost. There is also the intangible but significant factor of the fired employee's working relationships with colleagues, management and clients, which impacts on productivity as well.

6.2 Productivity costs for perpetrators

Perpetrators also incur costs in lost productivity. This can happen directly, as perpetrators spend time harassing victims at work (Henderson, 2000, in Access Economics, 2004). Indirectly, perpetrators are also absent from work because they spend time in the justice system and attend domestic violence programmes. The additional work to estimate these costs is based on the methodology in the Access Economics (2004) report. More recent research supports the idea that perpetrators of intimate partner violence are more likely to suffer a decrease in productivity compared to non-perpetrators (Rothman & Corso, 2008). Estimates of the prevalence of perpetrators that are processed in the justice system are sourced from data from the Ministry of Justice.

Table 13: Productivity Costs Incurred by Perpetrators by Cost Category

	Estimated number of perpetrators	Cost (million NZD)
Harassment of victims at work	49,285	7.09
Criminal justice court appearances	13,974	2.68
Incarceration	1,387	63.84
Attending domestic violence programmes	1,418	0.09
Attending family court	35,701	3.42
Totals		77.12

Source: Cost based on income data from Statistics New Zealand and number of perpetrators processed in justice system estimated from Ministry of Justice, Statistics New Zealand (2013)

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The estimated total lost productivity incurred by perpetrators is estimated to be \$77.12 million dollars in 2014. Of the cost categories, incarceration is by far the most costly even though it affects a smaller percentage of perpetrators (except for attendance of domestic violence programmes) that are processed in the justice system.

As with productivity costs incurred by victims, these costs are specific to the perpetrators only. There are other intangible effects such as the lost cohesiveness and disruption of the teamwork in the perpetrators' workplace as a result of being absent from work. Also, there are other long-term effects that may harm the perpetrators' future prospects of employment including possession of a criminal record.

In total, estimated productivity costs for victims due to IPV in New Zealand amount to \$876.94 million in 2014. This is a significant cost to employers. When combined with the estimated costs to perpetrators, this cost increases to \$954.05 million.

7) Consumption Costs

This section attempts to estimate and describe the increased household expenses to victims of IPV. Victims who have experienced IPV are less likely to be in a marriage or relationship in the present. Those who are not currently partnered and are the sole earner in their households may have to spend more on necessities. The situation is exacerbated if they have dependents.

This concept of loss in household income is covered in detail by the Access Economics report (2004) article. To summarise the two key points of the concept:

1. Members of a household can share resources that would serve multiple people just as well as they would serve one person. For example, people co-habiting can pool money to buy a heater which would warm an apartment for everyone. In comparison, a victim of IPV living alone might have to pay for the heater and its operating costs alone.
2. Household goods cost less when bought in larger quantities. For example, it costs less (per unit volume of milk) to buy a larger bottle of milk than to buy a smaller bottle.

Research on data from the Women’s Safety Survey in Australia has shown that experience of IPV in the past 20 years leads to a lower probability of being married or in a de facto relationship, compared to non-victims (Access Economics, 2004). Later research presented by McFerran (2011) supported this finding: of respondents who ever reported experiencing family violence, 14% were still living with or in a relationship with the abuser. In comparison, 82% were no longer living with them. The remaining 4% were still in the relationship but were not living with the abuser. For victims who experienced IPV in the last 12 months, 43% were still living with their partners, 10% were still in the relationship but not living with the abuser, and 47% were not living with their abuser.

Similar data on the household status of IPV victims were available from the NZCASS 2009. Analysis provided by the Ministry of Justice allowed the comparison of the household status of victims who have ever suffered physical abuse or threats of physical abuse, to the household status of those who never suffered those types of abuse.

Table 14: Household status of people who reported ever experiencing physical violence or threats of physical violence compared to those who never reported experience those types of violence

	One person living alone	Solo parent with child / children	Couple without children / children not living at home	Couple with child / children	Extended family / whanau	Flatmates	Family other combination	Total
Row Percentages	%	%	%	%	%	%	%	%
Victims	11.4	14.8	22.4	28.5	10.1	4.3	8.5	100%
Non-victims	8.3	3.4	34.1	35.4	6.3	5.6	6.9	100%

Source: NZCASS (2009) data request

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Data on household expenditure, applied in this study, was sourced from the Household Economic Survey (HES) June 2013 (Statistics New Zealand, 2014). The household conditions captured by the HES do not exactly align with the household conditions in the NZCASS 2009, but four categories were found to be a close match. These were the comparisons between “one person household” from the HES and “one person living alone” from the NZCASS, and between “one parent with dependent child (ren)” from the HES and “solo parent with child/children” from the NZCASS. Expenditure in households with couples was assumed to be split equally; this assumption may not hold if one of the partners is the sole earner.

The difference in average household expenditure was -\$1,846 for victims without dependents and \$9,717 for victims with dependents. Victims with dependents are estimated to have spent an extra \$705.45 million on household costs. The data indicates that being the sole earner in the household carries heavier penalties when there are children that depend on that earner for living expenses.

There are two caveats: firstly, the rates shown here were not adjusted for demographics that could influence partnership/household status such as age, education level, and history of child abuse. Differences in household expenditure are not directly attributable to IPV. Secondly, the victims’ age was not taken into account when calculating the difference in household expenditure. This would be a significant factor as older victims may have different patterns of expenditure compared to younger victims.

Unlike the Access Economics (2004) report, the cost of damaged property of victims of IPV was excluded from the specification applied by this report to estimate consumption. As stated by the authors, information on these costs was not reliable and this report has favoured estimates using more robust sources of data.

8) Administrative and other costs

8.1 Summary of findings

Table 16 summarises the projected estimated administrative and other costs in 2014 resulting from intimate partner violence and child abuse.

Table 15: Administrative and other costs in 2014

Total administrative and other costs (NZD million)	
2014	836.7

Source: Framework for estimating cost of Domestic Violence and Child Abuse, 2014

Without interventions, administrative and other costs are estimated to reach \$0.8 billion in 2014. For every New Zealander whose experience of violence is prevented as a result of the Blueprint, \$2,198.12 in administrative and other costs can be avoided.

8.2 Category description

The administrative cost category can be split up into 5 sub-categories:

1. State services relating to child abuse:
 - a) The care and protection of abused children
 - b) Prevention of child abuse
2. Victim / survivor support:
 - a) Adult Emergency Advocacy and Support
 - b) Adult Longer-term Advocacy and Support
 - c) Accommodation
 - d) Child Advocacy and Support
 - e) IPV programmes
3. Costs associated with convicted perpetrators:
 - a) Custodial costs
 - b) Rehabilitation and re-integration costs
4. Policing:
 - a) Police response to Family Violence incidents
 - b) Family Violence Investigations
 - c) Case resolution and support to the judicial process

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5. Court related:
 - a) Legal services
 - b) Court administration
 - c) Domestic Violence programmes

8.3 Cost and stakeholder breakdown

The largest individual cost is the care and protection of children (estimated to be \$318 million in 2014), making State Services relating to the abuse of children the largest contributing category, making up 38.1% of total Administrative and Other Costs.

Table 16: Breakdown of administrative costs in 2014

Cost breakdown 2014	\$NZD (millions)
State services relating to the abuse of children	\$318 (38.1%)
Victim / survivor support	\$200 (23.9%)
Costs associated with convicted perpetrators	\$139 (16.5%)
Policing	\$113 (13.5%)
Court related	\$67 (8.0%)
TOTAL	100.0

Source: ECCAIPV, 2014

State services relating to the abuse of children

The unit costs were calculated based on data provided by correspondence from the Ministry of Social Development in relation to specifications for this category that included:

- the cost per notification to CYF
- the cost per out-of-home placement
- the number of both in 2013
- the total cost of support services for youth and for family wellbeing.

This was divided by the estimated number of abused children in 2013. When applied to the estimated prevalence rate, this gives an estimated total of \$318 million in 2014.

This total includes prevention-based workshops provided by CYF which cost \$513,000 per annum in the 2012/13 year.

Victim / Survivor Support Services

These costs have been estimated using service unit costs provided by Shine and applying them to the prevalence rates, while assuming that only 13% of victims seek formal help (Lievore & Mayhew, 2007). This is in line with NZ Police and NCWIR's estimated rates of reporting.

The authors of this report believe that these costs are more representative of the scale of this problem in New Zealand than using an alternative method is likely to show. The reason for

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calculating in this way is that these kinds of service providers are grossly under-funded and cannot meet the true demand for their services. The services they provide rely on volunteers and under-paid staff working long hours. It would be misleading then to look at that their explicit out-put when measuring the cost of family violence to New Zealand.

Costs associated with convicted perpetrators

Where possible, data were sought in relation to the number of incarcerations for offences that were committed as IPV. Currently, data that is generally collected on incarcerations is focused on the offence type and conviction (e.g. Sexual assault, deprivation of liberty etc) rather than also noting the circumstances in which the offence occurred, such as an IPV related incident. Given that this data is not readily available, it is necessary to devise an alternative approach to costing IPV related incarcerations. Unfortunately, no dataset exists which tracks incarcerated individuals from the police report incident stage through to final conviction (with an 'IPV' identifier). However, using a second best approach, if one applies the proportions of IPV related incident reports to the total number of offenders charged and incarcerated, an approximation of the likely number of IPV related incarcerations is possible.

When the IPV related proportions in the police incident report data is applied to the total number of incarcerations an estimate of annual incarcerations for IPV can be made. Dividing the total cost of annual appropriations applied to prisoner incarceration by the total number of prisoners, a national estimate of IPV incarceration of \$122 million is generated.

This estimate is subject to some significant caveats. As mentioned, there is no readily available dataset which tracks perpetrators through the criminal justice system with an 'IPV' identifier. As a result, this estimate should be treated with caution.

The total cost has also been subjected to being broken down into child abuse and intimate partner violence, using proportions as evidenced in the New Zealand Family Violence Clearinghouse *Data Summaries Snapshot, 2013* and Families Commission *Family Violence Statistical Report, 2009*.

The same approach applied to community – based offenders gives a total custodial cost of \$8.97 million in 2014.

The same data and approach were used to calculate the cost of rehabilitation and re-integration for prosecuted offenders which works out as \$7.63 million.

Police Costs

NZ Police correspondence reported that the number of Family Violence Investigations undertaken in 2013 was 95,080. In order to determine the cost of addressing each incident, the total annual costs of 4 categories were divided by the number of investigations, giving a cost estimate of \$113 million.

Court System Costs dealing with Domestic Violence – related prosecutions

As was the case with incarceration costs, the data for perpetrators being dealt with by the court system was not amenable to analysis on the basis of the circumstances surrounding the offence. Given this limitation, an alternative approach similar to that adopted for custodial costs has been applied:

Using the same IPV proportions in the police incident report used in the incarceration data, new estimates of the total number of IPV specific offences prosecuted in criminal courts is able to be generated. In order to determine the court system costs of dealing with IPV perpetrators, an average unit cost per perpetrator is also required. Unfortunately, per unit data costs for IPV perpetrators do not exist.

An alternative method is to divide the total annual cost of each court related service by the estimated proportions relating to IPV. This generates a national court cost estimate of \$67 million.

8.4 Summary of Caveats on Administrative data

The data sources used in this section of the report provide information about the experience of IPV and child abuse reported by those who accessed the services delivered by the agency or organisation concerned. International literature indicates that only the most serious cases are brought to the attention of service providers and therefore recorded in national data sets (United Nations, 2007). While administrative data sources can provide important information about government service provision for those who experience family violence and access these services, they should be interpreted with an understanding of the data source from which they have been derived, and with appropriate caution (Families Commission Family Violence Indicators Report, 2013, p. 50).

9) Transfer costs

Transfer payments are payments from one group of the population to another which increase the income of one group compared to the other without the transfer of goods or services that would otherwise contribute to an increase in physical economic production.

9.1 Summary of findings for transfer payments

Table 17 summarises transfer costs in 2014 resulting from child abuse intimate partner violence against New Zealanders.

Table 17: Transfer Costs in 2014

Transfer Payments 2014	\$NZD (million)
Income Support Benefits (WINZ)	\$580
Victim Compensation	\$2.2
Total	\$582

Source: MSD Annual Report 12/13, MSD Statistical Report 2012, and ACC Annual Report 2012/13.

9.2 Category description

Transfer payments such as government benefits and victim compensation represent a shift in payments from one group in society to another. While they do not therefore represent expenditure for an economic output, they do represent a cost to society and for this reason are included in this analysis.

Intimate partner violence and child abuse result in reduced tax revenue and a requirement to collect extra tax dollars including for:

- additional induced social welfare payments
- Victim compensation payments and other government services.

The collection of these additional tax dollars creates the distortion or inefficiency in the economy. The cost of this inefficiency is often called the ‘deadweight loss’, which is a net loss to society. Deadweight loss occurs when the loss to consumers and producers caused by the tax (i.e. the amount of a good or service that would have been consumed or produced, but for the tax) exceeds the revenue obtained from the tax. The literature calculating deadweight loss comes up with a wide range of values. This is not included in the measurements for this report.

It should be noted that while ACC keeps track of claims made by victims of sexual abuse and violence (flagged as “sensitive claims”), the same system is not in place for injuries resulting from other types of abuse. Therefore, the amount ACC pays for claims relating to IPV and child abuse is presented here as extremely conservative. The true cost is likely to be at least three times this estimate.

9.3 Stakeholder breakdown

The distortions and inefficiencies to the economy that result from transfers and the cost of raising additional taxation to cover this loss are borne entirely by government.

10) Vulnerable Groups

10.1 Context for description of vulnerable groups

Survivors and victims of intimate partner violence and child abuse are not a homogenous group, so a 'one-size-fits-all' approach to battling the problem is not effective. The Glenn Inquiry is focused on helping people in a range of circumstances and from a range of backgrounds within New Zealand to live free from violence and the threat of violence.

Certain groups in society are more vulnerable to experiencing violence than others. It is important to appreciate the costs of violence as they affect those who are more vulnerable to it, as a means of informing decision-makers on the most appropriate and cost-effective interventions on reducing levels of violence.

10.2 The cost of violence associated with vulnerable groups

The ways in which people experience violence, the options open to them in dealing with violence, and the extent to which they have access to services that meet their needs are shaped by the intersection of gender with factors such as disability, English language fluency, ethnicity, sexuality, cultural identity, and migration experience. These factors act to increase vulnerability to the risk and effects of violence.

The main vulnerable groups include:

- Women
- Māori
- Pacific Island people
- Young people
- People with disabilities
- QLGBT people

Women

The administrative data used to estimate costs in this report show that women are over-represented as victims. As interventions already tend to target women, it is deemed unnecessary to then break down each cost category by gender.

Māori

As Māori are over-represented in both IPV and child abuse victimisation and perpetration, specific administrative data can be used to help describe the scale and nature of family violence within this context. Māori make up over half of family violence offenders (Trends in the Offender Population, Department of Corrections, 2013) as well as half of people who use Women's Refuge services (NCIWR Annual Report, 2013). Applying known rates of perpetration and well documented prevalence estimates of victimisation to the Administration and Other costs category (to which these rates relate to explicitly), it is estimated that Māori victimisation

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and perpetration of IPV and child abuse generates a cost of \$404 million in 2014 – 48.3% of the total cost of this section. Extrapolating this to the other cost categories gives a total estimate of between \$1.8 and \$3.4 billion in 2014. Considering that Māori make up only 15% of the population of New Zealand, it is imperative that effective actions be tested and implemented to reduce family violence within this cultural context.

Much research has been undertaken to find the factors underpinning this over representation, with the general consensus pointing to the impact of cultural disenfranchisement (Fergusson et al, 2008, p.128) and therefore interventions should be sensitive to this. Much more research needs to be done to understand the long lasting effects of colonisation, the alienation and deprivation of culture many urbanised Māori have grown up with and how this has created a culture of family violence.

Pacific Peoples, other Migrant cultures and Refugees

People from migrant cultures or refugees are vulnerable groups for the following reasons:

- Home cultures may have attitudes to family violence and child abuse that differ to those of the New Zealand status quo
- Language barriers can make it easier to be dependent on a controlling spouse and harder to seek out help

Pacific peoples make up a considerable proportion of the New Zealand population, however we know little about rates of intimate partner violence and child abuse prevalence and what we do know is rather conflicting; there are mixed findings as to whether Pacific peoples are over-represented as perpetrators and victims of family violence (Gulliver & Fanslow, 2012).

Gao *et al* (2010) sum up the general consensus relating to IPV /child abuse victimisation among Pacific People, with some points remaining salient when applied to other migrant groups:

Researchers have contended that in Pacific societies the likelihood that family violence is considered 'normal' or at the least acceptable in principle may be higher than in non-Pacific cultures. Within a Pacific context it is postulated that violence within the home may be attributable to the stress of living in New Zealand and related to factors such as unemployment and associated financial concerns. It has been suggested that such violence is exacerbated by the stresses associated with Western influence on traditional lifestyles. Findings from the PIF study demonstrated that IPV prevalence rates were high for a general married or cohabiting female sample with overall violence victimization rates of 22.9%. Likewise, an individual was considered to be a victim of verbal aggression, minor physical violence, or severe physical violence if she reported that a partner had perpetrated any of the behaviours towards her during the past 12 months.

(From Pacific Islands Families Study: *Intimate Partner Violence and Postnatal Depression*, 2008, p. 243).

Given this reasoning, there's insufficient evidence to estimate the cost of intimate partner violence and child abuse for Pacific Islanders based in New Zealand.

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Young people

Teenage years are problematic in the context of this study in that there may be cross over between child sexual abuse and dating violence. Most data is relatively opaque in this area (with organisations often operating to protect the confidentiality of clients), while there are indications that relationship patterns established in adolescence or young adulthood may persist in later life (Gulliver & Fanslow, 2012, p.34).

The highest rates of partner abuse tend to be found among young, cohabiting adults of low socioeconomic status, particularly when they have children (Moffitt et al, 2001). Highest levels of victimisation coincide with the peak age for childbearing and for non-marital cohabitation.

The People's Report estimate that 10.2% of all victims are between the ages of 17 and 30. This assumption can be used to generate an estimate of the cost of domestic violence associated with young people in New Zealand to be between \$400 million and \$700 million in 2014.

People with disabilities

There is little information on family violence against persons with disabilities, although Australian research has shown that those with disabilities are vulnerable to sexual abuse by family and other caregivers, and less likely to disclose it than the general population (Lievore 2005). As mentioned in Section 2 of this report, CYF reports that 20% of the children they care for have disabilities. An estimated prevalence for adults that are victims of IPV is 2.3% (*The People's Report*, 2014). Using these prevalence rates we can generate an estimated cost of IPV and child abuse of between **\$0.9 and 1.1 billion** in 2014.

Sexual orientation

Violence in same-sex relationships is under-researched, with literature rarely referring to violence against bisexual or transgender persons, who may experience violence in relationships with same-sex or opposite-sex partners. It is recommended that more work be done to better understand the nature of violence in these relationships.

11) Conclusions and Recommendations

Insights

Intimate partner violence and child abuse is estimated to cost New Zealand between \$4.1 billion and \$7.0 billion in 2014. This estimate is conservative, as it only captures IPV and violence perpetrated against children. The majority of costs covered are those direct costs from the impacts

These impacts are on victims and survivors of violence, with costs being borne by New Zealand society through government agencies. There is a wide variance in the magnitude of the different cost categories. Similar to the Access Economics (2004) and Moore et al (2010) study, the pain and suffering of victims was estimated to be the costliest aspect of violence. In comparison, direct health costs were estimated to be approximately ten times smaller than the cost of pain and suffering (\$3.6 billion compared to \$377.3 million).

Table 18 briefly describes the cost drivers and general approach used for each cost category. The key driver behind the large cost of pain and suffering is the high dollar value assigned to a DALY which is partly subjective in nature. As it is calculated using a top-down approach, the estimated cost of pain and suffering does not depend on the varying prevalence rates by scenario. However, it does depend on prevalence rates of the health conditions in victims of violence compared to non-victims. Higher prevalence rates of these conditions among victims are used in the high-end scenario to reflect the higher costs incurred. The second largest cost category was lost productivity incurred by victims of working age. While the calculations of lost productivity was based mainly on the methodology in Access Economics, some of the referenced studies are at least ten years old at the time of writing this report. We cover the drivers behind the other cost categories in further detail below.

Table 18: Cost drivers behind cost categories

Cost category	Cost drivers	Approach
Pain, suffering and premature mortality \$3.6 billion (51%)	Estimated total DALYs by health conditions, prevalence rates among victims compared to non-victims, estimated value of a DALY	Top-down
Health costs \$377.3 million (5%)	Prevalence rates among victims compared to non-victims, health costs estimated by cost of illness studies	Bottom-up
Productivity-related costs \$954.1 million (14%)	Average hourly wages, estimated time spent in justice system (e.g. court appearances), estimated time spent adversely affected by effects of violence	Bottom-up
Consumption-related costs \$705.5 million (10%)	Average weekly household expenditure and estimated number of households by household composition	Bottom-up
Administrative and other costs \$836.7 million (12%)	Total expenditure in justice and welfare system	Top-down and bottom-up
Transfer costs \$582.3 million (8%)	Total expenditure in social welfare system	Top-down

Source: Ministry of Social Development, 2013 (Annual Report/ Website)

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In the process of consulting experts on the subject matter, reviewing the literature and calculating these estimates, the authors henceforth summarise several insights:

- The range of the estimated cost varies substantially depending on the scenario because the authors have specified the scenarios based on different prevalence rates. This relationship between prevalence and increased cost is intuitive as one expects costs to increase with the number of victims. Note, however, that this study also aims to assign costs to subpopulations. This may produce more practical findings and allows us to answer questions such as: Do different ethnicities experience health conditions differently as a result of family violence? Is there a difference in how different age groups are represented across the different cost categories?
- The cost categories differ in terms of the reliability of the variables used in calculating costs. Factors which affect reliability include whether or not the data were collected in New Zealand, the population which was measured, and the date of collecting the data. The estimates of cost categories rely on data sources which were measured across different populations and time periods, some more than others. Estimates of direct health costs, for example, relied on costing studies conducted in Europe and the United States. Some prevalence rates were taken from studies outside of New Zealand. This introduces some uncertainty into our estimates of direct health costs. In contrast, some subcomponents estimates of administrative costs were taken from publicly available expenditure data. This includes the expenditure on family violence investigations and costs incurred in the justice system. While there is still some uncertainty about the biasedness of administrative costs, there is confidence there has been no overestimation as it is based on total expenditure. On the other hand, the estimate in this report does not include victims who require help from the justice and social welfare system, but did not access those resources.
- Estimating consumption costs was based on NZCASS and Statistics New Zealand's Household Expenditure Survey (HES) which was a nationally representative survey. This cost category was unique in that the unit of analysis was the household rather than the individual victim. Therefore, like the estimation of pain and suffering, consumption costs did not incorporate prevalence rates. The methodology used in this report is relatively simple compared to other approaches used in the literature, and does not take into account the age of victims in single earner households and does not control for other demographic factors.
- The authors have based their methodology on work done by Access Economics (2004) where it was possible to do so. Updates or future editions of the costs of intimate partner violence and child abuse should explore new methodologies that take advantage of the available data in New Zealand. Future improvements may also include the involvement of government agencies or data owners in the estimation or calculation of the cost estimates.

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Developments in measuring and monitoring family violence

A significant development that was discussed during the research for this report was the initiative taken by the NZ Police towards improving their statistics on Family Violence, through reporting on the relationship between victim and offender. This is a recommendation of the Review of Crime and Criminal Justice Statistics 2009. Below is a link to the review report.

http://www.stats.govt.nz/browse_for_stats/people_and_communities/crime_and_justice/review-of-crime-and-criminal-justice-statistics.aspx

In addition, the Families Commission recently issued a *Family Violence Indicators* (Wellington: Research Report 3/13, December 2013) publication, which reiterates and recommends a review of data sources: "...adopting a common shared understanding of family violence will help to facilitate the capture of statistics about family violence, thereby providing more useful and comparable data upon which policies to address family violence can be based". (Australian Law Reform Commission, 2010, published in *Family Violence Indicators*, P 51)

Family violence and child maltreatment are both classified as Tier 1 statistics. Tier 1 statistics are the most important statistics for understanding how well New Zealand is performing. Tier 1 statistics must adhere to the principles and protocols for official statistics. Both statistics have a 'research status'. Here is a link to the list of Tier 1 statistics.

<http://www.statisphere.govt.nz/tier1-statistics.aspx>

There is scope for improving the range of information available on family violence through cross-sector linking of available data sources. This will enable better insights into the nature of child abuse and family violence. In this way, the information contributes knowledge about the development of appropriate interventions, as well as the evaluation of the impact of these, examining what works. It is important to remember that shaping a more supportive environment, the building of self-confidence and changes in behaviour, all happen over time. Of major importance to ending the cycle of child abuse and IPV, then, is to shift the balance of measurement from the immediate symptoms to measures of the effectiveness of the interventions that achieve better outcomes for our children and their families.

Appendix 1: Methodology and Approach

Cost estimate methodology

The cost estimate methodology in this report was initially to build on the approach as that taken in Australia by Access Economics in 2004 and KPMG in 2009. In the end, although those studies are more recent, the 1994 Coopers & Lybrand framework was specified based on evidence and practice relevant to New Zealand. As one objective is to provide decision-makers with a sense of the nature and scale of the problem and its impact on society in order to provide another perspective on the need and benefits of intervention, the ECCAIPV framework used New Zealand data where it was appropriate and accessible. In other words, ECCAIPV framework estimates costs for the year 2014 based on research, available data collected in New Zealand and used overseas research to inform the approach and assumptions to apply where there is an absence of New Zealand data.

Estimating prevalence

Prevalence of female IPV victimisation

There are three key survey sources of prevalence rates of female IPV victimisation in New Zealand:

1. The New Zealand Crime and Safety Survey 2009 which used a nationally representative sample and measures IPV for both males and females (Ministry of Justice, 2010).
2. Professor Janet Fanslow and her colleagues sampled women from Auckland and Waikato in their study of partner violence (Fanslow et al, 2011).
3. Professor David M. Fergusson and his colleagues interviewed a birth cohort of both female and male 25 year olds from a Christchurch longitudinal study (Fergusson et al, 2005)

All studies capture reported and unreported violence.

A key strength of the NZCASS 2009 is its rigorous sampling methods; its technical report and questionnaire forms are available for public viewing. It also records other demographic data that is useful for researchers on the topic of IPV. However, it is important to note that both Professor Fanslow's and Fergusson's focus was on IPV and most of the data generated by those studies reflect that focus (including the various types of physical, sexual and psychological abusive behaviour), while the NZCASS measured IPV as part of a larger survey on crime. Much of the content in the NZCASS questionnaire on IPV was about physical violence and therefore it is used in this report's conservative scenario.

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The NZCASS (2009) survey appears to present conservative prevalence rates for the following reasons:

1. The survey is a sample of people 15 years old and over
2. While the survey asks questions about psychological, emotional and financial abuse, these forms are excluded from the definition of “confrontational crime” used to generate the reported prevalence rates (Families Commission Family Violence Indicators Paper, 2013, p. 46).
3. Abuse by ex-partners are measured under “violence by people well known” to the victim and is captured by a separate prevalence rate.

Prevalence of male IPV victimisation

There are polarised opinions as to the rate of male IPV victimisation. While some studies suggest that the prevalence is the same as the victimisation rate of women, other studies maintain that it is a gendered issue. To take this perspective of the debate on-board, we have included a prevalence rate of 18.2% of the male population in the high end estimates. There is consensus, however, that the effect of men’s violence against women tends to have more devastating outcomes (Lievore & Mayhew, 2007, p.34). It may be that some types of IPV have a comparable victimisation prevalence rate between genders, while at the more extreme end of the spectrum, physical and sexual abuse victimisation is more gendered. In the absence of any compelling New Zealand based research, this report looks to international research for a “moderate” prevalence rate of 1.9%. This is based on a large scale survey from Canada in 2005, which includes the forms of violence that contribute to the definition used in this study (Nowinski & Bowen, 2012, p. 49).

It should be noted that the 2009 NZCASS reports a prevalence of approximately 1.7% and for this reason our accepted “moderate scenario” rate of 1.9% can also be considered conservative.

It is the authors’ recommendation that more research be done in this area to understand the complexities of male IPV victimisation in a New Zealand context. It is important to note that the nature and prevalence of violence may also be different in same sex relationships to heterosexual relationships.

Prevalence of Child Abuse victimisation

The prevalence of child abuse is estimated using administrative data from the Ministry of Social Development (Child Youth and Family) tempered by advice from workshop participants.

The methodology and rationale for the prevalence rates presented in each of the three scenarios are outlined in detail in Section 2.

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Scenarios in detail

Tables 19-21 show the past year prevalence and costs for IPV (males and females separately), and child abuse under the different scenarios presented in Table 1. These rates are sourced from the literature and are based on different assumptions:

Conservative Scenario

The conservative scenario uses rates of confrontational crime among partnered people for IPV in 2008 measured by the NZCASS, and only substantiated cases of abuse from CYF.

Table 19: Costs of violence for conservative scenario

	IPV - females	IPV - males	Child abuse	Perpetrators	Total
Scenario					
Conservative					
Prevalence	2.7%	1.7%	1.9%	n/a	
Source	general population - NZCASS (2009)	general population - NZCASS (2009)	substantiated cases only - New Zealand Families Commission (2009), CYF		
Cost (millions)	\$2,508.8	\$207.6	\$918.6	\$456.6	\$4,091.6

Moderate Scenario

The Moderate Scenario uses representative data from Auckland and Waikato to calculate the prevalence of female IPV victimisation, the large-scale 2005 Canadian survey for male victimisation and distinct notifications to CYF for child abuse.

Table 20: Costs of violence for moderate scenario

	IPV – females	IPV - males	Child abuse	Perpetrators	Total
Scenario					
Moderate					
Prevalence	18.2%	1.9%	9.4%	n/a	
Source	Fanslow & Robinson (2011)	Nowinski & Bowen (2012)	New Zealand Families Commission (2009), CYF		
Cost (millions)	\$2,852.0	\$212.2	\$980.6	\$459.2	\$4,504.1

High-end Scenario

The High-end Scenario rate of female IPV is based on a younger sample. The authors purposely developed the estimate for a younger age group, thus treating the whole population as it is

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were younger. (Fergusson et al, 2005). The advantage of using this particular cohort – based longitudinal study is that it is a representation of major New Zealand city. Under the high-end scenario, the prevalence of male IPV is assumed to be equal to female IPV, and the rate for child abuse is assumed to be 28% as supported by the study done in Waitakere (Yates, 2012), and the general consensus of workshop participants that 9.4% was far below what professionals are encountering in the community.

While it would be preferable to use data from a nation-wide study, the limitations of the NZCASS (the only such study available to the authors’ knowledge) have been explained above. To reiterate, the advantages of these geographic specific studies is that they are specifically related to Intimate Partner Violence and Child Abuse respectively and as such are more rigorous. It cannot be overstated that the advice received from professionals working in these areas is that even these “high-end” prevalence rates seem likely to be conservative estimates.

Table 21: Costs of violence for high-end scenario (excluding perpetrator costs)

	IPV – females	IPV - males	Child abuse	Perpetrators	Total
Scenario					
High-end					
Prevalence	23.6%	18.2%	28.2%	n/a	
Source	Fergusson et al (2008)	assuming same rate as female victimisation - Fanslow & Robinson (2011)	Yates (2012)		
Cost (millions)	\$4,825.0	\$586.1	\$1,134.9	\$462.9	\$7,009.0

Table 22: Total costs for all scenarios excluding perpetrator costs.

Scenario	Total costs (excluding perpetrators) in NZD millions
Conservative	\$4,091.6
Moderate	\$4,504.1
High-end	\$7,009.0

Cost per victim

The average cost per victim is calculated for the High-end scenario to be \$13,560 for females, \$3,155 for males and \$4,033 for children. These costs only capture the effects of violence that are referenced by the literature, and underestimate the true cost of violence.

More is known about the adverse outcomes to female victims of IPV, and therefore the authors were able to calculate the costs for females more comprehensively. The difference in cost per victim for females versus males is not a true reflection of the actual costs, but reflects the limits of current data and other knowledge.

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Differences in costs across the scenarios apply to victims only, which mean that the costs in **Tables 19-21** for each scenario do not total the costs for each scenario in Table 1. Perpetrators cost an additional 7.07% on top of the sum for all victims of violence. **Table 22** presents the sum of all costs incurred by victims, displayed by scenario.

Cost categories

The Australian KPMG methodology combines both top-down and bottom-up approaches in order to estimate the costs that are relevant to each cost category. A top-down approach typically involves estimating a proportion of the total costs which can be attributed to domestic violence, whereas a bottom up approach involves applying a unit cost to the number of cases (victims/survivors, children or perpetrators).

This same approach is applied as part of the different iterations carried out during the evidence-collection phase of the New Zealand study.

Description of studies used to estimate prevalence of health conditions

Table 23: Prevalence of health conditions of IPV victims

Condition	Study	Sample	Diagnostic criterion	Country
Depression (females)	Fanslow & Robinson (2004)	2,855 women	medication to reduce sadness or depression	New Zealand
Depression (men 24-25)	Fergusson, Horwood & Ridder (2005)	391 men	clinical interview	New Zealand
Anxiety	Tolman & Rosen (2001)	Women's Employment Study (random sample of 753 women in the US)	diagnostic screening questionnaires	United States
Injury	Rivara <i>et al</i> (2007)	Longitudinal study - cohort of 3,000 women	emergency department	United States
Eating disorders	Danielson <i>et al</i> (1998)	Dunedin birth cohort of 941 participants	clinical interview	New Zealand

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Table 24: Prevalence of health conditions of child abuse victims

Condition	Study	Sample	Diagnostic Criterion	Country
Anxiety/depression	Sawyer <i>et al</i> (2007)	326 children in foster care versus 3,255 children aged 6 to 17	diagnostic screening questionnaires and self-reports	United States
Physical injury	Alatini and NZFVC (2009) (2013)	Administrative dataset of hospitalisation cases due to assault and non-intentional injury data among children 0 to 14		New Zealand
Asthma	Graham-Bermann & Seng (2004)	sample of 160 children 0 to 4 years in Head Start programme - compared to general sample in National Health Interview Survey (2001) in the US	interviews - self reports by mothers	United States
ADHD	Graham-Bermann & Seng (2004)	sample of 160 children 0 to 4 years in Head Start programme - compared to general sample in National Health Interview Survey (2001) in the US	interviews - self reports by mothers	United States

Description of cost-of-illness studies used to estimate direct health costs

Table 25: Cost-of-Illness Studies used to estimate direct health costs

Condition	Study	Costs	Country
Depression	Goldney <i>et al</i> (2004)	health care sector only (excluding "personal costs" as termed in the study)	Australia
Anxiety	Rovira <i>et al</i> (2012)	direct healthcare costs including medication and hospitalisation	Spain
Injury	Unwin & Codde (1998)	Diagnosis Related Groups and bed-stay costs	Australia
Eating disorders	Simon, Schmidt & Pilling (2005)	direct costs including inpatient treatment	Germany

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Table 26: Techniques used by Access Economics (2004) as applied to each cost category

Category	Access Economics methodology
<p>Pain, suffering and premature mortality</p> <p>For NZ: Years of life lost due to disability and mortality, used to describe pain and suffering, based on the <i>Burdens of Disease</i> study. A proxy dollar value from the Access Economics study is applied to estimate costs.</p>	<p>DALYs (Years of Life Lost + Years of Life Lost due to Disability) are calculated using Australian Institute of Health and Welfare (AIHW) data. Extrapolations to 2002-03 are then based on ABS population changes for women by age between 1996 and 2003.</p> <p>Once the number of DALYs is established for 2002-03, the value of a life year is applied to assign a cost to suffering associated with domestic violence for victims/survivors.</p>
<p>Health Care</p> <p>For NZ: Proxy costs in this report are estimated using a unit-cost approach based on costing studies from Australia and Europe, adjusting for inflation and exchange rates, until more robust data is available.</p>	<p>Access Economics 2004 estimates the health-related costs based on a top-down process using 2001 costing data obtained from the Disease Cost Impact Study (DCIS). The costing data are disaggregated by age, gender and disease category. Attributable fractions relating to domestic violence for each disease category are applied to the data to determine health costs that can be attributed to domestic violence. A health inflation index obtained from AIHW is applied to the 2001 estimates.</p>
<p>Production-related</p> <p>For NZ based on Access Economics and Productivity Gains from Workplace Protection of Victims of Domestic Violence (2014)</p>	<p>Unit cost estimates (including average weekly salary) are sourced from WSS/PSS and other international studies. For each line item categorised under production-related costs, a specific unit cost is multiplied by the number of victims/survivors.</p> <p>The number of victims/survivors in each category is determined using ratios from other studies which are applied to the domestic violence population estimates (WSS/PSS).</p>
<p>Consumption-related</p> <p>For NZ ³:Proxy costs are based on partnership status of victims from McFerran (2011) and the difference in expenditure between one-person households and couple households is estimated using the Household Economic Survey 2013.</p>	<p>Short-run consumption costs are estimated by applying a unit cost to the number of victims/survivors who experience damage to property.</p> <p>Long-run costs estimate the proportion of victims/survivors who experience a loss in household disposable income as a result of domestic violence.</p>
<p>Administrative and other</p> <p>For NZ: Broken down by state services related to child abuse, victim support, costs to the justice system incurred from convicted perpetrators, policing,</p>	<p>Administration costs are the combination of a number of legal system, accommodation and other government program costs. The total number of individuals that have contact with the system in 2002-03 as a result of domestic violence are based on international studies and government sources. Unit costs are applied to these estimates.</p>

³ This estimate is about 10 times smaller (per victim) compared to the Access Economics one. One reason is that single parents are not included. Another could be that New Zealand estimates are based on household expenditure instead of household income.

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and court-related costs. These are sourced from the Department of Corrections, NZ Police, MSD and the Ministry of Justice.

Second generation

NZ: As child abuse is specifically covered by the way the other categories are specified and measured, this category is not explicitly modelled for this report, but is covered in the other breakdowns.

A unit costing approach is used based on population estimates sourced from WSS/PSS and cost estimates sourced from other international studies.

A top-down approach is taken to estimate the increased cost of juvenile and adult crime as a result of domestic violence. The cost of juvenile and adult crime is presented as a proportion of total crime.

Transfers

NZ: These are defined as income support benefits (sourced from the MSD) and compensation costs (from ACC).

Transfer costs refer to the inefficiencies created by taxation in the economy. This is known as a deadweight loss and is estimated to cost 28.75 per cent of the total transfer amount.

Sources for Appendix 1

Access Economics, *The Cost of Domestic Violence to the Australian Economy: Part I* and Access Economics, *The Cost of Domestic Violence to the Australian Economy: Part II*, 2004, viewed December 2008, p. 54 and 57-58.

Australian Bureau of Statistics, *Population Projections Australia*, ABS Cat. No. 3222.0, Commonwealth of Australia, 2006.

Appendix 2: Workshop Attendees

Note that the workshops were especially effective because the VUW School of Government and the University of Auckland Owen Glenn Business School provided venues with video-conferencing facilities to enable attendees to share knowledge between the two main centres. The contributions from those listed below increased both the engagement and enlightenment of this study – note that the views expressed in this report are those of the authors, however.

- Professor Nigel Haworth, U of Auckland, Professor Human Resources Management (Host)
- Professor Brad Jackson, VUW School of Government (Host)
- Dr Michael Macaulay, VUW School of Government (Host)

- Suzanne Snively, Workshop Facilitator
- Bryan Ku, Statistical Research and Specification of Framework
- Sherilee Kahui, Desk Research and Report Drafting

- Elizabeth Claridge, Researcher DV, ACC
- Kelly Maung, Auckland Council
- Philippa Reed, Auckland Council
- Michael Rains, Central DHB Shared Services
- Inspector Ross Barnaby, New Zealand Police
- Karadee Morden, SHINE
- Denise Brown, Statistics New Zealand
- Phillip Walker, Statistics New Zealand
- Debra Churchill, Women's Refuge
- Kiri Hannifan, Women's Refuge
- Hazel Hape, Women's Refuge

Individual Contributors to EECAIPV Knowledge Base

- Bill Wilson, Project Sponsor, Chair Glenn Inquiry
- Kirsten Rei, CEO Glenn Inquiry
- Kat Maki, General Manager, Glenn Inquiry
- Hadyn Calderwood, ACC
- Ben Clark, Corrections
- Shelley Hannifan, Health Quality and Safety Commission
- Denise Hutana, Ministry of Health
- Noho Williams, Ministry of Health
- Brenda Pilott, PSA
- Kirsten Windelov, PSA
- Holly Carrington, SHINE
- Nick Mitchell, Statistics New Zealand
- Kirstie Carter, The Treasury
- Jackie Cumming, VUW Health Services Research Centre
- Heather Henare, CEO Women's Refuge/ Glenn Inquiry

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Glossary

Child abuse

Lievore and Mayhew (2007) define child abuse and neglect as including:

- Children witnessing inter-parental violence
- Physical discipline and physical abuse of children
- Childhood sexual abuse
- Child injury, mortality, homicide and suicide
- Child neglect
- Emotional and psychological abuse

DALY/QALY: Measures of the costs of health impact. DALY is Disability-Adjusted Life Year. QALY or Quality-Adjusted Life Year is a measure of disease burden, including both the quality and quantity of life lived.

Domestic Violence: The Domestic Violence Act 1995 legal definition includes violence against a person by any other person with whom that person is, or has been, in a domestic relationship, including a spouse or partner, a family member, a person who ordinarily shares a house or has a close personal relationship with the other person. 'Violence' includes physical abuse, sexual abuse and psychological abuse (including intimidation, harassment,

Family Violence: The New Zealand's family violence prevention strategy, Te Rito, replaces the term 'domestic violence' with 'family violence' and provides a definition consistent with the DV Act 1995, Family violence covers a broad range of controlling behaviours, commonly of a physical, sexual, and/or psychological nature which typically involve fear, intimidation and emotional deprivation. It occurs within a variety of close interpersonal relationships, such as between partners, parents and children, siblings, and in other relationships where significant others are not part of the physical household but are part of the family and/or are fulfilling the function of family. Common forms of violence in families/whanau include:

- spouse/partner abuse (violence among adult partners);
- child abuse/neglect (abuse/neglect of children by an adult7);
- elder abuse/neglect (abuse/neglect of older people aged approximately 65 years and over, by a person with whom they have a relationship of trust8);
- parental abuse (violence perpetrated by a child against their parent); and
- sibling abuse (violence among siblings).

The EECAIPV framework focuses on child abuse and intimate-partner violence.

Intimate Partner Violence (IPV): This study focuses on violence between intimate partners.

Perpetrator (Abuser): The perpetrator of the physical, emotional, sexual actions that underpin child abuse and domestic violence.

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Prevalence: Proportion of the population who have experienced a certain event in a specified period of time. Counts people rather than events (Families Commission Family Violence Indicators Report, 2013, p.11).

Transfer payments: Payments from one group of the population to another which increase the income of those receiving payments without resulting in any increase in economic production.

Victims: This study is designed to examine the costs related to abused children and the victims of Intimate Partner violence. For the purposes of specifying the cost of domestic violence and child abuse, victims are defined as adults (17+ – 65 years) who have experienced domestic violence by intimate partners and children (0 – 17 years) who have been abused, including those who have witnessed domestic violence in their homes.

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