

Estimate of the total economic costs of sexual violence in New Zealand

Accident Compensation Corporation

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Making sense of the numbers

Authors: Hillmarè Schulze and Konrad Hurren

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Making sense of the numbers

Sexual violence is one of the least recognised social issues facing our country. Court systems, social norms and reporting structures have been highlighted as a barrier for reporting sexual violence experience. This results in imprecise statistics that camouflage the true costs of sexual violence. It is a widespread issue with significant ramifications, financial and otherwise, for individual survivors, their employers, and for society as a whole.

Business and Economic Research Limited (BERL) has been tasked by Accident Compensation Corporation (ACC) to provide a defensible estimate of the total economic costs of sexual violence in New Zealand.

This research is a starting point intended to result in a robust first estimate of the costs of sexual violence and provide a platform for discussion on how to refine the estimate. We may never know the “true” cost of sexual violence.

We estimate that the total cost of sexual violence in New Zealand in 2020 was \$6.9 billion. This was composed of \$600 million in costs to the Crown, \$5.2 billion in costs to individuals, and \$1.1 billion in costs to wider society.

To develop this estimate we used research by New Zealand Treasury (Roper et al 2006) as a starting point. We found that the literature generally follows the convention of delineating the costs of crimes (including sexual violence) into the three groups:

- Costs to the Crown
- Costs to the individual
- Costs to society.

We have surveyed a wide literature to expand on the extent of costs identified as being accrued due to sexual violence. We have built on previous calculations by including, as a cost, the value of feeling safe that is lost upon victimisation. The value of this estimate comes from a Willingness To Pay survey by Atkinson et al 2016 of UK women who used the Refuge charity service (a charity that helps relocate women survivors of domestic violence). We acknowledge that, while there is an overlap in the experience of domestic (intimate partner) violence and sexual violence, these are not the same issue. This has been accommodated in our estimates.

We include in this report a step-by-step methodology for estimating each cost we consider, along with our assumptions.

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1 Introduction

Business and Economic Research Limited (BERL) has been tasked by Accident Compensation Corporation (ACC) to provide a defensible estimate of the total economic costs of sexual violence in New Zealand.

Sexual violence is one of the least recognised social issues facing our country. Court systems, social norms and reporting structures have been highlighted as a barrier for reporting sexual violence experience. This results in imprecise statistics that camouflage the true costs of sexual violence. It is a widespread issue with significant ramifications, financial and otherwise, for individual survivors, their employers and for society as a whole.

While a precise and completely comprehensive outline of the total cost of sexual violence is not possible, there is some research and literature that offers different frameworks and logical and reasonable estimations for specific costs attributable to sexual violence.

The aim of this research is to build a robust starting point for estimating the costs of sexual violence. We have endeavored to include as many cost categories as possible to provide the most comprehensive estimate, however any estimate will always be missing some categories. We cover these missing categories in a later section.

The costs of sexual violence involve both tangible and intangible costs. Tangible costs are those costs actually paid for, such as medical treatment and prosecution of the perpetrator. Intangible costs are those costs which represent something lost, such as the feelings of pain and trauma.

Cost analysis of sexual violence is often underestimated due to the significant intangible costs which result from trauma. These costs include things such as the treatment of the symptoms of coping mechanisms used by survivors for unresolved trauma, the unreported toll on family and friends due to emotional breakdown, and ongoing long-term effects of Post-Traumatic Stress Disorder, and other mental illness.

Following the logic of previous work in New Zealand, on the costs of crimes (Roper et al 2006) we separate the costs of sexual violence into three categories:

1. Costs to the Crown
2. Costs to the individual
3. Costs to society.

This report lays out some key conceptual issues, methodology, and results of our work in estimating the costs to the Crown, individual, and costs to society of sexual violence in 2020. The analysis and report focuses on the direct and indirect costs to the victims of sexual violence, to individual members of society, and to society in aggregate.

Throughout the analysis we measure harm on an incident basis as opposed to a pattern basis. This implies limitations but is consistent with international literature on estimating the costs of sexual violence.

Direct costs accrue as a direct result of an incident of sexual violence, these costs are included as a burden of physical and emotional distress, as well as the cost of relationships that are harmed.

Indirect costs are incurred by people connected to the victim and by society in aggregate. These are costs such as the burden of seeing a loved one harmed, and lost productivity.

Costs to the Crown as a result of sexual violence are incurred based on specific services provided. These services include healthcare, income support, and other services in the event of sexual violence. It also includes criminal justice costs to prosecute and rehabilitate offenders.

We begin this report with a discussion of some key concepts and issues, followed by a literature scan outlining our logic of collating different costs incurred as a result of sexual violence. Along with key pieces of literature that informed our view of different cost types.

Following this literature scan we provide a snapshot table of all data points and sources used in our modelling thus far. We describe in a transparent step-by-step manner our methodology and explicit assumptions behind each cost.

Finally we provide a summary “income statement” style table and charts for each category of sexual violence crime, and the total.

2 Key concepts

In this section we address a number of concepts and issues that arose during consultation with subject matter experts.

2.1 Opportunity cost

Throughout our analysis we discuss cost as a loss in terms of potential wellbeing that has been suffered because of sexual violence victimisation. This cost is, in economics phrasing, an *opportunity cost*. Or, it is the cost of the next-best alternative forgone.

We use the words *intangible costs* interchangeably with opportunity cost.

When a person is victimised (or is witness to a victimisation) they suffer intangible harms which they would not have suffered otherwise. Almost all of the literature, that we include in our scan, makes use of this reasoning, although not always explicitly.

2.2 Individual costs vs society costs

The intangible harms suffered by a sexual violence survivor imply costs that are incurred by the survivor as an individual. These costs are also borne by all of society.

In some contexts, recognising that there is no distinction between individual costs and costs to society is useful. For example there are different worldviews on individual versus collective understanding of crime, harm, and costs. We have experience working in both worldviews gained in our work with a number of iwi. However, for this analysis, we choose to remain consistent with the generally accepted practise in the literature of delineating between society costs and individual costs, looking through the individualist perspective. This is largely an aesthetic decision.

2.3 Monetary costs

“What gets measured gets valued” is an often repeated phrase in policy circles. However, concepts like pain and trauma are difficult to measure. We suggest the reader consider Wittgenstein’s thought experiment of a beetle in a box (Wittgenstein 2010). A person can use all sorts of words to describe their beetle, but other people cannot be sure they understand the meanings of those words in the same way. The same is true of pain and trauma involved in sexual violence victimisation. The pain and trauma are subjective, and it is complex to turn this subjectivity into a common standard, such as money.

Some trauma and pain cannot be described in terms of words, let alone measured using money. These, unfortunately, cannot be included in our analysis. They should not, however, be ignored in policy discussion.

2.4 Value of safety

One of the key measures of the cost of sexual violence, that we have used, is a measure of the value people put on feeling safe.

This is an important consideration as it is a concept that extends beyond survivors of sexual violence. Every person probably values feeling safe, and the existence of sexual violence in some way takes away this feeling of safety.

We would also argue that this feeling of safety is not only in the form of feeling safe when walking about, it is also in feeling safe in one’s home or at work.

The perspective of this analysis is to account for the costs of not feeling safe in sexual violence victimisation. Therefore, we only apply this estimate of the value of safety to the survivors of sexual violence to estimate what being victimized cost. The particular nature of the value of feeling safe is that it is something everyone feels, regardless of being victimised. The value we present (\$3.28 billion) is an estimate only of what value is lost by survivors of sexual violence, it is not an estimate of the value of feeling safe for everyone.

The existence of sexual violence might cause lost feelings of safety to people in general in society. However, we have not attempted to explicitly account for this.

2.5 Sexual violence often co-occurs with other forms of abuse

In our work with other clients involved in whānau harm and domestic abuse we have learned that sexual violence is not always separable from other forms of violence.

All forms of violence cause trauma that results in the survivor and society incurring costs. Our analysis is only of the costs of sexual violence, we make no attempt to justify the costs of other forms of violence, even in the same incident.

Particularly important and related, is the idea that sexual violence victimisation is not limited to violent strangers. Rather, sexual violence victimisation occurs, most often, from people known to the survivor. In its Data Summary: Adult sexual violence, June 2017 the New Zealand Family Violence Clearinghouse reports that:¹

1. 1.6 percent of women are victimised once or more by family
2. 1.9 percent of women are victimised once or more by known people, excluding family
3. 1.2 percent are victimised by strangers.

Similarly for men:

1. 0.6 percent of men are victimised once or more by family
2. 0.7 of men are victimised once or more by people they know, excluding family
3. 0.5 percent are victimised by strangers.

It is common knowledge that sexual violence is underreported, and there are good reasons to believe that sexual violence by people known to the survivor is less likely to be reported than sexual violence by strangers. Survivors may perceive real or imagined pressure from family and peers not to report.

It is also important to note that the level and type of trauma suffered is likely to be different for survivors victimised by people they know.

We have not attempted to explicitly account for this in our cost model.

2.6 Data on sexual violence is limited

We describe in Section 8 those concepts we could not measure. It is important to understand that the primary limitation in our analysis is that data on sexual violence victimisation is difficult to acquire in New Zealand and internationally. This is because sexual violence does not always fit into existing crime classification standards, and co-occurs with other forms of abuse. Also, survivors of sexual violence often do not report being victimised.

¹ These statistics are proportions of all the relevant population (men or women).

Additionally, data on the costs of sexual violence is also difficult, if not impossible, to acquire. Currently there are no New Zealand sources of data which explicitly identify health and life outcomes for survivors of sexual violence. Internationally, there are limited studies such as Heeks et al 2018 which reference health outcomes of sexual violence survivors explicitly.

There is significant scope for improving data collection and standards to allow better analysis of the costs of sexual violence.

2.7 Sexual violence is measured as a crime

From our analysis, and the literature scan, sexual violence is mainly measured as a “crime”. This underscores society’s unwillingness to tolerate this behavior. However, not all forms of sexual violence are universally understood to as a crime.

2.8 Our analysis is gender agnostic

Following the lead of the literature on costs of crime generally, and sexual violence in some specific cases, we take a gender agnostic approach to estimating the costs of sexual violence. Practically, this means we do not delineate any cost category by gender. The cost data we have been able to secure is not delineated by gender.

The advantage of a gender agnostic approach is that it removes the need to make additional assumptions on prevalence by gender which may or may not be evidenced by literature.

Sexual violence might differ depending on gender, future research could aim to explore this further.

3 Repeated victimisation

The literature on sexual violence is somewhat divided. Academic investigations into models of trauma and the effects of victimisation differentiate between survivors who are repeatedly victimised and survivors who suffer one-off victimisation. However, investigations into the costs of sexual violence contain no discussion on repeated victimisation.

We explicitly treat repeated victimisation and one-off victimisation differently in our cost model and assumptions to signal that this is an important area of research and policy.

Our current assumptions are:

1. That 10 percent of sexual violence is a repeated incident, and
2. That the costs incurred by the survivor are equal to the costs incurred by a survivor of a one-off incident.

We have tested these assumptions with ACC. However, this is an area we consider to be valuable for future research and acknowledge the possible limitations of ACC data, where repeat incidents may be captured as a "one-off" due to the nature of the sensitive claims process.

We briefly describe specific studies that can be used as a starting point for altering these assumptions. Lalor et al 2010 summarises a number of papers finding that survivors of childhood sexual violence victimisation have an increased likelihood of adult victimisation. In a 2012 report, the New Zealand Ministry for Women estimated that 50 percent of women who were sexually victimised were re-victimised. And survivors of childhood sexual abuse are twice as likely as non-victims to be sexually assaulted later in life.²

² https://women.govt.nz/sites/public_files/Lightning%20does%20strike%20twice_2012%20report.pdf

4 Literature overview

We have completed a literature scan specifically focused on previous investigations of the costs of crime. The following literature has been used to inform our analysis.

Roper, Tim, and Andrew Thompson. Estimating the costs of crime in New Zealand in 2003/04. No. 06/04. New Zealand Treasury Working Paper, 2006.

This research, by Roper et al 2006, forms the starting point of our analysis. Despite being published in 2006 it is the most recent New Zealand focused analysis of the costs of all crime, including sexual violence.

The focus of this analysis is on all crimes not only sexual violence.

The report offered valuable insight into what costs could be considered, particularly in terms of social and personal costs. We also used the report as a rough framework to inform our thinking about how to develop a total cost of sexual violence.

The report categorises costs of crime (including sexual violence) into costs to the Crown and costs to society. Among Crown costs the report delineates the cost of different crimes across each Crown agency responsible for either rehabilitating the victim, or prosecuting the perpetrator.

The report references several research reports that were used to inform our study. In particular, the report used analysis by Brand, S and Price, R 2000 as well as Dubourg, R, Hamed, J and Thorns, J 2005. These studies provided an introduction to that area of literature which assisted us by providing incidence rates for physical and emotional injuries from sexual violence.

Heeks, Matthew, et al. "The economic and social costs of crime second edition." Home Office Research report 99, 2018

This research is an update to the earlier work of Brand et al and Dubourg et al 2005. It follows the same basic framework of looking at each cost individually and then aggregating them. It includes personal costs, society costs, and costs to the British Crown.

The focus of this research is also on all crimes, not only sexual violence.

The research follows the same methodology as Brand et al and Dubourg et al 2005 (which is also the same as Roper et al 2006). Costs of crimes are delineated into costs to the Crown, and costs to society.

An important part of this study was the sourcing of prevalence rates of physical and emotional trauma from sexual violence. These were sourced from the Crime Survey of England and Wales for 2015/2016.

A second key part of this analysis was the estimation of Quality Adjusted Life Years lost through injury sustained in sexual violence cases. Heeks et al 2018 rely on Salomon et al for estimates of the QALY loss resulting from harms sustained as a result of sexual violence.

We take from this research data on the prevalence rates of physical and emotional harm from sexual violence, including the duration of these harms. We also take from this research data on the Quality Adjusted Life Years (QALY) lost to victims of sexual violence.

PWC The economic case for preventing violence against women / November 2015

Published in 2015, this report by PWC provides another useful framework for thinking about and measuring the costs of one particular crime, violence against women. The analysis takes a lifetime

approach, to understand the total costs to each victim of violence over their entire life. As well as costs to the Crown and society.

Costs included are costs to the individual, such as the burden of disease. As well as costs to the Crown in terms of funding for Crown agencies, and transfer costs. This research specifically makes mention of a key cost of violence, which is the cost to people who bear witness to the violence. PWC limits this cost to only children who witness violence.

We have used this analysis as inspiration and a sense-check for which types of costs to include in our analysis.

An important part of this work is looking at the methods available to prevent violence against women. The report offers some 30 evaluations of different programmes. Programme evaluation is not in scope of our current research but PWC's report offers a strong starting point for future research.

Atkinson, E and Selsick, A. 2016. Refuge: A Social Return on Investment Evaluation. London: NEF consulting

This paper is a Social Return On Investment (SROI) evaluation of Refuge which is a charity for helping women in the United Kingdom (UK).

A SROI analysis seeks to quantify the value of the impact of an intervention or programme on intended and unintended stakeholders. It does so by mapping the activities of Refuge to their intended outputs and then looking at what the outcome of those outcomes are. After this, the key part of the analysis is to survey stakeholders and understand by how much they have been affected (for good or bad), and how much they value this change. It is a useful and powerful evaluation methodology.

Refuge is a UK charity focused on helping women who are victims of domestic violence. This can include sexual violence.

This research offers a key piece of data which is absent from other parts of the literature – the value to a person of feeling safe. This data is drawn from Willingness To Pay surveys of UK women who used Refuge's services.

Feeling safe is part of the New Zealand Government's Wellbeing Framework and so far has been measured only in the context of walking alone at night. This is reported as the proportion of people who said they feel safe doing so. We see the New Economic Foundation's work as being additional to this wellbeing framework by asking how much people value a feeling of safety.

Loya, Rebecca M. "The role of sexual violence in creating and maintaining economic insecurity among asset-poor women of color." *Violence against women* 20.11 (2014): 1299-1320.

An important cost to account for is the loss of income over their entire lives that sexual violence survivors suffer. The literature on this is wide, one example we found particularly helpful to introduce a model of how the harm arises is Loya 2014 2014.

This study is a conceptual exploration of how being the survivor of sexual violence can lead to earning less than someone who has not been victimised. This is an area for further investigation, to understand the multiple influences on economic insecurity in developed countries.

Peterson, Cora, et al. "Lifetime economic burden of rape among US adults." *American journal of preventive medicine* 52.6 (2017): 691-701.

This study uses a number of statistics available from The USA's U.S. National Crime Victimization Survey (NCVS). With these data Peterson et al 2017 quantify the lifetime costs of rape for adults in

the United States. This survey (the NCVS) is more comprehensive in terms of measuring the outcomes of sexual violence than the equivalent in New Zealand which is the Crime and Victims Survey.

Peterson et al 2017 looks at a comprehensive list of costs, including the cost of premature mortality and rape-based pregnancy. The analysis goes in depth to break down costs associated with different outcomes from rape. This includes a calculation of lost productivity from every outcome individually (for example, alcohol abuse caused by rape causes lost productivity of \$792 for men in the analysis). Other cost categories covered in Peterson et al are also covered by Heeks et al 2018, for example.

The research has a key drawback in that it does not include intangible costs. Costs under the category of Post-Traumatic Stress Disorder for example include the cost of treating this disorder and productivity lost but does not include the cost to the victim.

This research is notable for its gender agnosticism, our study is also gender agnostic. However, this research is limited to rape which is only a part of sexual violence.

Hoddenbagh, Josh, Susan Elizabeth McDonald, and Ting Zhang. An estimation of the economic impact of violent victimization in Canada, 2009. Research and Statistics Division, Department of Justice Canada, 2014.

Hoddenbagh et al 2009 adopt a familiar framework of costs to the Crown and costs to the survivor. This approach is consistent with approaches taken by Roper et al 2006 and Heeks et al 2018, for example. This research includes costs that are common to most of the literature like intangible emotional costs and the burden of physical disease.

The research is relatively narrow in that its focus is on only violent victimisation. Notably, it is gender agnostic but does not include sexual violence crimes such as non-aggravated assault.

Hoddenbagh et al 2009 also departs from the rest of the literature by including the cost of a victim relocating residence as a preventative measure. This is a cost no other literature we surveyed identified.

The research makes mention of family members sustaining other costs, but does not provide detail.

Wilson, Denise. "Transforming the normalisation and intergenerational whānau (family) violence." Journal of Indigenous Wellbeing 2.2 (2016): 32-43.

As part of understanding sexual violence holistically we scanned the literature for studies which were not solely focused on costs. We sourced Wilson et al which provided a valuable introduction to a wide literature.

Wilson 2016 focusses on whānau harm which includes not just sexual violence but other forms of domestic violence and can include financial abuse and subjugation. The research offers an exploration of how children raised in a violent household learn *imposter tikanga* which is where children learn the fallacy that violence is normal and part of Māori culture.

This research adds a key perspective to the analysis of sexual violence which is a te ao Māori perspective. We adopt this perspective to include in our costing an estimate of the inter-generational harms caused by experiencing and witnessing sexual violence.

Verne McManus & Wendy Henwood, Whiria Te Muka Evaluation Report November 2018, Whāriki Research Group SHORE & Whāriki Research Centre College of Health, Massey University

McManus et al 2018 is not in the public domain. However we were able to source this research as part of another project we are engaged in.

This research is a formative evaluation of Whiria Te Muka, which is an initiative to reduce and prevent whānau harm in the Te Hiku rohe in Northland.

Whiria Te Muka is an innovative approach to whānau harm that involves changing the response to a whānau harm incident. When an incident occurs a police staff member is there as a first response to ensure the physical safety of whānau. After the situation is secured a team composed of both a police officer as well as an iwi representative are sent to the whānau home. The approach is whānau centered, seeking to help whānau realise what they need, rather than immediately shuffle whānau into the justice system. The latter option has been identified to perpetuate harm.

This method of responding to whānau harm embodies the te ao Māori perspective of whānau harm as encompassing the whole whānau as witnesses, contributors, and victims of the harm. This research provides an understanding of how various crimes affect whānau, including sexual violence.

Nan Wehipeihana, What's working for Māori? A Kaupapa Māori perspective on the responsiveness of the Integrated Safety Response pilot to Māori - Synthesis Evaluation Report Prepared for Joint Venture Business Unit, August 2019

Wehipeihana 2019 offers an evaluation of the Integrated Safety Response (ISR) pilot. The family violence ISR is an immediate multi-agency safety response following a report to Police of a family harm episode or a Corrections notification of the imminent prison release of a high-risk perpetrator of family harm.

The aims of ISR are to ensure the immediate safety of victims and children, and that perpetrators referred through the ISR system are connected with an appropriate service to assist in preventing further violence. ISR aims to provide safe, effective, and efficient services to victims, children and perpetrators, families and whānau.

The pilot that tests this approach was officially launched in Christchurch on 4 July 2016. Waikato, the second pilot site, came into operation on 25 October 2016.

This programme is similar in spirit to Whiria Te Muka described above. The key idea is that whānau is a wider group consisting of not just immediate family but all those who whakapapa to the same place.

This research provides another te ao Māori lens through which to view crimes that affect whānau, including sexual violence.

5 Costs identified from literature

Upon undertaking this project we studied the 2006 Treasury report by Roper et al 2006 and identified the following personal/social cost categories:

1. Preventative measures
 - a. Roper et al 2006 report this as zero for sexual offences in New Zealand
2. Lost property
 - a. Roper et al 2006 report this as zero for sexual offences in New Zealand
3. Intangible costs (opportunity costs)
 - a. Physical effects
 - b. Emotional effects
4. Lost output.

This list is consistent with international literature (for example Heeks et al 2018, Peterson et al, and Dubourg et al 2005). However we argue it is not comprehensive enough.

We posit that other effects of sexual violence need to be accounted for. Some of these effects are:

1. The opportunity cost of not feeling safe following being victimised
2. The emotional harm caused by witnessing or learning that a person you have a relationship with (romantic, familial, or social) has been victimised
3. The emotional harm to the victim which occurs when a relationship breaks down due to victimisation.

The opportunity cost of not feeling safe is a concept we came to understand in working on a project with a client in the family violence space. We found UK based literature in Atkinson et al 2016 which describes the value (measured by Willingness To Pay) to UK women of feeling safe.

For this project we see a strong need to arrive at the most comprehensive list of effects of sexual violence possible. We understand that trauma from being victimised can put strain on relationships, and cause them to break down. Literature explaining this is in the realm of psychology, we found Goff et al 2006 helpful as a starting point. We note that Atkinson et al 2016 makes reference to this as a benefit of the Refuge service where the context is that Refuge helps to heal relationships.

It's worth noting that the international literature makes reference to health costs paid by the victim (particularly US and Canada literature). New Zealand does have available private healthcare and we can be certain at least some victims of sexual violence seek private care. However, we have not attempted to quantify this expenditure on account of a lack of data. This means that all costs we report to an individual are opportunity costs (intangible) rather than out-of-pocket costs (tangible).

6 Discussion of costs

There are widely varying estimates of the cost of sexual violence internationally, depending on the definitions used, the types of costs included, and the methodologies used.

In this section we discuss how we conceptualise each type of cost:

1. The burden of physical injury
2. Emotional harm
3. Feeling of not being safe
4. Lost productivity of victims
5. Inter-generational harm
6. Familial and social relationships broken
7. Lost income.

The burden of physical injury

Sexual violence can result in physical trauma. We can quantify the value of this impact using Quality Adjusted Life Years (QALY) (as reported by survey respondents) and the Value of a Statistical Life Year (VOSLY).

In our analysis the QALY estimates came from Heeks et al 2018 while the VOSLY is from The Ministry of Transport.

The cost is seen from the perspective of an opportunity cost. If a VOSLY measures the value of being alive, then experiencing disease imposes an opportunity cost of lost quality of life which can be quantified using a QALY.

This cost is the lowest we have found because the prevalence of recorded physical injuries in sexual violence incidents (taken from Heeks et al 2018) are very low. This pushes down the average cost. Additionally, the physical harm does not always persist, and the QALY lost must be weighted by the duration of disease.

Emotional harm

Sexual violence understandably results in emotional harm. This can manifest in multiple different ways. We note that Heeks et al 2018 emphasised emotional pain in the form of Post-Traumatic Stress Disorder symptomology. This pathology can result in victims using drugs and alcohol (or even food) as a coping behaviour, which causes further harm. However, focus on Post-Traumatic Stress Disorder symptomology places a high threshold on the recording of emotional harm. We suggest this as an area for future research.

Similar to our reasoning for physical injuries, the emotional distress is an opportunity cost for the victim.

The emotional cost is higher than that of physical disease because emotional harms persist.

Feeling of not being safe

Being victimised results in a loss of feelings of safety and security. This is an opportunity cost where we assume that feeling safe is a benefit, and losing that feeling is a dis-benefit.

The cost estimate of not feeling safe is our largest single cost item, accounting for almost half of our total cost estimate of \$6.9 billion (with a value of \$3.38 billion). Since it is so material we will describe the derivation and caveats more fully. They are also included in the methodology section.

This cost estimate comes from a Willingness To Pay survey carried out by NEF in the UK in 2016 (see Atkinson et al 2016). The NEF surveyed around 2,000 UK women who had used the services of Refuge which is a UK based charity that helps female survivors of domestic violence. The survey, roughly, asked these women how much they would pay in order to feel safe.³

This measurement was taken in pounds and is an estimate given only by 2,000 women who used the services of Refuge. The main caveat therefore is that we have assumed that both male and female survivors of sexual violence value their safety at the same rate. A second caveat is that the survey was of UK women, it was not conducted on New Zealand survivors.

A second caveat is that We acknowledge that, while there is an overlap in the experience of domestic (intimate partner) violence and sexual violence, these are not the same issue. This has been accommodated in our estimates.

Finally, the point of view of this analysis is to account for the costs of what is actually lost in sexual violence victimisation. Therefore, we only apply this estimate of the value of safety to the survivors of sexual violence to estimate what being victimized cost. The particular nature of the value of feeling safe is that it is something everyone feels, regardless of being victimised. The value we present here (of \$3.28 billion) is an estimate only of what value is lost by survivors of sexual violence, it is not an estimate of the value of feeling safe for everyone.

The existence of sexual violence might cause lost feelings of safety to people in general in society. However, we have not attempted to explicitly account for this.

Lost productivity of survivors

This is the first of our costs that is incurred by society in aggregate. In a market economy, everyone is able to serve everyone else through producing goods and services. When a person is victimised by sexual violence they may lose all or part of their ability to contribute to society. That lost production is an opportunity cost for all of society.

Inter-generational harm

As we have learned from other work, being witness to sexual violence, or having a relationship with the survivor of sexual violence can cause emotional distress in a person.

This distress is a combination of emotional trauma and physical trauma from potential self-harm.

It is an opportunity cost borne by the person witnessing the sexual violence.

Familial and social relationships broken

People value the relationships they have with one another. Sexual violence victimisation (and potentially perpetration, though we have not accounted for this) can cause relationships to break down. This imposes an opportunity cost (for the victim).

Lost income

Suffering sexual violence victimisation, repeatedly or single occurrence, causes trauma that can result in an increased likelihood of substance abuse and mental health issues. Loya 2014 offers a

³ The methodology for Willingness To Pay surveys is less crude than this description but Atkinson et al 2016 does not fully describe it.

See https://www.thecompassforsbc.org/sites/default/files/strengthening_tools/WTP_Manual.pdf as an example

model for how this then leads to lost productivity and wages in an acute sense, but also the loss of social capital.

We understand there has been research on the loss of income for children who witness domestic abuse (potentially including sexual violence) and earn less throughout their lives. We have not attempted to include this in our estimate of the costs of sexual violence because we did not feel we could find a defensible estimate of this cost.

7 Costs to the Crown

Costs incurred to the Crown as a result of sexual violence are purely accounting costs. They represent financial transactions that take place as a result of sexual violence. While each of these interactions between service providers and service users represent an opportunity for crown responsiveness to the trauma experienced, they are recorded as financial transactions that take place as a result of an "incident" of sexual violence, as it is reported.

While this is accurately reported as they have been recorded in the various agency data sets, we acknowledge that these represent the most significant potential for unrealised costs as a result of these crimes not being fully captured

Following Roper et al 2006, we identify seven separate cost centres for the Crown:

1. New Zealand Police
2. Corrections
3. Oranga Tamariki (in Roper et al 2006 this agency is referred to by its old name Child Youth and Family, the new agency has some changes in scope)
4. Ministry of Health
5. Ministry of Justice
6. Ministry of Social Development
7. Lost taxes.

Additionally, ACC has calculated a total cost of claims for sensitive claims.

New Zealand Police

The New Zealand Police (Police) are often the first responders to a sexual violence incident. Costs are incurred in both apprehending a perpetrator, as well as working to make the environment safe again.

Corrections

Corrections is the Crown agency tasked with holding perpetrators under various levels of detention and rehabilitation. Costs are incurred in the processing and holding of perpetrators.

Oranga Tamariki

Oranga Tamariki is a Crown agency that is responsible for ensuring that children in New Zealand are safe. Oranga Tamariki incurs costs of sexual violence both when children are victimised as well as when children are the perpetrator. These costs relate to rehabilitation, rehoming, and other processes.

Ministry of Health

The Ministry of Health is responsible for funding and overseeing the health system in New Zealand. Costs are incurred by the Ministry of Health when a victim of sexual violence requires medical care.

Ministry of Justice

The Ministry of Justice is responsible for administering the courts system and other parts of the justice system in New Zealand. This ministry incurs costs as a result of sexual violence when a perpetrator is prosecuted in a court of law. The Family court also sees costs where sexual violence

is a component. However, this is not routinely recorded and has not been accounted for in our analysis.

Ministry of Social Development

The Ministry of Social Development oversees the social welfare system in New Zealand. Costs are incurred to this Ministry as a result of sexual violence when a survivor is unable to work and is granted an entitlement (currently Jobseeker).

Lost taxes

All working people in New Zealand pay tax on income earned in employment. When a person is the survivor of sexual violence they may be unable to work, and so will not be contributing taxes.

ACC sensitive claims

ACC is responsible for compensating people who suffer loss through injury in New Zealand. Costs are incurred to ACC as a result of sexual violence when a survivor makes a medical claim and when a survivor must be compensated for being unable to work.

8 What we could not measure

The aim of this research was to arrive at a robust starting point for an updated estimate of the costs of sexual violence in New Zealand. We have put considerable effort into estimating a complete list of costs of sexual violence. However, there are a number of costs that we are aware of but have been unable to value.

These costs fall into two rough groups; those that we have made assumptions for and those that are left completely out of scope.

8.1 What we have made assumptions for

The following are measures we have made assumptions for.

8.1.1 Relative severity of harms

It is reasonable to presume that some sexual violence crimes cause more harm and incurrence of costs than others. We reason that Aggravated Sexual Assault N.E.C (Not Elsewhere Classified) and Sexual Violation are likely to result in greater physical if not also emotional trauma than Attempted Sexual Violation, and Non-Aggravated Sexual Assault.

We map the prior two of these crimes to the category Rape from Heeks et al 2018, and the latter two to the category Sexual Assault from Heeks et al 2018. We then take the ratio of QALY x duration x VOSLY x prevalence for Rape and the QALY x duration x VOSLY x prevalence for Sexual assault from Heeks et al 2018 for each injury and calculate an average for this.⁴ This results in a defensible first estimate for the relative severity of these crimes.

8.1.2 Intergenerational costs

We have discussed the costs incurred by witnesses to domestic violence (including sexual violence). To our knowledge there is no current estimate of how much harm is incurred by witnessing sexual violence. We follow the logic of PWC in their “a high price to pay” report and assign a reasonable proportion of the total cost as an additional “intergenerational cost” our assumption is 20 percent.

We emphasise that this is an area that requires significant future research. This research could come through the Royal Commission of Inquiry into Abuse in State Care.

8.2 What is left out of scope

These are measures that we have left out of the analysis.

8.2.1 Avoidance costs

Some estimates of the cost of crime in general (such as Roper et al 2006) explicitly account for the fact that victims of crime may engage in behaviour to avoid further victimisation. A sexual violence survivor might for example move house or change jobs to avoid re-victimisation and incur costs in doing so. They might also change other behaviours which makes them incur costs, such as traveling a longer, different, route to work. Or avoiding certain shops. Roper et al 2006 accounts for these costs as part of sexual violence costs but estimates the value to be zero.

We believe there are avoidance costs involved in sexual violence and research should be done into estimating the nature and size of these.

⁴ VOSLY: Value Of a Statistical Life Year. QALY: Quality Adjusted Life Year.

8.2.2 Different types of sexual violence

There are other sexual violence crimes that we have not included. These include crimes such as unsolicited sexual images, cyber-assault and stalking, among many other examples.

We have not included these crimes as data for the number of incidents was not forthcoming from publically available crimes data. Additionally, we found no available literature on the costs of these crimes.

8.2.3 Ethnic differences

We understand different ethnic groups in New Zealand are victimised at different rates.

We have not explicitly accounted for ethnic differences in our estimate of the costs of sexual violence.

8.2.4 Costs incurred by Non-Government Organisations (NGOs) in helping survivors and perpetrators

There are a number of NGOs in New Zealand who work with survivors of sexual violence as well as with perpetrators.

We understand the Ministry of Health and Oranga Tamariki incur costs in funding these NGOs but we have been unable to secure an estimate of these costs.

8.2.5 Costs incurred by survivors seeking private medical care

Survivors of sexual violence are likely to seek medical treatment from their primary care provider. They may also seek counselling and psychotherapy or other treatments. These are all funded privately and we have not been able to secure data on their use or costs incurred for the survivors of sexual violence.

8.2.6 Costs incurred by perpetrators

The perpetrator(s) of sexual violence also incur(s) psychological and physical trauma and potentially must incur costs of being imprisoned. So far, in the literature of accounting for costs of crime (Roper et al 2006, Heeks et al 2018, others), costs to the perpetrator are ignored. We have also omitted these costs.

9 Recommendations for future research

9.1 Testing assumptions

We have included in our methodology a list of assumptions for each measure of the costs of sexual violence. These assumptions should be tested formally with subject matter experts, and potentially with survivors of sexual violence.

In particular, a fruitful source of inquiry would be to formally test the value of feeling safe. We have used research by Atkinson et al 2016 which included a Willingness To Pay estimate of how much UK women in 2016 would pay to feel safe. We have assumed New Zealand women and men would pay the equivalent amount in 2020 New Zealand dollars. This value of feeling safe could be tested using a Willingness To Pay survey of sexual violence survivors (of both sexes) in New Zealand.

9.2 Extent and prevalence of physical and emotional injury

For our analysis we have relied on Heeks et al 2018 for estimates of the nature, extent and prevalence of physical and emotional injuries as a result of sexual violence. The emotional harm was limited to Post-Traumatic Stress Disorder symptomology. It is our understanding that these were sourced from the Crime Survey for England and Wales.

We argue that limiting the emotional harm to Post-Traumatic Stress Disorder symptomology imposes a high threshold. Future research should be less bounded.

We suggest a case could be made for expanding the New Zealand Crime Survey to include questions which would reveal the nature, extent, prevalence, and duration of physical and emotional harms from crime.

Alternative avenues for research into this could be primary data collection from health professionals.

9.3 Costs to the perpetrator

Although this cost is mentioned above, we repeat it for emphasis. The New Zealand Government takes a holistic view of multiple social issues with the development of Treasury's Living Standards Framework. Additionally, from a te ao Māori perspective all involved in harm should be considered to heal the harm. It is a valuable exercise to formally estimate the costs to the perpetrator of a sexual violence crime.

9.4 Intergenerational harm

An important cost component in our analysis is the cost to people who witness the abuse. We note there was no formal estimate of the size of this effect forthcoming from literature. A 2015 PWC study we referenced used an estimate of 30 percent of total costs (we used 20 percent).

A fruitful area of research would be to synthesise the literature on models of how intergenerational harm occurs and also formally estimates the size of the effect.

We note that it is important to look at the effect of witnessing the violence as well as society's lack of response to the violence. The latter perpetuates victim blaming and perpetuation of rape myths. There is a need to consider entrapment as well.

Further, at least one researcher in the literature (Wilson 2016) identified that in a te ao Māori worldview there is an “imposter tikanga” that is learned by the next generation. This is an important insight that should be taken into consideration for in future research.

9.5 Income effects of children witnessing sexual violence

Similar to the above, we know from the literature a number of models of how children who witness domestic violence (including sexual violence) have different life outcomes, for example lower income. However, a precise estimate of this is not available.

A potential area for research is to formally estimate the size of this effect.

9.6 Gender lens

As mentioned our analysis is gender agnostic largely out of necessity, and to be consistent with other literature. Sexual violence could be different, depending on gendered. Our current gender agnostic lens is something that should be challenged in future research.

10 Methodology

This section sets out the method and assumptions for personal costs, society costs and cost to the Crown.

10.1 Number of incidents and victims

In the first instance, to estimate the number of sexual violence incidents, we use data publically available from the New Zealand Police.⁵ We downloaded the data for the 2020 calendar year. We process this data to count the number of incidents for each crime category (Australian and New Zealand Society of Criminology, ANZSOC) in Sexual Assault and Related Offences.

This gives a defensible estimate for the number of reported incidents. And also the number of victims (each incident recorded can have multiple victims).

To estimate the “true” number of victims we note that 9 percent of all sexual violence incidents are reported to police.⁶ This implies that we should multiply the above number of reported incidents by 1/0.09.

10.2 Personal costs

These costs are borne by the victim of sexual violence. Costs borne by the perpetrator of sexual violence could be an area for possible future research. We note a relative dearth of literature on this.

10.2.1 Burden of disease/injury

Method

1. Use Quality Adjusted Life Years (QALY) loss, duration and prevalence data from Heeks et al 2018
2. Calculate the Value Of A Statistical Life Year (VOSLY) by dividing the Value of a Statistical Life (VOSL) from Social cost of road crashes and injuries June 2019 update (Ministry of Transport) by the median age at death (as at December 2020) from Statistics New Zealand
3. Multiply the VOSLY by the QALY x duration for each physical or emotional harm from Heeks et al 2018
4. Multiply the number calculated in step 3 by the injury prevalence in each crime from Heeks et al 2018
5. Sum these numbers.

Assumptions

1. A VOSLY has the value assigned to it by the Ministry of Transport
2. All people value their VOSLY the same
3. The QALY LOSS and duration for New Zealand survivors are the same as for UK survivors

⁵ <https://www.police.govt.nz/about-us/publications-statistics/data-and-statistics/policedatanz/victimisation-time-and-place>

⁶ <https://toah-nnest.org.nz/what-is-sexual-violence/prevalence#:~:text=A%20cohort%20study%20of%20New,before%20the%20age%20of%2018.&text=Rec ent%20international%20research%20indicates%20that,before%20the%20age%20of%2016.>

4. The prevalence of injury as a result of rape and sexual assault is the same for New Zealand victims as it is for UK victims
5. The physical and emotional harms of rape (as per Heeks et al 2018) can be mapped to the harms resulting from Aggravated Sexual Assault, N.E.C. and Sexual Violation as per the Australian and New Zealand Society of Criminology (ANZSOC) crime categories
6. The physical and emotional harms of sexual assault can be mapped to the harms resulting from Attempted Sexual Violation, Incest, or Non-Aggravated Sexual Assault as per the ANZSOC.

10.2.2 Lost feelings of safety

Method

1. Take willingness to pay to feel safe from Atkinson et al 2016
2. Inflate to December 2020 using the CPI
3. Convert to New Zealand dollars using assumed exchange rate taken from Morningstar.

Assumptions

1. That New Zealand people (of both sexes) would pay an equivalent amount for safety as UK women surveyed by the Atkinson et al 2016.

10.2.3 Breakdown of familial and/or social relationships

Methodology

1. Take the average household spending on recreation per week from 2019, from the Household Economic Survey
2. Multiply this by 52 to get an annual figure
3. Divide this by two, following Atkinson et al 2016
4. Multiply by an assumed prevalence representing how many relationships break down per incident (currently 1).

Assumptions

1. We assume a proxy for the value of familial and social relationships is the amount spent by a household on recreation
2. We assume halving this amount is sufficient to avoid over-claiming since it is a household level variable and we are measuring individual level effects
3. That the prevalence of relationships breaking down is one relationship for every incident.

10.2.4 Present value of lifetime lower income

Methodology

1. Take the slope estimate of the effect of sexual violence on average earnings from Peterson, Cora, et al 2017 (45 cents per hour less than non-victims).
2. Obtain an estimate of real average hourly earnings from Canada in 1993 (as measured in \$ 2010) from Morissette et al 2013
3. Deflate this value by the Canadian CPI to a 1993 nominal value

4. Divide step 3 by step 1 to obtain an estimate of the percentage of income lost
5. Obtain an estimate of median annual earnings in New Zealand from Statistics New Zealand by multiplying the median weekly earnings by 52
6. Obtain an estimate of income growth in New Zealand using Statistics New Zealand median weekly earnings data from 1998 to 2020
7. Multiply step 5 by (1 – step 4) to obtain an estimate of the reduced earnings
8. Combined with an assumption of how many years a person earns income after being victimised on average calculate the present value of their income stream using step 5, step 6 and an assumed discount rate (0.02 as per the RBNZ’s inflation target). This gives an estimate for the Present Value of the income of a person who has not been victimised
9. Combined with an assumption of how many years a person earns income after being victimised on average calculate the present value of their income stream using step 7, step 6 and an assumed discount rate (0.02 as per the RBNZ’s inflation target). This gives the Present Value of the income of a person who has been victimised
10. Subtract step 9 from step 8 to calculate the difference. This is the Present Value of the income lost due to being victimised.

Assumptions

1. That the proportion of income lost on average due to victimisation is the same for New Zealanders as it was for Canadians in 1993
2. That the discount rate is 0.02 which is the mid-point of the RBNZ’s inflation targets agreement act
3. That incomes in New Zealand grow at the rate implied by data from Statistics New Zealand for 1998 to 2020
4. That, on average, people work for 25 more years after being victimised. Implicitly assuming the average age of victimisation is 40.

10.3 Society costs

These costs are borne either by all of society as an aggregate, or by identifiable people who have a relationship with the victim.

10.3.1 Productivity

Method

1. Take the December 2020 quarter GDP from Statistics New Zealand
2. Take the median hourly earnings from Statistics New Zealand
3. Take the number of people employed in the December 2020 quarter given by Statistics New Zealand
4. Divide step 1 by step 3 to calculate the GDP produced by each person employed during the December 2020 quarter
5. Take the total number of hours worked in an ordinary week in the December 2020 quarter given by Statistics New Zealand, multiply this by 13 to calculate how many hours worked in a quarter

6. Divide step 5 by step 3 to calculate the average number of hours a person in New Zealand worked in December quarter 2020
7. Divide step 4 by step 6 to calculate the average amount of GDP produced by an average worker per hour in December 2020 quarter
8. Using table 15 from Heeks et al 2018 to provide an estimate of the hours taken off work and reduced productivity caused by rape and other sexual offenses
9. Multiply step 8 by step 7 and separately by step 2 to produce an estimate of the GDP lost, and wages lost as a result of Rape and sexual assault (as per Heeks et al 2018)
10. Take an average of the two figures produced in step 9, to account for under and over-estimation.

Assumptions

1. That the hours of work lost for a New Zealand victim are the same as for a UK victim
2. That the average of the GDP lost and wages lost is a more accurate estimate of total productivity lost than either of these measures alone
3. That wages aren't the entire benefit of production gained by society and GDP is an overestimate of this production
4. Averaging the two should, we argue, correct for wages underestimating and GDP overestimating the value of production lost to society
5. The productivity lost from sexual assault can be mapped to the harms resulting from Attempted Sexual Violation, Incest, or Non-Aggravated Sexual Assault as per the Australian and New Zealand Society of Criminology (ANZSOC)
6. The productivity hours lost from rape (as per Heeks et al 2018) can be mapped to the productivity lost resulting from Aggravated Sexual Assault, N.E.C. and Sexual Violation as per the ANZSOC crime categories.

10.3.2 Inter-generational harm

Method

1. Multiply the burden of disease to the individual by an assumed multiplier.

Assumptions

1. That the multiplier (currently 0.2) accurately measures the spill-over disease from witnessing sexual violence. On top of the aforementioned effects of society's lack of response, entrapment, and "imposter tikanga".

10.4 Costs to the Crown

These costs are incurred by Crown agencies as a result of sexual violence offending and victimisation.

10.4.1 New Zealand Police

Method

1. Take the cost of policing attributable to sexual violence from Roper et al 2006

2. Divide step 1 by the number of reported incidents in Roper et al 2006 to calculate a cost per incident
3. Inflate step 2 up to 2020 using the central government input cost index from Statistics New Zealand
4. Multiply step 3 by the number of incidents in 2020

Assumptions

1. That the costs per incident to the New Zealand Police have not changed in structure in 14 years
 - a. We understand this is a tenuous assumption, the New Zealand Police have endeavored to become more responsive and are investing more resources to respond to survivors. This assumption is necessary because we have been unable to secure more up to date Police cost data
2. That the costs to the New Zealand Police have increased at the same rate as all central government inputs (as measured by the central government input price index).

10.4.2 Corrections

Method

1. Take the cost of Corrections attributable to sexual violence from Roper et al 2006
2. Divide step 1 by the number of reported incidents in Roper et al 2006 to calculate a cost per incident
3. Inflate step 2 up to 2020 using the central government input cost index from Statistics New Zealand
4. Multiply step 3 by the number of incidents in 2020.

Assumptions

1. That the costs per incident to Corrections have not changed in structure in 14 years
 - a. Similar to Police costs, we understand Corrections have changed significantly since 2006 and invest more heavily in rehabilitation and processes. This assumption is also required because we have been unable to secure more up to date Corrections data
2. That the costs to Corrections have increased at the same rate as all central government inputs (as measured by the central government input price index).

10.4.3 Oranga Tamariki

Method

1. Source total cost data and volume data on the following from Oranga Tamariki
 - a. Day programmes for young people in the Specialist Group Homes for those who have sexually abused
 - b. Residential placements for young people who are perpetrators of sexual violence
 - c. Sexual Harm Crisis Support Services for Children and Young People
 - d. Specialist Group Homes for young people who have sexually abused

- e. Sum a through c and divide by the total number of young people to calculate a per young person (incident) cost
 - f. Divide the total cost of d by the total number of actual care nights reported (the volume for this measure) to obtain a total cost per care night
2. Divide the total actual care nights by the total number of clients to obtain an estimate of average care nights per offender.

Assumptions

1. That the mix of sexual violence crimes in young people is the same as it is in all people as measured by the data available from the New Zealand Police.

10.4.4 Ministry of Health

Method

1. Obtain Casemix discharges with any external cause code of sexual assault by bodily force, 2012/13-2019/20 from the Ministry of Health
2. For each injury type and year calculate the prevalence of that injury
3. For each injury type and year extract the average cost of that injury type
4. Inflate step 3 to prices as at 2020 using the central government inputs price index
5. Calculate, for each year, a weighted average cost of sexual violence by multiplying the vector of incidence probabilities by the vector of average costs
6. Take an average of step 5 to produce a final average cost of health spending for sexual violence.

Assumptions

1. We take this data as given by the Ministry of Health, we make no additional assumptions to the ones made by the Ministry of Health.

10.4.5 Ministry of Justice

Method

1. Obtain an average costs per case (in 2020) for:
 - a. 0311: Aggravated sexual assault
 - b. 0312: Non-aggravated sexual assault
 - c. 0321: Non-assaultive sexual offences against a child
 - d. 0322: Child pornography offences
 - e. 0329: Non-assaultive sexual offences, nec (Not Elsewhere Classified).

Assumptions

1. We take this data as given by the Ministry of Justice, we make no additional assumptions to the ones made by the Ministry of Justice.

10.4.6 Ministry of Social Development

Method

1. Obtain the number of people Not In the Labour Force from Statistics New Zealand
2. Obtain the number of people on a Jobseeker benefit from the Ministry of Social Development
3. Obtain the number of people who are on a Jobseeker benefit because they are incapacitated from the Ministry of Social Development
4. Divide step 3 by step 1 to obtain the incidence rate of people being both incapacitated and on a Jobseeker benefit
5. Obtain an estimate of a typical weekly amount a Jobseeker recipient can receive using the Ministry of Social Development's online calculator tool
6. Using data from Heeks et al 2018 calculate the number of weeks on average a victim of sexual violence is incapacitated
7. Multiply step 6 by step 4 and also by step 5 to obtain an estimate of the average cost to Ministry of Social Development per victim of sexual violence.

Assumptions

1. That the inbuilt assumption of the prevalence of people to be incapacitated by sexual violence and apply for and be granted a Jobseeker benefit is accurate.

10.4.7 Accident Compensation Corporation

Method

1. Obtain a quarterly estimate of sensitive claims payments for earners and non-earners for September 1992 to December 2040
2. Convert the quarterly estimate to an annual estimate.

Assumptions

1. We take this data as given by ACC, we make no additional assumptions to the ones made by ACC.

11 Results

In this section we summarise the results of our analysis. An income statement style table is provided in Table 1. We estimate that the total cost of sexual violence in 2020 was just over \$6.9 billion.

This can be broken down into costs to the crown of \$597 million, costs to individuals valued at \$5.2 billion and costs to society valued at \$1.1 billion.

For comparison we have also included the total costs of sexual violence in 2004 as estimated by Roper et al 2006. This is \$1.5 billion in 2020 dollars. Our estimate is much larger because we have included many costs that Roper et al 2006 did not, such as the cost of not feeling safe, as well as lost income.

11.1 Sexual violence costs in 2020

Table 1 Total costs of sexual violence in 2020, income statement

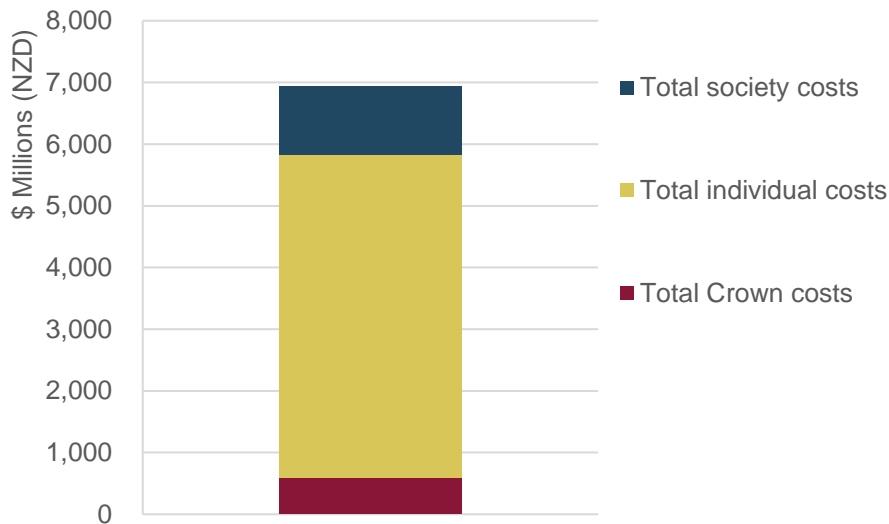
Total costs of sexual violence (\$2020)	
Crown costs	
Police	78,821,841
Corrections	199,570,192
Courts	7,457,156
Oranga Tamariki	
Offenders	2,925,109
Care nights	1,281,697
Total Oranga Tamariki	4,206,807
Health	18,635,952
ACC	190,969,877
Lost taxes of victims	93,937,705
Transfers	3,964,249
Total Crown costs	597,563,779
Individual costs	
Burden of disease	
Burden of physical injury	5,336,490
Emotional harm	1,121,806,684
Total burden of disease	1,127,143,173
Feeling of not being safe	3,382,968,544
Familial and social relationships broken	111,488,455
Lost income	95,553,129
Repeated victimisation costs	502,004,640
Total individual costs	5,219,157,941
Society costs	
Lost productivity of victims	764,687,009
Inter-generational harm	351,223,819
Total society costs	1,115,910,828
Grand total cost of sexual violence	6,932,632,549
<i>Treasury (2006) cost of sexual violence inflated to 2020</i>	1,536,880,088

11.2 Total costs of all forms of sexual violence

In this section we provide a breakdown of the total cost of each type of sexual violence as per the ANZSOC. The totals of each crime category do not sum to the total cost of \$6.9 billion because

there is data missing on court costs, Police costs, and Corrections costs for the crime categories individually and we have not attempted to infer a value for these.

Figure 11.1 Total social costs of sexual violence, 2020



11.3 Total costs of sexual violence, disaggregated by type of crime

Figure 11.2 Total social costs of Aggravated Sexual Assault, 2020

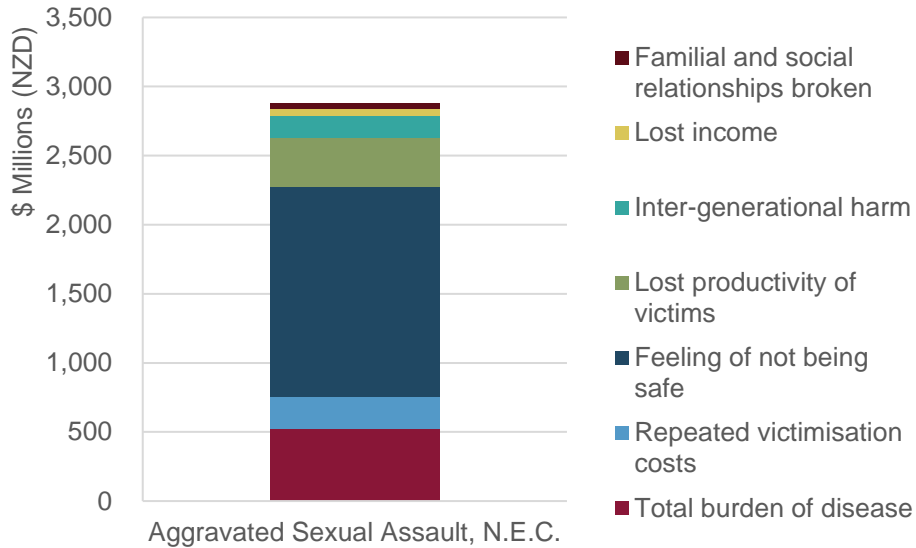


Figure 11.3 Total social costs of sexual violation, 2020

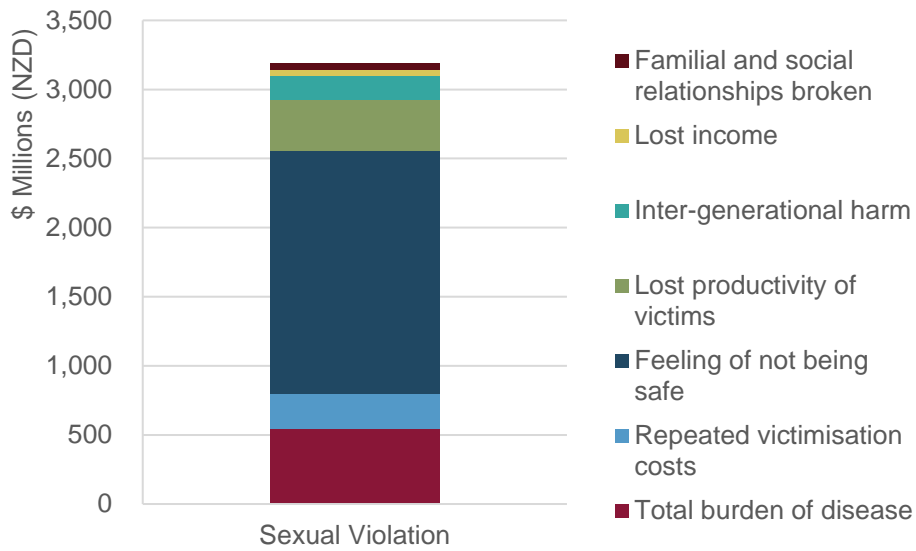


Figure 11.4 Total social costs of attempted sexual violation, 2020

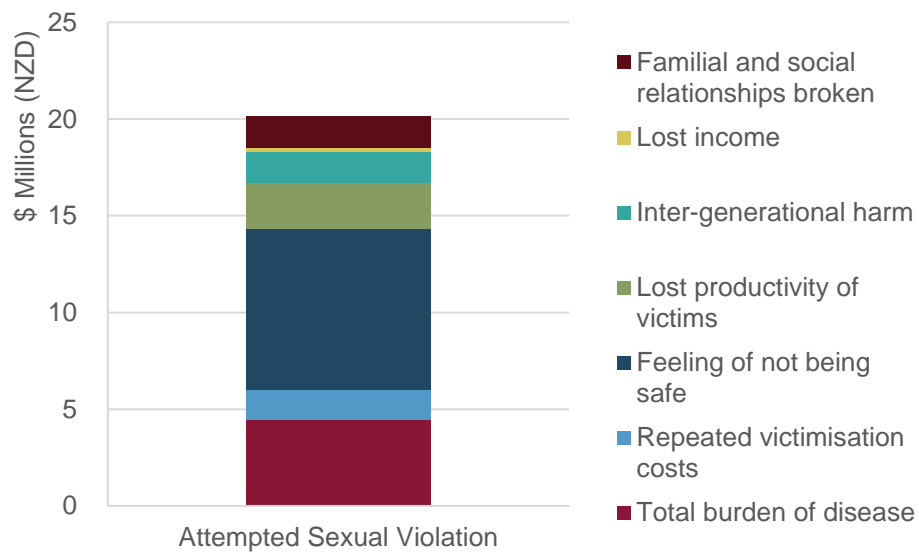


Figure 11.5 Total social costs of incest, 2020

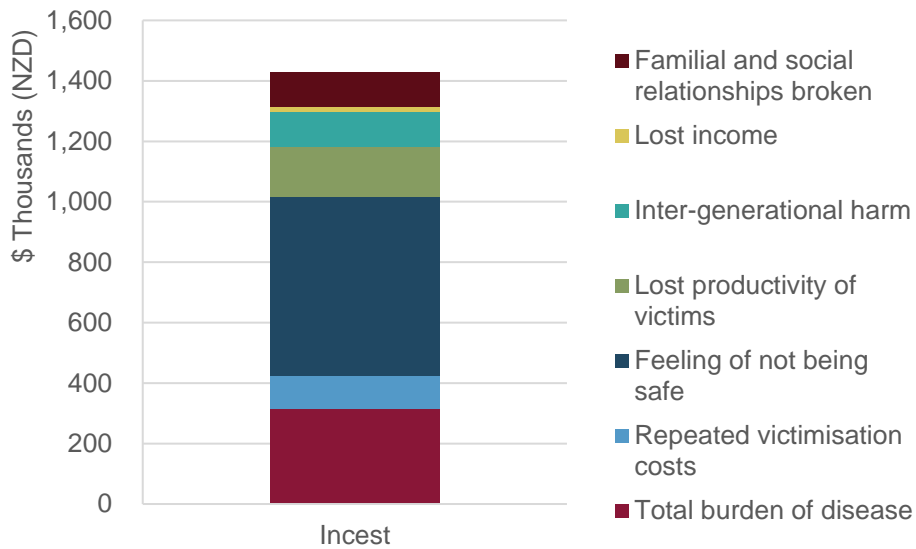
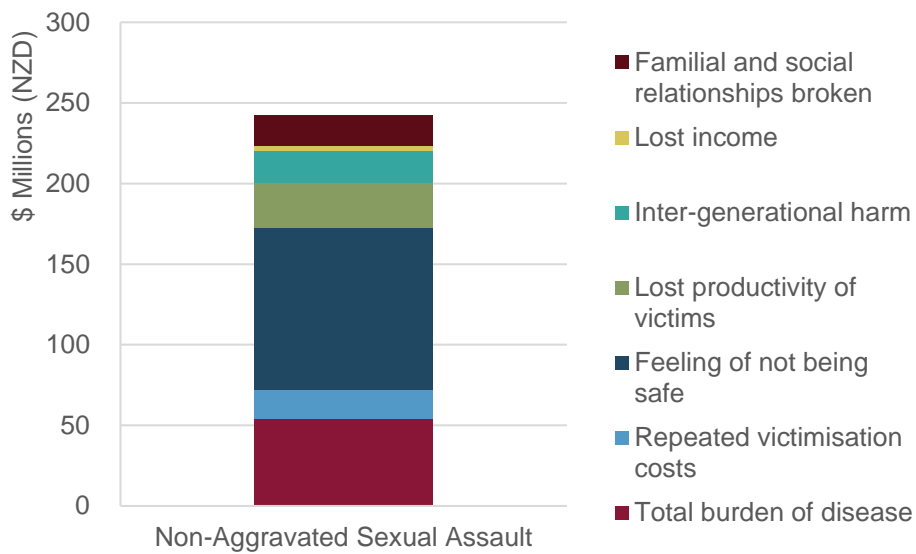


Figure 11.6 Total social costs of non-aggravated sexual assault, 2020

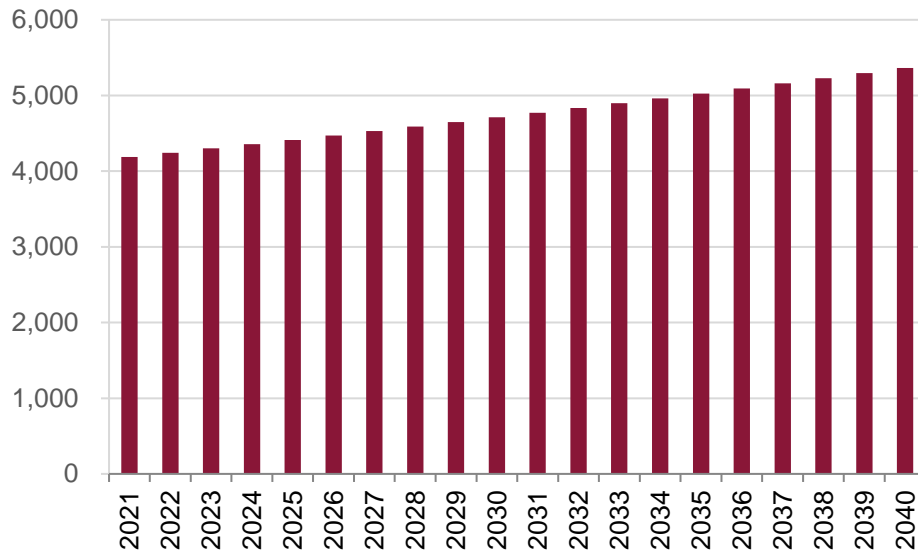


12 Forecast results

We have forecast the costs of sexual violence out to 2040 using an assumption of the growth rate in the population and the assumption that sexual violence victimisation will continue at the same rate as in 2020.

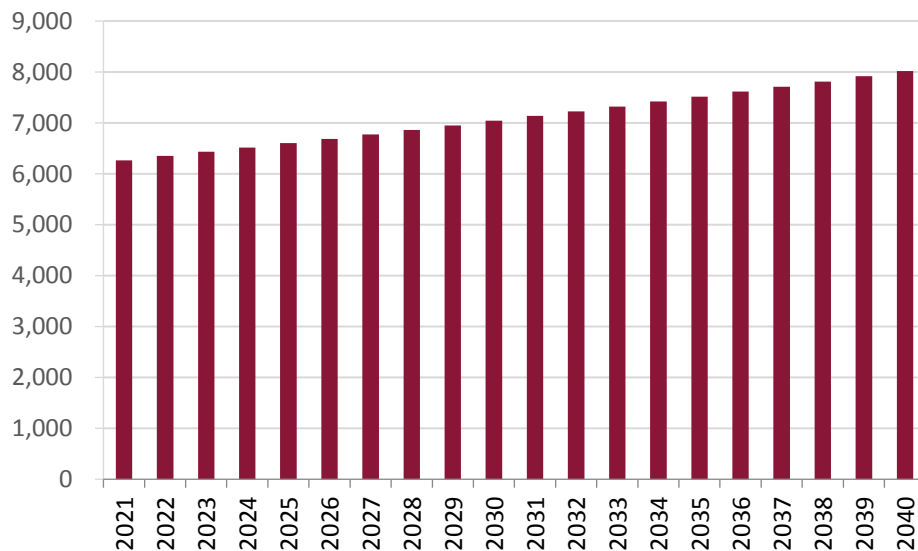
We forecast that the total number of sexual violence crimes committed in New Zealand will be around 5,300 by 2040.

Figure 12.1 Total reported crimes, 2021 to 2040



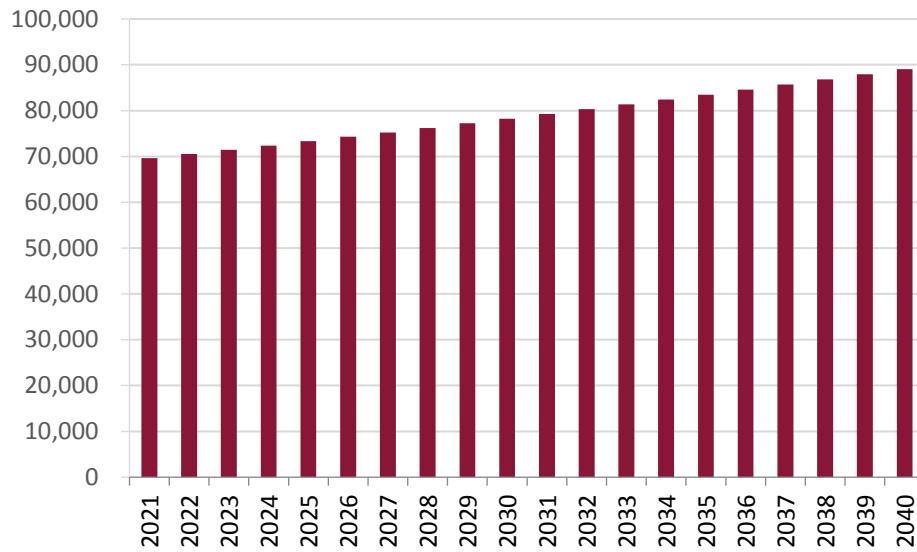
The total number of reported victims of these 5,300 crimes will number just over 8,000 by 2040.

Figure 12.2 Total reported victims, 2021 – 2040



Multiplying this 8,000 by our assumed adjustment for underreporting yields an estimate of total “true” victims of 89,000.

Figure 12.3 Total estimated "true" victims, 2021 - 2040

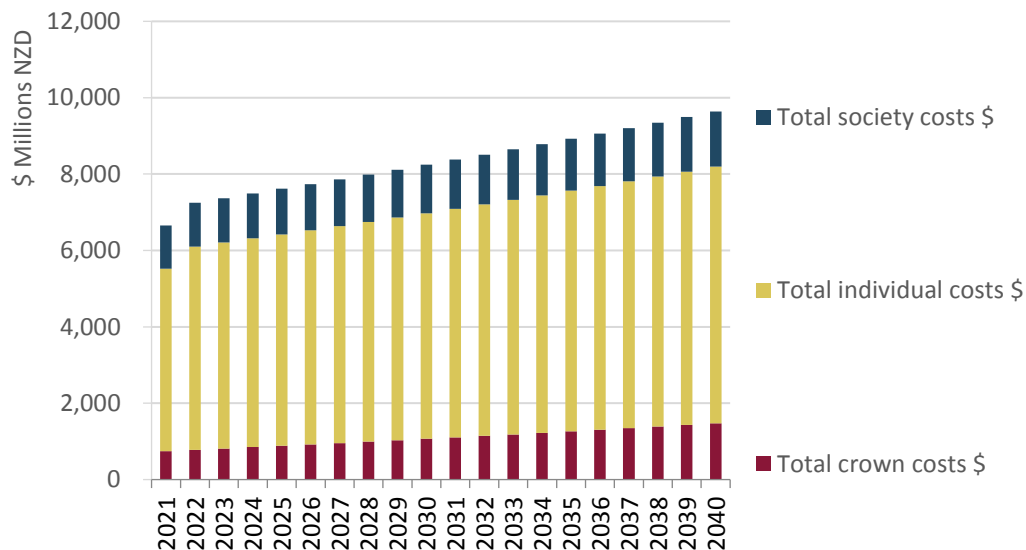


This estimate of 89,000 survivors of sexual violence in the year 2040 will result in costs of

- \$1,470,011,656 to the Crown
- \$6,725,670,557 to individuals, and
- \$1,446,410,348 to society

Or a total of \$9.6 billion in real 2020 dollars.

Figure 12.4 Total costs of sexual violence, 2021 - 2040



We have calculated that the aggregate costs of sexual violence out to 2040 will sum to \$166 billion dollars as measured in real 2020 dollar terms.

To put this in perspective, we know that the distance from the Earth to the Moon is an average of 384,400 kilometres (or 384.4 billion millimetres). We know that a New Zealand dollar coin is 2.74 millimetres in thickness. If one was to stack 166 billion New Zealand dollar coins one on top of

another one could reach the Moon once and go a further 18 percent of the distance. Alternatively, a New Zealand dollar is 23 mm in length (diameter), stacking 166 billion dollar coins lengthwise would extend to the Moon 10 times.

Another comparison is that as of 30th June 2021 the market capitalisation of the NZX 50 was \$190.9 billion.

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