Economic and Social Costing of Gambling in Aotearoa New Zealand 2023-24

Report prepared for the Ministry of Health New Zealand

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Glossary of terms and abbreviations

Affected Other	People, including the family unit, whānau and others, who are close to the person who gambles
Bootstrapping	A statistical method used to estimate the uncertainty around the total cost of gambling problems
Class 4 pokies	Also known as non-casino gambling machine, or 'pokies'
DALYs	Disability-Adjusted Life Years - Measures used in health economics to quantify the burden of disease or health conditions, including gambling harm
DROs	Debt Repayment Orders
EGM	Electronic gaming machines
Gambling harm	As defined by the Ministry of Health, 'harm or distress of any kind arising from, or caused or exacerbated by, a person's gambling; including personal, social or economic harm suffered by the person; or by their spouse, partner, family, whānau, or wider community including in the workplace or by society at large'.
GDP	Gross Domestic Product
HRQoL	Health-related quality of life
Intangible Costs	Costs that are not easily monetised but represent significant impacts, such as emotional distress or decrements to health-related quality of life
KiwiSaver	A New Zealand retirement savings scheme
Low-risk gambling (LR)	Category of people scoring 1 or 2 on the PGSI

Moderate-risk gambling (MR)	Category of people scoring between 3 and 7 on the PGSI
MoH	Ministry of Health
NAPs	No-Asset Procedures
Non-problem gambling	Category of people scoring 0 on the PGSI
NPHS	National Public Health Service
NZGS	New Zealand Gambling Survey (NZGS) 2023/24
Online EGM	Online electronic gaming machines
Opportunity Cost	The economic value of alternative uses of money spent on gambling, particularly 'excessive gambling spend'
PGSI	Problem Gambling Severity Index (Ferris & Wynne, 2001). The PGSI is a commonly used, standardised screening instrument that identifies the risk of problem gambling but does not provide a formal clinical diagnosis.
Prevention Paradox	The concept that a larger number of less severe cases of harm in a population can contribute more to the overall burden of harm than a smaller number of severe cases
Problem gambling (PG)	Category of people scoring 8+ on the PGSI
QALYs	Quality-Adjusted Life Years - Measures used in health economics to quantify the burden of disease or health conditions, including gambling harm
TAB	Totalisator Agency Board
Tangible Costs	Costs that are easily quantified, such as direct financial losses or treatment expenses.

TTO	Time Trade-Off (method)
VCEC	Victorian Competition and Efficiency Commission
VoSLY	Value of a Statistical Life-Year
Whānau	A Māori word for extended family or family group
YLD	Years lived with disability

Executive summary

Introduction and purpose

This report presents a comprehensive assessment of the economic and social costs associated with gambling harm in Aotearoa New Zealand for the 2023-24 period. The central aim of this research is to provide robust, up-to-date evidence on the wide-ranging impacts of gambling harm, thereby supporting informed policy development and effective harm minimisation strategies.

The scope of this study encompasses both tangible and intangible costs, including health and wellbeing impacts, financial losses, and broader societal costs. It examines the burden of these costs on individuals who gamble, their affected others (including family, whānau, and others close to them), and the wider community, businesses, and government. A specific focus is placed on understanding the scale of gambling's impacts on disproportionately affected groups, particularly Māori and Pacific communities, in recognition of the need for equitable approaches to addressing gambling harm.

Headline finding: total social cost

The total estimated social cost of gambling problems in Aotearoa New Zealand for the 2023-24 period is **$4.219 billion**. This figure represents the comprehensive economic burden arising from gambling-related harm across individuals, whānau, and society. The 90% confidence interval for this total cost is estimated to be between $3.72 billion and $4.73 billion, reflecting the inherent uncertainties in quantifying diverse and complex social impacts.

Key drivers of the cost

The $4.219 billion total social cost is primarily driven by two significant categories: Health impacts and financial impacts (see Figure 1 for a visual breakdown by cost category).

Health impacts, both physical and psychological, constitute the largest portion, accounting for nearly half of the total burden at approximately **$2.043 billion (48.4%)**. The vast majority of this stems from the intangible costs associated with decrements in HRQoL, which total $1.68 billion. This HRQoL impact is almost ev.enly distributed between individuals who gamble ($830.6 million) and their affected others ($852.2 million), highlighting the profound and

widespread effect of gambling harm on wellbeing. Other components within health impacts include costs to the New Zealand health system, and costs associated with depression and suicide.

Financial impacts are the second-largest contributor, amounting to approximately **$1.193 billion (28.3%)**. This is predominantly driven by the opportunity cost of excess gambling expenditure, calculated at $1.192 billion. This figure represents the estimated value of money spent on gambling by individuals experiencing harm, beyond what might be considered typical recreational spending, indicating a significant welfare loss.

Together, these two components: HRQoL decrements and the opportunity cost of excess spend, represent the most substantial drivers of the overall social cost of gambling identified in this study. Other notable, though smaller, cost categories include work or study impacts ($678.8 million, 16.1%), relationship disruption ($185.2 million, 4.4%), criminal activity ($54.3 million, 1.3%), and other costs, including government, community, and life course harms ($64.0 million, 1.5%).

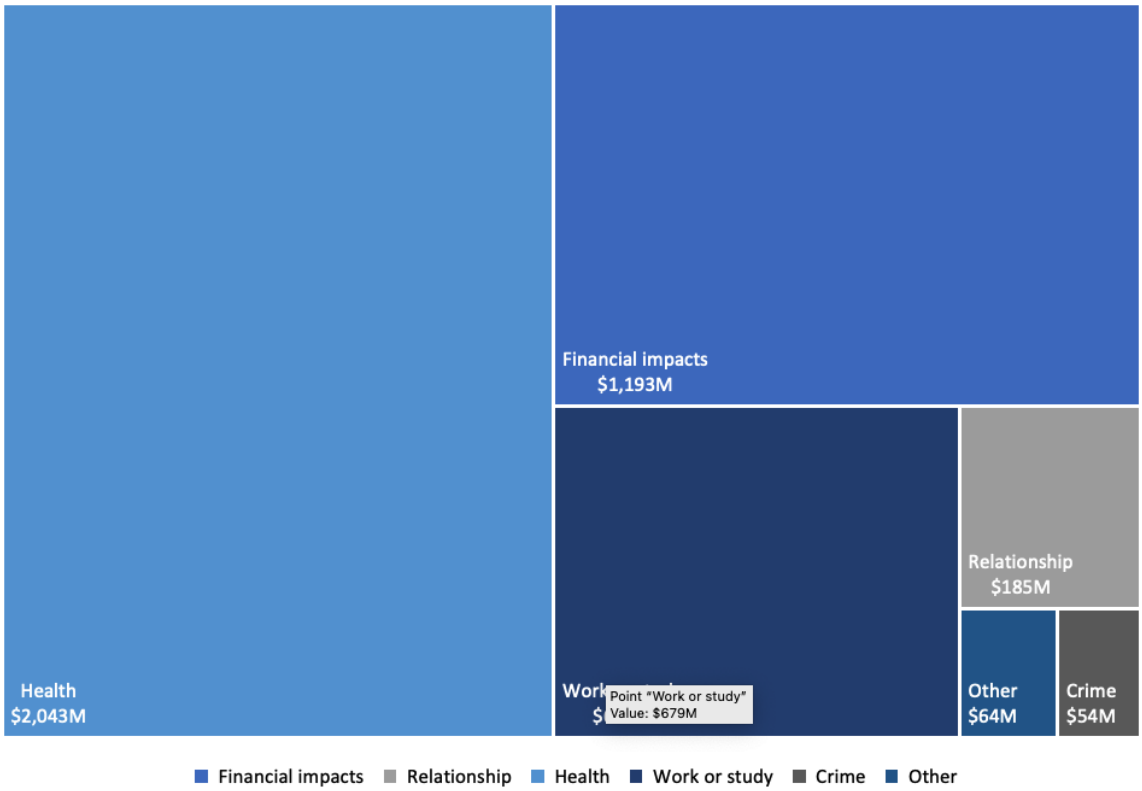

Figure 1. Cost of gambling problems to New Zealand (2023-24) by cost category

Figure 2 presents a detailed breakdown of these costs. The estimated range (confidence interval) for each individual cost item was determined before calculating the overall confidence interval. These ranges, represented by the red error bars, are not symmetrical statistical confidence intervals. Instead, the upper and lower bounds for each individual cost item were determined based on different data sources or by using alternative methods to value non-financial impacts like emotional distress or reduced wellbeing. These ranges can be quite wide due to the difficulty of putting an exact dollar figure on complex social issues. The differences between the low and high estimates for each item often come from using various information sources or using different methods to value non-financial impacts like distress or reduced wellbeing.

For example, the costs linked to reduced HRQoL for both those who gamble and affected others show large ranges (e.g., for people who gamble, $384.8 million to $1.276 billion). This is mainly due to difficulty in valuing intangible impacts, such as the health and wellbeing impacts associated with gambling harm or the value of a human life. These are important factors to include in the costing, yet are hard to place a precise monetary value on. Using different methodologies can result in large ranges in estimates (uncertainties). From these uncertainties in the individual cost items, statistical methods (bootstrapping) were then used to calculate the confidence interval for the total social cost (between $3.72 and $4.73 billion).

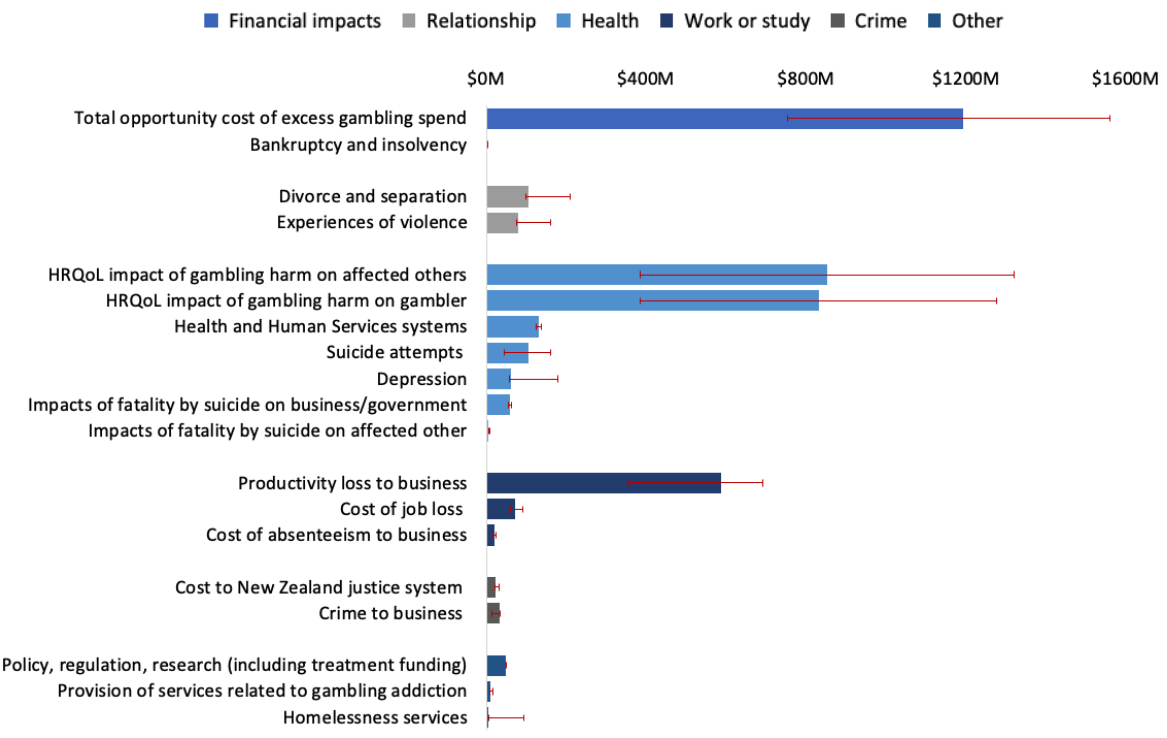

Figure 2. Cost components with upper and lower bounds

Distribution of costs

The economic burden of gambling harm is distributed across several groups (see Figure 3 for breakdown by bearer of cost). Individuals who gamble bear the largest single share, accounting for **43.5% ($1.84 billion)** of the total cost. Affected others (including family, whānau, friends, and community members) shoulder a significant proportion at **33.8% ($1.43 billion)**. The remaining **22.7% ($0.96 billion)** of costs are borne by the wider community, businesses, and government entities.

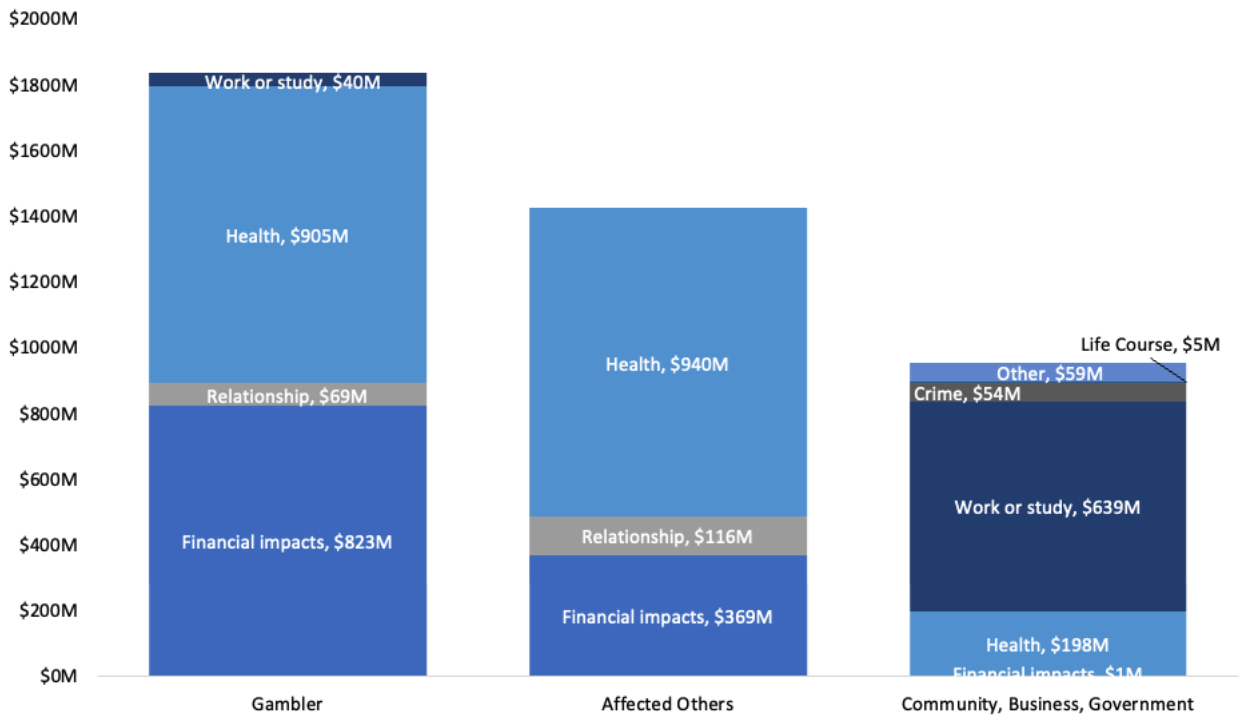

Figure 3. The cost of gambling problems to New Zealand (2023-24) by bearer of cost

A critical finding is the inequitable distribution of gambling harm costs across cultural groups. Figure 4 illustrates this by showing, for each cultural group, their estimated share of gambling harm costs (blue bars, in millions of dollars) alongside their corresponding percentage of the total adult (15+) New Zealand population (red markers). Māori experience a disproportionately high share of the burden. Representing 15.0% of the New Zealand population, Māori account for 31.5% of gambling problems and are estimated to bear **$1.33 billion** of the total social cost. Similarly, Pacific peoples, who make up 6.4% of the population, account for 10.9% of gambling problems and an estimated **$460 million** in costs.

This highlights a significant disparity, indicating that the economic impact of gambling harm is not borne proportionally by all cultural groups. It is important to note that while this analysis quantifies distribution based on problem prevalence, limitations exist in fully capturing the unique nature and extent of culturally specific harms with current data.

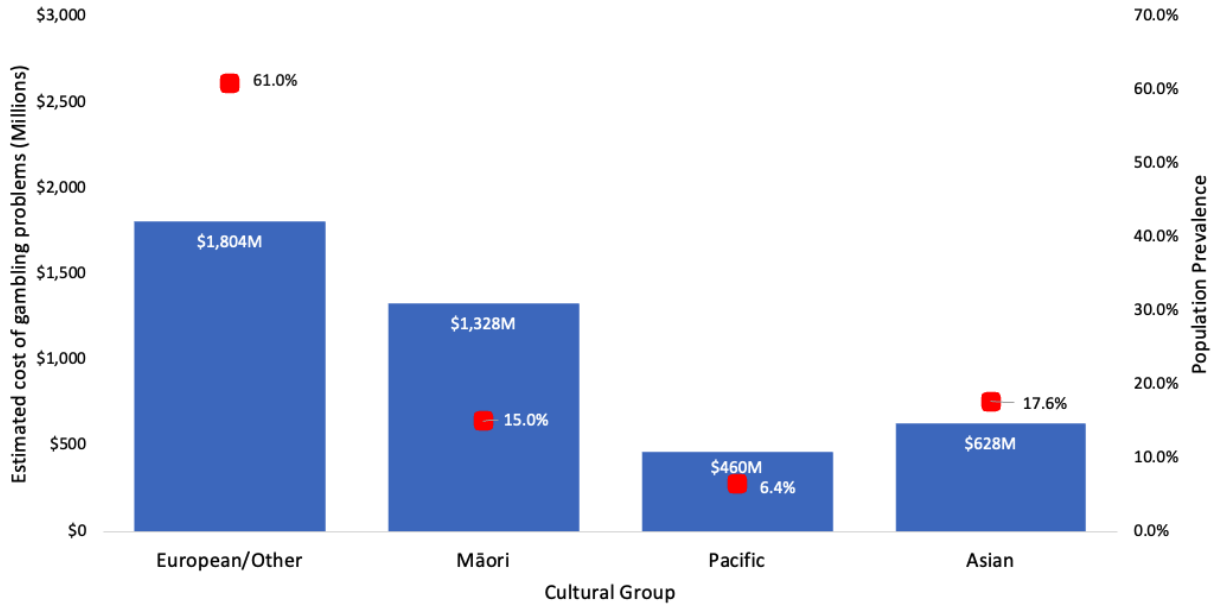

Figure 4. Distribution of the cost of gambling problems in New Zealand (2023-24), by cultural group compared to population prevalence

Attribution of costs to gambling forms

The majority of gambling harm costs stem from problems and excessive expenditure linked to specific gambling forms (see Figure 5 for cost attributable to each form). Electronic Gaming Machines (EGMs) are the most significant contributors. **Offshore online EGMs** account for the largest single share of form-attributable costs at **39.0%** (approximately **$1.58 billion**). Following this, **Class 4 pokies** contribute **24.5%** (approximately **$984.0 million**). These are estimates of the form-attributable component of the total costs. Combined, these two EGM categories are responsible for nearly two-thirds (63.5%) of all gambling harm costs attributable to specific forms.

Figure 5 also includes conservative range estimates incorporating varying forms of uncertainty, to illustrate the significant uncertainty in estimates of the cost of each component.

Offshore online gambling, in general, imposes a substantial and disproportionate burden. The social costs associated with offshore online EGMs and casino games (the latter accounting for an additional 6.1% or $246.9 million) are greatly unlikely to exceed direct economic returns to New Zealand. This highlights a significant area of concern where substantial costs are incurred with minimal local economic benefit, and where individuals are exposed to products with a high risk of harm due to factors like 24/7 accessibility and aggressive marketing, as noted in Community Consultations.

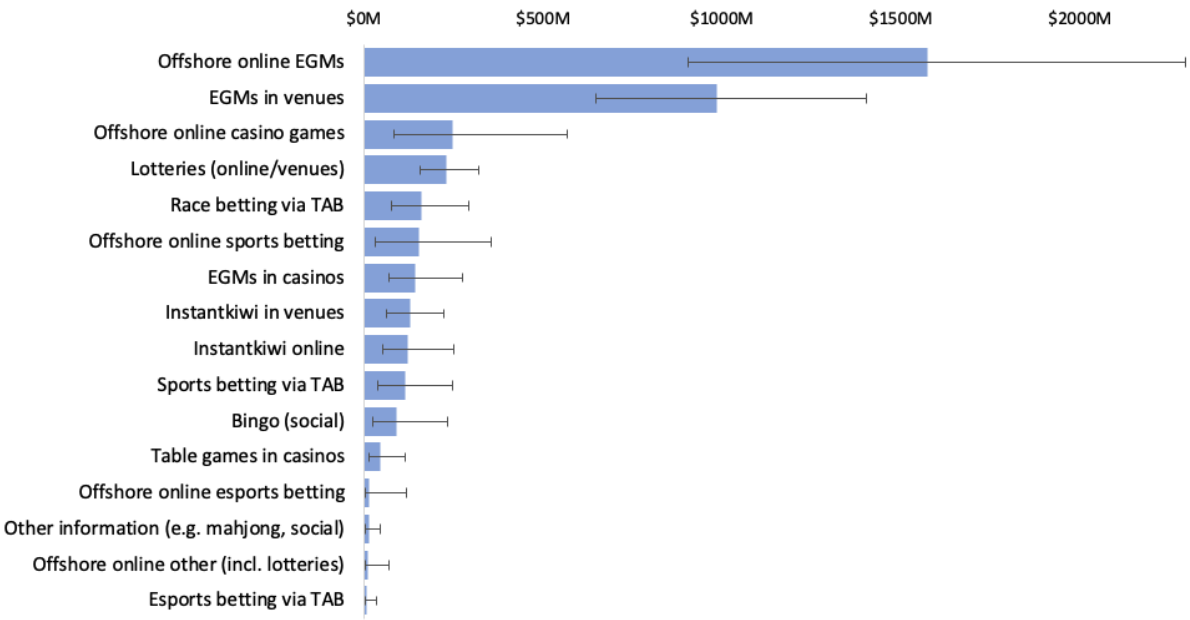

Figure 5. The cost of gambling attributable to each form

Methodological approach (brief overview)

This study adopted a public health perspective to assess the economic and social costs of gambling harm. The costing framework integrated both tangible costs (e.g., healthcare, justice system expenses) and intangible costs, with a significant focus on valuing decrements in HRQoL for individuals who gamble and their affected others. Another key component was the estimation of the opportunity cost of excess gambling spend, that used average spend by people categorised as non-problem gambling as a benchmark to quantify the welfare loss to those categorised as at-risk gambling due to expenditure beyond typical recreational levels. Data were drawn from the New Zealand Gambling Survey (NZGS) 2023/24, previous New Zealand research on gambling harm prevalence, and other relevant national statistics and literature.

To account for inherent uncertainties in cost estimations, a parametric bootstrapping approach was employed to generate confidence intervals. The quantitative analysis was further contextualised and informed by community consultations with professionals working in the gambling harm sector across Aotearoa New Zealand. Economic modelling was undertaken to attempt to assess the likely impact of candidate policy measures on these costs.

Key implications for policy and harm minimisation

The findings from this study present several key implications for policy and harm minimisation efforts in Aotearoa New Zealand:

- *Target risky gambling forms:* Regulatory and harm minimisation strategies should prioritise addressing risky gambling products, particularly EGMs (online and in-venue), which are major drivers of the total social cost.
- *Culturally tailored and equitable strategies:* The disproportionate burden of harm on Māori and Pacific peoples necessitates the co-design and implementation of culturally safe, relevant, and effective harm minimisation strategies in partnership with these communities.
- *Recognise and support affected others:* The significant costs borne by affected others underscore the need for increased recognition within policy and the development of dedicated support services for families, whānau, and friends.
- *Address offshore online gambling:* The substantial costs associated with offshore online gambling highlight the critical challenge and importance of effective regulation and enforcement in this domain.
- *Acknowledge welfare loss:* A significant portion of gambling industry revenue (approximately 37.9% from ‘excess spend’) represents a welfare loss to consumers, indicating that much of this expenditure is harmful and economically inefficient for those involved.
- *Strengthen support services:* There is potential for interventions such as enhanced financial counselling services, with specific expertise in gambling-related financial harm, to alleviate severe financial consequences.

Furthermore, the report's economic modelling of several potential policy options suggests that substantial reductions in these social costs are achievable through targeted interventions. The

analysis indicates that structural changes aimed at the highest-harm products offer the most significant potential for harm reduction.

Specifically, a hypothetical ban on offshore online EGMs—the single largest contributor to harm identified in this study - is estimated to reduce the total social cost of gambling by approximately $1.26 billion (30%). Major interventions for in-person EGMs also show significant promise; introducing universal loss limits is projected to lower the total cost by $680 million (16%), while restricting their availability to casinos could reduce costs by $787 million (19%). The modelling suggests that these EGM-focused policies would deliver disproportionately large benefits to Māori and Pacific communities, making them a key lever for addressing the inequities identified in this report. Expanded access to treatment for high-risk individuals and sinking-lid policies also yield positive, albeit more modest, cost reductions. The evaluation underscores that broad regulatory changes targeting the most harmful products offer the most substantial pathway to mitigating the overall economic and social costs of gambling in New Zealand.

Future research directions

This study identifies several areas where further research would be beneficial for refining understanding and improving future costings:

- Prioritise the collection of detailed, New Zealand-specific gambling expenditure data by form and risk category.
- Develop and validate culturally appropriate methodologies to better quantify the unique cultural dimensions of gambling harm for Māori and Pacific communities.
- Investigate and quantify the impacts of gambling harm on children, both due to their own and other people’s gambling
- Undertake longitudinal studies to understand legacy harms and the long-term progression of gambling problems.
- Refine models for causality and attribution to better distinguish gambling-related harms from co-occurring conditions.
- Explore methods to capture unreported gambling-related crime, particularly within families.
- Continue to enhance HRQoL measurement for gambling harms and diverse affected others.

Conclusion

This study provides a comprehensive estimate of the significant economic and social costs of gambling harm in Aotearoa New Zealand, amounting to $4.219 billion in 2023-24. The findings underscore the substantial burden on individuals, whānau, and the wider community, particularly highlighting the impacts on health and wellbeing and the disproportionate effects on Māori and Pacific peoples. All costings of this kind are subject to certain methodological decisions and parameter assumptions, which are documented in detail. This research therefore provides a foundation for further refined and revised costings, as well as offering an evidence base to inform the development of targeted policies and harm minimisation strategies aimed at reducing the adverse impacts of gambling across the nation.

Chapter 1: Project overview

The Ministry of Health (the Ministry) has developed a 'Strategy to Prevent and Minimise Gambling Harm 2022/23 to 2024/25', in recognition of the significant social and economic impact of gambling (Ministry of Health, 2022). Gambling harm is defined as including '*harm or distress of any kind arising from, or caused or exacerbated by, a person's gambling; including personal, social or economic harm suffered by the person; or by their spouse, partner, family, whānau, or wider community including in the workplace or by society at large*' (Ministry of Health, 2022, p. 17). This harm, arising from either their own or another person's gambling, impacts around one in five New Zealanders and disproportionately impacts people from groups such as the Māori and Pacific communities, those on lower income, and rangatahi/younger people (Ministry of Health, 2022). By definition, gambling harm '*leads to decrement to the health or wellbeing of an individual, family unit, whānau, community or population*' (Browne, Greer et al., 2017, p. 64). Economic costings of gambling assume that these negative impacts from gambling can be monetised, and considered in conjunction with other costs, in order to inform regulation of the industry and harm-minimisation strategies.

While the gambling industry contributes significantly to the economy via employment, gambling duties and community benefits, its adverse effects on individuals, family units, whānau, and communities can be substantial and multifaceted (Browne, Greer et al., 2017). Given the prevalence of gambling-related harm and its significant impact on public health, the Ministry has recognised the need for a comprehensive assessment of the social cost of gambling in New Zealand. This information can be used to:

- understand the key contributors to impacts of gambling on health, wellbeing, and society (e.g. legal, relationships, financial opportunity costs due to excess spend[1]).

[1] Consumer surplus occurs when the price someone pays is less than the maximum price they are willing to pay; it represents the extra benefit or value consumers receive because they pay less than what they were prepared to spend (Forrest, 2013; Productivity Commission, 1999). Financial opportunity costs due to excessive expenditure by those experiencing gambling problems represent the value of the next best alternative uses for money spent on gambling. In economic terms, this misallocation results in a *negative* consumer surplus. This includes essential expenses, savings, investments, and other expenditures that could improve individual and family well-being, which are forgone due to excessive gambling spend.

- support the development of informed, effective policies to mitigate gambling-related harm; and
- enhance understanding of the scale of gambling's specific impacts on different communities, for example, affected others including family members, whānau and others close to the person who gambles, as well as Māori, and Pacific communities.

This report provides comprehensive estimates of the social and economic costs associated with gambling in New Zealand. Specifically, it presents an analysis of gambling costs, integrating both tangible and intangible costs, including health and wellbeing impacts, financial losses, and broader societal costs. The analysis includes breakdowns for disproportionately impacted groups, such as the Māori and Pacific communities, as well as major gambling product categories. Finally, a data monitoring framework is presented for ongoing economic costing of gambling harm, grounded in publicly available data and current knowledge about the link between gambling losses and health and wellbeing impacts. Consultations were undertaken with interested individuals and organisations, and a summary of the feedback is provided, as well as details of how that feedback was incorporated into the costing. Finally, the report evaluates the potential impact of various policy options on mitigating gambling harm, discussing their potential effectiveness in reducing economic and social costs while preserving the industry's economic contributions.

The project aimed to answer the following research questions:

- What are the comprehensive economic and societal costs of gambling in New Zealand, and how are they distributed across different levels of gambling severity, including people categorised as problem, moderate-risk, and low-risk gambling?
- How do health and wellbeing impacts from gambling vary across different levels of gambling severity, and how can they be quantitatively assessed and valued?
- How can multiple methods and protocols be integrated to enhance the scientific rigour of health and wellbeing cost estimates, and how can confidence intervals be bootstrapped to represent uncertainties and variances?
- What proportion of the total gambling-related costs can be attributed to specific gambling products, and how does this attribution inform policy and regulation?

- What are the potential health-economic savings attributable to various policy options aimed at reducing gambling-related harms, and how can these be quantitatively evaluated?
- How might excessive gambling expenditure be defined, can the corresponding opportunity costs of excessive gambling expenditures be estimated, and what proportion of total gambling losses represents a negative consumer surplus?

1.1 Document structure

The report includes the following chapters:

- Chapter 2: A review of the impact of gambling-related harm and its implications for economic costing.
- Chapter 3: A literature review of previous economic costing studies on gambling in New Zealand and internationally.
- Chapter 4: The findings of the Community Consultation.
- Chapter 5: A framework for the economic analysis of harm affecting individuals, affected others, whānau, and the wider community (including businesses and government). This chapter also discusses key methodological considerations such as excess gambling expenditure, HRQoL impacts, and equity issues related to gambling harm.
- Chapter 6: The costing results, beginning with headline figures, followed by a detailed methodology and outcomes for each item within the framework.
- Chapter 7: Several policy options and their potential impact on the social and economic cost of gambling in New Zealand.
- Chapter 8: A discussion of the study's limitations and key data gaps that affect the accuracy and completeness of the costing estimates, noting how addressing these gaps could improve future studies.

Chapter 2: Gambling-related harm and implications for costings

In assessing the economic impact of gambling, costs can be organised into two main categories: tangible and intangible. While the tangible costs, such as direct financial losses or treatment expenses, are more easily quantified, they represent only a fraction of the total economic burden. To help understand how this report values gambling harm, it is useful to clarify three interrelated concepts:

- *Intangible costs:* These are the real but non-financial harms experienced by individuals and families, such as emotional distress, psychological anguish, or the breakdown of relationships. They do not have a natural price tag.
- *Health-related quality of life:* This is the public health metric used to measure the impact of those intangible costs. By quantifying the loss of wellbeing, HRQoL allows us to assign a consistent economic value to these intangible harms, making them comparable to other health conditions.
- *Excessive spend (negative consumer surplus):* This is a primary financial driver that leads to intangible costs. It refers to the money spent on gambling beyond recreational levels, which, due to addiction or loss of control, fails to provide value and instead creates the very financial pressure, stress, and anxiety that reduces a person's quality of life.

In essence, excessive spending often causes the intangible harms, which are then measured using HRQoL to calculate their economic cost for this study. Most gambling costs are 'externalised' in the form of intangible harms experienced by people who gamble and affected others. These intangible costs, primarily measured through impacts related to HRQoL, may not involve direct financial transfers but represent a significant negative consumer surplus resulting from excessive spending. Although these costs are termed ‘intangible,’ they form a major component of any comprehensive economic costing of gambling, as they appropriately account for the externalities that are often overlooked in traditional economic analyses.

Gambling-related harm remains a complex and multifaceted issue, deeply intertwined with individual, familial, and societal wellbeing. The absence of a universally accepted definition of

gambling-related harm has led to varied approaches in its conceptualisation and measurement across different jurisdictions. However, a measurement model proposed for New Zealand by Browne, Bellringer, et al. (2017) provides a comprehensive framework that aligns closely with a public health perspective, incorporating diverse impacts of gambling.

This section will explore the broad spectrum of harms associated with gambling, grounding the discussion in the context of the New Zealand definition. This definition, which is central to New Zealand's gambling policy, delineates gambling-related harm as the negative consequences not only experienced by the person who gambles but also extending to their family, whānau, and the wider community (Browne, Greer et al., 2017). By emphasising the public health approach, the New Zealand model highlights the need to consider gambling harm across multiple domains, including financial, social, cultural, and health-related impacts.

The section first outlines key considerations around who bears the costs of gambling harm, particularly impacts on affected others and equity issues, before discussing each cost domain in turn.

2.1 Costs borne by those other than the person who gambles

Individuals with gambling problems bear a major proportion of the cost of gambling harm (Browne, Greer et al., 2017). However, impacts from gambling extend beyond the individual who gambles, affecting various groups, including immediate and extended family, friends, and whānau (Abbott et al., 2014; Bellringer et al., 2019).

2.1.1 Affected others

Affected others experience a significant proportion of the cost of gambling harm (Browne, Greer et al., 2017). The relationships and connections between people can spread the harm caused by gambling through various channels, including mental health, emotions, physical health, finances, and family relationships (Bellringer et al., 2019; Landon et al., 2018). In the New Zealand National Gambling Study (Abbott et al., 2014), approximately one-third of adults reported knowing at least one person they believed had a gambling problem.

Abbott et al. (2014) reported that Māori people were more likely to know someone with a gambling problem, followed by Pacific peoples and European/Other backgrounds, and then

Asian people. The most mentioned impacts were financial, relationship problems, family stress, loss of trust, negative feelings (anger, frustration and resentment) and feelings of concern for the person who gambles. Māori and Pacific people referred to financial impacts more often than the other cultural groups and were more likely to have unpaid bills or experienced deprivation due to another person's gambling. Additionally, a higher proportion of Pacific and Asian people reported having arguments due to another person's gambling than people in the European/Other or Māori groups.

The immediate family, including spouses/partners, children, siblings, and parents, can experience the most significant impacts, often due to shared finances and responsibilities (Tulloch et al., 2023). These harms can include detrimental effects on their relationship, finances, physical and mental health, housing situation, and material standard of living, potentially leading to a loss of trust, arguments, and relationship breakdown (Abbott et al., 2014). Around 2.2% of the population of New Zealand reported that their spouse or partner has, or had, a problem with gambling; 6% reported this about a parent, 4.1% about a sibling, and 1.1% about a child (Abbott et al., 2014). A large Australia and New Zealand study by Jeffrey et al. (2019) examined the experiences of both people who gamble and their spouses. They found that spouses reported experiencing a similar number of harms as the person who gambled, spanning the same harm domains. However, spouses tended to report more psychological, emotional and relational harms, compared to the person who gambles.

Extended family members, friends, and whānau can also experience harm when supporting those affected by problem gambling. This may include increased responsibilities for childcare, financial strain from lending money, and providing emotional support (McCarthy et al., 2022; Palmer du Preez et al., 2021). The impact on these groups can vary depending on cultural expectations and the strength of familial or social ties.

2.1.1.1 Children

Children living with people with gambling problems are at risk of various harms, including financial instability leading to deprivation of essential items, damage to their relationships with their parents, exposure to parental conflict (such as arguments), neglect, an increased risk of conflict and violence, family breakdown, damaged relationships, and physical and emotional harm (Tulloch et al., 2022; Wurtzburg & Tan, 2011). They are also more likely to develop gambling problems themselves later in life (Crisp et al., 2004; Wurtzburg & Tan, 2011). There is

little large-scale quantitative evidence examining the harm experienced by these children, particularly in New Zealand. This lack of data may be due to the ethical challenges involved in accessing this population for research. In an exception, an Australian cohort study identified significant associations between parental gambling problems and poor health, anxiety, low mood, behavioural issues, and self-harm in their children (Tulloch et al., 2022). Despite these nascent findings, the absence of representative quantitative data on the impact of gambling harm on children makes it difficult to fully incorporate these costs into economic models. Future research should prioritise this area, potentially through carefully designed longitudinal studies or innovative methodologies that address ethical concerns while capturing the full spectrum of harms to children affected by parental or family gambling problems.

2.1.2 Equity issues around gambling harm

The New Zealand Ministry of Health defines equity as recognising that '*different people with different levels of advantage require different approaches and resources to get equitable health outcomes*' (Ministry of Health, 2019). When interpreting the total costs of gambling-related harm, it is crucial to consider the inequitable distribution of both benefits and costs across the population. This disparity goes beyond demographic groups and touches on a fundamental imbalance in how gambling impacts society.

The costs of gambling-related harm are disproportionately borne by a small segment of the population, likely being less than 10% of people who gamble and those around them. These individuals and their immediate social circles experience the brunt of the negative impacts discussed earlier, including financial hardship, health issues, and relationship problems. In contrast, any recreational and economic benefits of gambling are enjoyed by a much wider population segment. This includes people who gamble without experiencing harm and who experience gambling primarily as a form of entertainment, as well as broader economic beneficiaries such as the gambling industry, its employees, and public spending based on gambling-related tax revenues.

This skewed distribution of cost/benefit means that even in a scenario in which the aggregate economic impact of gambling appears balanced or even positive, when viewed at a societal level, it does not balance out significant harm concentrated within a smaller, vulnerable portion

of the population. Observation of this imbalance forms part of the rationale for considering the costs of gambling separate from its benefits.

Socioeconomic and cultural equity issues exist in relation to gambling harm (Raybould et al., 2020). For example, there tends to be a higher concentration of gambling venues in areas of greater deprivation (Rook et al., 2018) and gambling problems are more common in those experiencing deprivation or lower income households (Abbott et al., 2018; Rook et al., 2018). Moreover, transitioning into risky gambling activities is more likely to occur following a period of financial deprivation (Bellringer et al., 2020).

Māori people are over three times more likely to experience significant gambling problems compared to non-Māori and non-Pacific people (Abbott et al., 2018; Ministry of Health., 2022). Pacific people are less likely to participate in gambling; however, for those that do, they are at higher risk of harm (Abbott et al., 2014). Additionally, these groups tend to live in lower socioeconomic areas, where Class 4 pokies are most likely to be situated. Correspondingly, these groups are most likely to bear a greater burden of the social and economic cost of this harm, not only to the person who gambles but to their family, whānau, and the broader community.

Communities perceive, engage with, and potentially experience harm from gambling activities in different ways (Urale et al., 2015; Wang & Bellringer, 2022; Zhang et al., 2022). For example, one study found Pacific people tend to have unique concepts of what constitutes gambling (Urale et al., 2015). Lottery, scratch cards, and bingo are generally not considered gambling, nor are activities associated with community fund-raising, known in the literature as community gambling. On the other hand, 'commercial gambling', or gambling in a club, pub, or casino, can be seen as an easy and practical way to make money when needed. This belief is commonly heard by gambling health professionals in New Zealand from their clients, with gambling perceived as a potential source of income (Rimal et al., 2023). This perspective could make certain communities more vulnerable to gambling harm, especially if they are already experiencing economic hardship.

Likewise, there can be compounding effects of socioeconomic disadvantage and cultural issues. In a study of Pacific women in New Zealand, Pickering (2019) found that lower weekly income, unemployment and lower education were associated with a higher risk of problem gambling. Furthermore, 77.1% of Pacific women in the study reported participating in traditional gift-

giving practices, which has been linked to gambling as a way to meet these cultural/financial obligations and can furthermore spread impacts beyond the person who gambles. As noted in the section on cultural harms, these interactive effects are likely to apply to other minority cultural groups as well.

Unfortunately, evidence from non-representative samples or qualitative studies is difficult to rigorously introduce into a health-economic costing in a robust way. When evaluating differential cultural impacts, future research should consider including Pakeha or general population comparison groups to establish baselines and thereby provide the basis to estimate differential risk/impact.

2.2 Financial impacts

Total regulated gambling expenditure in New Zealand for 2023/24 was $2.792 billion (Department of Internal Affairs, 2024). This figure comprises $1.037 billion on Class 4 pokies, $792 million on Lotto NZ, $371 million on TAB NZ and $592 million on casinos (Department of Internal Affairs, 2024). In addition, it is estimated that between $342 million and $500 million was spent by New Zealanders on offshore online gambling (*Regulatory impact statement: Offshore online gambling*, 2024; SkyCity Entertainment Group, 2023).

Expenditure by people experiencing gambling problems often leads to financial harm for themselves and their families. Financial harms are a primary and pervasive consequence of gambling problems. These harms encompass any financial distress arising from, caused by, or exacerbated by a person's gambling (Ministry of Health, 2022). The spectrum of financial harm ranges from immediate consequences, such as the inability to pay bills or purchase necessities, to long-term impacts like the erosion of savings and decline in overall standard of living (Browne, Greer et al., 2017).

The interaction between gambling and financial harm is complex and often intertwined with broader social and economic determinants. For instance, a large portion of gambling-related harm and losses is often experienced by those living in low-income areas, who are consequently more likely to be receiving welfare benefits. Research has shown a link between problem gambling and poverty, with areas having the highest number of Foodbank clients and with lower socio-economic status also having the largest numbers of EGMs (Wynd, 2005). In some cultural

groups, particularly Māori and Pacific communities, financial burdens and gambling problems can be exacerbated due to the lending, sharing, and borrowing of money within the community (Dyall, Thomas, Thomas, 2009; New Zealand Families Commission, 2012).

The prevalence and severity of financial harms are significant. The 2012 New Zealand National Gambling Study found that nearly 75% of people with gambling problems reported being forced to buy cheaper food due to gambling, with those categorised as moderate-risk and low-risk gambling also experiencing financial deprivations more frequently than people without gambling problems (Abbott et al., 2014). These harms are not confined to the person who gambles; about 1 in 36 adults reported their household had gone without necessities or had unpaid bills due to gambling (Abbott et al., 2014). These households are also likely to include other individuals, such as children or dependents, who are also likely to be affected.

Financial harms disproportionately affect people living in lower socioeconomic areas, where a higher proportion of gambling-related harm and losses is observed (Wheeler et al., 2006). Over 60% of Class 4 pokies venues are located in the most socioeconomically deprived areas of the country (Ministry of Health, 2022) and people in the most deprived areas spend up to three times as much on Class 4 pokies than people in the least deprived areas. Poorer communities are particularly vulnerable due to limited financial resources and susceptibility to cognitive fallacies about winning (Hahmann et al., 2021; Latvala et al., 2021). This contributes to cycles of disadvantage by affecting factors that contribute to poverty and lower levels of human and social capital (Browne, Greer et al., 2017). In severe cases, financial harms can lead to bankruptcy or loss of major assets such as homes, cars, or businesses. Although much rarer than less severe impacts, the long-term consequences of these financial impacts can be significant, not only for the individual but for their family and wider community.

An important concept in understanding the financial impact of gambling is that of opportunity costs (discussed further in Chapter 5. Costing Methodology). This refers to the economic value of alternative uses of money spent on gambling. The Australian Productivity Commission (1999) introduced this concept to gambling costing studies, arguing that expenditure by people categorised as problem gambling above that of those categorised as recreational gambling represents a negative consumer surplus or excess loss. This approach assumes that the spend of people categorised as problem gambling would be similar to those without a gambling problem, if not for their gambling issues. Subsequent studies, including Browne, Greer et al. (2017), have

refined this methodology to include excessive spend across the spectrum of gambling risk, from non-problem (no excessive spend) to include people categorised as low-risk and moderate-risk gambling, discounted relative to the severity of financial harms reported by each of these groups.

Given their direct monetary nature, these financial harms, particularly the opportunity cost of excessive spend, are among the most directly quantifiable components in this economic costing.

2.3 Psychological and emotional harms

Psychological and emotional harms represent a significant portion of the intangible costs associated with gambling. These harms encompass a wide range of impacts, including depression, anxiety, stress, and decreased overall mental wellbeing. For example, people who gamble report experiencing stress, anxiety and panic attacks, depression, and aggression (Bellringer et al., 2019). In health economic costings, these impacts are typically quantified through measures of HRQoL, which capture the degree to which gambling problems affect an individual's overall functioning and wellbeing. Studies have consistently shown that gambling problems are associated with substantial decrements in HRQoL, with the severity of these decrements increasing alongside the intensity of gambling problems (Browne, Greer et al., 2017; Browne et al., 2016).

The valuation of these psychological and emotional harms is key to costing the full societal impact of gambling. In health-economic costings, these impacts are typically monetised by converting HRQoL decrements into quality-adjusted life years (QALYs), which can then be assigned a monetary value based on measures such as gross domestic product (GDP) per capita or the value of a statistical life-year (VoSLY) (Charalampous et al., 2022; Iino et al., 2022; Leung, 2009).

2.4 Relationship disruption, conflict or breakdown

Relationship disruption, conflict, and breakdown represent significant harms arising from gambling problems. These harms extend beyond the person who gambles, affecting immediate family, extended family, friends, and whānau (Ministry of Health, 2022). While these broader connections may experience lower levels of harm than those in their immediate family, some may occasionally experience severe impacts, such as those resulting from criminal activity. The scope of relationship harm is broad, encompassing increased conflict and arguments, loss of trust

due to dishonesty, breakdown of relationships, neglect of family responsibilities, and experiences of violence (Langham et al., 2016).

The prevalence of relationship harms is substantial, as revealed by a recent Australian national prevalence survey (Hing, Russell, et al., 2022). Moreover, the 2012 New Zealand National Gambling Study found that people with gambling problems were 38% more likely to report increased arguments with someone close to them (Abbott et al., 2014). A Finnish study found that 12.9% of respondents were affected others of people who gamble, with emotional, relationship, and financial harms prevalent among affected family members and non-family members (Castrén et al., 2021). Notably, people categorised as moderate-risk and low-risk gambling also reported more relationship troubles than those without gambling problems, indicating that relationship harms occur across the spectrum of gambling risk (Abbott et al., 2014).

Different relationships are impacted in various ways. Spouses and partners often experience the most severe effects due to shared finances and responsibilities (Holdsworth et al., 2013; Tulloch et al., 2023). Children of people with gambling problems face unique challenges, including neglect, altered relationships, and loss of trust and security (Darbyshire et al., 2001; Tulloch et al., 2022). Extended family and friends may also experience strained relationships and financial burdens. The consequences of severe gambling-related relationship harm can be long-lasting, with the effects of a terminated relationship persisting even after the gambling behaviour ceases (Rockloff et al., 2022). Moreover, there are potential intergenerational impacts on children's future relationships and behaviours (Rockloff et al., 2022).

A particularly concerning aspect of relationship harm is the strong link between problem gambling and intimate partner violence (IPV). Studies have shown that gambling problems significantly increase the odds of both perpetrating and experiencing IPV and maltreatment (Afifi et al., 2010; Bellringer et al., 2016; Dowling et al., 2016). A meta-analysis by Dowling et al. (2016) found that over one-third of people with gambling problems reported being victims (38.1%) or perpetrators (36.5%) of physical IPV, with the prevalence of problem gambling among IPV perpetrators estimated at 11.3%. These findings suggest that both the person who gambles and those close to them may face heightened risk of violence, including coercive control and physical, psychological, sexual and financial abuse, which may extend beyond intimate partners to other family members (Hing, O'Mullan, et al., 2022).

Cultural considerations are important when assessing relationship harms. The impact may vary across cultural groups due to different family structures and community ties. For instance, Māori and Pacific communities may experience broader impacts due to extended family connections (Dyall et al., 2009).

While the full emotional impact is difficult to value, tangible outcomes such as divorce and the prevalence of violence-related distress allow for partial costing of these harms.

2.5 Health

Gambling-related harm encompasses significant impacts on both physical and mental health, affecting not only the person who gambles but also their family and close associates. The severity of gambling problems is associated with a range of health risk behaviours, poor general health, and low mental wellbeing (Butler et al., 2020; Lin et al., 2010). People with gambling problems experience personal, social, and financial consequences, as well as mental, physical, and emotional health problems (McCormack & Griffiths, 2011). Like relationship impacts, these issues can also persist even after problematic behaviour has ceased, potentially leading to chronic health problems. Therefore, health impacts contribute substantially to the overall burden of gambling-related harm, manifesting in various forms of morbidity and, in severe cases, mortality (Browne et al., 2016).

However, the relationship between gambling problems and other health issues is often complex and bidirectional. Strong associations exist between gambling problems and other addictions, as well as various mental health issues. For instance, problem gambling is often associated with increased rates of tobacco, alcohol, and substance use. The New Zealand 2012 National Gambling Study (Abbott et al., 2014) found that people experiencing problems with gambling had significantly higher rates of substance use and alcohol misuse compared to people without gambling problems. In a longitudinal analysis of New Zealand gambling data, Bellringer et al. (2023) identified several health and lifestyle factors that were significantly associated with changes in gambling behaviours, including chronic illness, alcohol and tobacco consumption. Nevertheless, it is not warranted to conclude that these correlations are caused principally by problematic gambling. Correlational data can make it challenging to attribute health impacts

solely to gambling, but it underscores the interconnected nature of these issues (Dowling et al., 2015a, 2015b).

Severe psychological distress is a prominent feature of intense gambling-related harm, which overlaps with the psychological and emotional domain described above. People with gambling problems exhibit high rates of depression, anxiety, and other mood disorders. Evidence indicates a bidirectional relationship between gambling harm and these factors. For example, gambling can both result in depressive symptoms and serve as a coping mechanism for low mood (Bellringer et al., 2019; Dowling et al., 2019; Dussault et al., 2011; Wood & Griffiths, 2007). The New Zealand 2012 National Gambling Study found that 46% of people categorised as problem gambling reported high levels of psychological distress, compared to only 5 to 7% of those without gambling problems (Abbott et al., 2014). Experiences of guilt, shame, and stigma are common, often exacerbating mental health issues (Hing et al., 2016). Suicidal ideation and attempts are also more prevalent among people with gambling problems, with one study finding that 19.2% of people categorised as problem gambling reported thoughts about suicide in the past year (Wardle, Dymond, et al., 2019).

Physical health is also impacted by problematic gambling. In the qualitative phase of the New Zealand National Gambling Study, participants reported impacts such as blood pressure problems, weight gain and sports-related injuries due to lack of sleep (Bellringer et al., 2019). Stress-related health problems, such as high blood pressure and sleep disturbances, are common (Black et al., 2013). People with gambling problems often neglect their physical health and healthcare needs due to preoccupation with gambling or financial constraints. There is also an increased risk of alcohol and substance abuse among people with gambling problems, further compromising physical health (Lorains et al., 2011).

Many of these issues can be subsumed under the concept of HRQoL. HRQoL decrements can be measured on a zero to one scale, with zero reflecting no impact (ideal health functioning) and one representing a life not worth living. Studies have shown that estimated HRQoL decrements increase with gambling problem severity. A program of research, including in New Zealand (Browne, Greer et al., 2017) has been conducted to determine HRQoL impacts. A recent paper (Tulloch et al., submitted 2025) based on a comprehensive review of these existing studies, estimated that the average HRQoL decrement associated with the most severe level of gambling harm is approximately 0.45. This estimate draws on both direct and indirect elicitation methods,

using a hybrid approach to capture the maximum impact of severe gambling problems while scaling relative impacts across the full harm spectrum.

Importantly, the health impacts of gambling extend beyond the individual who gambles to affected others. Family members, particularly partners and children, often experience stress, anxiety, and depression as a result of living with someone experiencing a gambling problem (Hing, Russell, et al., 2022; Kourgiantakis et al., 2013; Tulloch et al., 2021, 2023). Because a single person experiencing gambling problems can affect multiple other people (Goodwin et al., 2017), these impacts on affected others contribute significantly to the overall health burden of gambling.

Children exposed to parental gambling problems face increased risks to their health and wellbeing, including poorer general health, anxiety, low mood, and behavioural problems (Tulloch et al., 2022). However, despite some studies, overall, research is limited on the experiences of children in problem gambling families (Tulloch et al., 2021).

Through the use of HRQoL metrics and data on specific conditions like depression, these significant health impacts can be quantified and valued within the costing framework.

2.6 Cultural harm

Cultural harm represents a potentially significant aspect of gambling-related harm. This form of harm encompasses damage to cultural practices, beliefs, and values arising from gambling, including both tangible and intangible impacts on cultural identity and traditions (Langham et al., 2016). The complexity and diffuse nature of cultural harm make it challenging to quantify, yet its consideration is crucial for a comprehensive understanding of gambling's societal impact.

Certain cultural groups are disproportionately affected by gambling-related harm. For instance, Pacific people in New Zealand have been identified as having a higher risk of developing gambling problems (Kolandai-Matchett et al., 2017), while Aboriginal communities in Australia experience higher rates of problem gambling compared to the general population (Breen & Gainsbury, 2013). Māori, and Māori women in particular, are also more likely to be affected by another's gambling (Morrison, 2017). These disparities highlight the need to consider cultural contexts when assessing gambling harm.

The manifestation of cultural harm is often intertwined with complex cultural practices and beliefs. Kolandai-Matchett et al. (2017) identified several culture-gambling intersecting themes among Pacific communities, including collectivism, gift-giving practices, gambling-based fundraising, and patriarchal structures. These cultural contexts can amplify other forms of gambling harm, such as financial and relationship harms, potentially making them more severe and pervasive within these communities.

In New Zealand, Māori and Pacific communities face unique challenges related to gambling harm. The collectivist aspects of these cultures, combined with practices of money sharing and gift-giving, can exacerbate the financial impacts of gambling and make it more difficult to identify and address gambling problems (Dyall, L., Thomas, Y., & Thomas, D., 2009; New Zealand Families Commission, 2012).

Furthermore, the broader social circles and extended family ties in these communities can intensify the spread of harm beyond the individual who gambles, affecting entire families and whānau. The stigma associated with gambling problems in these communities can also lead to isolation and reluctance to seek help, further compounding the harm (Sobrun-Maharaj et al., 2012).

Specific cultural impacts can include the erosion of traditional values and practices, disruption of cultural transmission to younger generations, and strain on cultural leadership and community cohesion. There are also potential intergenerational effects, including impacts on cultural identity formation in younger generations and the possible loss of cultural knowledge and practices over time.

Assessing and addressing cultural harm presents unique challenges. The diversity within cultural groups makes it difficult to implement cohesive strategies to address gambling-related harms (Breen & Gainsbury, 2013). Moreover, the intangible nature of many cultural impacts complicates efforts to quantify and address these harms effectively (Langham et al., 2016). Breen and Gainsbury (2013) emphasise the importance of community consultation in developing prevention and intervention strategies. Culturally informed research methodologies are necessary to fully understand and address the unique ways in which gambling impacts different cultural groups. Nevertheless, incorporation of cultural harm into an economic costing requires

concrete and quantifiable evidence of differential qualitative impact across cultural groups, or measurable harm to cultures themselves. However, due to the intangible nature of these impacts and a lack of validated quantitative measures, cultural harm is not formally included in the final cost calculation of this report.

2.7 Work or study impacts

Gambling-related harm can significantly impact an individual's performance in both work and educational settings. These impacts can manifest as reduced productivity, decreased academic achievement, and overall impairment of professional and educational development (Browne et al., 2016). For example, participants in the qualitative phase of the New Zealand National Gambling Study report impacts including low motivation, poor work performance and failed university papers (Bellringer et al., 2019). The scope of these effects is broad, encompassing both direct and indirect influences on an individual's ability to function effectively in their work or study environment.

In the workplace, gambling-related harm can lead to reduced job performance, increased absenteeism, and presenteeism - where an employee is physically present but mentally disengaged from their tasks (Eby et al., 2018). The authors highlight the concept of strain-based gambling interference that describes situations where gambling behaviours create stress that spills over into work responsibilities. This interference can result in cognitive disengagement from work duties, potentially leading to errors, missed deadlines, or conflicts with colleagues and supervisors. In severe cases, gambling problems may lead to job loss or significant career setbacks.

The impact on academic performance is equally significant. In a longitudinal study, Vitaro et al. (2018) found a link between gambling participation at age 14 and reduced academic performance at age 17, even after controlling for factors such as impulsivity and socioeconomic and family adversity. This suggests that gambling can have lasting effects on educational attainment, potentially leading to lower grades, increased likelihood of dropping out, or reduced opportunities for higher education.

Cognitive effects play a crucial role in these impacts. Wagner et al. (2022) noted that exposure to gambling environments can increase temporal discounting, affecting decision-making

processes. This cognitive shift, combined with preoccupation with gambling activities, can significantly impair an individual's ability to concentrate on work or study tasks.

Financial implications of gambling can directly affect work and study performance. The 2012 New Zealand National Gambling Study found that over half of the people categorised as engaging in problem gambling had been out of paid work for more than a month, and around a third had received support from a benefit program (Abbott et al., 2014). This suggests significant disruption to employment stability and productivity.

The effects of gambling-related harm extend beyond the individual to affect others in the work or study environment. People categorised as gambling at moderate and low-risk levels, as well as problem gambling, more frequently reported troubles with work, bosses, or superiors compared to those without a gambling problem (Abbott et al., 2014). This indicates that gambling-related issues can create strain on workplace relationships and potentially impact overall workplace productivity. It is important to note that these impacts can be significant across different levels of gambling severity. Even people who are low-risk and moderate-risk gambling reported more work-related troubles than those without gambling problems, suggesting that work-related harms are not confined to those with the most severe gambling problems (Abbott et al., 2014).

The 2017 Victorian economic costing study (Browne, Greer et al., 2017) included estimates for reduced work performance, absenteeism, and job loss due to gambling. These costs represent not only immediate losses in productivity but also potential long-term effects on career trajectories. Nevertheless, capturing reliable quantitative evidence of the full spectrum of work and study impacts is challenging. Therefore, it is likely that an economic costing will only measure a proportion of these forms of impact.

Impacts such as productivity loss, absenteeism, and job loss can be estimated and are included as a significant component of the overall social cost.

2.8 Criminal activity

Gambling-related harm can extend into criminal activity, encompassing a range of offences from minor theft to more serious crimes. The types of gambling-related crimes most commonly reported include theft, fraud, embezzlement, and forgery, often motivated by the need to fund gambling activities or repay gambling-related debts (Bellringer et al., 2009). People with gambling problems are more likely to engage in non-violent, income-generating offences to recoup gambling losses (Adolphe et al., 2019). However, they may also commit violent crimes at higher rates than expected (Adolphe et al., 2019). In some cases, drug-related offences and violent crimes have also been associated with gambling problems.

The prevalence of criminal behaviour is higher among those experiencing gambling problems. In a formative investigation in New Zealand, almost two-thirds of participants with gambling problems reported that their gambling behaviours were associated with, contributed to, or caused the crimes they had committed (Bellringer et al., 2009). Studies of incarcerated populations in New Zealand have found higher rates of gambling problems compared to the general population. Approximately 23% of male inmates and 34% of female inmates met the criteria for probable problem and pathological gambling in the six months prior to imprisonment (Abbott et al., 2000; Abbott et al., 2005).

The prevalence of disordered gambling is greater among offenders compared to the general population (Campbell & Marshall, 2007). Criminals may also penetrate the legitimate gambling sector or provide illegal gambling services (Spapens, 2008). Pathological gambling is linked to violence in couples and families (Folino & Abait, 2009). These cases can impact not only relationships and quality of life, but also involve the law enforcement and justice systems. Other factors contributing to gambling-related crimes include impulsivity traits, such as high levels of urgency and lack of premeditation, above and beyond greater gambling disorder severity and gambling-related debts (Mestre-Bach et al., 2018). Thus, impulsiveness plays a complex role in the relationship between gambling and criminality (Folino & Abait, 2009), involving bidirectional and dynamic interactions between individual traits, life and environmental circumstances, as well as gambling consumption.

More broadly, the causal relationship between gambling and crime is complex. The association between problem gambling and crime may be confounded by shared background characteristics

like low self-control, substance use, and juvenile delinquency, rather than direct causation (Dennison et al., 2021). While few individuals start their criminal careers because of gambling, many subsequently develop gambling problems, with gambling becoming a reason for their criminal behaviours (Abbott et al., 2005). Psychopathic personality disorders and alcohol problems are common among people classified as pathological gambling, as discovered among people who are incarcerated (Pastwa-Wojciechowska, 2011). However, the relationship between gambling and crime can vary, with gambling leading to crime in some cases, while in others, it may be part of a broader criminal life situation (Pastwa-Wojciechowska, 2011). Thus, much of the evidence points towards a bidirectional relationship between gambling problems and criminal activity.

In sum, criminal activity associated with gambling problems can incur costs to the justice system through increased demands on police, courts, and correctional facilities. Businesses and individuals also bear costs as victims of these crimes. However, the full extent of these costs may be underestimated due to challenges in identifying gambling as a contributing factor to crimes. As noted by the Australian Institute for Gambling Research (2001), while analysts agree that gambling is linked to crime, there is a lack of precise statistical data to form a valid assessment of exact levels of gambling-related crime.

Finally, the consequences of gambling-related criminal activity extend beyond the individual offender. Families of those who commit gambling-related crimes may face financial hardship, social stigma, and emotional distress. The broader community may also experience increased crime rates and decreased feelings of safety (Wall et al., 2010). For the individual, long-term consequences of gambling-related criminal activity can be severe. Criminal records can affect future employment opportunities and social relationships, potentially perpetuating a cycle of gambling and criminal behaviour. Thus, while attribution of direct and indirect costs of criminality and antisocial behaviour is challenging, it is a component that warrants careful attention.

2.9 Legacy harm

Gambling-related harms can persist or emerge even after gambling behaviour has ceased (Langham et al., 2016). These harms can affect the person who gambles and affected others and even extend to community-level social and cultural damage (Rockloff, Bellringer, et al., 2022).

A New Zealand study (Rockloff et al., 2022) found that over half of both people who gamble (56.7%) and affected others (57.6%) reported experiencing at least one ongoing harm from past gambling issues, even when gambling issues had stopped for at least a year. For people who gamble, these legacy harms tend to decrease over time, with an average 'half-life' of four years. Financial, health, and emotional/psychological impacts were found to persist the longest.

While the concept of legacy harms is increasingly recognised, incorporating them into economic cost assessments of gambling remains challenging. This is largely due to the lack of comprehensive data on the long-term progression of gambling problems throughout the lifespan (Latvala et al., 2019). As a result, most cost analyses, including this one, focus on harms concurrent with active gambling problems, potentially underestimating the full extent of gambling's impact over time.

2.10 Life course and generational harm

Life course and generational harms represent significant long-term impacts of gambling that persist over an individual's lifetime and can extend to future generations (Langham et al., 2016). These harms encompass a range of lost opportunities, including career setbacks, disrupted education leading to reduced lifetime earnings, and the loss of significant relationships (Browne et al., 2016). The long-term financial impacts can be severe, with individuals losing major assets such as homes or businesses, severely hampering their ability to accumulate wealth over a lifetime (Langham et al., 2016).

The intergenerational impacts of parental gambling on children can be significant and wide-ranging. Children exposed to parental gambling problems may experience altered family dynamics, potential neglect, and reduced parental attention, which can have lasting impacts on their educational and developmental outcomes (Darbyshire et al., 2001). Moreover, these children are at increased risk of developing gambling problems later in life, perpetuating a cycle of harm (*Taking the Pulse on Gambling and Problem Gambling in New Zealand: A Report on Phase One of the 1999 National Prevalence Survey*, n.d.). Children of people with gambling problems are at increased risk of experiencing various harms, including emotional, behavioural, and psychological problems (A. Suomi et al., 2022). These children may face neglect, abuse, and financial strain due to parental gambling (A. Suomi et al., 2018; Aino Suomi et al., 2023). Studies have found that children living in households with gambling problems report lower

HRQoL, increased anxiety and depression symptoms, and more behavioural difficulties compared to their peers (Tulloch et al., 2022). The effects can persist into adulthood, with adult children of people with gambling problems showing higher rates of depression, anxiety, and their own gambling problems (Dowling et al., 2018, 2016). Furthermore, parental gambling problems are associated with disrupted family relationships, reduced parental involvement, and exposure to financial stress, which can have lasting impacts on children's development and future outcomes (Hing, Russell, et al., 2022; A. Suomi et al., 2022; Tulloch et al., 2022). Thus, familial and childhood impacts of gambling can significantly alter life course outcomes.

Incarceration resulting from gambling-related crimes can have far-reaching consequences, disrupting family life and limiting future employment and social opportunities (Abbott et al., 2000). Homelessness is another tangible outcome of severe gambling problems, with long-term impacts on individuals and families (Australian Institute of Health and Welfare, 2009; Sharman, 2019). While homelessness represents a measurable and costable component of life course harm, many other long-term impacts remain challenging to quantify.

The accumulation of gambling harms over time can lead to more severe long-term consequences, affecting not only individuals but also cultural practices and community cohesion (Hing et al., 2014), linking this component to the cultural impacts described above. Early exposure to gambling can significantly impact an individual's life trajectory, potentially leading to a range of negative outcomes throughout their lifetime (Wardle, Reith, et al., 2019).

Despite the clear significance of these harms, quantifying their economic impact presents considerable challenges. The lack of longitudinal data, the difficulty in attributing causality over extended periods, and the intangible nature of many life course impacts make precise costing problematic (Wardle, Reith, et al., 2019). It is very difficult to reliably model counterfactual life progression scenarios, potentially spanning decades. Furthermore, due to ethical and practical difficulties involved in research with children, quantifying the degree and scale of impact via direct self-report is difficult.

While the long-term nature of these harms makes comprehensive quantification challenging, specific and severe outcomes like homelessness can be costed and are included as a tangible component of this analysis.

2.11 Other Government or community costs

These include the costs of policy development, regulation, and enforcement; funding for gambling-related research and treatment services; and the non-profit organisations delivering education and support. This category also encompasses potential concerns such as the environmental impacts of gambling, including energy use, waste, and emissions from venue operations and electronic infrastructure.

2.12 Conclusion

Gambling can potentially cause a wide range of impacts on the person who gambles, and also their families, communities, and society at large.

This review has highlighted several key domains of impact:

1. *Financial harms:* These are among the most directly measurable impacts of gambling. They range from immediate consequences, like the inability to pay bills, to long-term effects such as erosion of savings and bankruptcy.
2. *Relationship disruption:* Gambling can lead to increased conflict, breakdown of trust, and in severe cases, relationship dissolution. These harms extend to immediate family, extended family, and friends.
3. *Health impacts:* Both physical and mental health can be severely affected by gambling problems. This includes increased rates of depression, anxiety, substance abuse, and in extreme cases, suicidal ideation.
4. *Cultural harm:* Certain cultural groups, particularly indigenous and minority communities, may experience unique harms related to erosion of cultural practices and values.
5. *Work or study impacts:* Gambling can lead to decreased productivity, absenteeism, and overall impairment of professional and educational development.
6. *Criminal activity:* There is a complex and often bidirectional relationship between gambling problems and criminal behaviour, ranging from minor theft to more serious offences.
7. *Legacy, life course and generational harm:* The long-term impacts of gambling can persist over an individual's lifetime and extend to future generations, including altered life trajectories and intergenerational transmission of gambling problems.

8. *Other government or community costs:* Administration, governance and harm-reduction policies and interventions funded by government; potentially other exceptional costs arising from the industry.

In terms of economic costing, the feasibility varies considerably across these domains:

- *Financial harms:* These are the most straightforward to cost, as they often involve direct monetary losses or measurable financial impacts. Methods like assessing opportunity costs of excessive gambling spend provide concrete approaches to quantification.
- *Health impacts:* While challenging, health impacts can be costed using established health-economic methods, particularly through the concept of HRQoL decrements. This allows for a quantifiable measure of gambling's impact on overall wellbeing.
- *Reduced work/study performance:* Some aspects, such as productivity and job loss, can be directly costed. However, more subtle impacts like presenteeism or reduced academic achievement are harder to quantify accurately and incorporate into costing.
- *Criminal activity:* Direct costs to the justice system (e.g., policing, court proceedings, incarceration) can be estimated, though attributing these costs specifically to gambling remains challenging. Broader impacts on individuals and communities are difficult to incorporate into costing.
- *Relationship disruption:* While significant, these harms are largely intangible and difficult to quantify in economic terms. Some tangible aspects (e.g., costs of divorce proceedings) might be measurable, but they represent only a fraction of the total impact. However, prevalence surveys that include self-reported HRQoL impact to affected others provide a solid foundation for costing.
- *Cultural harm:* This is perhaps the most challenging domain to cost economically due to its intangible nature, predominance of qualitative research, and the lack of standardised measures across diverse cultural contexts.
- *Legacy, life course and generational harm:* While some tangible outcomes (e.g., homelessness) can be costed, the long-term and intergenerational nature of these harms makes comprehensive economic quantification extremely challenging.
- *Other government or community costs:* Government-related costs are relatively easy to identify and quantify. However, estimating costs associated with non-profit organisations is more complex, as many services (e.g., telephone helplines,

community support programs) address a range of intersecting issues, not solely gambling harm. Environmental costs remain challenging due to limited research and data, and are therefore not costed in this report.

While economic costing of gambling-related harm is feasible to varying degrees across different domains, it is probable that any such costing likely underestimates the true societal impact. The intangible and unquantified nature of many harms, particularly those related to relationships, culture, and long-term life trajectories, means that a significant portion of gambling's negative impacts may remain unmeasurable in purely economic terms. Furthermore, there is varying quality of evidence available for items that can be costed, leading to variable confidence intervals for each cost component. Nevertheless, by drawing upon evidence regarding HRQoL impacts in New Zealand, and making reasonable extrapolations from similar jurisdictions, a large portion of many of these impacts may be estimated.

Chapter 3: Review of related gambling costing studies

The economic impact of gambling-related harm has been a subject of significant research interest globally. This review examines key studies that have attempted to quantify the costs associated with gambling harm.

3.1 New Zealand studies

3.1.1 Social and Economic Impacts of Gambling in New Zealand (2001)

This report was one of the first comprehensive attempts to assess the social and economic impacts of gambling in New Zealand. While it did not provide a specific monetary estimate of gambling-related costs, it highlighted the need for a comprehensive approach to understanding gambling impacts, beyond simple economic calculations.

It emphasised the difficulty in establishing causal relationships between gambling and various outcomes, particularly given the complexity of separating gambling-related impacts from co-occurring issues such as substance abuse or mental health problems. The report identified significant gaps in New Zealand-specific data, calling for more comprehensive and systematic data collection efforts. To address these challenges, the study proposed a conceptual framework categorising gambling impacts into personal, interpersonal, and community/societal levels. Importantly, it stressed the need for culturally appropriate research methods, especially for Māori communities.

3.1.2 Assessment of the Social and Economic Impacts of Gambling in New Zealand (2008)

This study aimed to provide quantitative measures of the impacts of gambling from a representative sample of New Zealanders aged 15-80 years. It collected data on both negative and positive impacts experienced by people who gamble, and others affected by gambling, including impacts on different ethnic groups. It used a general population survey with a total sample size of 7,010, including oversampling of Māori, Pacific, and Chinese/Korean peoples.

The study found that 61.8% of the general population had participated in gambling in the past 12 months. EGMs were used by 4% in clubs, 8% in bars/pubs, and 8% in casinos. The study categorised 3.2% of the sample as 'heavier' gambling participants based on time spent and losses relative to income. People who gambled at this level reported experiencing significantly worse physical health, mental health, feelings about self, and lower life satisfaction compared to people who do not gamble or those who gamble at a lower level.

Time spent on EGMs, particularly in bars, was associated with poorer quality of life across multiple domains, even after controlling for demographic factors. Different gambling modes showed varying impacts across ethnic groups. For Māori and Pacific peoples, there were significant negative associations between gambling participation and HRQoL. There was also evidence of quantifiable negative impacts on affected others of people categorised as engaging in heavier gambling.

Using a non-gambling counterfactual scenario, the economic analysis estimated that 2.4% of the population may have lower mental wellbeing due to their own, or someone else's gambling, with EGM use and being an associate of a person who gambles as major contributors. The study estimated about 10,000 people committed illegal activities in the past year due to gambling.

3.1.3 Problem Gambling Research: A study of community level harm from gambling (2010)

In 2010, Wall et al. aimed to identify and validate appropriate measures of community-level harm from gambling in New Zealand. They used an ecological approach to investigate associations between gambling exposure in geographic communities and indicators of community-level harm. It utilised Census Area Units (CAUs) as the geographic unit of analysis and developed measures of gambling exposure based on EGM density and distance to gambling venues.

The study found that higher exposure to gambling opportunities was significantly linked to higher crime rates across multiple categories in urban areas. Contrary to expectations, negative schooling outcomes were associated with lower gambling exposure. Social capital measures showed that higher EGM density was associated with lower levels of trust, sense of belonging,

and community cohesion in urban areas. Volunteering rates were lower in areas with higher EGM density.

Results for other indicators like debt risk and rates of children at risk showed mixed or counterintuitive associations with gambling exposure. Contrary to expectations, urban areas with higher gambling density were associated with lower debt-default risk, while areas with higher gambling exposure had lower rates of children on the at-risk register. These counterintuitive results highlight the complex nature of gambling's community-level impacts and suggest that the relationships between gambling opportunities and social outcomes may be more nuanced than initially theorised. Possible explanations for these findings included confounding factors, data limitations, reverse causality, or reporting issues.

The authors also attempted to examine the extent to which gambling funds are returned to communities through charitable grants but found significant challenges in tracking grant expenditures at the local level. The study provided some insight into potential community-level indicators of gambling harm and highlighted areas for further research, including the need for more detailed examination of how gambling opportunities interact with other structural factors in local environments.

3.2 International studies

3.2.1 Australian Productivity Commission (1999)

The Australian Productivity Commission's 1999 study is an older, but still highly influential economic costing exercise. However, it should be noted that the gambling landscape has changed considerably since this time, particularly regarding the availability and uptake of online gambling products. They estimated gambling costs in Australia for 1997-98 using data from the National Gambling Survey and the Survey of Clients of Counselling Agencies (SCCA). They focused on severe cases, including only SCCA respondents with South Oaks Gambling Screen scores of 10 or above, representing 47,000 individuals rather than the estimated 293,000 people categorised as problem gambling in Australia at that time. The analysis covered five main categories: personal and family impacts, treatment costs, crime, financial, and productivity and employment.

Personal and family costs covered emotional distress to family members, depression, suicidal behaviour, relationship breakdowns, and gambling-related violence. The Commission applied compensation values ranging from A$5,000 to A$50,000, depending on severity. To account for causality uncertainty, a 20% reduction was applied to estimates. To avoid double-counting, overlapping impacts were carefully managed. For example, suicidal thoughts were excluded from depression calculations. The Commission's approach also included adjustments for causality, sampling, and average problem gambling lifespan to provide a comprehensive estimate.

Financial costs included bankruptcy and gambling-related debts to family, friends, financial institutions, and informal lenders. The annual cost of debt transfers was estimated at A$26 million, based on an average debt of A$10,044 per problem person categorised as problem gambling. Bankruptcy costs were calculated using a A$4,000 fee applied to 317 annual gambling-related bankruptcies.

Productivity and Employment costs encompassed workplace and home productivity losses, and costs due to job changes. For example, productivity loss, considering 30% unemployment among people who gamble, was estimated between A$7 million and A$50 million per year. Job change costs included unemployment periods, benefit payments, job search costs, and staff replacement costs.

Crime and legal costs included theft (A$5 million to A$31 million), police incidents (A$3.2 million), court proceedings (A$5.6 million), and incarceration (A$5.1 million). Treatment costs were estimated by the government's expenditure on treatment and counselling services at A$20 million.

Overall, the Commission estimated the total annual cost of problem gambling in Australia to range from A$1.8 billion to A$5.6 billion, equating to about A$6,000 to A$19,000 annually for each person categorised as in the highest risk category.

3.2.2 Australian Productivity Commission (2010)

The Australian Productivity Commission's 2010 report updated their 1999 analysis of problem gambling in Australia. Using a similar methodology, they incorporated new data on gambling

prevalence, demographics, household income, and inflation. The study estimated annual social costs for people in the highest risk category at A$10,000 to A$30,000, excluding financial costs. Financial losses were calculated by comparing the spending of those categorised as problem gambling to those without a gambling problem, totalling A$4.7 billion to A$8.4 billion. The Commission noted that a 10% reduction in problem gambling harm could potentially save A$470 million annually.

3.2.3 Social and Economic Impact Study of Gambling in Tasmania (2011)

The 2011 Tasmanian gambling impact study conducted by the Allen Consulting Group, The Problem Gambling Research and Treatment Centre, and the Social Research Centre used the Problem Gambling Severity Index (PGSI; Ferris & Wynne, 2001) categories to evaluate costs, aligning with previous Australian Productivity Commission methodologies (1999, 2010). Three cost scenarios were developed which accounted for 100% of people categorised as problem gambling and included varying percentages of people with moderate-risk gambling: narrow (25%), moderate (50%), and broad (75%).

Cost categories included financial, productivity, crime, personal/family, and treatment. Estimates ranged from A$37-104 million (narrow approach), A$51-144 million (moderate approach), and A$64-184 million (broad approach). Notably, 85-90% of costs were attributed to personal and family impacts, with emotional distress comprising about half the total.

The study adjusted for causality, gambling problem lifespan, and double-counting, using inflation-adjusted 1999 Australian Productivity Commission data where Tasmanian data were unavailable. Researchers noted difficulty in determining which approach most accurately reflected moderate-risk gambling costs.

3.2.4 Victorian Competition and Efficiency Commission (2012)

The Victorian Competition and Efficiency Commission (VCEC) conducted a 2012 study on problem gambling costs in Victoria for 2010-2011, using a similar approach to the 1999 Australian Productivity Commission inquiry. They distinguished between economic costs (resource-related) and social costs (wellbeing-related), using data from various sources, including the Victorian Gambling Study and unpublished Gamblers Help Data.

The VCEC provided detailed estimates for government costs, including A$42.1 million for the Victorian Government, A$0.3 to A$0.7 million for local government, and A$1.6 million for the Commonwealth Government. Indirect costs, calculated using Victorian budget data, ranged from A$6 million to A$79 million, considering impacts on various human services.

Other economic costs included job changes, productivity losses, bankruptcy, bad debt, theft, and divorce/separation costs. Justice system costs were estimated at A$26 million. Social and wellbeing costs, estimated between A$400 million and A$1.2 billion, covered impacts on people who gamble, family members, and parents.

Including excess spending by people categorised as problem gambling (A$1.4 billion), the VCEC estimated the total cost of problem gambling in Victoria for 2010-2011 to be between A$1.5 billion and A$2.8 billion.

3.2.5 The Social Cost of Gambling to Victoria (2017)

The Social Cost of Gambling to Victoria report (2017) assessed the economic impact of gambling-related harm in Victoria for 2014-2015. This research expanded on previous methodologies while incorporating updated prevalence estimates. It provided a reasonably comprehensive analysis of gambling costs across all severity levels, categorised by harm type and compared to costs associated with other addictive behaviours.

The study utilised a harm framework that incorporates multiple domains: financial, psychological, relational, criminal, productivity, and governmental. It employed a three-step process for cost calculation across low, moderate, and problem PGSI gambling risk categories. The methodology integrated a variety of data sources, making CPI adjustments to 2014-15 values for older financial data. They used average cost estimates, lower estimates in uncertain situations, but provided upper and lower ranges only for significantly uncertain calculations. They also applied a 20% counterfactual discount to prevalence figures and took steps to avoid double-counting.

The study estimated the total cost of gambling issues in Victoria for 2014-15 at approximately A$7 billion. This cost was distributed across gambling risk levels: A$2.45 billion for low-risk, A$2.36 billion for problem gambling, and A$1.9 billion for moderate-risk gambling.

3.2.6 Fourth Social and Economic Impact Study of Gambling in Tasmania (2018)

The Fourth Social and Economic Impact Study of Gambling in Tasmania (ACIL Allen Consulting et al., 2018) aimed to quantify gambling harms using three approaches to assess quality of life impacts. A novel discrete choice protocol based on the time trade-off (TTO) method found people who gamble are more likely to report costs than benefits from gambling. However, a direct elicitation study revealed most perceived no significant life changes due to gambling, with only small percentages reporting improvement (6.0%) or deterioration (1.5%). Over half of affected others experienced negative impacts, with lives being 18% worse on average. The study also employed the Gambling Harms Scale 10 (GHS-10; formerly known as the Short Gambling Harm Screen [SGHS]) and the PGSI to calculate disability weights and years of life lost (YLL), estimating 5,531 years lost annually in Tasmania due to HRQoL impacts. This research focused on utility changes rather than monetary valuations, offering insights into gambling's qualitative effects on individuals and their associates.

3.2.7 Social Costs of Gambling in the Czech Republic (2017)

The 2017 Czech Republic study estimated gambling's social costs using a retrospective, prevalence-based approach. It adapted the Australian Productivity Commission's framework but focused solely on people with severe gambling problems. The total estimated costs ranged from €541.6 to €619.6 million, with personal and family costs comprising 63% of this total. Other categories included health and social care, financial impacts, productivity losses, unemployment, and crime-related expenses. Intangible costs like depression, emotional distress, relationship issues, and suicide were factored in, based on Australian reports. A 20% discount was applied to some costs due to uncertain causality, while other costs were excluded for lack of data.

3.2.8 The Social Costs of Gambling Harms in the Northern Territory (2018)

The 2018 Northern Territory study by Whetton et al. utilised 2018 prevalence data to assess gambling-related harm costs, both for people who gamble and affected others. The study classified 1.4% of the population as problem gambling, 3.6% as moderate-risk, and 9.4% as low-risk using the PGSI. At the population level, over 11,300 people who gamble experienced at least one type of harm from their own gambling, while more than 14,500 people were impacted by another person's gambling.

The study estimated total gambling costs between A$164.9 million and A$381.3 million, with a central estimate of A$190.1 million. This equated to A$9,700 - A$22,500 per person categorised as at-risk gambling (average A$11,223). Costs from own-gambling harm ranged from A$80.8 million to A$158.7 million, with crime, emotional harm, and excess EGM spending as primary contributors. Harm to others cost between A$84.2 million and A$222.6 million, mainly due to crime-related and emotional/psychological impacts.

The costing approach was based on a previous alcohol consumption study and categorised harms using Langham et al.'s (2016) domains: financial, relational, emotional or psychological, reduced productivity, crime-related costs, physical health impacts, cultural harm, and treatment and community support costs. Low and high estimates were calculated for each cost category across all people categorised as at-risk, and included affected others. The methodology included valuing crime-related costs, work-related harms, and psychological impacts using DALYs and a proxy for the value of a life (VoSLY).

Excess expenditure calculations followed the Australian Productivity Commission's (1999) approach, assuming that people categorised as problem gambling would otherwise spend similar amounts to people without gambling problems. However, this study only included excess spending on EGMs and did not account for other financial harms like inability to pay rent or mortgage.

The researchers noted that their overall cost estimates were conservative due to the exclusion of certain hard-to-quantify harms, such as impacts on children, low-prevalence events like bankruptcy and self-harm, and other difficult-to-value items.

3.2.9 The Societal Costs of Problem Gambling in Sweden (2020)

A 2020 Swedish study estimated the annual societal costs of gambling at €1.42 billion using a prevalence-based cost-of-illness approach (Hofmarcher et al., 2020). The analysis covered the full spectrum of gambling risk levels, including affected others residing with people who gamble. Costs were categorised as direct (13%), indirect (59%), and intangible (28%), with conservative causality adjustments applied to account for comorbidities.

The study accounted for a broad spectrum of cost impacts, including regulation and research expenses, treatment services (including non-profit services), debt counselling and management, unemployment, crime, divorce, emotional distress, violence, and suicide. For the majority of costs, the study employed a bottom-up approach, multiplying the number of affected individuals by average unit costs across various impacts. Intangible costs, such as reduced quality of life, were valued using Sweden's average crime victim compensation (€2,250 per incident) to quantify the emotional and physical harm experienced. While this method was acknowledged as a compromise, it aimed to capture a comprehensive economic picture of gambling harm.

Key limitations included the lack of a standardised methodology for valuing gambling-specific harms and the exclusion of affected others outside the household. Despite these constraints, the study provided a broad assessment of gambling's societal impact in Sweden.

3.2.10 Fifth Social and Economic Impact Study of Gambling in Tasmania (2021)

The 2021 Fifth Social and Economic Impact Study of Gambling in Tasmania (The South Australian Centre for Economic Studies et al., 2021) employed the Gambling Harm Measure (GHM) to assess harm severity across categories of 'over-prioritisation', 'pressures and strains', and 'severe harms'. This approach, aligned with Langham et al.' (2016) harm categorisation, revealed that 'genuine' harms were moderately common in people categorised as moderate-risk gambling and more prevalent in people categorised as problem gambling, particularly affecting financial, psychological, health-related, and relational aspects.

To calculate costs, the researchers combined data from the 2020 Tasmania Prevalence Survey with weighted information from the 1999 Australian Productivity Commission Report (1999). HRQoL decrements were assessed by mapping psychological harms to conditions from the Global Burden of Disease Collaborative Network. Associated DALYs were discounted by half, assuming intermittent impact of symptoms.

The study estimated gambling costs in Tasmania between A$48.9 million and A$159.6 million, categorising them into 'externalities' (third-party direct costs) and 'internalities' (individual costs such as depression, suicide, and relationship breakdown). Relationship breakdown emerged as the most significant cost contributor, followed by psychological distress affecting people who gamble and their immediate families.

The study acknowledged its conservative estimates, noting potential under-representation of harms related to violent crime and the exclusion of suicide-related costs. This approach aimed to provide a comprehensive yet cautious assessment of gambling's economic impact in Tasmania.

3.2.11 Understanding the Cost of Addiction in Australia (2022)

KPMG and Rethink Addiction (2022) provided an estimate of gambling-related harm costs in Australia, finding an A$18 billion total cost that was split between A$10.7 billion in tangible costs and A$7.3 billion in intangible costs. The analysis synthesised data from four key reports: The Allen Consulting Group et al. (2011), Browne, Greer et al. (2017), the Australian Productivity Commission (1999), and the VCEC (2012). Tangible costs, valued at A$10.7 billion, included A$5.4 billion attributed to harmful consumption (gambling losses), along with costs related to productivity losses, social services, justice and law enforcement, and impacts on families. Intangible costs of A$7.3 billion accounted for pain, suffering, and quality of life decrements, based on Browne, Greer et al.'s (2017) findings.

This synthesis approach, while providing a broad national perspective, leaves some methodological questions unanswered. The study's reliance on a limited number of sources without detailing its exact methodology creates ambiguity about the scope of gambling behaviours included and the extent to which affected others were considered. Additionally, healthcare costs were excluded from the total, potentially underestimating the full economic burden of gambling-related harm in Australia.

3.2.12 Social Costs of Gambling Harm in Italy (2022)

Lucchini and Comi (2022) estimated the social costs of gambling in Italy, focusing on the financial burden on public resources. They took a cost-of-illness approach, and estimated both direct treatment costs and indirect costs, including lost productivity, unemployment, legal issues, and family impacts such as divorce. The study targeted people classified as high-risk and at-risk gambling identified through PGSI and SOGS assessments. The majority of direct costs were calculated using top-down data, while indirect costs used bottom-up figures combined with unit costs. A 20% discount was applied to address causality concerns. Significant data gaps led to an underestimation of societal impact by excluding factors like HRQoL and harms experienced by affected others. The study identified over €2 billion in annual costs, mainly from unemployment,

productivity losses, and legal issues, with many societal costs, such as those associated with people with less severe gambling problems, unaccounted for.

3.2.13 The Economic and Social Cost of Harms Associated with Gambling in England (2023)

The Office for Health Improvement and Disparities (2023) updated a 2021 report on gambling harm costs in England. It estimated annual direct government costs at £412.9 million and wider societal health costs between £635.0 and £1,355.5 million. The analysis covered people across all PGSI risk levels, including at-risk and problem gambling populations.

Financial costs encompassed homelessness services, unemployment benefits, imprisonment, and healthcare. Health costs included YLL from excess suicides and HRQoL impacts from excess depression attributable to gambling. The study determined the number of excess cases by estimating how many suicides and depression cases would occur in people with gambling problems if they had the same risks as people without gambling problems, then comparing this to the actual numbers observed in the gambling population.

The authors recognised this as a conservative estimate, as it excluded or only partially accounted for impacts on affected others, financial harms, broader quality of life impacts beyond depression, healthcare costs related to suicide attempts, crime, and relational and cultural harms. They recommended future quantification of HRQoL impacts on affected others, and improving the overall quantification of quality-of-life impacts on affected others.

3.2.14 The Fiscal Costs and Benefits of Problem Gambling: Towards Better Estimates, United Kingdom (2023)

Using the Wealth and Assets Survey in the UK, Bhattacharjee et al. (2023) estimated the annual cost of problem gambling to be £1.4 billion (ranging from £1.1 billion to £1.7 billion). These costs align with the harm categories identified by Wardle et al. (2018), encompassing healthcare, welfare, housing, and crime. The study compared people categorised as engaging in problem gambling to those categorised as at-risk gambling, finding the former nine times more likely to need hospital treatment. This approach yielded an average annual cost of £3,700 for each person with severe gambling problems, primarily in welfare, healthcare, criminal justice, and homelessness support.

The estimate, considered conservative, excluded factors like suicide, debt, family breakdown, and costs to affected others. Based on a 0.7% prevalence rate (380,000 people), the study applied a 95% confidence interval to determine cost bounds. The methodology, while acknowledging potential underestimation, focused on comparing those in the highest risk category to the other-risk categories rather than people without gambling problems due to their more similar behavioural profiles.

3.2.15 The Social Cost of Gambling to Victoria (2025)

This 2025 report by some of the present authors updated the 2017 Victorian costing study, providing comprehensive estimates of gambling-related social and economic costs in Victoria for the 2022-23 financial year. The study took a public health approach, examining costs across all gambling severity levels and incorporating both tangible and intangible costs to people who gamble, affected others, the community, and government.

The total cost of gambling to Victoria was estimated at $14.1 billion (range: $12.7-$17.0 billion), nearly double the $7.4 billion in gambling revenue. This represents a 35% increase from the adjusted 2014-15 estimate of $10.5 billion.

The largest cost categories were:

- Financial impacts: $5.15 billion (36.5% of total costs)
- Emotional and psychological harm to people who gamble: $3.27 billion (23.2%)
- Relationship and family impacts: $2.53 billion (17.9%)
- Productivity loss and work/study impacts: $1.55 billion (11.0%)
- Costs to the Victorian government: $1.32 billion (9.4%)

The study attributed costs to different gambling forms based on their contribution to gambling problems:

- In-person EGMs: $6.72 billion (57.9% of form-attributable costs)
- Wagering: $3.11 billion (26.8%)
- Casino table games: $1.04 billion (9.0%)
- Keno and instant scratch tickets: $0.73 billion (6.3%)

The study used multiple approaches to calculate costs:

- Population-level gambling prevalence data from the 2023 Victorian Population Gambling and Health Study
- HRQoL decrements associated with gambling harm, valued using GDP per capita ($97,435)
- Estimates of tangible costs (e.g., bankruptcy, crime, healthcare costs)
- Parametric bootstrapping to establish confidence intervals for estimates

The study evaluated potential policy options based on evidence from other jurisdictions:

- Finland's EGM restrictions (reduced machine numbers, mandatory pre-commitment) led to a 60% reduction in EGM expenditure, with the potential to save $2.87 billion in the Victorian context.
- Norway's EGM ban and restrictions, including banning banknote acceptors and restricting nighttime gambling, could reduce EGM-attributable costs by 51.5% ($3.46 billion).
- Western Australia's restriction of EGMs to a single casino, results in significantly lower gambling problems compared to other states, suggesting potential savings of $4.34 billion if implemented in Victoria.
- Tasmania's proposed mandatory pre-commitment system with a $5,000 annual limit could reduce excess EGM spending costs by 97.6%, potentially saving $4.25 billion when accounting for broader harm reduction.

The study acknowledges limitations including methodological uncertainty, data gaps (e.g., impacts on children), and challenges in establishing causality between gambling and some harm types. It also did not attempt to calculate consumer surplus or benefits from gambling.

3.2.16 Other frameworks for evaluating gambling's economic consequences

Recent studies have highlighted methodological challenges in assessing the economic impact of gambling. Latvala et al. (2019) identified several limitations in current approaches, including difficulties in quantifying social impacts and the frequent exclusion of non-monetary costs, harms to affected others, and long-term societal effects. These omissions often lead to underestimations of total societal costs.

To address these issues, Latvala et al. (2019) proposed the Public Health Impacts of Gambling (PHIGam) model. This conceptual framework takes a comprehensive public health approach, considering the full spectrum of gambling harm across personal, interpersonal, and societal levels. The model categorises impacts into financial, labour, and health/wellbeing domains, accounting for both positive and negative effects, as well as temporal aspects such as long-term and intergenerational impacts.

Patel and McDaid (2019) offered a complementary method for evaluating gambling-related costs and assessing intervention value. Their approach emphasises a broad societal perspective and outlines a three-step process: identifying inputs and impacts, quantifying them, and assigning monetary values. They categorise costs as direct, indirect, and intangible, manifesting at personal, interpersonal, and societal levels.

Both studies advocate for a more holistic approach to gambling impact analysis, moving beyond narrow focuses on monetary costs or problem gambling alone. They stress the importance of including non-monetary social impacts, long-term effects, and potential benefits in assessments. However, they also acknowledge methodological challenges, such as attributing harms to gambling given comorbidities, data limitations, and subjectivity in social cost valuation.

3.3 Conclusion

Economic costing studies of gambling exhibit similarities and differences in their findings. A common finding is the significant influence of intangible, non-financial factors on cost estimates, such as emotional distress and diminished quality of life, underscoring the wide-ranging psychosocial effects of gambling. Various methods have been employed to quantify these intangible costs, including the use of disability weights, YLL, and proxy measures like crime-victim compensation. Most studies take a cautious approach to causal attribution based on the Australian Productivity Commission (1999), often applying a reduction (typically around 20%) to mitigate the risk of overestimating the direct link between gambling and its associated harms. The scope of these studies varies, with some focusing exclusively on severe gambling problems, while others adopt a broader public health perspective that includes other forms of gambling harm. Additionally, the inclusion of affected others also varies, from limited to more comprehensive consideration.

Acknowledging the significant uncertainty in their estimates, many reports use upper and lower bounds (Bhattacharjee et al., 2023; Office for Health Improvement and Disparities, 2023; The South Australian Centre for Economic Studies et al., 2021; Whetton et al., 2018; Winkler et al., 2017). Despite these ranges, most studies acknowledge that their figures likely underestimate the total costs due to factors such as missing data, uncertainties in causal pathways, challenges in valuing intangible costs, and selective inclusion of cost categories. This underestimation is further evidenced by New Zealand studies, which reveal significant impacts on health, wellbeing, and community-level indicators that are difficult to quantify fully in economic terms (Centre for Social and Health Outcomes Research and Evaluation & Te Ropu Whariki, 2008; Wall et al., 2010).

Importantly, most studies do not account for long-term impacts such as legacy effects, intergenerational consequences, and broader societal implications, which further contribute to the potential underestimation of gambling's true economic impact. Studies conducted in New Zealand highlight the importance of considering cultural and ethnic differences in gambling impacts, as well as the complex relationships between gambling exposure and community-level outcomes. These findings underscore the need for nuanced, culturally sensitive approaches in both research and policymaking (Centre for Social and Health Outcomes Research and Evaluation & Te Ropu Whariki, 2008; Wall et al., 2010).

Chapter 4: Community Consultation

While quantitative data provides the foundation for an economic costing of gambling, it may not fully capture the complex and nuanced ways these harms manifest for individuals, whānau, and communities. To gain a deeper understanding of these impacts, and to help contextualise and inform the economic costing analysis, a series of community consultations was undertaken. This chapter details the methodology used for these consultations and summarises the key themes that emerged from discussions with professionals working on the front lines of gambling harm in Aotearoa New Zealand.

4.1 Methodology

4.1.1 Study aims, design and setting

This phase of the study aimed to better understand the multifaceted costs of gambling to individuals, whānau, and communities in New Zealand using a qualitative design. The study draws on the professional expertise and frontline experiences of practitioners working across organisations that see people and whānau experiencing harm from gambling. It focuses on the following research questions:

1. What are the comprehensive economic and societal costs of gambling in New Zealand, and how are they distributed across different levels of gambling severity, including problem, moderate-risk, and low-risk gambling, and across different priority groups?
2. How do health and wellbeing impacts from gambling vary across different levels of gambling severity and different priority groups, and what is their actual cost?
3. What proportion of the total gambling-related costs can be attributed to specific gambling products, and how does this attribution inform policy and regulation?

Capturing these perspectives is critical for informing responsive, community-led, and culturally grounded harm minimisation strategies that support equity in health and wellbeing. While many studies have focused on quantitative prevalence or individual behaviours, there remains limited qualitative research conducted via expert consultation to explore the direct and indirect costs associated with gambling across New Zealand.

4.1.2 Recruitment

Twenty professionals working in New Zealand were recruited. These included practitioners working across gambling harm treatment, prevention, financial mentoring, public health, and advocacy, as well as in local organisations that represent and advocate for iwi and hapū affected by gambling. Participants were recruited through professional networks, referrals from organisations within the sector, and direct invitations to staff at relevant services. The invitation included an information sheet outlining the project's aims, the interview or focus group process, voluntary participation, confidentiality, anonymity, and contact information for the research team and ethics committees.

Inclusion criteria were: currently or recently employed in a role directly engaging with individuals, whānau, or communities affected by gambling harm in New Zealand; aged 18 years or older; and willing to participate in an individual interview or focus group. Eligibility was confirmed during initial contact.

Five focus groups and four individual interviews were conducted in March, April, and May 2025. Participants represented nine different organisations and brought a wide range of expertise across clinical, financial, cultural, and community domains. All participants were offered a $20 supermarket gift card as a Koha in appreciation of their time.

4.1.3 Procedure

Individuals who expressed interest in participating were sent an information sheet and consent form by email. Those who consented were subsequently contacted by phone or email to confirm their eligibility and arrange a suitable time for their interview or focus group session.

All interviews and focus groups were conducted by the same member of the research team, who has over 15 years' experience in gambling research, and specialised training in qualitative interviewing. The focus groups and individual interviews were conducted either in person or via video conference, depending on participant preference and location.

Interviews and focus groups were semi-structured, with open-ended questions and prompts designed to explore participants' professional experiences of the costs of gambling. The structure of the sessions was based on Langham et al.'s (2016) conceptual framework of gambling harm (see Figure 6). Sessions ranged from 45 to 60 minutes and were audio-recorded

with participant consent. Recordings were transcribed using transcription software and edited for accuracy and anonymised by the researcher who conducted the data collection.

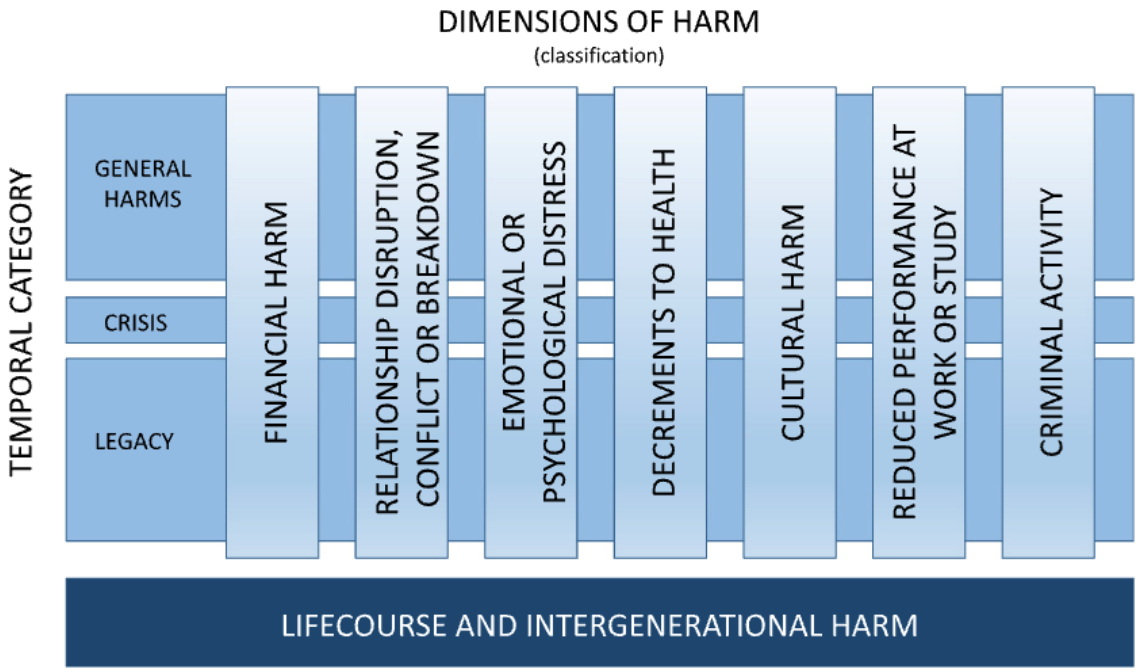

Figure 6. Conceptual Framework of Gambling Related Harm (Langham et al., 2016)

Adapted from 'Understanding gambling related harm: a proposed definition, conceptual framework, and taxonomy of harms,' by E. Langham, H. Thorne, M. Browne, P. Donaldson, J. Rose, and M. Rockloff and L. Kohne, 2016, BMC Public Health, 16. Copyright 2015 by BioMed Central

4.1.3.1 Analysis

Using thematic analysis as a framework (Braun & Clark, 2006; Crowe et al., 2015), transcripts from interviews and focus groups were reviewed multiple times and systematically coded to identify patterns and themes. Coding was carried out deductively, in accordance with the project's research questions. However, some flexibility was allowed with unexpected themes that emerged from the data also included in the analysis. In parallel with the coding process, reflective memos were written to capture analytic insights and observations about connections across participant accounts. These memos supported critical reflection on emerging themes and relationships, helping to ensure the analysis remained grounded in the perspectives of participants. Initial codes were tagged alongside the transcript data and iteratively grouped, refined, and reorganised into overarching thematic categories. This process involved comparing insights across sectors and roles, ensuring the final themes represented both commonalities and

diversity of perspectives across the dataset. The qualitative study was approved by the CQU Human Research and Ethics Committee (reference: 25208) and the Aotearoa Research Ethics Committee (reference: 24_62).

4.2 Results

The analysis identified several overarching themes and subthemes relating to the economic and societal costs of gambling in New Zealand, and how these costs impacted individuals, whānau, and the wider community. See Table 1 below for a comprehensive list of themes and subthemes. Please note that quotes are not tagged with participant organisation/role to ensure anonymity. All participants have experience and interest in reducing gambling harm.

Table 1 Table of themes and subthemes

Themes	Subthemes
1. Old risks, new platforms	The persistent costs of land-based EGMs
	The increasing costs of offshore online casino gambling
	Online influencers promoting online gambling, including to vulnerable groups
	TAB, sports betting, and government-linked promotion
2. The poisoned well of community funding	
3. Lack of help-seeking	Shame and stigma
	Prioritising tangible assistance
	Cultural barriers
4. Relationship and family costs	Intergenerational trauma and hardship
	Domestic violence
5. The costs of crime	Long-lasting consequences
	Drug use and distribution
	Underground and organised crime
6. Productivity costs	Costs to the people who gamble
	Costs to affected others
7. Financial costs	Underreporting of gambling causing financial hardship
	High rates of KiwiSaver hardship withdrawals
	Bankruptcy alternatives
8. Cultural costs	An unequal partnership
	Normalisation of gambling
9. Low-risk gambling paradox	
10. Expert recommendations to reduce the costs of gambling harm	

4.2.1 Theme 1. Old risks, new platforms

4.2.1.1 The persistent costs of land-based EGMs

Participants discussed the sustained cost of land-based EGMs to the community, labelling it as '*the biggest area of concern for people*.' Experts working in treatment services illustrated the ubiquity of harm from EGMs stating that, *'Most of the clients that are referred to me for MVE [multi-venue exclusion] are Class 4 [pubs and clubs].'* Despite the rise of online gambling, land-based EGMs were seen as a deeply embedded source of harm, particularly in low-income communities. One participant described the oversaturation and normalisation of EGM venues in deprived areas: *'Pokies are definitely a big problem in the low socio-economic areas, South Auckland, West Auckland, where you just see them on every corner…Even when we're going bowling, for instance, there's a pokie room attached to the bowling as well. So, it's everywhere. Everywhere you look.'*

The accessibility of EGM gambling was cited by experts as one of the drivers of gambling costs to society: *'It's the most harmful because it's highly accessible.'* Experts described what they saw as the irresponsible opening hours of Class 4 venues: *'You'll have a pub that's open at 9 o'clock in the morning. They're not there to serve alcohol. They're there to serve pokie machines. Because people aren't going there to drink alcohol at 9 o'clock in the morning. They're going there for a pokie. And they're standing outside waiting because they probably just got paid.'* This accessibility was seen as especially problematic for those attempting to reduce their gambling: *'You can't go down the main street without there being a pub with a sign that's flashing saying 'gaming,' and for a gambler, that's triggering.'*

4.2.1.2 The increasing costs of offshore online casino gambling

Participants identified offshore online gambling - particularly online EGMs - as one of the most harmful and fast-growing modes of gambling. *'Online gambling is the worst.'* Unlike land-based gambling, online platforms allow users to gamble instantly, continuously, and without meaningful restrictions due to the lack of regulation of these offshore websites: *'They can use their whole pay check just in a few minutes because of how it's faster, it's 24/7, and there's no real controls over that. And it's linked to their…bank account.'* The magnitude of losses seen in online gambling was echoed by many experts: *'If they go into the pubs…they might spend a fair bit, but I've seen that the online gamblers, they've spent thousands.'* Experts explained that this

was due to the characteristics of land-based EGMs being somewhat more restrictive when compared to online EGM gambling. This included the geographical restrictions: '*You've got to take cash out of an ATM. You've got to physically walk in there [to the pub]. So, yes, it's still terrible, but it's harder for people to do it...whereas you could be at home wearing pyjamas or nothing at all on the couch and spending thousands of dollars'.* They also noted the structural characteristics that slow down the speed of loss: *'[With pokies] they might be losing it within a few hours but within a few minutes [online] you could be jumping to way more than that.'*

Experts also described the omnipresence of gambling advertising online and the aggressive targeting through multiple channels, making it difficult for people to escape exposure or maintain abstinence: *'I'm talking about the slots, the casinos, the incessant emails that come in every single day saying win this and this…You've got [adverts for online casinos] on the phones if you're on your apps. You're watching YouTube, the casino slots come up all the time if you don't pay for premium, so it's everywhere. And it's very hard to get away from.'*

4.2.1.3 Online influencers promoting online gambling, including to vulnerable groups

Concerns were raised about the growing role of social media influencers in promoting offshore online casino gambling, particularly via paid promotions and livestreams that were said to glamorise gambling and downplay its risks. One expert described seeing paid promotions disguised as authentic gambling wins, with influencers sharing screenshots of payments from online gambling companies to their bank accounts, creating a false image of easy money. '*They're like 'Look, I just won $1000' but they're paid by the gambling industry.'*

Experts see these influencers as '*enticing'* people to start gambling. This is especially the case with vulnerable groups, such as youth, Māori, and Pacifica people. '*I know of two Māori influencers on socials who have huge followings that actively unapologetically promote online gambling to their following. So, as two Māori women, with a following that's more likely to be Māori women, that's how the gambling industry are able to target Māori women.'* This influence is compounded by the financial precarity experienced in some marginalised groups. As one expert noted, '*Because people are winning money out in the [disadvantaged] communities, it's prompting their families and stuff to go into that space too. [They are thinking] 'maybe I can get some money from this too'.'*

Exposure to influencer promotions was also reported to cause a quick progression from curiosity to problem gambling for some followers*. 'Māori women who have never engaged in online*

gambling before coming forward to tell me, 'I think I'm developing a gambling addiction. I've never really done online gambling, and I you know, I was introduced to it, and now I just can't stop.' Experts described well known New Zealanders engaging in this online influencing, with many people looking up to them as trusted figures in the community who are showing them a way to better their lives. One expert said of these influencers, '*It's just poor leadership in my view.'*

4.2.1.4 TAB, sports betting, and government-linked promotion

While less prominent than land-based EGMs and online casinos, experts discussed that betting through the TAB is contributing to gambling harm. They cite the integration of gambling into mainstream sports culture as a catalyst for harm: '*We've seen a higher aggressive promotion on TV in particular… betting is pretty much entrenched across racing and sport.'* Multiple experts also talked about the commercial partnership between the TAB and Entain (an international sports betting company) and the impacts they are seeing in their service: '*We are getting more people talking about [excluding from the] TAB, and we kind of expected that with the 25-year partnership between Entain and TAB that happened last year.'*

4.2.2 Theme 2. The poisoned well of community funding

Participants expressed deep discomfort with the community grant system that is funded by gaming machine trusts in New Zealand. The system was described as a '*double disadvantage'* because of the way the funding is distributed. '*Seventy-five percent of the money is coming from these lower socio-economic areas but they're only receiving like 10% of the grants.'* This inequity was also discussed as impacting Māori who often participate disproportionately in EGM gambling. *'As high users, the money doesn't come back equitably to Māori, or to other priority population groups for that matter.'*

Experts described the community gambling grants as placing vulnerable and underfunded communities, particularly Māori, into a morally and structurally compromised position. '*Because we're applying to the funding, we are participants. And so that sort of compromises our ability to advocate [against gambling] in local policy.'* The gambling industry was viewed as profiting from harm and then expecting communities to be grateful for a share of their profits: '*There's no funding [for Māori community groups]. And so, you're not forced to, but it's very hard to say no*

to available funds, no matter where they come from. So, I feel like Māori people are being backed into a corner to accept the harms that go part and parcel with getting this gift.'

Participants spoke of the ethical tension between refusing funds on principle and accepting them out of necessity. '*It's like a starving person and offering them junk food. They might want to eat healthily, but if junk food is the only thing on offer, they're going to take it.'* Some described reluctantly shifting their stance in recognition of the systemic inequity inherent in commercialised gambling: '*It was [my] principles years ago where I thought, no, I'm not going to apply for funding [from gaming societies] for our service because of the principle of it. It just didn't seem right. But then we've changed recently and said, well actually, these [gambling profits] are the reasons some of [our clients] come in. They are the reasons that they [the gambling industry] are making millions and millions of dollars from people who haven't got hundreds to put in.'* One expert described their frustration at being expected to further compromise their moral values by the conditions specified when accepting gaming society grants. '*And then the perverse thing is [that the funder says], 'you'll use our logo to promote the fact that we funded you.' So, you want me to advertise your gambling machines because you've given us the money back that you've taken from our community?'*

4.2.3 Theme 3. Lack of help-seeking

4.2.3.1 Shame and stigma

Participants highlighted the pervasive emotional and psychological costs of gambling. One of the most persistent psychological issues mentioned by experts is the deep sense of shame that people feel about their gambling, which prevents many from acknowledging the problem or seeking help. *'There's so much shame and stigma around this addiction in particular. It might be hard for them to even come to the realisation that they may need help.'* Despite clear distress, most people do not access counselling or mental health services. One expert cited figures from their help service that only 16% of those experiencing harm from gambling receive treatment in New Zealand. The lack of help-seeking in those experiencing harm from gambling was described as leading to increased costs over time due to spiralling problems in a range of domains. One expert gave the following example of escalating financial costs due to untreated problems with gambling: 'W*e have someone who has controlled all the finances and hidden gambling…the mortgage wasn't being paid, and that meaning [sic] that all the equity in the house goes through the mortgagor's sale.'*

4.2.3.2 Prioritising tangible assistance

Many people do not view mental health treatment as practical or relevant, particularly when the consequences of gambling result in their immediate needs being unmet. '*They're wanting a food parcel or maybe they're just needing their house back, they're just needing rent or [something] really tangible, rather than talking it out.'* Others described clients as only wanting a '*safety net'* in the form of a multi-venue exclusion order (MVE) whilst '*they're not interested in counselling.'*

4.2.3.3 Cultural barriers

Experts who worked with Māori and Pacifica peoples described a cultural discomfort with help-seeking. '*There is a lot I feel that comes with the communal cultures that you don't want to bring shame to your family [by admitting you have a gambling problem].'* These cultural groups were more likely to seek informal support through personal networks. However, this type of help seeking was also seen as problematic: '*You don't want to burden others, so either way, it would be to you kind of keeping it in.'* As one participant suggested, '*People are just not used to talking about it, or don't think it's going to help.'*

4.2.4 Theme 4. Relationship and family costs

4.2.4.1 Intergenerational trauma and hardship

Gambling-related harms were reported to carry long-lasting economic and wellbeing costs for families, especially when significant assets like the family home were lost. *'The uncle had lost the whole family's inheritance so now everyone is paying for it. So, there is that trickle-down effect that is not that visible but it can last for generations.'* Experts described children growing up in households impacted by gambling often experiencing trauma, and missing out on basic needs and life-enriching experiences, potentially limiting their opportunities later in life: '*It's more likely that they're going to end up down a similar pathway, or down a pathway that disadvantages them…They might get caught up in courts and drugs and the wrong people because they don't know how to navigate through their own trauma that they've inherited from their parents and so that that's another huge cost to society.'*

Relationship breakdown due to gambling results in further financial strain, legal costs, and housing instability, adding a second layer of hardship for families already affected by gambling

harm. One expert described a client going through a divorce due to her husband's gambling, '*She has to now pay for a valuer… pay for the lawyers… it just keeps going and going.'*

4.2.4.2 Domestic violence

Gambling was described as an underreported driver of domestic violence, often overlooked or minimised when families seek help after experiences of domestic violence. This makes it difficult to address gambling as a core issue in the family: '*Gambling gets swept under an incident or an event… it's not the priority.'* This invisibility also weakens policy responses and prevents targeted interventions being developed. *'Nobody asks the questions about gambling…so gambling is not recorded as a cause, which is why our data is so scarce.'*

4.2.5 Theme 5. The costs of crime

4.2.5.1 Long-lasting consequences

Experts reported that crimes committed by those experiencing problems with gambling were overwhelmingly crimes against their own families or wider networks. These, most commonly, included stealing from partners or family members and were largely unreported to law enforcement: '*It's only one person [who has a court case pending] out of the people that I know of. There might be others up and down the country. But it's not something you see a lot.'* However, workplace embezzlement was sometimes seen by these experts and had significant and long-lasting consequences. '*Now they have to rebuild their lives, and they can't. They could have been upper management and now they're at an admin level job…They may be in a new industry now because that previous industry has obviously cut them off. And even when they are in the new industry, they're working their way back up now.'* Significant consequences from embezzlement also include costs to partners and families. *'Both her and her husband worked in the same [place]. She stole some money from work for gambling. She got busted. She lost her job. He lost his job, even though he didn't know the extent of her gambling, and it had nothing to do with her theft, but the employer went, well, you're in it together, bang, you're both gone. So now we have a young couple with a new baby, a toddler, no job.'*

4.2.5.2 Drug use and distribution

Importantly, experts noted that gambling is often intertwined with other harmful behaviours, particularly substance use: '*P [methamphetamine] and gambling are lovers.'* An expert described

one part of the relationship between gambling with methamphetamine: '*Meth users love to gamble when they're on [meth]. And it's usually online gambling as well. They're quite specific about that because they can win bigger...It just stimulates their high.'* Drug use and gambling can both result in crimes being committed, with experts seeing each addiction exacerbating and reinforcing the other. '*They get caught up in these cycles and wanting to keep selling the meth [to get money to gamble], and then they get busted selling the meth, and then they got to go through the court, and then they end up in these residential centres as their last chance to try and clear them from both their addictions.'*

While arrest and prosecution carry significant costs, some experts noted that legal consequences can act as a wake-up call, pushing people into treatment or support services. '*One of the best things that can happen is when they get pinged by the law… at least they're being stopped.'* One expert speculated about the economic savings that this kind of intervention may have: *'Court intervention, which has a cost in itself, could actually maybe mitigate some of the costs, reduce the costs down the road, because at least they're being stopped, and they're being channelled into help services.'*

4.2.5.3 Underground and organised crime

Some experts had experience working with clients who had gambling-related debt that stemmed from, or resulted in, involvement with gangs or underground lenders. This leads to intimidation, fear for safety, and criminal entanglement. These cases are rarely reported to police due to fear of retaliation. '*There's actually a fear for their life on being able to pay [the money] back… that's the ideal answer [go to the police], but they can't.'* Underground gambling in prisons was also discussed by experts as a way that the costs of being incarcerated are magnified: '*That's when they got their addiction-in prison… as if they need that as well.'*

4.2.6 Theme 6. Productivity costs

4.2.6.1 Costs to the people who gamble

Participants described gambling harm as a silent disruptor of productivity that affects both the person who gambles and affected others, such as partners and whānau. '*It affects everything.'* These productivity losses are experienced as emotional distraction, reduced capacity, and continual worry, all of which undermine people's ability to engage fully in their daily lives and

work: '*They've got this dark shadow over the over them constantly, whether they're at work, or they're driving to work, or they're driving back from work, or they're seeing friends…It's always there in their mind.'* Experts reported that individuals harmed by gambling become trapped in cycles of guilt which reduces cognitive focus and emotional availability at work. *'They just ruminate, so they just go over and over what might have been, what they could have done better, what they could have not done, or what they could have done because of gambling.'*

Experts emphasised that gambling addiction should be understood similarly to other addictions in terms of its impact on a person's ability to function in the workplace. '*If you had a drug addiction, you wouldn't be able to work properly. If you had an alcohol addiction, you couldn't work properly. So, I see it as the same thing.'*

4.2.6.2 Costs to affected others

In households impacted by gambling, partners often take on the logistical and emotional labour of trying to manage finances, protect assets, and prevent further harm, leaving them drained and distracted: *'I would say [the affected other] absolutely has to do things constantly. She's on the phone to the bank. She's here. She's on the phone there.'* Financial stress and emotional strain felt by affected others were reported to lead to burnout, mental health issues, and time away from work: '*You are so worried as to where you are going to get this from or where are you going to get that from.'* Domestic violence was, again, seen as a significant cost of gambling: '*[Gambling] leads to things like domestic violence and then that would lead to the affected other needing time off work because of the worry and stress.'*

4.2.7 Theme 7. Financial costs

4.2.7.1 Underreporting of gambling causing financial hardship

Expert consultations with financial mentors and counsellors illustrated the underreporting of gambling as a cause of financial hardship, with one expert describing gambling as a '*slippery fish.'* Experts reported that many clients did not disclose their gambling when approaching their service*: 'Identifying gambling is actually really hard because clients don't really front up, they're not forthcoming with that and so it's really hard for us to record and get an objective measure of how many of our clients have gambling as a part of their picture.'* One financial mentor estimated that while official reporting from their service shows gambling harm in only

6% of clients, a more accurate figure would be closer to 25% of clients. Experts believed that shame and stigma played a role in '*100% of cases'* when their clients' hesitate to disclose their gambling. Financial mentors often identified gambling in their clients through patterns in bank statements: '*If it's at an establishment [pub] and then you see $40, $60, $100, all of that, that's a sign that there is some gambling going on at the pokies.'* Financial mentors and counsellors also discussed the costs to their service of assisting someone who has not accepted that they have a problem with gambling: '*It's very difficult to help somebody that's not seeking help themselves, because you can do all the wonders in the world [trying to work with them], but it's not going to work if they're still continuing to gamble.' Across the various experts, there was general agreement on the amount spent on gambling by those at different risk levels on the PGSI, as suggested by the desktop analysis. However, some practitioners suggested that these numbers were too low, based on their experience.*

4.2.7.2 High rates of KiwiSaver hardship withdrawals

Another key economic cost of gambling identified by experts is the misuse of KiwiSaver hardship withdrawals (the payment of a lump sum of up to three months of living expenses, taken from that individual's KiwiSaver retirement account). These withdrawals are designed to help people meet urgent living expenses, but experts reported seeing clients using these payments for gambling. *'Somebody will apply for their KiwiSaver hardship... the whole 12 or 13 weeks of payment goes into their bank account... that night it's gone. And it's gone to gambling.'* The experts reported that there are recommendations given by the KiwiSaver providers and the mentors as to how the hardship payment should be spent, '*But there are no rules in the legislation around where that money goes. And so, banks often tell me that the moment that it's dropped into the client's account, it's gone.'*

The consequences of this misuse of retirement savings extend beyond the immediate loss of the money withdrawn, as the reduced retirement savings undermine the long-term financial stability of the individual. The KiwiSaver hardship withdrawal can represent what one expert called a '*double hit,'* compounding the hardship already experienced: '*There's a cost of it [retirement savings] disappearing now. The long-term compounding interest and growth…You're already in poverty. You're already struggling severely in order to even have that money paid out to you. And then because of the lure of online gambling, it's gone.'*

The process of undertaking a KiwiSaver hardship application also places a substantial burden on social services, with one mentor noting, '*KiwiSaver hardship applications take up a lot of financial mentors' time, which is a cost to our sector, volunteer hours, as well as MSD [Ministry of Social Development] funding.'* This was echoed by a financial service manager who reported that financial mentors spend up to half of their work time on KiwiSaver hardship applications with their clients.

4.2.7.3 Bankruptcy alternatives

Bankruptcy, while technically available, was described as an option to be avoided whenever possible. Financial mentors reported spending considerable time explaining the implications of bankruptcy to clients, especially in cases where bankruptcy was seen as the only option in managing their debts. '*We haven't helped anyone go through bankruptcy. We always try and find other ways. So, if they come to us and say, 'I want to go bankrupt,' we spend a lot of time telling them, 'This is the consequence of that.' No credit, on file, for the public, can affect you for a long time.'* Bankruptcy is also a last resort due to the impact on affected others: '*The majority of partnerships…have joint debt…Does it mean that the other person has to go into bankruptcy as well? So, there's definitely consequences. There's another person in the picture; it's not just the gambler.'*

Instead, clients were typically steered towards debt repayment orders (DROs) or no-asset procedures (NAPs), though these too came with risks. '*You can only go through [NAPs] once. So, if someone did that early without having addressed the gambling problem... it wouldn't be available [again].'* One expert explained that there seem to be more financial options in New Zealand for those experiencing hardship. '*Creditors in Australia quite aggressively initiate bankruptcy more often. I have no idea why they haven't started doing this in our neck of the woods and I hope it doesn't start.'*

However, experts highlighted that, even when steered towards options other than bankruptcy, the financial exclusion consequences had long-term economic costs for individuals. One expert talked about the surge in interest in NAPs they had seen in their practice due to it being touted on social media as an easy way to get rid of consumer debt: '*Over the last four years, people are far more aware of what a no asset procedure is based on what is being trolled through social media and encouraged…It's sold as an easy option. In reality, it has all these flow-on effects down the road, but via social media, it's seen as, oh, you've got these debts, just wipe them by*

doing this easy thing, and then you can go about your life on TikTok.' The impact of NAPs and DROs, whether from gambling or other debts, were explained by one financial mentor, '*You'll have issues. You probably will have to pay more for rent because you won't be able to get a cheap rental because your credit check. Likewise with power, you're probably more likely to have to get prepaid power…or go with your least preferred provider and so on.'*

Experts also expressed frustration at the loans that were offered to people experiencing harm from gambling, and the escalating debt this created. Experts explained that the loan providers see gambling '*As a discretionary cost, that someone will just stop. Sort of the same as smokes. Often the creditors will say, well, technically, someone can quit smoking. So, we're assuming it will be affordable because they'll just quit smoking tomorrow when they get the loan.'* Experts saw this as an extension of the common rhetoric that gambling is a choice, not an addiction: *'You can quite often hear, well, if you want to feed your family, stop gambling, as though it's an active choice.'* One expert recounted a story of spiralling loan debt due to chasing losses. *'If they've lost $10,000 in gambling, they'll try and go and get a loan for $10,000 because they think they can win it back…I had one person that got the small business cash flow loan through IRD that lost it all in gambling and then went and got more debt to try and repay that debt. And he ended up being about 45 grand in debt.'*

4.2.8 Theme 8. Cultural costs

4.2.8.1 An unequal partnership

Experts, both in mainstream services and Kaupapa Māori organisations, felt that gambling harm in Māori communities carries profound cultural costs. Some described these costs as stemming from ongoing structural inequities and the legacy of colonisation: '*The issue is broader than just the gambling; the gambling is just really a manifestation of colonialism.'* Several experts emphasised that Māori are not equal partners in gambling policy, governance, or funding decisions, despite being disproportionately affected by gambling harm. As one participant explained, '*Within the Class Four gambling, there's 32 societies. And there's only one that I can pick up that has a Māori governance board... so that just tells me that Māori are not in control.'* This lack of structural representation was described as creating a disconnect between who participates in gambling and who makes decisions: '*I don't feel like from a Te Tiriti o Waitangi perspective, that Māori have ownership over their rights to participate as an equal partner with*

the Crown, with the government, over access to gambling products, decisions over opening and closing venues, decisions over how money is distributed.'

Experts talked about Māori communities navigating a double bind. On one hand, Māori promote gambling within their own communities, such as housie and bingo, driven by the need to fundraise for collective Kaupapa in the face of persistent resource scarcity: '*We're always fundraising for something...There's always a Kaupapa that Māori are involved in that needs money and we're resource poor.'* On the other hand, as described above, Māori communities' ability to influence gambling-related decision-making or to shape how harm is addressed remains extremely limited: '*As Te Ao Māori, I don't think we're cognisant of how we're missing from participating…Twenty-two years past [when] the Gambling Act was introduced and we're still in the same situation.'*

4.2.8.2 Normalisation of gambling

Experts described the relationship with gambling as being deeply embedded in many whānau and communities, to the point of normalisation: '*A lot of [my clients] will say that gambling has been normal in the family… Dad gambles, it might be horses, it might be pokies, it might be bingo… so children then pick up on those behaviours.'* Gambling has been woven into social gatherings and community life, such as housie or informal card games, which may have once had a cultural place but now blur into more harmful forms of commercial gambling. One expert reflected on how her own experience growing up in a gambling household felt normal until she began working in harm prevention and recognised the costs of gambling to families.

The normalisation of gambling within some Māori communities has obscured the fact that these behaviours may be symptomatic of much deeper trauma: '*I suppose the social cost [of gambling] is quite huge to Māori because it's not who we actually are but, really, all that it comes down to, again, is just all the trauma,'* one participant shared, referring to the intergenerational harm caused by colonisation, systemic exclusion, and socioeconomic marginalisation. The presence of gambling in Māori communities was described by one expert as not an expression of cultural identity but rather a survival strategy in a society that fails to meet the needs of its Indigenous peoples.

4.2.9 Theme 9. Low-risk gambling paradox

During the consultations, experts were asked why they believe some people who gamble experience significant harm, despite being categorised as ‘low risk’ gambling. Overwhelmingly, experts described low-risk gambling as being problematic for those already living with financial precarity: '*If you're starting at a financial position that's disadvantaged then the impact - even if your severity or risk is very low - is still quite significant. And if you're already disadvantaged, you're maybe without the resources psychologically, emotionally, socially, then it's even worse.'* Experts highlighted how even relatively small amounts of gambling can have radically different consequences depending on the person’s financial position. '*One person can afford to walk away, the other person can't afford to lose that 20 bucks…So in terms of cost to the community, that losing of $20 means that you need to go back to the food bank that week. As opposed to someone else that lost $20 means that the holiday account wouldn't go up by $20 that week.'* This sentiment was echoed by another expert when comparing two clients. *'The client at this end of the continuum has spent a huge amount of money but has not hit rock bottom. Whereas for this couple, after exhausting family resources, which would probably have been low, then has resorted to theft from the employer, which then resulted in the loss of job, which resulted in having an [criminal] offense.’*

This domino effect of costs associated with even low-risk gambling was seen sometimes immediately in very vulnerable individuals: '*Even just spending more than you can afford once could be enough… you could lose your rent… now the car doesn’t have gas to go to work.'* This underscores that severity of impact is not just about how much is lost, but who is losing it and how much they suffer as a result. Gambling harm, even at the so-called low-risk level, is relational, contextual, and deeply unequal. This understanding was summed up by one expert who described low-risk gambling as the '*straw that breaks the camel's back.’*

The harm of low-risk gambling to relationships was described by many experts as being compounded by its hidden nature. Experts noted that people who gamble may not appear to be in crisis, yet the early signs, such as secrecy, deception, and financial juggling, can rapidly erode trust and relationships. One participant explained, '*When you’ve got a partner who is only spending $550 to $1,000, but they’re not telling you about it and it’s your shared money… the trust is gone… the hurt is too much.'* These relational fractures occur well before someone meets clinical thresholds for problem gambling but carry profound emotional and practical costs.

Experts also highlighted that the public and policy narrative around gambling often ignores this low-risk paradox. '*We focus on the disordered [gambler]… but it's too late once they're disordered… it's very, very hard [to come back].'* Instead, experts urged for these seemingly small early-stage harms to be taken seriously, especially for vulnerable groups.

4.2.10 Theme 10. Expert recommendations to reduce the costs of gambling harm

At the conclusion of each expert consultation, participants were asked, 'If you had a magic wand or were in charge of the government for the day, what would you do to reduce the costs of gambling to New Zealand?' A central theme that emerged was the need for equitable redistribution of gambling-derived community funds. One expert explained, *'Rather than money being extracted from areas where Māori live, in high to medium deprivation areas, I want that community funding model to return the same amount back to those communities.'* This demand for justice in the flow of gambling industry profits was paired with a broader call for Māori tino rangatiratanga, including legislative change to ensure Māori are equal partners in gambling governance, not just token representatives: '*It's actually not just about having somebody [participating in decisions] who's Māori, who has whakapapa to Māori…It's more about having Māori who 'think' Māori, who think about what is best for the collective.'*

Regulatory reform also featured prominently in experts' recommendations. Participants advocated for mandatory nationwide facial recognition technology in all gambling venues to strengthen the effectiveness of self-exclusion. Current limitations, such as limits on how many venues one can self-exclude from, were seen as loopholes that erode public trust: '*Are we overcomplicating things? What is the ultimate goal? It's to make people whole.'* Stronger enforcement of host-responsibility laws was another priority, with one expert expressing exasperation at the '*low-level cost'* for non-compliance, citing the experience of SkyCity Casino: '*After a decade of money laundering and God knows what else, which was deliberate…they stood down for five days.'* Some suggested that if a venue is found to be non-compliant, all EGMs owned by that gaming society or organisation should be shut down for a period, '*Sending a very, very strong message to those societies that they must comply.'*

Many experts called for structural changes in gambling products and reduced availability, particularly around EGMs and online gambling. One expert suggested the government should '*slow them down',* referring to the speed of play of EGMs. Another suggested '*Some kind of legislation that could be brought in around the foreign shore gambling sites…get rid of it.'* The

exasperation of the experts with the harm caused by online gambling and the lack of government accountability was palpable, with experts repeatedly expressing the sentiment that online gambling was 'not right' and a cause of 'real alarm' in the sector.

Many highlighted the normalisation of gambling harm, drawing parallels with alcohol's misuse in New Zealand: '*Problem gambling is more common than responsible gambling.'* Several experts pointed to the glut of gambling advertising as contributing to this normalisation: '*You can't look out of a school without seeing an ad for horse betting.'* Some called for stricter controls on gambling advertising or total bans, similar to those imposed on tobacco. These expert suggestions included government regulations to curb online gambling advertising on social media and the convergence of gambling and gaming, with one expert saying, '*They're targeting my mokopuna… a four-year-old playing a barnyard game…and out pops a loot box.'* Many experts spotlighted the imbalance in promotional power, describing how gambling operators outspend public health efforts exponentially*: 'They have budgets that blow our entire national budget out of the water.'*

Cross-sector accountability was another repeated recommendation from experts. Participants urged for mandatory screening for gambling harm across GPs, police, social services, and financial institutions: '*If doctors ask about smoking, why not gambling?'* Others described missed opportunities to catch harm earlier: '*They're not asking questions about gambling, so gambling is not recorded as a cause [of harm] …The same thing happens at budgeting services…They don't ask the question.*'

4.3 Conclusions

The Community Consultations provided contextual information that complements and informs the quantitative analysis presented in this report. Key points from these discussions indicate the pervasive nature of gambling harm in New Zealand and highlight several areas that have direct implications for understanding its economic and social costs.

Professionals on the front lines consistently identified offshore online EGMs and casino games, and bricks and mortar EGMs, as the predominant sources of harm. This aligns with emerging quantitative evidence. The consultations also indicated the significant issue of underreporting, both in terms of individuals seeking help for financial distress due to gambling and the largely

hidden nature of gambling-related crime, such as theft from family and friends. This suggests that official statistics may not capture the full extent of these problems.

Furthermore, the discussions confirmed the productivity losses associated with gambling harm, affecting not only those who gamble but also their whānau and support networks. Participants generally validated the proposed average loss figures per person, though some treatment providers felt these might be conservative. The consultations also provided understanding of the 'low-risk gambling paradox', explaining how even small financial losses can trigger severe harms for individuals and families already living with financial precarity. The erosion of trust due to secrecy and deception, even at lower levels of gambling involvement, was identified as a significant driver of severe relational harms like divorce.

Experts overwhelmingly reporting that gambling harm was experienced at higher rates by and with more immediate consequences to marginalised communities, such as Māori, due to higher rates of poverty and trauma. The reluctance to pursue formal bankruptcy, with a preference for alternatives such as KiwiSaver hardship withdrawals, and the barriers to accessing mental health treatment due to affordability and stigma, further show the complex coping mechanisms and systemic challenges faced.

These qualitative findings were used to inform and support the cost estimations detailed in the following chapters, ensuring that the economic analysis considers the experiences and observations from the community. Comment will be made in subsequent costing chapters where information from these consultations informed the analysis.

Chapter 5: Costing methodology

Frameworks from prior economic costing studies, as well as gambling harm research, can be used to organise diverse cost categories into broad domains and to identify to whom the costs accrue: whether the individual who gambles, affected others, or broader groups (community, business, or government). In this chapter we will briefly introduce the organisational framework. This chapter then discusses the key methodological and conceptual considerations regarding economic costings of gambling-related harm, including excessive gambling spend as an opportunity cost; HRQoL; the prevention paradox; the cost impact attributable to specific gambling forms; affected others; equity issues; causality and uncertainty; and the rates of gambling problems in New Zealand. This discussion is followed by a discussion on data sources and data considerations.

5.1 Economic costing framework

The 'Measuring the Burden of Gambling Harm in New Zealand' report (Browne, Greer et al., 2017) developed a comprehensive conceptual framework of gambling harm in New Zealand. This framework encompasses eight broad domains: *financial harms*; *relationship disruption, conflict or breakdown*; *emotional or psychological distress*; *decrements to health*; *cultural harm*; *work or study impacts*; *criminal activity*; and *life course and intergenerational harms*. These harms can be experienced as general, crisis or legacy harms, and can impact the person who gambles; affected others (including the family unit, whānau and others close to the person who gambles); and broader communities, as well as businesses and government.

Because of its comprehensive nature, this framework serves as a useful basis for an economic costing (Table 2). Two categories: *emotional and psychological distress* and *decrements to health,* have been combined to create a single *health* domain that covers both physical and psychological impacts of gambling harm including the intangible impacts on HRQoL. A final category of *other government or community costs* has also been included to cover more general costs borne by the wider community. As discussed in Chapter 2, a broad range of potential impacts and costs are associated with gambling harm; however, some – particularly cultural harms and life course and generational harms – are difficult to quantify with the available evidence and have therefore not been included in this costing.

Table 2. Costing framework

Cost Domain	Cost Category	Cost attributed to		
		Person who Gambles	Affected Other	Community/ Business/ Government
Financial impacts	Total opportunity cost of gambling spend	X	X	
	Bankruptcy			
	Cost of administration			X
	Unpaid debts		X	X
Relationship disruption, conflict or breakdown	Divorce and separation			
	Financial cost	X	X	
	Emotional distress	X	X	
	Experiences of violence			
	Emotional distress	X	X	
Health	Depression	X		
	Impacts of suicidal attempts	X	X	X
	Impacts of fatality by suicide		X	X
	HRQoL impact of gambling harm	X	X	
	Health systems			X
Cultural harm	Reduced engagement or contribution to community; loss of connection, social isolation and loneliness; cultural shame	X	X	X
Work or study impacts	Productivity loss to business			X
	Cost of job loss			
	Loss of income	X		
	Job search to the person who gambles	X		
	Employer staff replacement costs			X
	Unemployment benefits			X
	Cost of absenteeism to business			X
Criminal activity	Cost to New Zealand justice system			
	Police system cost			X
	Court system cost			X
	Corrections system cost (general)			X
	Corrections system cost (major fraud)			X
	Crime to business/community			
	Petty theft or dishonesty		X	X
	Major fraud		X	X
Life course and generational harm	Loss of financial security/achievement*; homelessness; impacted life course trajectory*	X	X	X
Other government or community costs	Policy, regulation, research (including treatment funding)			X
	Non-profit - Provision of services related to gambling addiction^			X
	Environmental costs*			X

* Insufficient data to cost. ^Note on Cost Attribution: This framework includes all economic costs associated with gambling harm, such as the funding of regulation, research, and treatment services. While it is acknowledged that many of these functions are funded through industry-specific levies and taxes (i.e., a cost-recovery model), they are included here because they represent real resource expenditure required to manage and mitigate gambling harm. The purpose of this study is to quantify the total social and economic cost, not to conduct an analysis of the 'overall net economic balance' of the gambling industry.

5.2 Key methodological and conceptual issues

The review of literature in the prior chapters has identified some key methodological and conceptual considerations for undertaking a new economic costing in New Zealand.

5.2.1 Excessive gambling spend as an opportunity cost

A key concept in measuring the economic impact of gambling harm is the idea of 'excessive gambling spend' treated as an 'opportunity cost.' This is a significant component in this economic costing.

The core idea, pioneered by the Australian Productivity Commission (1999), is that money spent on gambling by individuals experiencing gambling problems, beyond what might be considered typical recreational spending, represents a cost. This 'excess' spending is viewed as a loss because the money could have been used for more beneficial purposes, and it often indicates spending that yields little to no real value or wellbeing for the individual due to the nature of their gambling problem. The approach generally assumes that if not for their gambling issues, these individuals would spend amounts similar to those who gamble without problems.

This method of identifying and costing excessive spend has been adopted and refined in later studies (Browne, Greer et al., 2017; Victorian Competition and Efficiency Commission, 2012). For example, some refinements consider excessive spending across different levels of gambling risk (not just 'problem gambling') and adjust the cost based on the severity of financial harms reported by each group. This contrasts with earlier models that might have costed the entire difference in spending for those with the most severe problems.

Calculating this excessive spend usually involves comparing self-reported expenditure from surveys with actual industry revenue data, as individuals often underestimate their gambling losses in surveys (Productivity Commission, 1999). A key assumption is that any underreporting of spending is proportionally similar across all gambling categories.

Including excessive spend as a cost item reflects the understanding that problematic gambling diverts money from other potentially beneficial uses. This aligns with public health perspectives and is supported by evidence showing that excessive gambling spending often displaces essential expenses (e.g., health, utilities) and that a significant portion of gambling industry

revenue comes from individuals experiencing harm (Marionneau, Lahtinen, et al., 2024; Zendle & Newall, 2024).

It's also relevant to consider that all gambling expenditure, including that by individuals without gambling problems, has wider economic opportunity costs. For instance, if money spent on EGMs in New Zealand were instead spent in the retail sector, research indicates this could generate more jobs (Hogan, n.d.) and different tax outcomes (Ministry of Health, 2022). Generally, money not spent on gambling would likely be directed to other areas of the economy.

This particular study, however, focuses on calculating the *social costs resulting from gambling harm*, rather than the overall net economic balance of the entire gambling industry. Because the recreational spending of people classified as non-problem gambling is not itself counted as a 'social cost' in this harm-focused framework, the general economic contributions associated with that segment of gambling activity (such as employment and tax revenue generated from non-problematic play) are not used to offset the specific costs of harm identified in this report.

Other economic factors, such as revenue from international visitors or the benefit of 'import substitution' (where New Zealanders spend on domestic gambling options instead of offshore sites) also exist. While these have economic relevance, they are generally considered secondary to the primary aim of this study-to quantify the domestic social costs of gambling harm. Thus, a detailed analysis of these broader economic benefits is outside the current scope, though their exclusion from a comprehensive net economic assessment is noted.

5.2.2 Health-related quality of life

HRQoL is a well-established metric in public health and economic costing that quantifies the burden of disease and other health-related impacts on individuals and populations. It encompasses physical, mental, and social dimensions of well-being, typically expressed in terms of QALYs, DALYs, or YLDs. These measures enable comparison of gambling-related harms with other health conditions and facilitate an economic assessment of their broader societal costs.

In the context of gambling, HRQoL provides a lens through which to evaluate the non-financial consequences experienced by individuals who gamble and those affected by their behaviour (Browne, Tulloch, & Rockloff, 2025). The methodology for estimating HRQoL decrements due to gambling harm has evolved over the past decade, with increasing reliance on direct elicitation

methods and health-state valuation techniques. A key development in this field has been the adaptation of standard burden-of-disease methodologies to quantify the impact of gambling harms in a manner comparable to other public health issues, such as depression and alcohol misuse (Browne, Greer et al., 2017; Browne, Tulloch, Rawat, et al., 2025; Tulloch et al., submitted 2025).

Key studies have significantly advanced our understanding of gambling's impact on HRQoL. Research conducted in Victoria (Browne et al., 2016) and New Zealand (Browne, Greer et al., 2017) established foundational methodologies and findings. The New Zealand study, for instance, found that for people who gamble, the average HRQoL decrements associated with low-risk, moderate-risk, and problem gambling were 0.18, 0.37, and 0.54 respectively. For affected others, the decrements were 0.24, 0.31, and 0.34 for the same categories. In simple language, this implies that a person experiencing gambling problems realises only about 46% (calculated as 1 - 0.54 = 0.46) of the life utility experienced by someone who is otherwise well and not experiencing gambling problems. While for many people this kind of metric is an unfamiliar way to think about health and quality of life, it crucially provides a mechanism to quantify health impacts arising from gambling problems.

Two primary methodological approaches have been employed to measure gambling-related HRQoL decrements: direct and indirect elicitation methods. Direct methods, such as Time Trade-Off (TTO) and Visual Analogue Scale (VAS), involve asking participants to evaluate hypothetical health states. Indirect methods use statistical inference from established health utility measures (Browne et al., 2020). Recent Australian surveys have included the Gambling Harms Scales for people who gamble and affected others (GHS-10 / GHS-10-AO). These screens have been developed so they can be scored according to the expected disability weight associated with each score (Browne et al., 2022). The disability weights were established using a propensity-matched case-control methodology, comparing people who gamble with and without reported harms regarding their health functioning.

Both approaches have strengths and limitations. Direct methods may be subject to bias from response framing, stigma, and over-attribution. In contrast, indirect methods, which rely on generic measures of health and physical functioning, seem less sensitive in capturing the full scope of gambling-specific impacts (Browne, Tulloch, & Rockloff, 2025; Tulloch et al., submitted 2025).

A recent review synthesised existing research on the HRQoL effects of gambling. Drawing from direct and indirect elicitation data, this review identified consistent maximum HRQoL decrements of approximately 0.45 for individuals experiencing severe gambling problems, and 0.40 for affected others exposed to such problems (Tulloch et al., submitted 2025). This means that someone with severe gambling problems is living with about 45% lower quality of life than they would if they did not have those problems.

5.2.3 Application to economic costings

HRQoL decrements are typically converted to QALYs, DALYs or YLD to facilitate comparison with other health conditions and enable economic costing. The monetisation of these impacts often uses approaches such as GDP per capita or VoSLY, although debates persist about the most appropriate valuation method (Verguet & Chakrabarti, 2023).

Recent economic costings have employed diverse methods to monetise HRQoL impacts of gambling. In the Northern Territory of Australia, Whetton et al. (2021) linked reported harms to decrements from the 2016 Global Burden of Disease study, discounted DALYs by 50% for symptom-free periods, and valued them using the VoSLY. They provided upper and lower bound estimates to account for methodological variances. Tasmania adopted a similar approach, mapping known harms to DALYs and valuing them using VoSLYs (ACIL Allen Consulting et al., 2018).

Some studies have focused on specific subgroups or used expert opinions. The study in the Czech Republic by (Winkler et al., 2017) calculated HRQoL only for individuals classified with pathological gambling, using expert physician estimates of clinically significant depression and valuing the associated HRQoL impact using average costs per patient with depression. The National Australian Cost of Addiction study (KPMG and Rethink Addiction, 2022) used HRQoL decrements derived from Browne, Greer et al. (2017), although they did not specify their calculation method. Not all studies have included HRQoL valuations. The United Kingdom study by Bhattacharjee et al. (2023) did not consider HRQoL beyond direct costs for mental health GP visits, while the Italian study by Lucchini & Comi (2022) did not include HRQoL valuation at all.

The Social Cost of Gambling to Victoria Reports (Browne, Greer et al., 2017; Browne, Tulloch, Rawat, et al., 2025) demonstrated the significance of HRQoL impacts as a major component of the overall social cost of gambling. These studies integrate HRQoL decrements into broader economic models to estimate the cumulative burden on people who gamble and affected others, such as family members, partners, and close associates.

The Victorian studies utilised a multi-step approach to quantify HRQoL impacts:

1. *Prevalence Estimation***:** Identification of individuals experiencing gambling-related harm using population-level surveys and standardised screening tools such as the Gambling Harms Scale (GHS-10).
2. Severity Weighting**:** Application of HRQoL decrements derived from valuation studies that map specific gambling harms onto established disability weights used in burden-of-disease research.
3. *Monetisation***:** Conversion of HRQoL decrements into economic terms using per capita GDP as a reference metric, aligning with best practices in health economics.
4. *Discounting***:** Because HRQoL serves as an 'omnibus' index of social-psychological impact, it often subsumes or overlaps with other, more specific cost estimates within the studies, such as depression-related costs. Consequently, the final accounting subtracts these estimates to prevent double counting.

The most recent NZGS (2023/24) included the PGSI, but not the GHS instruments. Nevertheless, prior analyses based on the PGSI yield aggregate estimates similar to those based on the GHS (Browne, Tulloch, Rawat, et al., 2025); furthermore, Tulloch et al (submitted 2025) provide a scoring method applicable to both the PGSI and the GHS. Accordingly, the present costing study bases its HRQoL decrements on this data.

5.2.4 HRQoL impacts to affected others

In the 2017 and 2023 Victorian reports (Browne, Greer et al., 2017; Browne, Tulloch, Rawat, et al., 2025), the HRQoL impacts on affected others were identified as a substantial gambling-related cost. However, the methods for measuring these impacts differed between the two reports.

In the 2017 report, the number of affected others was calculated using estimates from other research (Goodwin et al., 2017). This prior work estimated that for each person experiencing problem gambling, six other people are affected; for each person experiencing moderate-risk gambling, three people are affected; and for each person categorised as low-risk gambling, one other person is affected. From this total number of affected others, the proportion experiencing moderate or severe emotional distress due to another person's gambling (identified from Browne et al., 2016) was used to estimate the final number of affected others experiencing HRQoL impacts. In contrast, the 2023 report utilised prevalence data that included a specific harm scale for measuring harms to affected others (GHS-10-AO). This scale was designed using health utility information and an indirect or statistical methodology to identify associated health decrements.

In the 2023 report, the estimated cost of the emotional and psychological impact of gambling harm on affected others was approximately $1.6 billion. This figure is slightly higher than the previous inflation-adjusted estimate of $1.3 billion. The increase likely reflects a more precise estimation of harm to affected others, with prevalence inferred directly from the population survey rather than extrapolated from the number of people harmed per person.

Since the NZGS (2023/24) does not include specific measures for harm to affected others, the current costing will base its methodology on that used in the 2017 report (Browne, Greer et al., 2017) The proportion of New Zealand affected others experiencing HRQoL impacts will be identified through individuals reporting harm to their physical or mental health due to another person's gambling (identified from Browne, Greer et al., 2017).

5.2.5 Discounting HRQoL to avoid double-counting

Accurately assessing the economic impact of gambling-related harm in New Zealand requires isolating the costs attributable to specific harm domains. In this report, we use a 29.3% weighting factor when calculating costs associated with emotional and psychological harm (affecting both people who gamble and affected others). This factor is derived from a dominance analysis of disability weights in prior research (Browne, Greer et al., 2017), providing a basis for understanding the relative contribution of different harm categories to gambling's overall impact. Key elements of this methodology include:

- *Disability Weights***:** These weights, established by Browne et al. (2016), quantify the reduction in an individual's quality of life from gambling-related harm, measured on a scale from 0 (no impact) to 1 (maximum impact).
- *Dominance Analysis***:** A statistical technique used to determine the unique contribution of emotional and psychological harm to the variance observed in DWs, effectively dividing the overall impact into its component parts.

The 29.3% weighting thus represents our best estimate of the contribution of psychological and emotional impacts to global HRQoL decrements. This methodology allows us to isolate and cost the specific impact of emotional and psychological factors on quality-of-life reductions associated with gambling harm, while excluding contributions to HRQoL impacts attributable to financial deprivation, relationship difficulties, physical health issues, consequential socially deviant behaviour, and work or study problems that are costed elsewhere in this report.

5.2.6 The prevention paradox

A recent study of gambling expert stakeholders in New Zealand identified concerns when the public health focus is solely on individuals with severe gambling problems (Rimal et al., 2023). A key consideration in HRQoL costing is the inclusion of impacts across the entire spectrum of gambling risk, encompassing low-risk and moderate-risk. This approach aligns with the 'prevention paradox' in gambling harm, suggesting that the cumulative harm from less severe cases can be substantial, potentially exceeding that from the fewer severe cases (Browne & Rockloff, 2018). Recent developments have broadened the scope of HRQoL assessment to include affected others, acknowledging the significant impact of gambling on family members and close associates. The development of specific measures, such as the Gambling Harm Scale-10 (GHS-10) and the GHS-10 for Affected Others (GHS-10-AO), signifies an important advancement in capturing these wider impacts (Browne et al., 2022).

Multiple studies demonstrate that although severe gambling problems affect a smaller segment of the population, a significant proportion of gambling's societal impact originates from the larger group experiencing lower levels of harm:

- Browne et al. (2016) found that in Australia (Victoria), 50.2% of the HRQoL impact was attributed to low-risk gambling, whereas only 15.2% was attributed to problem gambling.
- In the United Kingdom, Canale et al. (2016) reported that 25.5% of social harms were associated with low-risk gambling, compared with 36.5% for problem gambling.
- Tulloch et al. (2024) observed that in Australia (National), 42.2% of the HRQoL impact originated from lower-risk gambling, while 25.2% was from problem gambling.

These findings underscore the importance of considering the entire spectrum of gambling behaviour when assessing societal impact. The inclusion of all levels of gambling problem severity in cost quantification is a recommendation from Latvala et al. (2019) that has also been adopted in various studies:

- Victoria, Australia (Browne, Greer et al., 2017)
- Northern Territory, Australia (Whetton et al., 2018)
- Sweden (Hofmarcher et al., 2020)
- Italy (Lucchini & Comi, 2022)
- United Kingdom (Office for Health Improvement and Disparities, 2023)

However, this approach is subject to ongoing debate. Critics suggest that including low- and moderate-risk gambling might inflate harm estimates (Delfabbro & King, 2017). Some researchers advocate for focusing solely on so-called 'genuine' harms, such as bankruptcy, and excluding harms like 'increased credit card debt'. More extreme harms are chiefly reported by individuals classified under moderate-risk and problem gambling (Christensen et al., 2015). Nevertheless, recent studies employing various elicitation protocols support including impacts across the risk spectrum for both individuals who gamble and affected others (McLauchlan et al., 2020; Murray Boyle et al., 2021, 2022).

5.2.7 Impact attributable to specific gambling forms

Attributing gambling-related costs to specific gambling forms is crucial for understanding the policy implications of gambling's economic impact. This is because different forms vary

significantly in total market size/revenue, the proportion of revenue from individuals experiencing gambling problems, and the overall attributable impact. This attribution process relies on the relative contribution of each gambling form to overall gambling problems, since most costs originate from harms associated with gambling problems and excessive spending (Browne, Greer et al., 2017; Browne, Tulloch, Rawat, et al., 2025).

Recent research has significantly advanced our understanding of this attribution. Browne et al. (2023) conducted a statistical analysis using a combined dataset of over 71,000 respondents from representative gambling prevalence surveys across multiple Australian jurisdictions. Their study utilised multiple regression and variance-partitioning techniques to model the unique effects of engagement frequencies for each gambling activity, while adjusting for participation rates. The findings reveal significant differences in the harm attributable to various gambling forms. EGMs were identified as the primary driver of gambling problems nationally, estimated to be responsible for 52-57% of all gambling-related harms. Casino table games, sports betting, and race betting collectively account for approximately one-third of these problems. In contrast, other common forms like lotteries and bingo show virtually no unique association with harmful gambling after considering co-occurring engagement with other forms (Browne et al., 2023).

The multiple regression method of attribution enables a breakdown of costs by form. When compared to total participation rates, market size, and government revenue, this breakdown offers valuable insights into which products represent a poor 'value proposition' for the government and the community. This, in turn, provides crucial direction for future regulatory decisions (Browne, Greer et al., 2017).

This pattern of attributable impact in Australia is consistent with the observation that highly accessible, continuous electronic forms of gambling, which can lead to large player losses, contribute most significantly to the cost of gambling. The situation in Western Australia offers a compelling illustration of this principle. Due to restricted EGM accessibility (limited to a single casino), Western Australia exhibits lower EGM participation, fewer gambling problems, and considerably reduced harm attributable to EGMs when compared to other states (Russell et al., 2023).

In New Zealand, the 2016 Health and Lifestyles Survey (Thimasarn-Anwar et al., 2018) found that half of those who regularly played Class 4 pokies experienced some form of harm. Nearly

half (48%) of individuals receiving treatment through gambling harm treatment services in New Zealand identified EGMs as their primary mode of problem gambling (Ministry of Health, 2023). Additionally, individuals categorised as experiencing moderate-risk and problem gambling spend significantly more on EGMs than others (Abbott et al., 2018). A National Study in New Zealand found that EGMs posed the greatest risk to the quality of life for people who gamble, compared to other gambling forms (Lin et al., 2010). There is also some evidence suggesting that the risk of harm from Class 4 pokies is higher for women than for men (Palmer Du Preez et al., 2019). However, New Zealand's gambling landscape is changing rapidly, and the relative impact of different forms and channels (e.g., in-venue, online) in 2025 could be considerably different.

It is important to note that while the total cost of gambling can be attributed to each form with relatively few assumptions, this approach has some limitations. The relative contribution of each form to problems might vary somewhat between jurisdictions, and the exact proportion of harm attributable to each form could be subject to some uncertainty. Nevertheless, the methods used in large-scale studies, such as that by Browne et al. (2023) can be applied to current New Zealand data, thereby offering a robust foundation for attributing costs to different forms.

5.2.8 Attribution to cultural groups

A primary objective of this study is to estimate the relative share of the total cost of gambling harm experienced by major cultural and ethnic groups in New Zealand. The method detailed below is a heuristic developed for this study, intended to apportion the estimated national gambling harm cost according to the prevalence and severity of gambling problems reported by these groups.

5.2.8.1 Rationale and Approach

The fundamental logic behind this attribution is that the differing rates of low-risk, moderate-risk, and problem gambling observed across various cultural groups act as indicators for distributing the overall population-level harm. Although individual experiences of harm are multifaceted, this method employs established problem gambling categories as a proxy to estimate this distribution. The calculation depends on two main data inputs:

1. Self-reported gambling problem prevalence data from the latest NZGS (2023/24), which classifies individuals into non-problem, low-risk, moderate-risk, and problem gambling categories using the PGSI.
2. The population proportion of each cultural group in New Zealand.

5.2.8.2 Calculating weighted harm share by cultural group

To estimate the relative share of harm for each cultural group, the following steps are undertaken:

1. *Severity Weighting***:** A severity weighting is applied to the prevalence of at-risk gambling within each cultural group. This study adopts a 1:2:3 ratio for low-risk, moderate-risk, and problem gambling categories, respectively. This weighting is a heuristic measure designed to acknowledge the progressively greater impact indicated by higher PGSI scores. This specific ratio was chosen to reflect increasing severity without making the model overly sensitive to the small sample sizes often found for people categorised as problem gambling, especially when data is segmented by cultural group. Simulations confirm that other reasonable weighting factors (e.g., a 1:1:1 weighting, giving equal weight to each at-risk category) yield similar relative distributions of harm across groups, since the relative ratios of PGSI risk categories are highly consistent. However, the 1:2:3 weighting is preferred because it better, though still heuristically, represents the escalating nature of harm associated with more severe gambling problems and the greater information content of the PGSI instrument at medium/high scores.
2. *Calculating Raw Harm Scores***:** For each cultural group:
    - The number of individuals in the low-risk gambling category is multiplied by a weight of 1.
    - The number of individuals in the moderate-risk gambling category is multiplied by a weight of 2.
    - The number of individuals in the problem gambling category is multiplied by a weight of 3.
    - These three weighted values are then summed for each cultural group to generate a 'raw harm score' for that group.
3. *Normalising to Determine Proportional Share***:** The raw harm scores for all cultural groups are summed to create a total raw harm score. The raw harm score for each cultural group is then expressed as a percentage of this total. This percentage represents

the estimated 'weighted harm share' or 'proportional harm score' for each cultural group, indicating their estimated portion of the total financial impact of gambling harm in New Zealand.

5.2.8.3 Limitations and considerations

Readers should note the inherent limitations of this attribution method. It offers a relative distribution of estimated costs based on problem gambling prevalence and an assumed severity gradient, but it cannot quantify the absolute or unique nature of harms that may be experienced differently across cultural groups. For example, qualitative evidence suggests that harms may be amplified within Māori and Pacific communities due to interconnected whānau structures; however, such cultural nuances are not captured in this relative distribution.

This is primarily due to a lack of robust quantitative data to confidently adjust estimates for such differential cultural impacts at a population level. Incorporating these specific impacts requires dedicated future research. Consequently, while this attribution provides insight into harm distribution based on prevalence, it does not present a complete picture of culturally specific impacts, which is a key consideration when interpreting the results presented later in this report.

5.2.9 Causality

The accurate attribution of costs to gambling, as opposed to other correlated risk factors or co-morbid conditions, is crucial in economic costings of gambling harm. However, establishing clear causal relationships between gambling and various harms presents significant challenges, particularly when considering the complex interplay of factors that contribute to an individual's health and wellbeing.

The difficulties in gathering solid evidence for causality or determining the attributable fraction of harm due to gambling include:

1. *Complex relationships:* While some harms, such as financial losses, can be more directly attributed to gambling, others like depression and suicidal behaviours often have multiple contributing factors. These may include gambling, pre-existing mental health issues, substance use, or environmental stressors (Browne et al., 2016; Productivity Commission, 1999). In these cases, it may be unclear, even to the person

experiencing it, what the exact relationship is between these factors (Landon et al., 2018)

2. *Bi-directional relationships:* Many gambling-related harms exhibit bi-directional relationships with gambling behaviour. For instance, gambling may lead to depression, but depression may also lead to increased gambling as a form of escape or self-medication (Langham et al., 2016).
3. *Varying degrees of causality:* The strength of the causal relationship likely varies across different types of harm and gambling severity levels. For example, the relationship between gambling and depression may involve more bidirectional causality than that between gambling and crime or decreased productivity of affected others.
4. *Limited longitudinal studies*: The literature on causal relationships between gambling and gambling harm is limited, partly due to the scarcity of long-term longitudinal studies that can establish temporal precedence and rule out alternative explanations (Langham et al., 2016; Patel & McDaid, 2019).

Given these challenges, economic costings have often relied on pragmatic heuristics to account for partial attribution. The most common method, following the methodology of the Australian Productivity Commission (1999), applies a uniform reduction (usually 20%) to account for the factor of partial attribution. This approach has been adopted in various costings, including in Australia (Browne, Greer et al., 2017).

However, this uniform discount approach has limitations. Applying a 20% reduction across all harm types and severity levels may not accurately reflect the complex relationships involved. The degree of reverse causality is likely to vary across different types of harm and gambling severity levels. For instance, the question of causality might be more pronounced in low-risk gambling categories compared to high-risk ones. Despite these limitations, the uniform discount approach remains widely used due to the lack of empirical evidence to support differential discounting. Therefore, the current study will continue to use this approach.

For the severe harms of divorce, homelessness, and suicide attempts, we have excluded people classified as low-risk gambling from cost attribution (i.e., applying a 100% discount). This decision reflects the uncertainty around causality in these cases, where multiple complex factors are often involved. That said, this should not be interpreted as evidence that low-risk gambling

cannot in some cases contribute to such outcomes. Further, a low PGSI score does not necessarily indicate with confidence low financial harm. For example, a person may score 2 on the PGSI if gambling consistently causes financial strain in their household, a recognised driver of housing insecurity. The decision to discount low-risk gambling *in severe harm categories only* is a conservative measure based on attributional uncertainty, given the low rate of these outcomes arising from this risk category.

The Community Consultation (Chapter 4) provided important context for understanding how even low-risk gambling can lead to serious consequences. Participants noted that many people they support are already living on the financial edge, and even small gambling losses can trigger a cascade of harms - such as falling behind on rent, losing access to transport, and eventually losing employment or housing. In these cases, what may appear as 'low-risk' gambling can, in fact, lead to disproportionately severe outcomes due to pre-existing vulnerabilities. Similarly, the loss of trust in relationships, even when the partner is classified as low-risk gambling (due to lying, secrecy, etc.), can lead to significant harms, such as relationship breakdowns. Although excluded from the costing for conservative reasons, these accounts highlight that the impact of low-risk gambling should not be underestimated in public health responses.

5.2.10 Uncertainty

Economic costings, particularly those involving complex social phenomena like gambling harm, inevitably incorporate various sources of uncertainty. These uncertainties can arise from limitations in data sources, methodological choices, and the inherent variability within limited data samples. Recognising and accounting for these uncertainties is crucial for producing robust and credible cost estimates.

A parametric bootstrapping approach is one way to address these uncertainties. It provides a way to generate confidence intervals for the total cost estimate, taking into account the uncertainties in each individual cost category. For each cost category, in addition to a single best estimate, upper and lower bounds are also established. These bounds are based on alternative calculation approaches, different data sources, or varying assumptions about the underlying process. Using these three figures (lower bound, best estimate, and upper bound) for each cost category, a parametric bootstrap can be employed to calculate the overall uncertainty. This involves treating each cost category as an independent random variable with a probability distribution (e.g.,

normal, triangular) with specified mode and extrema. For example, a triangular distribution could be defined by three points: the minimum (lower bound), the mode (best estimate), and the maximum (upper bound). By repeatedly sampling from these distributions and summing the results, we can generate a distribution of possible total costs. From this distribution, we can also calculate confidence intervals, providing a range within which we can be reasonably confident the true cost lies.

This approach has several advantages. It allows us to incorporate uncertainties from multiple sources systematically, provides a clear and interpretable measure of overall uncertainty, and avoids the need for overly complex and opaque statistical or simulation models. Moreover, it provides transparency about the methodological choices, sources, and magnitude of uncertainty in our estimates. It does not take into account correlated errors across cost categories, but there are typically diverse assumptions and methods employed across categories. Accordingly, there is generally little reason to suspect a significant degree of bias due to this limitation.

5.2.11 Harm attribution approach

This methodology includes only harms identified as being attributable to gambling, which likely understates the full social cost. For example, job loss caused directly by gambling is included, but cases where gambling contributes indirectly, such as through stress-related illness or alcohol use, are excluded because of attributional uncertainty and data limitations (Langham et al., 2016). This conservative approach avoids overestimation but omits partially attributable harms. Future research should explore methods to better capture these complex costs.

5.2.12 Rounding

Figures and percentages presented in the table are rounded and, therefore, may not add precisely. Recalculations using these rounded values may produce slight variations, but these do not materially affect the study's results or conclusions.

5.3 Data sources

Data sources have been identified for each of the cost categories in the Framework (Chapter 5, Table 1. Data was sourced for the 2023-24 financial year. Where relevant information was not available, the most recently available data was used. Each category requires three key types of data sources:

- New Zealand population prevalence
- Prevalence of a cost item
- Average cost per item

5.3.1 Population prevalence

General population data for New Zealand was sourced from the 2023 Census (New Zealand Government, 2024a). The prevalence of gambling problems in New Zealand was estimated using the NZGS (2023/24), conducted by the Ministry of Health. Gambling problems were measured by the PGSI (Ferris & Wynne, 2001), a commonly used measure of problem gambling that categorises people who gamble as low-risk (scores of 1-2), moderate-risk (3-7), and problem gambling (8+).

5.3.2 Item Prevalence

Two key data sources have been identified for the prevalence of individual cost items within each PGSI group. These include the NZGS (2023/24) and data associated with the Measuring the Burden of Gambling Harm in New Zealand report (Browne, Greer et al., 2017). This report was commissioned by the New Zealand Ministry of Health to develop a framework for understanding and measuring gambling-related harm in New Zealand and involved conducting a comprehensive national survey on harm prevalence. The survey included an 83-item harm checklist, assessing impacts across all cost domains.

5.3.3 Key data sources

Table 3 provides a brief description of key data sources and their application. Some are discussed in more detail in the next section (section 5.4 - key data considerations), and all data sources are described and cited within individual cost item calculations.

Table 3. Summary of key data sources and their application

Data Source	Type of Data	Primary Use in Report
Core Gambling Harm & Prevalence Data		
New Zealand Gambling Survey (NZGS) 2023/24	National gambling prevalence survey	To establish the number of adults in each PGSI risk category, forming the population base for all harm calculations.
Measuring the Burden of Gambling Harm in New Zealand (Browne, Greer et al., 2017)	Specific harm prevalence survey	To determine the percentage of people in each PGSI category who experience specific harms (e.g., divorce, job loss, depression, violence). These proportions were applied to the number of adults in each PGSI risk category identified in the NZGS.
Economic & Population Data (NZ)		
Department of Internal Affairs / Stats NZ	Official government statistics	Provided total regulated gambling expenditure, national population and demographic data, household size, and insolvency statistics.
World Bank Group / CEIC	Macroeconomic data	Provided New Zealand's GDP per capita, used as the basis for valuing a Year Lived with Disability (YLD).
NZ Government Labour Market Statistics	Employment and income data	Provided figures on average earnings, unemployment duration, and unemployment benefit rates for job loss calculations.
Government & Regulatory Costs (NZ)		
NZ Treasury, Ministry of Health, Ministry of Social Development	Government budget and strategy documents	Sourced the direct costs of government activities, including Vote Health funding, the budget for the Gambling Harm Minimisation Strategy, regulatory body costs, and funding for financial capability services.
Specific Harm Costings (NZ Proxies & Data)		
NZ Insolvency and Trustee Service	Insolvency statistics	Provided the rate of gambling-related bankruptcies and the average debt associated with insolvency cases.

Privacy Commissioner of New Zealand (Warburton, 2021)	Legal guidance	Provided the $10,000 proxy value for emotional harm resulting from a privacy breach, used as a conservative estimate for emotional distress.
O'Dea & Tucker (2005), "The cost of suicide to society"	Health economic report	Provided foundational data on the cost of services for suicide attempts and fatalities, which was adjusted for inflation.
Southern Cross & BusinessNZ, "Workplace Wellness 2023"	Business report	Provided the median annual cost of employee absenteeism in New Zealand.
International Data (Proxies & Comparators)		
Australian Jurisdictional Prevalence Surveys (NSW, VIC, etc.)	Self-reported gambling expenditure	Used to model the relative spend patterns across PGSI groups, as a proxy to calculate the "opportunity cost of excess spend" in NZ.
Australian Institute of Criminology / Warfield & Associates (2016)	Crime reports	Provided proxy data for the average cost of petty theft and the prevalence and cost of major fraud motivated by gambling.
H2 Gambling Capital (2023), "Australia Offshore Wagering Market Analysis"	Specialist industry analysis	Used for contextual comparison to understand the nature of the illegal "black market" for online gambling in a similar jurisdiction.

Note: This is not comprehensive, all data sources are described and cited within individual cost item calculations.

5.4 Key data considerations

The economic costing presented incorporates a very large and diverse set of quantitative data sources to determine parameter estimates and assumptions. Where these are lacking or dubious, some qualitative research is also referenced, including Community Consultations reported in Chapter 4.

5.4.1 Prevalence items

The ideal data sources for prevalence items are population-representative and directly estimate the specific harm categories being examined, such as financial spend, HRQoL, or relationship impacts, within the New Zealand context. This includes high-quality national datasets, such as the NZGS (2023/24). However, this type of data is not always available or comprehensive enough to cover all relevant harm categories. For example, while the NZGS (2023/24) provides information about gambling participation and gambling problem severity, it has relatively limited information about specific harms or impacts on others.

Given these limitations, options include expanding the search beyond New Zealand or using non-representative data. Therefore, when New Zealand-specific data is unavailable, the best alternatives have been identified, which, in some cases, include high-quality data from comparable countries. Data from Australian studies can be a valuable proxy due to the similarities in population characteristics, and gambling environments and behaviours, between the two countries (Livingstone & Adams, 2011; Rawat et al., 2018; Tran et al., 2024).

In instances where neither population-representative New Zealand data nor comparable Australian data is available, we have adapted non-representative data for use. This involves taking data from non-representative studies and projecting it onto New Zealand's gambling problem severity data to estimate the impact on the population. The Measuring the Burden of Gambling Harm in New Zealand (Browne, Greer et al., 2017) report was the source of key data used in this manner. While this approach is not ideal, it allows us to fill critical gaps and provide the most comprehensive economic costing possible. The alternative is not costing items, which would result in an incomplete analysis and potentially underestimate the true economic impact of gambling harm in New Zealand.

Many analyses in this report were calibrated using data for the New Zealand population aged 15 and over, from the NZGS (2023/24). In instances where data from other sources were integrated, such as survey data on gambling harms, which was collected from an 18+ population, it was necessary to apply this data across the entire 15+ cohort. This approach relies on the assumption that individuals aged 15-17 within a given PGSI category experience harms at a rate comparable to that of adults in the same category. This is an assumption made in the absence of specific harm data for this younger age group.

5.4.1.1 Prevalence of problem gambling

The prevalence of problem gambling was sourced from the NZGS (2023/24) using the PGSI. The survey found 5.93% of New Zealand adults (15+) were categorised as low-risk gambling, 1.94% as moderate-risk gambling, and 0.47% as problem gambling.

5.4.1.2 Prevalence of affected others

The NZGS (2023/24) includes questions about the impact of gambling problems on families. For example, it includes questions about arguments and going without something they needed due to another person's gambling. The *2016 New Zealand Health and Lifestyles Survey* (Thimasarn-Anwar et al., 2018) found that around 22% of New Zealand adults have been affected at some time in their lives by another person's gambling and around 6% reported at least one form of household-level harm (such as arguments or unpaid bills). However, the questions in these surveys are broad, do not identify direct harm experienced by the respondent, nor do they distinguish between levels of gambling severity. As a result, they are not suitable for direct use in this study.

Instead, the current study replicates the approach used in Victoria (Browne, Greer et al., 2017), as previously outlined. This method assumes that each person with a gambling problem affects approximately six others, with moderate-risk gambling affecting three people, and low-risk gambling affecting one. This equates to around 14.6% of New Zealand adults being exposed to another person's gambling problem-though not all experience harm.

Data from the *Measuring the Burden of Gambling Harm in New Zealand Study* (Browne, Greer et al., 2017) was then used to estimate the proportion of people who experience specific forms of harm. For example, it is estimated that around 4.5% of the adult population has experiences some level of physical or mental health harm due to someone else's gambling. This is based on

individuals reporting on the single most severe 12-month period of harm they have encountered in their lifetime.

5.4.2 Cost items

A search strategy ensured the use of credible and reliable data sources. This approach prioritised New Zealand government reports and research articles, particularly for health-related items. To gather data on income and employment, we first consulted government websites and official statistics for accurate and up-to-date information. Private businesses and industry reports were consulted only after these primary sources were exhausted.

When local data sources were unavailable, methodologies and insights from previous Australian costing studies were utilised, including approaches from the Australian Productivity Commission (1999), the VCEC (2012), and the study by Browne, Greer et al. (2017). These studies offered frameworks and comparative data that informed our analysis.

The analysis integrates data from multiple sources, which may not share uniform reporting periods. A core assumption is that all data reflect a full 12-month cycle, and minor misalignments between reporting periods do not materially impact the overall annual costings.

Cost items can be either tangible or intangible. Tangible costs, being directly measurable and quantifiable in monetary terms, include healthcare expenses and legal costs arising from gambling. Conversely, intangible costs, which often affect quality of life or emotional well-being, are more challenging to quantify financially. Proxies were used to estimate these indirect costs.

5.4.3 Proxy for emotional harm

The current study adopts a proxy for emotional distress identified by the Privacy Commissioner of New Zealand (Warburton, 2021) for emotional harm resulting from privacy breaches. The lowest of the three identified bands ($10,000, $50,000, and over $50,000) was applied as a proxy for emotional harm. This approach allows for the acknowledgment and approximation of these impacts, even when direct measurement is impossible. For some cost items, this amount has been increased to $25,000 to identify an upper bound. This figure represents the upper end of the general range for most successful claims. These proxies are considered relatively conservative.

For context, the Human Rights Tribunal of New Zealand has awarded amounts for pain and suffering associated with ‘emotional harm,’ ranging from $2,000 for ‘injury to feelings’ to $60,000 for ‘humiliation, loss of dignity and injury to feelings’ (Human Rights Review Tribunal, 2025).

5.4.4 Proxy for YLD (years lived with disability)

Several recognised approaches exist for valuing a YLD. Two commonly used methods are the Value of a Statistical Life Year (VoSLY) and GDP per capita-based estimates. VoSLY represents an estimate of 'the value society places on reducing the risk of premature death by one year' (Victoria Institute of Strategic Economic Studies, 2016, p. 16). In New Zealand, the Land Transport Safety Authority identified the Value of a Statistical Life in 2004 as $2,725,000 (O’Dea & Tucker, 2005). In 2005, O’Dea and Tucker (2005) used this figure to derive a VoSLY estimate of $61,603 (equivalent to $98,775 in 2024). This method has since been used in subsequent New Zealand studies (Kahui & Snively, 2014; e.g., Reid et al., 2022; Victoria Institute of Strategic Economic Studies, 2016). For example, a 2014 report, *The Economic Cost of Child Abuse and Intimate Partner Violence to New Zealand* (Kahui & Snively, 2014), a used a VoSLY of $181,652 based on a 2013 estimation from the Ministry of Transport. According to O’Dea and Tucker, one limitation of the VoSLY method is its assumption that all life years hold equal value, irrespective of age or other personal characteristics. In reality, community preferences often suggest that greater value is placed on preserving younger life years. Consequently, the VoSLY approach may underestimate the cost of harms that disproportionately affect younger individuals.

An alternative approach, adopted by international bodies like the World Health Organization and the World Bank, involves estimating the value of a life year (VLY) as a proportion of a nation's GDP per capita. This technique has been applied in assessing the economic burden of mental health conditions (e.g., Arias et al., 2022). The World Health Organization suggests using a range of one to three times GDP per capita to establish plausible lower and upper bounds (Robinson et al., 2017). However, a systematic review by Lino et al. (2022) proposed a narrower valuation range of 0.5 to 1.5 times GDP per capita.

The two Social Cost of Gambling to Victoria studies (Browne, Greer et al., 2017; Browne, Tulloch, Rawat, et al., 2025) use GDP per capita as a proxy to value YLD. For the current study,

the GDP per capita method was chosen because it is more conservative and current than VoSLY, and it has a published methodology for establishing plausible upper and lower bounds (Iino et al., 2022). Therefore, the central estimate used in the current study is based on New Zealand's GDP per capita ($78,613) (World Bank Group, 2024). Following Lino et al. 's (2022) recommendation, the study uses a lower bound of $39,306 and an upper bound of $117,919, representing 0.5- and 1.5-times GDP per capita, respectively.

5.4.5 Costing opportunity costs of excessive spend

5.4.5.1 Background and precedents

This costing adopts the methodology and rationale from prior studies, treating the difference in average spending between people categorised as non-problem gambling and at-risk gambling as 'excessive' expenditure (Browne, Greer et al., 2017; Productivity Commission, 1999; Victorian Competition and Efficiency Commission, 2012). This process involves combining self-reported spending data from gambling prevalence surveys with industry-reported total losses from people who gamble.

Appendix H of the Victorian Competition and Efficiency Commission's report (Victorian Competition and Efficiency Commission, 2012) provides a comprehensive justification for its methodological approach to calculating the economic costs of excessive gambling expenditure by people categorised as problem gambling in Victoria.

The VCEC's approach is fundamentally based on the framework established by the Productivity Commission's (1999) inquiry report. This framework compares 'normal' gambling expenditure (defined as the average amount spent by people categorised as non-problem gambling) with the estimated actual expenditure of individuals classified as problem gambling. The difference between these figures is termed excessive expenditure, which is then translated into economic cost estimates using consumer surplus calculations.

Although acknowledging certain critiques of this methodology, the VCEC emphasised that the Productivity Commission's (1999) framework had served as a reference point for numerous subsequent research initiatives, including a 2011 investigation into the Economic and Social Impacts of Gambling in Tasmania. Lacking a demonstrably superior methodological alternative,

the VCEC determined that the Productivity Commission's approach provided an appropriate foundation for its analysis.

The VCEC acknowledged objections from gambling industry stakeholders regarding elements of the Productivity Commission's methodology. For example, Clubs Australia argued that many underlying assumptions in the Productivity Commission's calculations were invalid. Nevertheless, the VCEC concluded that, with certain modifications, the Productivity Commission's approach offered a reasonable basis for estimating the economic costs of excessive gambling expenditure by people categorised as problem gambling, considering the available data constraints. To address uncertainties about key inputs and assumptions, the VCEC implemented sensitivity analysis, which involved testing various expenditure share assumptions for those categorised as problem gambling, as well as different levels of what constitutes 'normal' expenditure. The VCEC found that expenditure share assumptions most significantly influenced the results and, consequently, reported a range of cost estimates to reflect this uncertainty.

The VCEC ultimately calculated the economic cost of excessive gambling expenditure to be between $1 billion and $1.4 billion in 2010-11. In a comparable analysis, Browne et al. (2017) estimated excessive expenditure costs in Victoria at $1.06 billion for 2017, based on 2014 prevalence survey data. This 2017 assessment refined the methodology by including low-risk and moderate-risk groups in addition to people categorised as problem gambling, thereby covering the full spectrum of gambling-related issues. However, the researchers discounted the costs for all groups based on the correlation between expenditure and self-reported financial gambling harms. This resulted in discounts of 90% for people categorised as problem gambling, 80% for moderate-risk gambling, and 40% for low-risk gambling. These discounts recognise that people classified as at-risk gambling might derive additional utility from their excessive expenditure compared to non-problem gambling, but this utility proportion, or 'value for money', tends to diminish as gambling problems worsen.

This refined approach provides greater methodological coherence. If the average expenditure of a person categorised as non-problem gambling sets a baseline for 'reasonable' spending, and people categorised as low-risk and moderate-risk gambling spend substantially more while also reporting increased financial harms compared to non-problem gambling, excluding them from cost calculations becomes difficult to justify. Conversely, if only the excessive expenditure of

problem gambling is considered, and the spending of low-risk and moderate-risk gambling is not classified as 'excessive,' it is problematic to justify costing the difference between problem gambling and non-problem gambling instead of relating it to low-risk or moderate-risk averages.

5.4.5.2 Amended approach for New Zealand

The core conceptual framework for estimating excessive spending, to be treated as an opportunity cost, involves integrating three sources of information:

1. The total prevalence of non-problem gambling, low-risk gambling, moderate-risk gambling, and problem gambling
2. The average self-reported spending by each group
3. Total losses, as reported by industry financial reports

In this framework, the total share of losses is allocated among population-weighted estimates of people in each category, based on the average spending in each group.
Unfortunately, high-quality self-report data on individual spending is unavailable in the most recent NZGS (2023/24). Although questions on expenditure were included, the response format utilised a four-level Likert scale rather than requiring a specific estimate of individual expenditure that could be converted to per-annum spending. Thus, while components (1) and (3) mentioned above are available from local sources, a reliable local estimate for component (2) is lacking. Crucially, total spending is scaled by total gambling losses (component 3), as financial reports are far more reliable than extrapolated self-reported losses from the survey sample. Therefore, only the average relative spending of individuals in each gambling category affects the calculation. The core assumption is that any bias in self-reported spending (typically downward) is proportional to the reported figure. In other words, this approach assumes that people categorised as at-risk or problem gambling underestimate their losses at a proportional rate similar to that of those categorised as non-problem gambling. Relatively little research has investigated whether this is a sound assumption, and there appear to be no empirical or strong theoretical arguments favouring a differential reporting bias.

Given the lack of self-reported spending data for New Zealand, self-reported spending figures from Australian jurisdictions with recent expenditure data were compiled to assess consistency in the average spending of those classified as at-risk gambling compared to non-problem gambling. This analysis is summarised in Table 4 below.

Table 4. Comparison of at-risk gambling spend relative to non-problem gambling spend across Australian jurisdictions

	Average per person spend as a multiple of NPG spend				
	NSW	**ACT**	**VIC**	**TAS**	**Average**
NPG	1	1	1	1	1
LR	3.09	3.22	3.40	2.69	3.10
MR	8.29	8.62	12.17	12.90	10.50
PG	45.00	90.66	60.57	50.30	61.63

Note: NPG (non-problem gambling), LR (low-risk gambling), MR (moderate-risk gambling), and PG (problem gambling). The expenditure multiples for each jurisdiction, representing the average spend relative to NPGs, were derived from data in the following prevalence surveys: NSW: Survey of Gambling and Health in NSW 2024, ACT: 2024 ACT Gambling Survey, VIC: Victorian Population Gambling and Health Study 2023, TAS: Fifth Social and Economic Impact Study of Gambling in Tasmania, 2021.

Expenditure data tends to be strongly positively skewed, and averages are affected by sample sizes, which leads to higher variability in the more severe PGSI categories. With this in mind, relatively consistent evidence exists regarding the typical spending of at-risk gambling compared to non-problem gambling. We therefore apply these relative rates of over-expenditure from Australian data to New Zealand, combining them with local figures on total gambling losses and population-weighted estimates of the number of people in each category from the NZGS (2023/24).

This calculation is most clearly presented by the following steps:

1. Calculating the total number of ‘shares’ in gambling expenditure by multiplying the number of people in each gambling segment by their relative spending
2. Dividing total gambling losses by the total number of shares
3. Calculating the average loss per person
4. Subtracting the average ‘rational’ expenditure, as estimated by NPG spending
5. Discounting this amount via two approaches, either by including only PGs, or by a progressive ratio across gambling risk categories, following (Browne, Greer et al., 2017).

Chapter 6: Results

We first provide an overview of the major cost categories and breakdowns, which contains high-level summaries of the costing. This is followed in the next section by a detailed explanation of the calculation steps, data sources and assumptions for each cost category.

6.1 Summary of cost categories

The total estimated cost of gambling problems in New Zealand for the 2023-24 period is approximately $4.219 billion (Table 5). Health impacts – encompassing quality of life impacts to people who gamble and others, as well as costs to the New Zealand health system – account for almost half, $2.04 billion (48.43%) of this total. Financial impacts amount to $1.19 billion (28.28%); relationship impacts to $185.2 million, and work or study impacts contribute $678.8 million (16.09%). Criminal activity accounts for $54.3 million (1.29%), other government or community costs are $58.8 million (1.39%), and life course harm (homelessness) represents $5.2 million (0.12%) of the total cost.

Table 5. Cost of gambling problems to New Zealand (2023-24) by cost category

Cost Category	Cost	Contribution
Financial impacts	$1,193,208,654	28.28%
Relationship disruption, conflict or breakdown	$185,225,197	4.39%
Health	$2,043,344,805	48.43%
Work or study impacts	$678,829,001	16.09%
Criminal activity	$54,347,468	1.29%
Life course harm (homelessness)	$5,203,623	0.12%
Other government or community costs	$58,768,750	1.39%
	$4,218,927,498	

6.1.1 Summary of cost items

Within the major cost categories, the distribution of costs among more specific items reveals several patterns, as shown in Table 6. For **Financial impacts**, the estimated $1.19 billion attributed to the total opportunity cost of excess gambling spend represents the predominant

share. While costs related to bankruptcy or insolvency, including administration and unpaid debts, are comparatively smaller at $1.1 million.

In the category of **Relationship disruption, conflict or breakdown**, costs are divided between divorce and separation ($105.3 million) and experiences of violence ($79.9 million). For both sub-categories, the emotional distress experienced by affected others ($63.9 million for divorce/separation; $50.3 million for violence) constitutes a larger cost than that assigned to the person who gambles. This is because each person experiencing gambling problems typically affects multiple others, resulting in a larger population of affected others overall. The direct financial costs of divorce and separation ($3.8 million) are notably less than the emotional distress components.

Under **Health** costs, the estimated HRQoL impact of gambling harm is the most significant component, totalling $1.68 billion, with similar values for the impact on the person who gambles ($830.6 million) and on affected others ($852.2 million). Costs to health systems are the next largest at $130.1 million. Suicide attempts contribute $104.2 million, where emotional distress to affected others ($82.1 million) is the largest part. Impacts of fatality by suicide amount to $65.2 million, primarily driven by costs to business/government ($59.1 million), and depression accounts for $61.0 million.

Regarding **work or study impacts**, the estimated cost of productivity loss to business is the largest single item at $588.1 million. The cost of job loss amounts to $70.9 million, within which loss of income ($32.9 million) and employer staff replacement costs ($27.8 million) are the primary elements. The cost of absenteeism to business is lower at $19.8 million.

For **Criminal activity**, the costs are distributed between the New Zealand justice system ($22.4 million) and crime to business ($32.0 million). Within the justice system, corrections system costs ($19.2 million) are the most substantial. For crime impacting businesses, petty theft or dishonesty ($28.4 million) accounts for a greater cost than major fraud ($3.6 million).

The **Life course harm** category, as detailed, currently encompasses $5.2 million solely for homelessness services, with broader harms not able to be included due to limited data. Finally, within **other government or community costs**, New Zealand Government expenditure on policy, regulation, and research (including treatment funding) is $48.8 million, while an estimated $10.0 million is spent by non-profit organisations for the provision of services related to gambling addiction.

Table 6. Cost of gambling problems to New Zealand (2023-24) by cost items

Cost Category	Cost Item	Detailed costs
Financial impacts	Total opportunity cost of excess gambling spend	$1,192,140,860
	Bankruptcy and insolvency	
	Cost of administration	*$266,240*
	Unpaid debts	*$801,554*
Relationship disruption, conflict or breakdown	Divorce and separation	
	Financial cost	*$3,767,571*
	Emotional distress to the person who gambles	*$37,610,880*
	Emotional distress to affected others	*$63,938,496*
	Experiences of violence	
	Emotional distress to the person who gambles	*$29,595,648*
	Emotional distress to affected others	*$50,312,602*
Health	Depression	$60,961,882
	Suicide attempts	
	Cost of services	$8,424,968
	Emotional distress to the person who gambles	$13,685,783
	Emotional distress to affected others	$82,114,699
	Impacts of fatality by suicide	
	Impact on affected others	$6,119,229
	Cost to business/government	$59,109,272
	HRQoL impact of gambling harm	
	Impact on the person who gambles	$830,639,483
	Impact on affected others	$852,186,063
	Health systems	$130,103,425
Work or study impacts	Productivity loss to business	$588,141,444
	Cost of job loss	
	Loss of income	*$32,873,214*
	Job search to the person who gambles	*$7,026,060*
	Employer staff replacement costs	*$27,792,960*
	Unemployment benefits	*$3,172,512*
	Cost of absenteeism to business	$19,822,811
Criminal activity	Cost to New Zealand justice system	
	Police system cost	*$560,891*
	Court system cost	*$2,630,745*
	Corrections system cost (general)	*$19,165,464*
	Crime to business	
	Petty theft or dishonesty	*$28,401,020*
	Major fraud	*$3,589,348*
Life course harm*	Homelessness services	$5,203,623
Other government or community costs	Policy, regulation, research (including treatment funding)	$48,841,000
	Provision of services related to gambling addiction	$9,927,750
		$4,218,927,498
Note: * Broader life course and intergenerational harms are not included in this costing due to limited available evidence. Homelessness service costs are the only component included here, as they can be directly quantified from existing New Zealand data.		

6.1.2 Upper and lower bounds for cost categories and parametric bootstrapping

To quantify uncertainty around the total annual cost of gambling problems in New Zealand, a parametric bootstrap method was used. This method aggregated costs and their uncertainties from multiple cost categories.

Input data for each cost category included a lower bound (minimum cost), an upper bound (maximum cost), and a central estimate (most likely cost, or mode). Each category's uncertainty was modelled using a PERT distribution, defined by its minimum, maximum, and mode values, applying a standard shape parameter. Rationales for determining the maximum and minimum parameters (summarised in Table 7) are provided in the individual item costing details in the next section.

A Monte Carlo simulation involving 1,000 iterations was performed. In each iteration, a value was randomly sampled from each category's PERT distribution. These sampled values were then summed to produce a single estimate of the total annual cost for that iteration.

Repeating this process generated a distribution of potential total annual costs, reflecting the combined uncertainties from all included categories. Confidence intervals were derived from this distribution.

The simulation resulted in the following confidence intervals for the total estimated annual cost of gambling problems in New Zealand:

- **90% Confidence Interval: $3.719 billion to $4.729 billion.**
- **95% Confidence Interval: $3.657 billion to $4.803 billion.**

These confidence intervals define the estimated range of the total economic burden around the most-likely or mean estimate of $4.219 billion, accounting for the modelled uncertainty across the various cost categories.

Table 7. Summary of cost categories with upper and lower estimation bounds

Cost Category	Cost Item	Cost	Lower Bound	Upper Bound
Financial impacts	Total opportunity cost of excess gambling spend	$1,192,140,860	$752,178,179	$1,558,892,222
	Bankruptcy and insolvency	$1,067,794	$1,014,404	$1,121,184
Relationship disruption, conflict or breakdown	Divorce and separation	$105,316,947	$100,051,100	$210,633,895
	Experiences of violence	$79,908,250	$75,912,837	$159,816,499
Health	Depression	$60,961,882	$57,913,788	$178,770,837
	Suicide attempts	$104,225,450	$45,376,583	$161,547,399
	Impacts of fatality by suicide on affected other	$6,119,229	$5,813,268	$6,425,191
	Impacts of fatality by suicide on business/government	$59,109,272	$56,153,809	$62,064,736
	HRQoL impact of gambling harm on gambler	$830,639,483	$384,838,800	$1,276,440,165
	HRQoL impact of gambling harm on affected others	$852,186,063	$385,035,682	$1,319,336,444
	Health and Human Services systems	$130,103,425	$123,598,254	$136,608,597
Work or study impacts	Productivity loss to business	$588,141,444	$356,894,230	$690,486,551
	Cost of job loss	$70,864,746	$61,061,469	$90,659,788
	Cost of absenteeism to business	$19,822,811	$16,050,859	$23,867,628
Criminal activity	Cost to New Zealand justice system	$22,357,101	$22,357,101	$31,310,190
	Crime to business	$31,990,368	$13,654,434	$33,589,886
Life course harm (homelessness services)	Homelessness services	$5,203,623	$4,943,442	$93,510,043
Other government or community costs	Policy, regulation, research (including treatment funding)	$48,841,000	$48,841,000	$48,841,000
	Provision of services related to gambling addiction	$9,927,750	$9,431,362	$16,632,743
TOTAL		**$4,218,927,498**		
TOTAL (Lower and Upper Bounds are 90% CI via parametric bootstrapping)			**$3,718,598,000**	**$4,728,984,000**
TOTAL (Lower and Upper Bounds are 95% CI via parametric bootstrapping)			**$3,656,907,000**	**$4,803,654,000**

Note: The Lower and Upper Bounds for individual items are based on alternative calculation methods and assumptions as detailed in Chapter 6 onwards. The bounds for the TOTAL lines are 90% and 95% confidence intervals derived from parametric bootstrapping.

6.1.3 Cost categories by bearer of cost (people who gamble, affected others, community)

When examining the distribution of gambling harm costs, distinct patterns emerge regarding who bears the financial burden (Table 8). Overall, individuals who gamble account for the largest portion of the total cost, representing 43.5%. Affected others, such as family and friends, bear a significant, though slightly smaller, proportion at 33.8%. Note that costs associated with the impacts to affected others are likely underestimated due to lack of data. The remaining 22.7% of costs are borne by the wider community, businesses, and government entities.

A closer look at the specific harm categories reveals further differentiation:

- Financial impacts are predominantly shouldered by the person who gambles, who bears approximately $823.0 million in costs, compared to $369.2 million for affected others[2] and $1.1 million for Community, Business, and Government.
- Conversely, costs arising from relationship disruption, conflict, or breakdown fall more heavily on affected others, who account for $116.1 million, while people who gamble bear $69.1 million of these costs.
- Health-related costs show a relatively even distribution between people who gamble ($905.3 million) and affected others ($940.4 million). Community, Business, and Government also carry a notable portion of health costs, amounting to $197.6 million.
- The costs associated with work or study impacts are overwhelmingly borne by Community, Business, and Government, totalling $638.9 million. In comparison, the cost to the person who gambles in this category is substantially lower at $39.9 million.
- Costs related to criminal activity, life course harm (specifically homelessness services in this analysis), and other government or community costs are entirely attributed to Community, Business, and Government.

[2] A portion of the financial impact from the total opportunity cost of excess gambling spend was allocated to affected others based on the proportion of people with gambling problems who are married (44.86%). This reflects the fact that gambling losses in married households often affect both partners. The remaining amount was attributed to the person who gambles.

Table 8. Cost of gambling problems to New Zealand (2023-24) by bearer of cost

	Person who gambles	Affected Others	Community, Business, Government
Harm Category			
Financial impacts	$822,960,693	$369,180,167	$1,067,794
Relationship disruption, conflict or breakdown	$69,090,314	$116,134,883	-
Health	$905,287,148	$940,419,992	$197,637,666
Work or study impacts	$39,899,274	-	$638,929,727
Criminal Activity	-	-	$54,347,468
Life course harm (homelessness services)	-	-	$5,203,623
Other government or community costs	-	-	$58,768,750
	$1,837,237,428	**$1,425,735,042**	**$955,955,028**
Proportion of total cost	43.5%	33.8%	22.7%

6.1.4 Cost of gambling problems to New Zealand, by attribution to form

The total cost of gambling problems, when attributed to specific gambling forms based on their relative contribution to gambling problems (see methods), is estimated at $4.02 billion (this excludes non-form-attributable costs). The costs attributed to each form depends on each form's participation prevalence, and risk of gambling problems conditional on participation. Analysis of this attribution reveals that a few forms account for the majority of these costs (Table 9). However, the confidence intervals should be kept in mind when interpreting these numbers. This is because the limited number of people classified as at-risk gambling in the prevalence survey means that there are relatively imprecise estimates due to sampling variability. Even so, some forms stand out as being the major source of gambling problems and downstream costs.

EGMs are the most significant contributors to gambling harm costs. Offshore online EGMs account for the largest share, with 39.0% of the total cost, equating to approximately $1.57 billion. Following this, Class 4 pokies contribute 24.5% of the costs, amounting to $984.0 million. Combined, these two EGM categories are responsible for nearly two-thirds (63.5%) of all gambling harm costs attributable to specific forms. Other notable contributors include Offshore online casino games, which account for 6.1% of the costs ($246.9 million), and Lotteries (online/venues) at 5.7% ($228.6 million). Betting forms also contribute

significantly, with Race betting via TAB responsible for 4.0% ($159.1 million) and offshore online sports betting for 3.8% ($151.8 million). EGMs in casinos contribute a further 3.5% ($140.8 million) to the total harm costs.

The remaining gambling forms each account for smaller proportions of the total cost, generally less than 3.2% each. These include Instant Kiwi (in venues and online), Sports betting via TAB (distinct from race betting), Bingo (social), Table games in casinos, and various forms of esports betting and other online gambling activities.

As discussed above (See Section 5.2.7), form-attributable costs are derived by each form's relative contribution to gambling problems, with these effects estimated from the most recent prevalence survey (NZGS, 2023). These results appear to reflect a notable development in the gambling profile of New Zealanders, with people who gamble, and those categorised as at-risk gambling, moving towards offshore online EGM play.

Table 9. Cost of gambling attributable to each form

Form	Estimate	Lower CI	Upper CI	Cost attributed by form based on relative harm
Offshore online EGMs	39.0%	22.5%	57.0%	$1,571,104,716
Class 4 pokies (EGMs in venues)	24.5%	16.1%	34.9%	$983,998,064
Offshore online casino games	6.1%	2.1%	14.1%	$246,914,012
Lotteries (online/venues)	5.7%	3.9%	7.9%	$228,624,086
Race betting via TAB	4.0%	1.9%	7.2%	$159,122,364
Offshore online sports betting	3.8%	0.7%	8.8%	$151,806,393
EGMs in casinos	3.5%	1.7%	6.9%	$140,832,437
Instant Kiwi in venues	3.2%	1.6%	5.5%	$128,029,488
Instant Kiwi online	3.0%	1.3%	6.2%	$120,713,517
Sports betting via TAB	2.8%	1.0%	6.1%	$113,397,546
Bingo (social)	2.3%	0.6%	5.8%	$91,449,634
Table games in casinos	1.1%	0.3%	2.9%	$43,895,824
Offshore online esports betting	0.4%	0.1%	2.9%	$14,631,941
Other information (e.g. mahjong, social)	0.3%	0.1%	1.1%	$12,802,949
Offshore online other (incl. lotteries)	0.3%	0.0%	1.7%	$10,973,956
Esports betting via TAB	0.1%	0.1%	0.9%	$5,486,978

Note: Cost attribution is based on the relative contribution of each gambling form to overall gambling problems. This was determined by a statistical analysis (multiple regression and variance decomposition) of the NZGS 2023/24 data. Confidence Intervals reflect the statistical uncertainty arising from sampling variability in that survey data.

6.1.5 Cost categories by cultural background

This section outlines the estimated distribution of gambling harm costs across different cultural groups in New Zealand. As detailed in Section 5.2.8, these costs are apportioned based on the prevalence and severity of self-reported gambling problems within each group, using a weighted (1/2/3 for low-risk/moderate-risk/problem gambling) approach to create a proportional harm score, reflecting the confidence in the information provided by the PGSI within each band). It is important to recall the limitations of this attribution method, particularly that it provides a relative distribution and does not quantify potential differential impacts or cultural nuances not captured by prevalence data alone.

In 2023, European/Other individuals make up 61.0% of the New Zealand population, followed by Māori (15.0%), Asian (17.6%), and Pacific peoples (6.4%) NZGS (2023/24). Table 10 presents the distribution of gambling participation levels across each of these cultural groups.

A key observation is the variation in the proportion of people classified as non-gambling, with the Asian cultural group showing the highest percentage of non-gambling (49.1%), followed by Pacific peoples (35.7%), European/Other (33.5%), and Māori (30.0%). Conversely, Māori report the highest engagement in low-risk (9.5%) and moderate-risk gambling (2.9%), and also problem gambling (2.0%) relative to their population size within the survey sample. Pacific peoples also show a notable proportion in moderate-risk gambling (5.2%).

Table 10. Distribution of gambling problems in New Zealand (2023-24), by cultural group

Cultural Groups	European/Other	Māori	Pacific	Asian
Non-gamblers	33.5%	30.0%	35.7%	49.1%
Non-problem gambling	57.7%	52.8%	43.5%	37.0%
Low-risk gambling	4.1%	9.5%	8.8%	8.3%
Moderate-risk gambling	1.4%	2.9%	5.2%	2.0%
Problem gambling	0.3%	2.0%	0.3%	0.0%
Note: Column totals add to slightly less than 100% due to missing and ‘Don’t know’ responses.				

Table 11 compares each cultural group's representation within the general New Zealand population, among those who gamble, and their proportion of total gambling problems. This table highlights that while the European/Other group constitutes the largest proportion of New Zealanders (61.0%) and people who gamble (63.6%), their share of gambling problems (42.8%) is lower than their representation among people who gamble.

In contrast, Māori, who represent 15.0% of New Zealanders and 16.6% of those who gamble, account for a significantly higher proportion of gambling problems (31.5%). Pacific peoples (6.4% of New Zealanders, 6.1% of people who gamble) account for 10.9% of gambling problems, and the Asian cultural group (17.6% of New Zealanders, 13.7% of people who gamble) accounts for 14.9% of gambling problems. This indicates a disproportionate burden of gambling problems experienced by Māori and Pacific peoples relative to their population size and participation in gambling.

Table 11. Distribution of gambling behaviours and harm in New Zealand (2023-24), by cultural group

Cultural Groups	European/Other	Māori	Pacific	Asian
Proportion of New Zealanders	61.0%	15.0%	6.4%	17.6%
Proportion of people who gamble	63.6%	16.6%	6.1%	13.7%
Proportion of gambling problems	42.8%	31.5%	10.9%	14.9%

Building on this, Table 12 illustrates the estimated distribution of the total financial cost of gambling problems across these cultural groups, contextualised by their population prevalence. Of the total estimated cost of gambling harm in New Zealand, approximately $1.804 billion is attributed to the European/Other group, which represents 61.0% of the population. The Māori community, representing 15.0% of the population, is estimated to bear $1.328 billion of the costs. For Pacific peoples (6.4% of the population), the estimated cost is $460 million, and for Asian communities (17.6% of the population), it is $628 million.

These figures suggest that the economic burden of gambling harm is not distributed proportionally to population size across all cultural groups, with Māori, in particular, bearing a share of the cost that is notably higher than their proportion of the general population.

Table 12. Cost of gambling problems in New Zealand (2023-24), by cultural group

Harm Category	European/Other	Māori	Pacific	Asian
Financial impacts	$510,120,562	$375,567,351	$130,041,458	$177,479,283
Relationship disruption, conflict or breakdown	$79,187,476	$58,300,396	$20,186,708	$27,550,618
Health	$873,570,768	$643,151,215	$222,693,270	$303,929,552
Work or study impacts	$290,212,973	$213,664,231	$73,981,958	$100,969,838
Criminal activity	$23,234,630	$17,106,090	$5,923,041	$8,083,707
Life course harm	$2,224,653	$1,637,862	$567,115	$773,993
Other government or community costs	$25,124,816	$18,497,707	$6,404,893	$8,741,334
Total	**$1,803,675,877**	**$1,327,924,852**	**$459,798,443**	**$627,528,326**
Proportion	42.75%	31.48%	10.90%	14.87%

6.2 Specific cost items

The following section provides details of the individual cost items. This includes descriptions, methodologies and calculations, and the estimated cost incorporating upper and lower bounds. The results are organised by cost categories: financial impacts; relationship disruption, conflict or breakdown; health; work or study impacts; criminal activity; life course harm; other government or community costs.

6.3 Financial impacts

This section estimates the costs associated with opportunity costs and excessive gambling spend and bankruptcy. As identified during the Community Consultation (Chapter 4), additional financial impacts are also possible - many with long-term legacy effects. For example, withdrawing money from KiwiSaver accounts reduces retirement savings, and the loss of a home due to gambling-related debt can have lasting financial consequences for the individual and their family. However, these impacts are difficult to cost accurately due to limited available data and are therefore not included in this estimate

6.3.1 Gambling expenditure in New Zealand

New Zealand has four regulated gambling sectors: Lotto New Zealand, TAB NZ, casinos and Class 4 pokies. In 2023/24, the total amount lost by people who gamble across these sectors was $2.792 billion (Department of Internal Affairs, 2024). Additionally, around $340 million

of gross revenue was reported by GST registered offshore gambling providers in 2022/23 ($353.9m inflated) (*Regulatory impact statement: Offshore online gambling*, 2024).

Combining information on total industry revenue and population-weighted self-report data from the NZGS implies that average spend per capita in New Zealand is $579. This is similar to data reported in the latest Gambling Expenditure Statistic Report (*Gambling expenditure statistics report*, 2024), which identifies a spend of $504 per capita on TAB New Zealand, NZ Lotteries Commission, Class 4 pokies and Casinos in 2023/24. Note this figure excludes overseas online spend. Based on the estimated $353.9m on offshore online gambling (as above), this equates to an additional $82 per person. This is relatively much less than per capita spent in Australia in 2023 (AUD $1,068), where per capita spend also varies markedly across states and territories: e.g. New South Wales (AUD $1,508), Victoria (AUD $882) and Queensland (AUD $977) (Australian Gambling Research Centre, 2023).

6.3.2 Opportunity cost of excess gambling spend

The opportunity cost of excess gambling spend represents the estimated value of money expended on gambling by individuals experiencing at-risk gambling patterns, beyond what is considered typical recreational expenditure. This cost is calculated based on the methodology detailed in Chapter 5, which involves comparing the expenditure of people categorised as at-risk gambling (low-risk, moderate-risk, and problem gambling) to that of non-problem gambling. Due to the unavailability of specific self-reported expenditure data from the latest NZGS (2023/24), this calculation incorporates relative spend patterns derived from Australian jurisdictional data, combined with New Zealand's total gambling losses and gambling prevalence data. The resulting excess spend is then subject to differential discounting based on the severity of reported financial harms associated with each risk category.

Table 13 below outlines the step-by-step calculation of this opportunity cost. The table begins by identifying the different gambling segments according to the PGSI and lists the estimated number of individuals within each segment in New Zealand for the 2023-24 period (NZGS, 2023). It then shows the estimated total expenditure attributed to each of these segments.

A crucial step in the calculation is establishing a baseline for 'normal' or recreational expenditure, which is derived from the average spend of people categorised as non-problem

gambling. This 'normal expenditure' figure is then used as a benchmark against which the expenditure of the at-risk segments (low-risk, moderate-risk, and problem gambling) is compared. The difference is calculated as 'excess expenditure per person' for each at-risk category, which, when multiplied by the number of people in that segment, yields the 'total excess expenditure' for that group.

To arrive at the final costed figure, a 'discount factor' is applied to the total excess expenditure for each at-risk segment. These discount factors (40% for low-risk, 80% for moderate-risk, and 90% for problem gambling) are based on the methodology outlined in Chapter 5, reflecting the varying intensity of financial harms reported by each group and ensuring that only the proportion of excess spend strongly correlated with harm is costed. The application of these discounts results in the 'costed excess expenditure' for each segment.

Summing the costed excess expenditure across all at-risk categories provides the central estimate for the total opportunity cost of excess gambling spend in New Zealand for 2023-24. This central estimate is **$1.19 billion**. The calculation of these excess spend figures was also informed by Community Consultation (see Chapter 4), where participants generally agreed with the proposed average loss per person figures underpinning this estimate. It was, however, noted by some treatment providers that these average figures might be conservative, potentially underestimating losses for individuals experiencing the most severe gambling problems.

The analysis also produced a range for this cost component to reflect different methodological assumptions. The lower bound, which considers only the excessive spend by those classified as problem gambling, is estimated at **$752.2 million**. The upper bound, representing the scenario where all expenditure associated with at-risk gambling (low-risk, moderate-risk, and problem gambling) above the average spend of people categorised as non-problem gambling is considered an opportunity cost without any discounting, is estimated at **$1.56 billion**. These estimates suggest that a substantial portion of total gambling expenditure in New Zealand, ranging from approximately one-quarter to nearly one-half, can be considered an opportunity cost to consumers, arising from excessive spending patterns associated with at-risk gambling.

Table 13. Cost of excess spend on gambling products due to gambling problems in New Zealand (2023-24)

PGSI Category	Gambling population	Revenue share multiple	Total shares	Loss per gambler	Excess loss per gambler	Population excess	Weight	Discounted
Non problem gambling	2,255,479	1.00	2,255,479	$607	$0	$0		
Low-risk gambling	255,318	3.10	791,486	$1,882	$1,275	$325,476,839	40%	$130,190,736
Moderate-risk gambling	83,492	10.50	876,249	$6,371	$5,764	$481,237,204	80%	$384,989,763
Problem gambling	20,436	61.63	1,259,522	$37,414	$36,807	**$752,178,179**	90%	$676,960,361
Total	**2,614,725**		**5,182,348**			**$1,558,892,222**		**$1,192,140,860**
Total losses:	$3,145,907,392							
Loss per share:			$607					
Total loss per capita			$584					
Note: Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.								

6.3.3 Bankruptcy

Bankruptcy is a severe outcome of gambling harm which results in direct costs to individuals and the government, with very low prevalence in New Zealand.

Unlike in some jurisdictions, bankruptcy in New Zealand operates within a broader insolvency framework that includes structured alternatives such as the 'No Asset Procedure', in addition to bankruptcy, and debt repayment orders (New Zealand Insolvency and Trustee Service, 2023). This study includes all insolvency options to provide a comprehensive assessment of the financial impact of gambling-related insolvency.

The Community Consultation (detailed in Chapter 4) highlighted that financial counsellors view bankruptcy as a final option, rarely pursuing it even in significant cases of gambling-related financial hardship. Instead, they actively guide clients toward alternative solutions such as debt repayment schemes, accessing KiwiSaver funds, and the No Asset Procedure. Over 32,500 New Zealanders accessed their KiwiSaver fund in 2024 due to financial hardship (Inland Revenue, 2025). A key reason for avoiding bankruptcy is the frequent entanglement of others in the person who gambles' financial affairs, such as joint mortgages, which could inadvertently force affected others into bankruptcy as well.

The cost of gambling-related insolvency was estimated by considering the number of insolvency cases related to gambling, the average cost per insolvency, and the average unpaid debt to the person experiencing gambling problems.

Number of bankruptcies and insolvency cases due to gambling

- Data from the New Zealand Insolvency and Trustee Service (2020) indicates that 1.0% of personal and business-related bankruptcies were attributed to gambling, speculation and extravagance in living. As insolvency percentages are not explicitly reported, we apply this same 1.0% estimate to insolvencies.
- A total of 1,179 insolvency cases were reported in 2023/24, which included 628 bankruptcies, 413 debt repayment orders, and 138 no asset procedures (New Zealand Insolvency and Trustee Service, 2023). Approximately 12 insolvency cases were attributed to gambling.

Cost (per case) to administer bankruptcies and insolvency cases

- The Department of Business, Science and Innovation budgeted $25.9 million to carry out the functions of the Official Assignee (New Zealand Treasury, 2024). An average cost of $21,932 per case of insolvency was calculated.
- The cost to apply for no asset procedures, or bankruptcies was $1000 per case (New Zealand Insolvency and Trustee Service, 2024).

Average unpaid debt of a person with gambling problems

- The estimated average unpaid debt varied by insolvency type, with bankruptcy at $106,500, debt repayment orders at $24,030, and the No Asset Procedure at $24,270. These estimates were calculated using a weighted mean, derived from debt bands with frequency data (New Zealand Insolvency and Trustee Service, 2023).

Table 14 shows the total estimated cost of bankruptcy and insolvency due to gambling in New Zealand was around $1.1 million, with $801,551 of this being due to unpaid debts. The Community Consultation identified a recent increase in the number of no asset procedures. However, no appropriate data on the total number of no asset procedures due to gambling problems could be identified. Therefore, a very conservative estimate has been used. Given this lack of data, to reflect uncertainty in the estimates, a 5% margin was applied to the total cost. Applying the 5% range results in an estimated lower bound of approximately $1.0 million and an upper bound of approximately $1.12 million.

Table 14. Cost of bankruptcy due to gambling problems in New Zealand (2023-24)

Variable	Calculation	Total
Number of bankruptcy and insolvency cases in New Zealand		
Bankruptcy cases*	a	628
% of bankruptcy cases due to gambling, speculation and extravagance in living	b	1.00%
Bankruptcy cases* due to gambling	c = a x b	6.28
Number of debt repayment orders*	d	413
Number of no asset procedures*	e	138
% of debtor agreement cases due to gambling, speculation and extravagance in living	f	1.00%
Debt repayment orders* due to gambling	g = d x f	4.13
No asset procedures* due to gambling	h = e x f	1.38
Total number of gambling-related bankruptcy and insolvency cases	i = c + g + h	11.8
Cost of administering bankruptcy and insolvency in New Zealand		
Total number of insolvency cases	j = a + d + e	1179
Cost of carrying out the functions of the Official Assignee	k	$25,858,000
Average cost of administering insolvency per case	l = k / j	$21,932
Cost of gambling-related bankruptcy and insolvency administration to the New Zealand government	m = i x l	$258,580
Number of insolvency applications due to gambling (excluding debt repayment order)	n = c + h	7.7
Cost to apply for insolvency option (other than debt repayment order)	o	$1,000
Cost of applying for insolvency to people with gambling problems	p = o x n	$7,660
Total cost of bankruptcy and insolvency administration	**q = m + p**	**$266,240**
Unpaid debt per person who experienced insolvency attributed to gambling		
Average bankruptcy related unpaid debt per person	r	$106,500
Average Debt Repayment Order related unpaid debt per person	s	$24,030
Average No Asset Procedure related unpaid debt per person	t	$24,270
Total cost of bankruptcy to people with gambling problems	u = c x r	$668,818
Total cost of Debt Repayment Orders to people with gambling problems	v = g x s	$99,244
Total cost of No Asset Procedures to people with gambling problems	w = h x t	$33,493
Total unpaid debt burden per person	**x = u + v + w**	**$801,554**
Total cost of gambling-related bankruptcy and insolvency	**y = q + x**	**$1,067,794**
Lower Bound		$1,014,404
Upper Bound		$1,121,184

Note: * Personal and business. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.

6.4 Relationship disruption, conflict or breakdown

Excessive time and money spent on gambling can seriously damage personal relationships. Relationship harms include increased conflict, loss of trust, neglect of responsibilities, and in some cases, separation, divorce, or violence (Langham et al., 2016; Ministry of Health., 2022). These harms affect not only the person who gambles but also their partners, children, extended family, and friends. While relationship harms can be broad-ranging, this costing focuses on two domains - divorce and separation, and experiences of violence - because they are more readily quantifiable in economic terms.

6.4.1 Divorce and separation

Divorce and separation are among the most severe relationship harms linked to gambling problems, particularly for spouses and partners who often experience shared financial stress, and emotional distress (Holdsworth et al., 2013; Tulloch et al., 2023). These effects can be long-lasting and may also impact children through disrupted family structures and diminished security (Darbyshire et al., 2001).

The costs of divorce and separation due to gambling are categorised into three areas:

- Financial costs
- Emotional impact on the person who gambles
- Emotional impact on the affected family members

The economic impact of gambling-related separation and divorce was calculated using:

Prevalence

- The percentage of people who gamble who reported separation or divorce due to their gambling was drawn from the *Measuring the Burden of Gambling Harm in New Zealand Survey Report* (Browne, Greer et al., 2017).
- These percentages were applied to the estimated number of New Zealanders in each of the PGSI risk categories (NZGS, 2023) to calculate the estimated number of New Zealanders experiencing separation or divorce due to their gambling.
- A 20% causality discount was applied, consistent with the methodology used by the Australian Productivity Commission (1999).
- The number of affected others was estimated by applying the average number of people in a New Zealand household (New Zealand Government, 2024a) minus the person who gambles.

Financial cost of divorce or separation

- Only those who are legally married are likely to incur divorce-related costs. Therefore, the estimate was adjusted by 44.9%, reflecting the proportion of New Zealand adults who are legally married (Figure NZ, 2024).
- Costs associated with a simple divorce (without custody or property orders), including both court and legal fees, is $2,233. This figure comprises the cost of a divorce dissolution order through the Family Court is $233 (Ministry of Justice, 2024), and an amount of $2,000 representing typical legal fees associated with a simple divorce.

Emotional harm

- A cost of $10,000 (Warburton, 2021) was used as a proxy for emotional harm.

Based on these assumptions, **the estimated cost of gambling-related divorce and separation due to gambling in New Zealand is around $105.3 million (Table 15)**. The results indicate that just over 10% of people classified as problem gambling report experiencing divorce or separation due to their gambling, after applying a 20% causality discount. This figure is slightly lower than estimates from Australia, where the rate is just over 15% (Browne, Tulloch, Rawat, et al., 2025; Productivity Commission, 1999).

Table 15. Cost of divorce and separation due to gambling problems in New Zealand (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand population by PGSI	n	255,318	83,492	20,436	359,246
Rate (%) of PGSI group whose gambling contributed to or caused divorce or separation	a	0.8%	2.4%	13.2%	
Causality discount (100% LR, 20% MR/PG)	b	0.0%	80.0%	80.0%	
Number who experience divorce or separation due to gambling, less causality discount	c = (n x a) x b	0	1,603	2,158	3,761
Financial cost of divorce or separation					
Proportion legally married	d	44.9%			
Filing and Legal fees	e	$2,233			
Total financial cost of divorce	**f = (c x d) x e**	**$0**	**$1,605,810**	**$2,161,762**	**$3,767,571**
Emotional harm to the person with gambling problems					
Cost of emotional harm	g	$10,000			
Total cost of emotional distress from experiences of divorce or separation to the person who gambles	**h = c x g**	**$0**	**$16,030,464**	**$21,580,416**	**$37,610,880**
Emotional harm to affected other					
Average number of persons per household (minus the person with gambling problems)	i	1.7			
Number of affected others	j = c x i	0	2,725	3,669	6,394
Cost of emotional harm	k	$10,000			
Total cost of emotional distress to affected others	**l = j x k**	**$0**	**$27,251,789**	**$36,686,707**	**$63,938,496**
Total cost of divorce and separation	**m = f + h + l**	**$0**	**$44,888,063**	**$60,428,885**	**$105,316,947**
Lower bound					$100,051,100
Upper bound					$210,633,895

Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.

The financial costs of divorce vary widely. Estimates for a ‘typical’ divorce in New Zealand range between $5,000 and $10,000 (Morrall, 2010). This study applied a conservative cost estimate based on a simple divorce (without custody or property orders) costed at $2,233. Additional Family Court fees for parenting and property orders are $242 and $770 respectively, and related hearings can cost $997 per day. Legal fees can increase significantly

in more complex cases. The $10,000 proxy for emotional harm used in this study is at the lower end of the range typically applied to serious personal distress (see Chapter 5, Methodology for discussion). Therefore, when both financial and emotional costs are considered, the current estimate is likely to be conservative.

To reflect uncertainty and variation in individual cases, a 5% reduction across all costs was applied to produce the lower bound. For the upper bound, emotional distress was valued at $20,000 per person, and legal fees were doubled to reflect more complex divorce proceedings involving children or property. Based on these assumptions, the estimated cost of divorce and separation associated with gambling in New Zealand falls between $100.1 million and $210.6 million. This broad range reflects the subjective nature of emotional harm and the variability in legal and court-related expenses, which can differ widely between cases.

This estimate does not include broader family disruptions, such as informal relationship breakdowns, relationship stress that does not lead to separation, or long-term legacy harms associated with breakdowns on relationships. Tangible costs, such as those related to valuing or selling a family home, or setting up and furnishing a second household, are also excluded. While these impacts are significant, they are difficult to quantify and have not been included in the current costing.

6.4.2 Experiences of violence

Gambling-related violence is a serious and distressing consequence of gambling harm. It can include physical, emotional, or family violence and often occurs within intimate or household relationships (Afifi et al., 2010; Bellringer et al., 2016; Dowling et al., 2016). These experiences can affect both the person who gambles and those around them, particularly intimate partners and family members (Dowling et al., 2016; Holdsworth et al., 2013). The emotional and psychological impact of this violence can be severe and long-lasting (Kahui & Snively, 2014).

This section includes only cost-able components, specifically:

- Emotional impact on the person who gambles
- Emotional impact on the affected family members

Although there are often other substantial costs associated with gambling-related violence, such as medical care, police responses, and housing support, these have not been included due to the wide variation in possible outcomes and the lack of reliable, specific data to support accurate costing.

The economic impact of gambling-related violence was calculated using:

Prevalence

- The percentage of people who gamble who experienced physical or emotional violence in their relationships due to their gambling was sourced from the Measuring the Burden of Gambling Harm in New Zealand Survey Report (Browne, Greer et al., 2017).
- These rates were applied to population estimates from the NZGS (2023/24), categorised by PGSI risk group.
- A 20% causality discount was applied as per the Australian Productivity Commission (1999).
- The number of affected others was estimated using the average number of people in a New Zealand household (excluding the person who gambles) (New Zealand Government, 2024a).

Emotional harm

- A cost of $10,000 (Warburton, 2021) was used as a proxy for emotional harm.

The combined emotional harm costs associated with this gambling-related violence in New Zealand are estimated to be $79.9 million (Table 16). This is a conservative figure as it focuses solely on emotional harm and does not include other potentially significant costs such as medical care, police, legal and justice system expenses, or housing support, due to data limitations.

An estimated 2,960 New Zealanders experienced violence linked to their own gambling in 2023–24, with an additional 5,031 affected family or household members. This equates to an estimated 0.19% of adults experiencing violence specifically related to gambling problems. For comparison, an estimated 6.3% of the New Zealand population experienced intimate partner violence or child abuse in 2009 (Kahui & Snively, 2014).

To reflect uncertainty, the lower bound applies a nominal 5% reduction across all items. The upper bound increases the proxy for emotional distress to $20,000 to better reflect the

significant and ongoing impacts of being a victim survivor of violence (Kahui & Snively, 2014).

The estimated cost of gambling-related violence in New Zealand ranges from $76 million to $160 million. This wide range reflects the intangible nature of cost items, such as emotional harm, and the lack of consensus in the literature on how best to value them. These figures remain conservative, as tangible costs that could not be accurately estimated are excluded.

Table 16. Cost of violence due to gambling problems in New Zealand (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand population by PGSI	n	255,318	83,492	20,436	359,246
Emotional distress to the person with gambling problems					
Rate (%) of PGSI group whose gambling contributed to or caused experience of violence (including family and domestic violence)	a	0.0%*	1.2%	13.2%	
Number of people with gambling problems who experience violence due to gambling, less 20% causality discount	b = (a x n) x 80%	0	802	2,158	2,960
Cost of emotional distress	c	$10,000			
Total cost of emotional distress to the person with the gambling problem	**d = b x c**	**$0**	**$8,015,232**	**$21,580,416**	**$29,595,648**
Emotional distress to affected other					
Number of people with gambling problems who experienced violence (less causality)	e	0	802	2,158	
Average number of persons per household (minus the person with gambling problems)	f	1.7			
Number of affected others	g = e x f	0	1,363	3,669	5,031
Cost of emotional harm	h	$10,000			
Total cost to affected others	**i = g x h**	**$0**	**$13,625,894**	**$36,686,707**	**$50,312,602**
Total cost of experiences of violence		**$0**	**$21,641,126**	**$58,267,123**	**$79,908,250**
Lower bound					$75,912,837
Upper bound					$159,816,499

6.5 Health

Health impacts are a significant domain of harm (Langham et al., 2016). While gambling can have wide-ranging impacts on an individual's overall health and wellbeing, the following results focus on key measurable aspects where data allows for quantification, such as depression and suicide-related impacts. This section also presents the costs associated with HRQoL impacts, both to the person who gambles and affected others. Finally, an estimation of the costs to the New Zealand health system apportioned to gambling problems is included.

The following cost items are included in this category:

- Depression
- Suicide attempts
- Fatality by suicide
- HRQoL impact of gambling harm
- New Zealand health system

6.5.1 Depression

The costs of experiences of depression due to gambling were categorised into two areas:

- Emotional impact on the person who gambles
- Out of pocket costs associated with depression

There are strong links between gambling problems and depressive symptoms. In a systematic review and meta-analysis of population surveys, Lorains et al. (2011) found that 37.9% of individuals classified as problem or pathological gambling experienced a mood disorder. Among people who seek treatment for gambling problems, approximately 23.1% were reported to have a current mood disorder (Dowling et al., 2015b). In New Zealand, people classified as problem gambling report higher rates of depression than people who do not gamble or people classified as non-problem gambling (Abbott et al., 2014).

Not all people receive professional treatment for depression symptoms. Only a small proportion reach out for support. This may be due to many reasons, including, as identified in the Community Consultation (Chapter 4), issues in being able to afford treatment.

Additionally, a rise in demand for mental health support in New Zealand has left the system's funding, staffing and resources stretched (Every-Palmer et al., 2024). The Report of the Government Inquiry into Mental Health and Addiction (*He Ara oranga: Report of the government inquiry into mental health and addiction*, 2018) estimated that between 35% and 50% of New Zealanders with a mental illness receive no treatment. Similarly, only 45.1% of Australians with a mental health disorder saw a health professional for their condition, this figure was lower for males (36.4%) than females (51.1%) (Australian Bureau of Statistics, 2023). Given that problem gambling is more prevalent among males, who are less likely to seek treatment, adopting the lower end of the treatment-seeking spectrum (35%) was determined to be a conservative estimate for this costing.

Beyond psychological impacts, there are substantial financial costs related to mental health treatment. The Productivity Commission report on Mental Health in Australia (2020) highlighted significant out-of-pocket expenses, estimating these at A$700 million for individuals affected by mental health issues. In the context of the report, these are the costs paid directly by individuals for government-subsidised medical services (MBS) and pharmaceuticals (PBS), and are calculated separately from costs covered by private health insurance. An Australian study examining out-of-pocket costs associated with a mental health disorder found that on average people spent A$1,030 over a twelve-month period (McIntyre et al., 2021). Of this total amount, A$618 of this was spent on medical practitioners (doctors, specialists, counsellors), A$200 on pharmaceuticals (prescription and over the counter), while the remainder was spent on complementary practitioners. As there was no available data on out-of-pocket costs associated with depression in New Zealand, the average cost per person in Australia was converted into New Zealand dollars using OECD purchasing power parities (OECD, 2022).

The economic impact of depression associated with gambling problems was calculated using:

Prevalence

- The percentage of people who gamble who experienced an increase in depression due to their gambling was sourced from the *Measuring the Burden of Gambling Harm in New Zealand Survey Report* (Browne, Greer et al., 2017).

- These percentages were projected onto the number of New Zealanders in each of the PGSI risk categories (NZGS, 2023) to get a total number of New Zealanders experiencing an increase in depression due to their gambling.
- A 20% causality discount was applied as per the Australian Productivity Commission (1999).
- The number of people experiencing increased depression was multiplied by 35% accounting for the proportion that were likely to receive professional treatment (Australian Bureau of Statistics, 2023; *He Ara oranga: Report of the government inquiry into mental health and addiction*, 2018).

Emotional harm

- A cost of $10,000 (Warburton, 2021) was used as a proxy for emotional harm.

Out of pocket costs

- An amount of A$818 representing out-of-pocket medical practitioner and pharmaceutical costs (McIntyre et al., 2021) was converted into New Zealand dollars OECD purchasing power parities (OECD, 2022). This calculation resulted in out-of-pocket costs of $865.85 (2017) which was inflated to a 2024 value of $1,097.03.

T**he estimated cost associated with depression associated with gambling problems (experienced by the person who gambles) in New Zealand is around $61 million (Table 17)**. This includes both the emotional distress experienced by those affected and their out-of-pocket treatment costs.

To reflect uncertainty, a lower and upper bound were applied. The lower bound reduces all items by 5% to account for potential sampling variation in the underlying prevalence data. The upper bound uses a different method to value emotional distress. Specifically, it applies a proxy based on YLD for moderate depression, obtained from the Global Burden of Disease disability weights (Global Burden of Disease Collaborative Network, 2024). This health decrement (0.40) reflects symptoms such as persistent sadness, functional impairment, sleep disruption, and difficulty concentrating. The corresponding value per YLD is set at New Zealand's GDP per capita ($78,613), resulting in an upper-bound emotional distress proxy of $31,445 (GDP x 0.40).

Using these assumptions, the estimated cost of gambling-related depression in New Zealand ranges from $58 million to $179 million. This wide range reflects variation in the valuation of emotional harm and limitations in available data. It should be noted that this estimate is likely

conservative. It does not include impacts to affected others and uses a relatively cautious treatment-seeking rate.

Table 17. Cost of depression due to gambling problems in New Zealand (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand population by PGSI	n	255,318	83,492	20,436	359,246
Rate (%) of PGSI group whose gambling led them to increased depression (12-month period)	a	0.8%	12.6%	34.4%	
Number experiencing increase in depression due to gambling, less 20% causality discount	b = (a x n) x 80%	1,674	8,399	5,622	15,696
Total number of PGSI group receiving treatment for depression due to gambling	c = b x 35.0%	586	2,940	1,968	5,494
Emotional distress					
Cost of emotional distress for depression	d	$10,000			
Total emotional distress costs for depression	**e = c x d**	**$5,859,757**	**$29,397,183**	**$19,678,373**	**$54,935,313**
Out of pocket costs					
Average annual out of pocket costs	f	$1,097			
Total out of pocket costs	**g = c x f**	**$642,833**	**$3,224,959**	**$2,158,777**	**$6,026,569**
Total cost of depression	**e + g**	**$6,502,590**	**$32,622,142**	**$21,837,149**	**$60,961,882**
Lower bound					$57,913,788
Upper bound					$178,770,837

Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.

6.5.2 Costs associated with suicide and suicide attempts

New Zealand has persistently high and rising suicide rates (*He Ara oranga: Report of the government inquiry into mental health and addiction*, 2018). In 2023/24, there were 617 suspected suicides (*Suicide web tool*, 2024) and there are estimated to be approximately 20,000 attempts at suicide annually (*He Ara oranga: Report of the government inquiry into mental health and addiction*, 2018). Younger males are overrepresented in these figures, the same demographic most likely to experience gambling problems (New Zealand Gambling

Survey, 2025). This demographic overlap highlights a critical intersection between gambling harm and suicide risk.

Gambling harm contributes to two major risk factors for suicidal ideation and attempts: financial distress and relationship breakdown (Penfold, n.d.; Suicide Prevention Australia and Financial Counselling Australia, 2022). These harms, combined with shame and hopelessness, place people experiencing gambling problems at heightened risk of suicide.

Gambling and suicide closely are related (Gambling with Lives, 2022; Rintoul et al., 2023; Wong et al., 2010). International research suggests that people with a diagnosed gambling disorder face suicide rates more than 15 times higher than the general population (Karlsson & Håkansson, 2018; Wong et al., 2010).

Evidence from helplines and treatment services highlights this risk. A Ministry of Health review (Ministry of Health, 2006) reported that 11% of new callers to New Zealand's Gambling Helpline disclosed suicidal thoughts or behaviours. Penfold (n.d.), reporting on data from Sullivan et al., found that more than 80% of people classified as problem gambling contacting a New Zealand hotline reported suicidal ideation. Another treatment study reviewed by Penfold found that 59% of clients seeking help for gambling had experienced suicidal thoughts (Penfold, n.d.).

International research supports these findings. In the UK, one study found that 19.2% of people categorised as problem gambling reported suicidal ideation in the past year (Wardle, Dymond, et al., 2019). A hospital-based study in Victoria reported that 17.2% of patients seen by the Psychiatric Triage Team had gambling problems, with 19% of these individuals scoring high on a suicide intent scale (De Castella et al., 2011).

Gambling With Lives, a UK charity (Gambling with Lives, 2022) report that 42% of people seeking help for gambling problems experience suicidal thoughts, and 20% report a prior suicide attempt. These rates are higher than the general population, where approximately 17% report suicidal ideation.

Rintoul et al., (2023) estimated that around 4.2% of suicides in Australia were related to gambling (either the person who gambled or affected others). The authors emphasised that

this figure likely underestimates the true rate, as it relied on coronial data, which often does not include thorough assessments of gambling issues. A UK study reported a similar figure (4%) among young people, although the average age of those who die by gambling-related suicide is likely much older (National confidential inquiry into suicide and homicide by people with mental illness, 2017; Rintoul et al., 2023). In Hong Kong, where police routinely investigate financial pressures, 11% of suicide cases involved gambling debts (Wong et al., 2010). These higher rates may reflect both cultural differences as well as more comprehensive investigations. Gambling With Lives estimates that between 4% and 11% of suicides in the UK are gambling-related (Gambling with Lives, 2022).

The costs associated with gambling-related suicide and suicide attempts were analysed across the two areas separately:

- Suicide attempts
- Fatality by suicide

6.5.2.1 Suicide attempts

Suicide attempts are associated with **direct costs** (including the cost of emergency response teams, police and ambulance, medical treatment costs and family support); **indirect costs** (such as productivity losses due to time off work because of the injury); and **intangible costs** (the emotional and psychological toll on the person involved in the attempt as well as people close to them (O'Dea & Tucker, 2005; Segar et al., 2024).

In this section of the study, the costs of suicidal attempts due to gambling focusses on:

- Direct costs of services
- intangible costs
    - Emotional impact on the person who gambles
    - Emotional impact on the affected others

To avoid double counting, indirect costs such as productivity losses are assumed to be accounted for elsewhere in the report.

Attempts have been made to place a value on the costs of suicide worldwide (Doran, 2024; Kinchin & Doran, 2017; Segar et al., 2024; Shepard et al., 2016). In New Zealand, O'Dea

and Tucker estimated the total cost of attempted suicide and self-harm in 2004 to be over $32 million, with an estimated cost per attempt to be $6,350.

The economic impact of gambling-related suicidal attempts was calculated using:

Prevalence

- The percentage of people who gamble who attempted suicide due to their gambling was sourced from the *Measuring the Burden of Gambling Harm in New Zealand Survey* report (Browne, Greer et al., 2017).
- These percentages were projected onto the number of New Zealanders in each of the PGSI risk categories (NZGS, 2023) to get a total number of New Zealanders who attempted suicide due to their gambling.
- A 20% causality discount was applied to people who experience moderate-risk or problem gambling as per the Australian Productivity Commission (1999). Additionally, in order to avoid attribution issues, suicide attempts reported by people classified at low-risk gambling were excluded (discounted by 100%). This approach reduces the risk of over-attribution, as gambling is less likely to be the main contributing factor to suicide attempts among people experiencing low levels of harm.
- To avoid double counting, the number of gambling-related fatalities by suicide (see Fatality by suicide - cost to the New Zealand economy for details) was subtracted from the total.
- The average number of affected others impacted by each suicide attempt was 6 (Berman, 2011; Cerel et al., 2019).

Cost of services

- The average cost of services (emergency response, police, family counselling, ambulance, emergency department and hospital treatment costs) associated with a suicide attempt in 2004 was $3,750 (O'Dea & Tucker, 2005), this results in a cost of $6,156 when inflated to 2024.

Emotional harm

- A cost of $10,000 (Warburton, 2021) was used as a proxy for emotional harm.

These figures result in a total estimated cost associated with suicidal attempts due to gambling in New Zealand of around $104 million (Table 18). An estimated 1,369 New Zealanders attempted suicide due to gambling in 2023–24, representing around 1.3% of people experiencing moderate to severe gambling problems. A further 8,211 people are likely to be affected by these attempts.

Table 18. Cost of suicide attempts due to gambling problems in New Zealand (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand population by PGSI	n	255,318	83,492	20,436	359,246
Rate (%) of PGSI group whose gambling led them to attempt suicide (12-month period)	a	0.8%	0.3%	7.3%	
Less causality discount (100% LR, 20% MR/PG)	b	0.0%	80.0%	80.0%	
Reported suicide attempts attributable to gambling, less causality discount	c = (a x n) x b	0	200	1193	1394
Less number of fatalities by suicide	d	0	4	22	25
Number of suicide attempts attributable to gambling	e = c - d	0	197	1172	1369
Average number of other persons impacted by attempts of suicide	f	6			
Number of affected others for each gambler attempted suicide	g = e x f	0	1180	7031	8211
Cost of services					
Cost of services per suicide attempt	h	$6,156			
Total cost of services for suicide attempts	**i = e x h**	**$0**	**$1,211,185**	**$7,213,783**	**$8,424,968**
Emotional distress					
Cost of emotional distress for suicide attempts	j	$10,000			
Emotional distress for person with a gambling problem	k = e x j	$0	$1,967,487	$11,718,296	$13,685,783
Emotional distress for affected others	l = g x j	$0	$11,804,921	$70,309,778	$82,114,699
Total cost of emotional distress for suicide attempts	**m = k + l**	**$0**	**$13,772,408**	**$82,028,074**	**$95,800,482**
Total cost Suicide Attempts	**n = i + m**	**$0**	**$14,983,593**	**$89,241,857**	**$104,225,450**
Lower bound					$45,376,583
Upper bound					$161,547,399

Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.

These results appear highly conservative, in part due to the exclusions on people impacted by low-risk gambling problems. Additionally, this study only estimates the cost of suicide attempts, not suicidal thoughts and ideation, despite the high levels of distress associated with both. While thoughts of suicide appear common amongst people experiencing gambling

problems, these are more difficult to quantify. As such, the current estimate likely understates the broader mental health burden of gambling-related suicidality.

To reflect uncertainty in attribution and valuation, a lower and upper bound has been calculated. The lower bound assumes a smaller number of affected others, using the average household size (1.7 people, minus the person who gambles), rather than the broader social impact estimate of six people per suicide attempt. This assumes only the most immediate relationships were significantly impacted. For the upper bound, the proxy for emotional harm was emotional distress valuation was increased. Suicide attempts are often associated with severe depression (Global Burden of Disease Collaborative Network, 2024). Using the Global Burden of Disease study (2024) disability weight associated with major depressive disorder (severe) of 0.66 and applying this to a YLD valuation to GDP per capita (NZ GDP per capita = $78,613), results in a valuation of approximately $51,884. This figure was applied in place of the $10,000 emotional harm proxy for the person who gambles to estimate an upper bound. The proxy for emotional harm for affected others remains at $10,000, as do the costs of services per suicide attempt.

Therefore, the estimated cost of suicide attempts due to gambling in New Zealand is between $45 million and $162 million. The wide range reflects differences in assumptions about how many people are affected and how the emotional burden should be valued.

6.5.2.2 Fatality by suicide

Despite this strong association between gambling and suicide, it is difficult to accurately quantify gambling-related suicides. Gambling is often unknown or undocumented in medical files, police or coroner reports and is rarely a focus during official investigations (Gambling with Lives, 2022; Rintoul et al., 2023; Wong et al., 2010).

Taking all available evidence into account (National confidential inquiry into suicide and homicide by people with mental illness, 2017; Rintoul et al., 2023; Wong et al., 2010), gambling is estimated to contribute to between 4% and 11% of suicides. This costing uses the Victorian figure (4.2%; Rintoul et al., 2023) adjusted to reflect New Zealand's population and total suicide rates (described below).

Suicide fatalities result in a range of costs, including:

- direct costs (such as police, post-mortem, and funeral services),
- indirect costs (such as lost productivity), and
- intangible costs, particularly for those who were close to the person who died.

There is no standard method to determine how many people are affected by each suicide or the depth of that impact (Cerel et al., 2019; Maple et al., 2016). Cerel et al. (2014) proposed a continuum of exposure, ranging from those who simply knew the person, to those who experience emotional distress, and finally those who suffer acute and long-term grief such as partners, children, and close family. Maple et al. (2016) found that 85% of Australians surveyed knew someone who had died by suicide, most often a friend. In the United States, Cerel et al. (2019) estimated that, on average, 135 people are exposed to each suicide.

The long-standing estimate that six people are significantly impacted by each suicide continues to be widely used and is roughly consistent with estimates of immediate family size (Berman, 2011). While some studies have proposed higher numbers (e.g., 10 to 115), Berman found that between four and 17 people tend to have had daily contact with the deceased, with more having weekly contact. Six therefore remains a reasonable conservative estimate of those most directly affected.

To better account for the range of impact, the current costing adopts a higher emotional harm valuation for dependents such as partners and children, reflecting the deeper and longer-term personal, practical, and financial consequences of suicide for these groups (Cerel et al., 2014; Lancaster & Johnson, 2020; Maple et al., 2016).

In terms of economic value, O'Dea and Tucker (2005) estimated the total cost of fatalities to suicide New Zealand in 2004 to be over $206 million, with an estimated cost per fatality to be $448,250. More recently, Doran (2024) determined the cost of fatalities to suicide in the New Zealand construction industry to be over $2 million per fatality, increasing to over $7 million per fatality when including non-economic or intangible costs.

The costs of experiences of fatality by suicide due to gambling were categorised into two areas:

- Cost to the New Zealand economy
    - Cost of services
    - Productivity loss to business
- Impact to affected others
    - Dependent partners and children
    - Close others

6.5.2.2.1 Fatality by suicide - cost to the New Zealand economy

The economic impact of gambling-related fatalities by suicide to business and the New Zealand economy was calculated using:

Prevalence

- The prevalence of gambling-related suicide deaths was based on the proportion of gambling-related suicides in Victoria (4.2%; Rintoul et al., 2023). This figure was adjusted based on the relative suicide rates between Victoria and New Zealand, assuming that gambling contributes to suicide at the same relative rate in both regions. This resulted in an estimated 4.1% of total suicides in New Zealand being gambling-related.
- This proportion was applied to the total number of suicides in New Zealand in 2023–24 (617) (*Suicide web tool*, 2024) resulting in an estimated 25.3 gambling-related suicide deaths.

Cost of services

- The average cost of emergency response, forensic investigation, victim support and funeral services was estimated at $10,205 in 2004 (O'Dea & Tucker, 2005), which was inflated to $16,765 for 2024.

Productivity loss

- The average productivity loss per fatality was $1,413,900 in 2004 (O'Dea & Tucker, 2005), adjusted to $2,322,817 for 2024.

The estimated cost associated with gambling-related fatalities to the New Zealand economy is around $59 million (Table 19). This figure should be considered an underestimation. This is primarily because gambling-related factors in suicides are often underreported or not fully documented in official data, both in New Zealand and globally, making comprehensive data

challenging to obtain. To account for uncertainty, a lower bound estimate was calculated by applying a 5% reduction to all cost items. Given the lack of alternative data, a conservative upper bound estimate was calculated by applying a 5% increase.

Therefore, the estimated cost of gambling-related suicide fatalities in New Zealand falls between $56 million and $62 million. This does not include the emotional harm cost to affected others, which follows, nor does it capture the broader social impacts.

Table 19. Cost of fatality by suicide to business/government due to gambling problems in New Zealand (2023-24)

Variable	**Calculation**	**Total gambling problems**
Number of suicides in New Zealand in 2023-24	a	617
Estimated proportion of suicides attributable to gambling (gamblers and affected others)	b	4.1%
Number of New Zealand suicides attributable to gambling	c = a x b	25.26
Cost of services		
Cost of services for completed suicide	d	$16,765
Total cost of services for gambling-related suicides	**e = c x d**	**$423,566**
Indirect costs (productivity loss)		
Average productivity loss	f	$2,322,817
Total indirect costs	**g = c x f**	**$58,685,706**
Total cost	**h = e + g**	**$59,109,272**
Lower bound		$56,153,809
Upper bound		$62,064,736
Note: Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.		

6.5.2.2.2 Fatality by suicide - impact to affected others

The impact of gambling-related suicide on affected others was calculated using:

Prevalence

- The number of gambling-related suicide fatalities (25.3) was taken from the earlier estimate (see Table 19).
- The average number of dependent partners and children impacted by each fatality by suicide was calculated based on the proportion of New Zealanders living with partners in the household (57.2%; New Zealand Government, 2024a). The number of children was calculated using the proportion of households with children (57.2%; New Zealand Government, 2024a) and the average number of children per household (1.6; Dixon, 2024).
- The average number of close others impacted by each fatality by suicide was 6 (Berman, 2011; Cerel et al., 2019). To avoid double counting, the number of dependent partners/children (above) was subtracted from this calculation.

Harm associated with dependent partners and children

- The proxy cost for harm for dependent partners and children was sourced from the amount provided to a family if someone dies from a workplace accident (Accident Compensation Corporation, 2024).

Emotional harm for close others

- A cost of $10,000 (Warburton, 2021) was used as a proxy for emotional harm.

The estimated cost associated with gambling-related fatalities to affected others is around $6.1 million (Table 20). To account for uncertainty, a lower bound estimate was calculated by applying a 5% reduction to all cost items. An upper bound estimate was calculated by applying a 5% increase. Therefore, the estimated cost of gambling-related suicide fatalities to affected others in New Zealand falls between $5.8 million and $6.4 million.

Table 20. Cost of fatality by suicide to affected others due to gambling problems in New Zealand (2023-24)

Variable	Calculation	Total gambling problems
Number of suicide fatalities attributable to gambling	a	25.3
Impact to dependent partners and children		
Proportion of people living with dependent partners/children in the household	b	57.2%
Number of dependent partners	c = a x b	14.5
Proportion of households with children	d	51.0%
Number of children (average 1.6 per household)	e = (c x d) x 1.6	11.8
Cost proxy for dependent family by fatality by suicide		
One-off costs funerals - $7,793	f = cost x c	$112,621
One-off payment to partner - $8,355	g = cost x c	$120,742
One-off payment to each child under 18 - $4,177	h = cost x e	$49,304
Childcare for 1 child ($178 per week for 5 years) - $46,280	i = cost x e	$546,278
Loss of income (80% average salary for 5 years) - $279,344	j = cost x c	$4,036,944
Total cost for fatality by suicide on dependent partners and children	**k = f + g + h + i + j**	**$4,865,889**
Impact to close others		
Average number of other persons impacted by suicide	l	6
Number of affected others by fatality by suicide (less dependent partners and children)	m = (a x l) - (c + e)	125.3
Cost of emotional distress of affected others by fatality by suicide	n	$10,000
Total cost for fatality by suicide on close others	**o = m x n**	**$1,253,340**
Total cost		**$6,119,229**
Lower bound		**$5,813,268**
Upper bound		**$6,425,191**
Note: Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.		

6.5.3 Health-related quality of life

As described in depth in Chapter 5, HRQoL is a crucial component in assessing and costing gambling harm. This approach captures the intangible impacts of gambling on overall wellbeing, providing a more complete measure of impact beyond purely financial measures (Browne, Greer et al., 2017, 2016).

The HRQoL impact of gambling problems were calculated in two sections:

- HRQoL impact on people who gamble
- HRQoL impact on affected others

6.5.3.1 HRQoL impact on people who gamble

The HRQoL impact of gambling harm on people who gamble was calculated using:

Prevalence

- The number of New Zealanders in each of the PGSI risk categories was sourced from the NZGS (2023/24) to get a total number of New Zealanders with a gambling problem in New Zealand.

Years lost to disability

- A HRQoL decrement associated with each of the PGSI categories was identified in Tulloch et al. (submitted 2025)
- To determine total years of life lost to disability (YLD), the number of people in each PGSI category was multiplied by the associated HRQoL decrement.

Valuing YLD

- The proxy value of YLD was determined by GDP per capita ($78,613; CEIC, 2025). See Chapter 6 for further details
- The total HRQoL cost of just over $3 billion represents the total impact of gambling problems in New Zealand
- To isolate the emotional and psychological harm component of the PGSI decrements, the total amount was multiplied by 29.3%. See Chapter 6 '*Discounting HRQoL to avoid double-counting'* for further details.
- To avoid doubling counting, the psychological costs associated with gambling-related depression was subtracted from the total.

T**he estimated cost associated with HRQoL impact of gambling harm on people who gamble is around $831 million (Table 21).** To reflect uncertainty in the valuation of YLD, lower and upper bounds were calculated. Following Iino et al. 's (2022) recommendation, the study uses a lower bound of $39,306 and an upper bound of $117,919, representing 0.5- and 1.5-times GDP per capita, respectively. Therefore, the estimated cost of the HRQoL impact of gambling harm on people who gamble is between a lower bound of $385 million and an upper bound of $1.28 billion. This wide range is due to the intangible nature of the cost item, and the wide variation in the literature in valuing YLD.

Table 21. Cost of HRQoL impacts of gambling harm on people who gamble in New Zealand (2023-24)

Variable	**Calculation**	**LR**	**MR**	**PG**	**Total Gambling Problems**
New Zealand population by PGSI	n	255,318	83,492	20,436	359,246
HRQoL Decrement associated with PGSI category	a	0.06	0.17	0.45	
Estimated Years Lived with a Disability (YLD) burden	b = a x n	15,319	14,194	9,196	38,709
Cost per YLD	c	$78,613			
Total HRQoL cost (all harm domains)	**d = b x c**	**$1,204.3M**	**$1,115.8M**	**$722,9M**	**$3,043,008,070**
Proportion of estimated costs attributable to harms associated with financial deprivation, relationships, health, socially deviate consequential behaviour, and work or study issues (70.7%) (e)					$2,151,406,706
Subtotal - HRQoL cost attributable to emotional/psychological harm (f = d – e)					**$891,601,365**
Less costs of depression-related emotional distress already costed (g)					$60,961,882
Cost HRQoL emotional/psychological impact of gambling harm (not costed elsewhere) on people who gamble (h = f – g)					**$830,639,483**
Lower bound					$384,838,800
Upper bound					$1,276,440,165
Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.					

6.5.3.2 HRQoL impact on affected others

The HRQoL impact of gambling harm on affected others was calculated using:

Prevalence

- The number of New Zealanders in each of the PGSI risk categories was sourced from the NZGS (2023/24) to get a total number of New Zealanders with a gambling problem in New Zealand.
- To estimate the number of affected others, a ratio was applied: one person affected for each person categorised as low-risk gambling, three for each person with moderate-risk gambling, and six for each person with problem gambling (Goodwin et al., 2017). See Chapter 6 for details.
- This total was then multiplied by the proportion of affected others reporting harm to their physical or mental health due to another person's gambling, based on data from *Measuring the Burden of Gambling Harm in New Zealand* (Browne, Greer et al., 2017).
- A 20% causality discount was applied, in line with the Australian Productivity Commission (1999).

Years lost to disability

- HRQoL decrements for each PGSI category were sourced from Tulloch et al. (submitted 2025)
- These were applied to the estimated number of affected individuals in each category to calculate the total years lived with disability (YLD).

Valuing YLD

- The proxy value of YLD was determined by GDP per capita ($78,613; CEIC, 2025). See chapter 6 for further details
- The total HRQoL cost of around $3.2 billion represents the total impact of gambling problems in New Zealand
- To isolate the emotional and psychological harm component of the PGSI decrements, the total amount was multiplied by 29.3%. See chapter 6 '*Discounting HRQoL to avoid double-counting'* for further details.

The estimated cost associated with HRQoL impact of gambling harm on affected others is around $852 million (Table 22). Following the approach outlined by Lino et al., (2022), lower and upper bounds were calculated using 0.5- and 1.5-times GDP per capita ($39,306 and $117,919 respectively) to value YLD. Therefore, the estimated cost of the HRQoL impact of gambling harm on affected others is between a lower bound of $385 million and an

upper bound of $1.3 billion. This wide range reflects the intangible nature of the cost item and the lack of consensus in the literature on valuing YLD.

Table 22. Cost of HRQoL impacts of gambling harm on affected others in New Zealand (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
Number of people with gambling problems	n	255,318	83,492	20,436	359,246
Number of affected others per person	a	1	3	6	
Total number of affected others in the population	b = (a x n)	255,318	250,476	122,616	
Proportion reporting harm to physical or mental health due to another person's gambling	c	27.3%	36.8%	67.4%	
Estimated number experiencing health harm	d = (b x c) x 80%	55,761	73,740	66,115	195,616
HRQoL decrement associated with gambler's PGSI	e	0.05	0.15	0.40	
Estimated Years Lived with a Disability (YLD) burden	f = d x e	2,974	11,143	26,446	40,563
Cost per YLD	g	$78,613			
Total HRQoL cost (all harm domains)	**h = f x g**	**$233.8M**	**$876.0M**	**$2,079.0M**	**$3,188.739,803**
Proportion of estimated costs attributable to harms associated with financial deprivation, relationships, health, socially deviate consequential behaviour, and work or study issues (70.7%) (i)					$2,254,439,040
Subtotal - HRQoL cost attributable to emotional/psychological harm (j = h – i)					**$934,300,762**
Less emotional distress associated with suicide attempts (costed elsewhere) (k)					$82,114,699
Total HRQoL cost of emotional and psychological harm to affected others (excluding domains costed elsewhere) (l = j – k)					**$852,186,063**
Lower bound					$385,035,682
Upper bound					$1,319,336,444

Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.

6.5.4 New Zealand Health System

Health-related costs arising from gambling harm place a burden on New Zealand's public health system, both in terms of direct service provision and indirect impacts such as increased demand for mental health, addiction, and general medical care. All public funding for health services, whether related to physical health, mental health, or addiction, comes from a single appropriation, Vote Health, which allocates government expenditure across the entire health sector. For this reason, and because individuals experiencing gambling-related harm often present with multiple co-occurring health concerns across both domains, this costing combines mental and general health costs rather than reporting them separately.

To estimate the proportion of government health expenditure attributable to gambling harm, this study applies prevalence-based harm attribution methods to the total Vote Health budget. This involves estimating the number of adults with physical or wellbeing issues attributed to gambling (adjusted for causality), calculating their share of the adult population, and applying that proportion to the adult component of Vote Health expenditure. Vote Health refers to the annual appropriation allocated by the New Zealand Government to fund the delivery of health services, including primary care, hospital services, public health programmes, mental health and addiction services, and other health infrastructure. By applying gambling harm attribution rates to the total Vote Health expenditure, this analysis provides a consolidated estimate of the healthcare system burden linked to gambling-related health concerns in New Zealand.

This approach avoids potential double counting and provides a more accurate reflection of how gambling harm contributes to overall health system demand. This section does not include government-borne health-related costs to affected others due to the absence of sufficiently detailed and quantifiable data. Although affected others may experience significant health impacts, these were excluded to avoid speculative estimation.

The cost to the New Zealand Health System related to gambling problems was calculated using:

Rate of physical or wellbeing issues related to gambling

- The harm attribution rate was calculated using was drawn from the *Measuring the Burden of Gambling Harm in New Zealand Survey Report* (Browne, Greer et al., 2017), based on the proportion of individuals in each PGSI risk group who reported experiencing either physical or wellbeing-related health issues linked to their gambling.
- The physical health component included respondents who selected 'neglected medical needs (including failure to take prescribed medications)', 'increased use of health services due to gambling-related health issues', 'required emergency medical treatment due to gambling', or 'stress-related health problems'.
- The psychological component was captured using the item 'extreme distress', which serves as a broad indicator of wellbeing impact. 'Attempted suicide'' was excluded from this calculation, as it is separately captured in the mental health component of the broader healthcare costing.

Proportion of New Zealand adult population with physical or wellbeing issues related to gambling

- The number of people experiencing gambling-related physical or wellbeing issues was estimated by multiplying the harm attribution rate for each PGSI risk group by the estimated number of New Zealand adults in each respective PGSI group. These figures were then divided by the total adult population to calculate the percentage of the general New Zealand population within each PGSI group who experience physical or wellbeing-related health issues linked to gambling.

Proportion of Vote Health Funding apportioned to adults

- Approximately 20% of the New Zealand population is under the age of 16 (New Zealand Government, 2024b). Therefore, the total Vote Health funding of $26.5 billion (New Zealand Treasury, 2024) was discounted by 20% to estimate the total attributable to the adult population, which was $21.2 billion.

The estimated cost associated with the provision of health and primary mental health services attributable to gambling was around $130.1 million (Table 23).

Table 23. Share of total health and human service expenditure to the New Zealand government due to gambling problems (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand adult population	a				4,305,930
Number of New Zealand population with gambling problems	b	255,318	83,492	20,436	359,246
Rate (%) of PGSI group with any physical or wellbeing issues related to their gambling	c	2.5%	18.0%	56.8%	
Number of PGSI group with any physical or wellbeing issues related to their gambling (less 20% causality discount)	d = b x c x 80%	5,106	12,023	9,286	26,415
Proportion of the New Zealand adult population accessing healthcare services due to gambling	e = d / a	0.1%	0.3%	0.2%	0.6%
Total Vote Health funding	f	$26,510,000,000			
Proportion of Vote Heath funding apportioned to adult population	g = f x 80% *	$21,208,000,000			
Apportioned health cost due to gambling (population share method)	**h = e x g**	**$25.1M**	**$59.2M**	**$45.7M**	**$130,103,425**
Lower Estimate					$123,598,254
Upper Estimate					$136,608,597

*Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy. * Based on ~20% of population under 16.*

The estimated cost of health and primary mental health service provision attributable to gambling harm is between a lower bound of $123.6 million and an upper bound of $136.6 million. This range reflects uncertainty in the estimates, which are based on self-report survey responses and broad population data. However, it is likely that the true cost is higher, as this estimate does not capture the health and primary mental health service costs experienced by affected others due to limited available data.

6.6 Work or study impacts

Gambling-related harm can significantly impact an individual's work or study performance, (Bellringer et al., 2019; Browne et al., 2016). This study includes estimates of three key areas of impact - productivity loss, absenteeism and job loss.

6.6.1 Productivity loss to business

A study of 1,721 workers in Canada, found that nearly half (43.8%) had gambled at work (Hudson Breen et al., 2024). People who gambled at work were almost seven times more likely to meet the criteria for gambling disorders; 42.8% were categorised as problem or pathological gambling, and 30.8% as at-risk gambling. Over a quarter (26.4%) were classified as recreational gambling, a group that is not included in the current costing, demonstrating a conservative approach. Almost half the participants (46%) believed they would face disciplinary action if their employer were aware of the behaviour; 16% had been disciplined, and 13% (mainly classified as pathological gambling) had lost a job due to workplace gambling. Qualitative interviews highlighted productivity losses due to preoccupation, distraction, and reduced work efficiency, including extended breaks and rushed tasks.

In New Zealand, the *Measuring the Burden of Gambling Harm Study* (Browne, Greer et al., 2017), found that approximately 1 in 3 people categorised as problem gambling reported reduced performance at work. Affected others also experienced workplace impacts: around 1 in 4 people close to someone with a severe gambling problem reported reduced work performance. Australian research similarly found that affected others are more likely to report high levels of psychological distress that disrupts their capacity to work (Tulloch et al., 2023).

However, despite the evidence that this is an issue, there is currently no reliable estimate of the number of work hours lost due to gambling-related impairment. Therefore, in line with the results of the Community Consultation (see chapter 4), productivity loss was estimated as one day per week (20%) for people with gambling problems and one-quarter of a day per week (5%) for affected others, reflecting partial presenteeism and reduced work performance. This was deemed to be a relatively conservative estimate, particularly for affected others.

Productivity losses to business were calculated in two sections:

- Losses associated with people who gamble
- Losses associated with affected others

The economic impact of productivity loss to business associated with gambling problem was calculated using:

Prevalence - people who gamble

- The prevalence of reduced workplace or study performance due to gambling was drawn from *Measuring the Burden of Gambling Harm in New Zealand* (Browne, Greer et al., 2017).
- These estimates were applied to the New Zealand population in each PGSI category (NZGS, 2023) to identify the total number of New Zealanders experiencing reduced performance at work or study due to their gambling.
- A 20% causality discount was applied as per the Australian Productivity Commission (1999).

Prevalence - affected others

- The number of affected others was estimated using 1 person affected by each individual categorised as low-risk gambling, 3 for moderate-risk, and 6 for problem gambling (Goodwin et al., 2017).
- The percentage of affected others who reported reduced performance at work or study due to another person's gambling was sourced from the *Measuring the Burden of Gambling Harm in New Zealand Survey Report* (Browne, Greer et al., 2017).
- These percentages were projected onto the total number of affected others to identify the total number of New Zealanders experiencing reduced performance at work or study due to another person's gambling.
- A 20% causality discount was applied as per the Australian Productivity Commission (1999).

Cost of lost productivity

- The cost of lost productivity to business was based on the average annualised earning ($69,836) (New Zealand Government, 2024e) which was increased by 20% to reflect on-costs to the business ($83,803). As described above, an assumption was made that people with gambling problems lost an average of 1 day per week, and affected others, ¼ of a day per week.

The estimated cost associated with productivity loss to business associated with gambling problems in New Zealand is around $588 million (Table 24). To account for uncertainty, upper and lower bounds were calculated. For the lower bound, it was assumed that only affected others of people categorised as problem gambling experience productivity loss (0.25 days per week). For the upper bound, in line with feedback from the Community Consultation (detailed in Chapter 4), affected others of people categorised as problem

gambling were assumed to lose a greater amount of time per week (0.5 days), with affected others impacted by moderate- and low-risk gambling remaining at 0.25 days per week. Therefore, the estimated cost of gambling-related productivity loss to business in New Zealand ranges from $357 million to $690 million.

Table 24. Cost of productivity loss due to gambling problems in New Zealand (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand population by PGSI	n	255,318	83,492	20,436	359,246
Productivity loss to business - people with gambling problems					
Rate (%) of PGSI group whose gambling was associated with reduced performance	a	0.8%	11.7%	35.1%	
Number with reduced productivity (inc. 20% discount)	b = (a x n) x 80%	1,634	7,815	5,738	15,187
Average weekly earnings annualised	c	$83,803			
Average weekly earnings annualised (reduced to 1 day per week of lost productivity)	d = c x 20%	$16,761			
Total cost (people who gamble)	**e = b x d**	**$27.4M**	**$131.0M**	**$96.2M**	**$254,549,123**
Productivity loss to business – affected other					
Number of affected others per person with a gambling problem	f	1	3	6	
Total number of people in the population who might experience harm from another person's gambling	g = n x f	255,318	250,476	122,616	628,410
Proportion reporting reduced performance due to another person's gambling	h	12.5%	14.8%	24.9%	
Estimated number of affected others with reduced performance (inc. 20% discount)	i = (g x h) x 80%	25,532	29,656	24,425	79,613
Average weekly earnings annualised (including on-costs)	j	$83,803			
Average weekly earnings annualised (reduced to 0.25 day per week of lost productivity)	k = j x 5%	$4,190			
Total cost (affected others)	**l = i x k**	**$107.0M**	**$124.2M**	**$102.3M**	**$333,592,321**
Total cost of productivity loss	m = e + l				**$588,141,444**
Lower bound					$356,894,230
Upper bound					$690,486,551
Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.					

6.6.2 Cost of absenteeism

Absenteeism from work or study may result from gambling due to factors such as time spent gambling, fatigue, or gambling-related physical or mental health issues (Browne et al., 2016). Unlike productivity loss, which reflects reduced performance while present at work or study, absenteeism refers to time entirely missed, leading to distinct economic consequences. Affected others were not separately included in the absenteeism costing, as their work impacts were deemed to be captured within the broader productivity loss estimates where supporting data was available.

The economic impact of absenteeism due to gambling problem was calculated using:

Prevalence

- The prevalence of absenteeism due to gambling was drawn from *Measuring the Burden of Gambling Harm in New Zealand* (Browne, Greer et al., 2017).
- These estimates were applied to the New Zealand population in each PGSI category (NZGS, 2023) to identify the total number of New Zealanders who reported being absent from work due to their gambling.
- A 20% causality discount was applied as per the Australian Productivity Commission (1999).

Cost of absenteeism

- The median cost of absenteeism per employee per year was drawn from relevant New Zealand employment data sources and estimated at $1,235 (Southern Cross Health Insurance & BusinessNZ, 2023). This reflects lost productivity losses and other costs to employers when workers are absent.
- The number of people estimated to be absent due to gambling was multiplied by the median annual cost of absenteeism per person to estimate the total cost to business.

The estimated cost associated with gambling-related absenteeism to business in New Zealand is around $19.8 million (Table 25).

To account for uncertainty, upper and lower bounds were calculated. The lower bound applied a cost per employee of $1,000, reflecting average absenteeism costs in larger businesses (50+ staff) (Southern Cross Health Insurance & BusinessNZ, 2023). The upper bound used a cost of $1,487 per employee, consistent with estimates for smaller businesses (fewer than 50 staff) (Southern Cross Health Insurance & BusinessNZ, 2023), where

absences can have a more pronounced operational impact. Therefore, the estimated cost of gambling-related absenteeism to business in New Zealand ranges from $16.1 million to $23.8 million.

Table 25. Cost of absenteeism due to gambling problems in New Zealand (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand population with gambling problems by PGSI group (n)	a	255,318	83,492	20,436	359,246
Rate (%) of PGSI group who were absent due to gambling	b	4.9%	4.2%	19.8%	
Number who were absent due to gambling, less 20% causality discount	c = a x b x 80%	10,008	2,805	3,237	16,051
Median annual cost of absenteeism per employee per year	d	$1,235			
Total cost of absenteeism to business	**e = c x d**	**$12.4M**	**$3.5M**	**$4.0M**	**$19,822,811**
Lower bound					$16,050,859
Upper bound					$23,867,628
Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.					

6.6.3 Cost of job loss

Job loss due to gambling harm affects not only individuals, but also employers and government services through lost income, reduced productivity, and increased reliance on unemployment benefits (Browne, Greer et al., 2017; Langham et al., 2016). Although not commonly reported across all gambling risk levels, it is significantly more prevalent among those experiencing problem gambling. Browne et al. 's (2017) *Measuring the Burden of Gambling Harm in New Zealand* study found that 8.5% of individuals in the problem gambling group reported losing a job due to their gambling, while no job loss was reported among those in the moderate- or low-risk groups. This figure was used to estimate the cost using national data on earnings, unemployment duration, and benefit payments.

The same study also found that 2.9% of people close to someone categorised as problem gambling reported losing their job due to that person’s gambling. However, this was not included in the final costing due to the difficulty in reliably estimating the number of affected others exposed to harm at this severity.

The economic impact of gambling-related job loss on individuals, employers, and the government was estimated using the following components:

Estimated number of job losses due to gambling

- The harm prevalence rate was drawn from the *Measuring the Burden of Gambling Harm in New Zealand study* (Browne, Greer et al., 2017), which found that 8.5% of individuals in the problem gambling group reported losing a job due to their gambling, while no job loss was reported among those in the moderate- or low-risk groups.
- This rate was applied to the number of adults classified in the problem gambling category, as reported in the 2024 NZGS, and adjusted by a 20% causality discount to account for other contributing factors that may have influenced reported job losses. All reported job losses were associated with individuals in the problem gambling group.

Lost income to individuals

- The average duration of unemployment (4.1 months) was based on data from the Household Labour Force Survey (New Zealand Government, 2024d).
- Median monthly earnings from wages and salaries were $5,820, as reported in the Labour Market Income Statistics June 2024 quarter (New Zealand Government, 2024e).
- The total loss of income to individuals was $32.9 million.

Job search costs

- Job search costs were estimated using inflation-adjusted figures from the *Victorian Competition and Efficiency Commission* (2012), which include expenses such as travel to interviews, application preparation, communication costs, and other out-of-pocket expenditures incurred while seeking new employment.
- These historical figures were adjusted for inflation and converted to 2024 New Zealand dollars to ensure relevance to the current economic context.
- The total cost of job searching for those who gamble was $7.0 million.

Employer replacement costs

- Employer costs associated with replacing staff were based on average recruitment and onboarding expenses, including advertising, interviewing, administrative processing, and training of new hires. This was informed by the *ELMO Software 2024 HR Industry Benchmark Report* (ELMO Software, 2024), which estimates the average cost of replacing an employee in New Zealand to be $20,000.
- The total cost to employers was $27.8 million.

Unemployment benefits

- The cost of unemployment support was calculated using the proportion of individuals likely to be eligible for Jobseeker benefits, estimated at 32% (Stats New Zealand, 2023).
- The average benefit payment was based on the mean monthly Jobseeker Support rate of $1,755 (Ministry of Social Development, 2024), with payments assumed to continue for the average unemployment duration of 4.1 months (New Zealand Government, 2024d).
- The total cost of unemployment benefits to the government was $3.2 million.

The estimated cost of job losses associated with gambling problems in New Zealand is around $70.9 million (Table 26) and between a lower bound of $61.1 million and an upper bound of $90.7 million. This range reflects uncertainty in the estimates, including limitations in the availability of up-to-date local data on job search costs. The lower bound was calculated using the lowest weekly unemployment benefit rate, while the upper bound applied the mean benefit rate. This approach accounts for variability in individual eligibility and benefit payments across different claimant profiles.

Table 26. Cost of job loss due to gambling problems in New Zealand (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand population with gambling problems by PGSI group (n)	a	255,318	83,492	20,436	359,246
Job loss					
Rate of job loss by PGSI	b	0.0%*	0.0%*	8.5%	
Number of job losses due to gambling, less 20% causality discount	c = a x b x 80%	0	0	1,390	1,390
Loss of income to those who gamble					
Average duration of unemployment - months	d	4.1			-
Median monthly earnings	e	$5,820			-
Total cost of loss of income	**f = c x d x e**	**$0**	**$0**	**$32,873,214**	**$32,873,214**
Job search to those who gamble					
Cost of job search	g	$5,056			-
Total cost of job search	**h = c x g**	**$0**	**$0**	**$7,026,060**	**$7,026,060**
Employee replacement costs					
Employer staff replacement per candidate	i	$20,000			-
Total cost of employer replacement	**j = c x i**	**$0**	**$0**	**$27,792,960**	**$27,792,960**
Unemployment benefits					
Proportion of people who lost their job that are eligible for unemployment benefits	k	32%			-
Mean Monthly Unemployment payment	l	$1,755			-
Total cost of unemployment benefits	m = c x d x k x l	$0	$0	$3,172,512	$3,172,512
Total cost of job loss	**n = f + h + j + m**	**$0**	**$0**	**$70,864,746**	**$70,864,746**
Lower Bound					$61,061,469
Upper Bound					$90,659,788

Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy. No job losses associated with low-risk and moderate-risk gambling were reported in the source data.

6.7 Criminal activity

Criminal activity linked to gambling harm can result in costs to both the justice system and the wider community. In New Zealand, the *Assessment of the Social Impacts of Gambling in New Zealand* study estimated that about 10,000 people committed illegal activities in the past year due to gambling (Centre for Social and Health Outcomes Research and Evaluation & Te Ropu Whariki, 2008).

A large population survey in New Zealand found that 1.3% of adults had engaged in illegal activity, mainly theft and fraud, in the past year, with one-quarter attributing their actions to gambling. This equates to an estimated 0.33% of the population engaging in illegal activity due to gambling (Lin et al., 2010).

A study of 357 recently sentenced male prisoners in New Zealand found that nearly one in five had, at some point, been imprisoned for a gambling-related offence, most commonly non-violent or property-related crimes (Abbott et al., 2005). Among those classified as experiencing pathological gambling in the six months prior to imprisonment, over half (51%) had committed a gambling-related offence, and 25% had been imprisoned for such a crime. Abbott et al. concluded that 'approximately five percent of inmates are in prison primarily or exclusively for gambling-related convictions.'

The 2012 National Gambling Study found that 1.5% of New Zealanders reported that the main effect of someone else's gambling was theft or stealing of money (Abbott et al., 2014). This was reflected in the Community Consultation (Chapter 4), which identified that most of the crime scene by the participants of the consultation was stealing from family and friends - which does not get reported. However, harms to affected others, such as financial losses or emotional distress, are not costed here due to data limitations.

This section includes estimated costs to police, courts, and corrections, as well as business losses from theft and fraud.

6.7.1 Costs to the New Zealand Justice system

The costs to the New Zealand Justice system related to gambling-related crime was costed across three areas:

- Police System costs
- Court system costs
- Correction system costs

Each component is presented individually, followed by a combined summary table.

6.7.1.1 Police system

The economic impact of crime to the New Zealand police system associated with gambling problems was calculated using:

Prevalence

- The percentage of people who gamble who reported either *feeling compelled or forced to commit a crime or steal to fund gambling or pay debts* or *having committed petty theft or dishonesty in respect to government, business or other people (not family/whānau/friends)* was sourced from the *Measuring the Burden of Gambling Harm in New Zealand Survey Report* (Browne, Greer et al., 2017).
- These percentages were projected onto the number of New Zealanders in each of the PGSI risk categories (NZGS, 2023) to get a total number of New Zealanders participating in criminal behaviour due to their gambling.
- A 20% causality discount (Australian Productivity Commission, 1999).

Police system costs

- The number of people reporting criminal behaviour (above) was multiplied by the average incidence of crime reporting to the police (theft - 31.6%) (Ministry of Justice, 2023a). This resulted in 2,558 people with police contact due to gambling-related crime.
    - During 2023-24 there were a total of 239,400 police incidents due to any cause (New Zealand Police, 2024a). Therefore, it is estimated that around 1.1% of all police incidents in New Zealand were gambling related.
- The average cost per police incident (theft) in 2003-04 ($129.94) (Roper & Thompson, 2006) was inflated to 2024 - $219.24.

The estimated economic impact of crime to the New Zealand police system associated with gambling problems is $560,891 (Table 27).

Table 27. Cost of crime to New Zealand police system due to gambling problems (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand population by PGSI	n	255,318	83,492	20,436	359,246
Criminal behaviour					
Proportion of PGSI group who engaged in criminal behaviour due to gambling	a	1.6%	2.7%	18.5%	
Number who engaged in criminal behaviour due to gambling, less 20% causality discount	b = (a x n) x 80%	3,268	1,803	3,025	8,096
Police system					
Proportion of crimes reported to the police	c	31.6%			
Total number of police incidents due to gambling	d = b * c	1,033	570	956	2,558
Cost per police incident	e	$219			
Total police system cost	**f = d x e**	**$226,411**	**$124,941**	**$209,539**	**$560,891**
Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.					

6.7.1.2 Court system

The economic impact of crime to the New Zealand court system associated with gambling problems was calculated using:

Prevalence

- The number of police incidents due to gambling (Table 26 above) was multiplied by the proportion of gambling-related crimes (theft) investigated by police that results in a court appearance (70%; New Zealand Police, 2024b)
    - During 2023-24 there were a total of 189,500 court cases for any reason recorded by the court system of New Zealand. Therefore around 0.95% of all court cases in New Zealand were estimated to be gambling related.

Court system costs

- The average cost per court case 2003-04 ($870.71) (Roper & Thompson, 2006) was inflated to 2024 - $1,469.07.

The estimated economic impact of crime to the New Zealand court system associated with gambling problems is around $2.6 million (Table 28).

Table 28. Cost of crime to New Zealand court system due to gambling problems (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
Total number of police incidents due to gambling	n	1,033	570	956	2,558
Proportion of crimes resulting in a court appearance	a	70.0%			
Number of court cases due to gambling	b = a x n	723	399	669	1,791
Cost per court matter	c	$1,469			
Total court system cost	**d = b * c**	**$1,061,936**	**$586,011**	**$982,799**	**$2,630,745**
Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.					

6.7.1.3 Correctional system

The economic impact of crime to the New Zealand corrections system associated with gambling problems was calculated using:

Prevalence

- The number of court cases due to gambling (Table 27 above) was multiplied by the proportion of gambling-related court cases (theft and fraud) that results in a conviction (67%; Ministry of Justice, 2023b)
    - During 2023-24 there were a total of 141,570 convictions for any reason recorded by the court system of New Zealand. Therefore, our estimate indicated that around 0.85% of all court convictions in New Zealand were gambling related.
- The number of gambling-related court convictions (above) was multiplied by the proportion of convictions (theft and fraud) that receive a custodial sentence (16.6%; New Zealand Government, 2024c). This resulted in a total number of 199 New Zealanders receiving a custodial sentence due to gambling.

Correction system costs

- The average sentence length (theft and fraud) was identified as 0.95 of a year (Figure NZ, 2023), with prisoners serving sentences of less than two years automatically released after serving half of their sentence (Department of Corrections, 2025).
- The average annual cost per offender ($555 per day = $202,575) (Department of Corrections, 2023).

The estimated economic impact of gambling-related crime to the New Zealand corrections system is around $19.2 million (Table 29).

Table 29. Cost of crime to New Zealand corrections system due to gambling problems (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
Number of court cases due to gambling	n	723	399	669	1,791
Proportion of court cases ending in convictions	a	67.0%			
Number of convictions due to gambling	b = a x n	484	267	448	1,200
Rate (%) of convictions resulting in a custodial sentence	c	16.6%			
Number of imprisonments due to gambling	d = b * c	80	44	74	199
Average sentence served (years)	e	0.48			
Cost per prisoner/offender (per year)	f	$202,575			
Total corrections system cost	**g = d x e x f**	**$7,736,399**	**$4,269,196**	**$7,159,869**	**$19,165,464**
Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.					

6.7.1.4 Justice system - Total

As shown in Table 30, the total estimated economic impact of crime to the New Zealand justice system associated with gambling problems is around $22.4 million.

The study estimates that around 0.2% of the New Zealand population engaged in criminal behaviour due to gambling-slightly lower than the 0.33% reported by Lin et al. (2010). Cross-checking the estimated 199 people who received custodial sentences for gambling-related offences against the total number of imprisonments in 2024 (5,801) suggests that approximately 3.4% of all new imprisonments were gambling-related, also slightly lower than Abbott's (2005) estimate of 5%. These estimates do not include the longer-term consequences of a criminal conviction, such as reduced employment opportunities or ongoing financial instability. Nor do they capture the impacts on affected others, including emotional distress, family disruption, or secondary loss of income.

Given this, the current estimate is considered generally conservative. It is based on two items related to criminal behaviour in the *Measuring the Burden of Gambling Harm in New*

Zealand Survey Report: 1) *feeling compelled or forced to commit a crime or steal to fund gambling or pay debts*, and 2) *having committed petty theft or dishonesty in respect to government, business or other people (not family/whānau/friends).*

For the upper bound, two additional criminal behaviours were included in the prevalence estimates: 1) *Arrested for unsafe driving due to gambling* and 2) *Took money or items from friends or family/whānau without asking first*. Including these broader criminal behaviours resulted in an estimated prevalence of 1.6% of those categorised as low-risk gambling, 5.4% of moderate risk gambling, and 27.3% of problem gambling engaging in criminal behaviour. This less conservative approach equates to approximately 0.3% of the population engaging in criminal behaviour due to gambling, which is more closely aligned to the findings of Lin et al. (2010).

Therefore, the estimated cost of gambling-related crime to the New Zealand justice system is between a lower bound of $22.4 million and an upper bound of $31.3 million.

Table 30. Total cost of crime to New Zealand justice system due to gambling problems (2023-24)

Variable	**Calculation**	**LR**	**MR**	**PG**	**Total Gambling Problems**
Total police system cost	a	$226,411	$124,941	$209,539	$560,891
Total court system cost	b	$1,061,936	$586,011	$982,799	$2,630,745
Total corrections system cost	c	$ 7,736,399	$ 4,269,196	$ 8,352,206	$ 22,357101
Total cost to the New Zealand justice system (police, courts, and corrections)	**d = a + b + c**	**$ 9,024,747**	**$ 4,980,148**	**$ 8,352,206**	**$ 22,357,101**
Lower bound					$ 22,357,101
Upper bound					$ 31,310,190
Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy. Estimates assume that 80% of identified gambling-related offending can reasonably be attributed to gambling, and follow the typical progression through police, court, and corrections systems based on national averages for reporting, prosecution, and sentencing.					

6.7.1.5 Crime to business/community

The costs to New Zealand's business and community due to gambling-related crime was calculated for two areas:

- Petty theft or dishonesty
- Major fraud

6.7.1.5.1 Petty theft or dishonesty

Petty theft and dishonesty linked to gambling often involves low-value crimes such as stealing from employers, small businesses, or community organisations to fund gambling or repay debts. In this study, only the estimated cost to business was included, primarily due to the absence of reliable data. This means theft from friends, family, or within households, while likely common and often highly distressing, is not captured in the cost estimates.

6.7.1.5.2 Major fraud

Gambling is a common motivator in the commission of financial crime (Australian Institute of Criminology & PricewaterhouseCoopers, 2003). Several studies have examined this in relation to major fraud. One report examined major fraud in Australia and New Zealand from 2000 to 2002 (Australian Institute of Criminology & PricewaterhouseCoopers, 2003). In total, across both jurisdictions, $260.5 million dollars was lost, from 155 cases. The total amount lost in New Zealand significantly exceeded that of both New South Wales and Victoria (coming 2nd and 3rd). The majority of victims were businesses (79.8%), with the rest individuals. In New Zealand, there were 45 people accused, 33 convicted, and 30 receiving custodial sentences, with the mean amount involved per case A$2,973,352. Of all those convicted, 23% were motivated by gambling, 35% spent the money on gambling, and 10.4% used gambling addiction as a mitigating factor at sentencing. The mean length of sentence was 25 months.

The Gambling Motivated fraud in Australia report systematically identified all cases of gambling-related fraud in Australia from January 2011 to June 2016 (Warfield & Associates, 2016). Over this time there were 265 frauds accounting for a total loss exceeding A$104 million. This equates to around 48 major gambling-related frauds per year.

As no equivalent dataset exists for New Zealand, this study applied a population-adjusted and gambling prevalence-weighted method to estimate the likely number of comparable cases.

The Australian average of 48 annual cases was first adjusted to New Zealand's population in 2016 (4.7 million vs. Australia's 24.2 million), resulting in an estimate of 9.4 cases per year. This figure was then scaled by the relative burden of gambling harm in New Zealand compared to Australia, calculated using weighted proportions across PGSI categories (low-risk, moderate-risk, and problem gambling). This resulted in an estimated 6.6 major gambling-related fraud cases in New Zealand. The average loss per case, converted to New Zealand dollars and adjusted for inflation, was estimated at $546,348.

While no formal review has been conducted in New Zealand, some cases have been reported in the media. For example:

- A 41-year-old woman reportedly stole $1,063,675 from her employer (a charity trust), some of which was directly used for online gambling services (Hutton, 2025)
- A 37-year-old woman reportedly stole $517,780 from her employer (a petroleum company), which was used to support her gambling addiction (Stevens, 2024)
- A 25-year-old man reportedly stole $262,000 from his employer (a bank), which was used to support his gambling addiction (Kapitan, 2024)
- A 28-year-old woman reportedly stole $28,286 from her employer (a bank), which was used to support her gambling addiction (Shaskey, 2024)

Other frauds, such as those from friends, may not be reported to the police. For example, another article describes a person posing as a 'broker' taking $60,000 from friends to invest on their behalf. He later admitted to 'blowing the lot on sports betting' (Nichols, 2023).

One article highlights the broader impacts of these types of crimes, describing the impacts on workmates: 'The trusted manager's deceit and betrayal left her workmates with 'significant personal trauma' (Stevens, 2024). Unfortunately, these impacts are difficult to quantify and are not included in this costing.

The economic impact of gambling-related crime to the New Zealand business and community was calculated using:

Petty theft and dishonesty

Prevalence

- The percentage of people who gamble who reported feeling compelled or forced to commit a crime or steal to fund gambling or pay debts or having committed petty theft or dishonesty in respect to government, business or other people (not family/whānau/friends) was sourced from the Measuring the Burden of Gambling Harm in New Zealand Survey Report (Browne, Greer et al., 2017).
- These percentages were projected onto the number of New Zealanders in each of the PGSI risk categories (NZGS, 2023) to get a total number of New Zealanders participating in criminal behaviour due to their gambling.
- A 20% causality discount was applied as per the Australian Productivity Commission (1999).

Cost to business/community

- The median loss experienced by business from crime (A$1,500; Perrone, 2000) was converted to New Zealand dollars and inflated to 2024 - $3,508.

Major fraud

Prevalence

- Between January 2011 and July 2016 in Australia (66 months) there were a total of 265 gambling-motivated major frauds (Warfield & Associates, 2016). Australia's gambling fraud number was adjusted by scaling it down based on New Zealand's smaller population and lower gambling problem prevalence, resulting in an average of 6.6 gambling-related frauds in a single year.

Cost to business community

- The average loss for gambling motivated fraud identified by Warfield and Associates (2016) was $392,995. This figure was converted to New Zealand dollars and adjusted for inflation, resulting in an average loss of $546,348 per incident.

The estimated economic impact of gambling-related crime to the New Zealand business community is around $32.0 million (Table 31). Given the uncertainty around the financial value of each incident of petty theft or dishonesty, upper and lower bound estimates were applied. For the lower bound, the average value of a retail theft incident in Australia and New

Zealand ($A807.50; Townsley & Hutchins, 2023) was used. This figure was converted to New Zealand dollars and adjusted for inflation, resulting in an estimated value of $1,053 per incident. For the upper bound, a 5% margin of error was applied to account for potential sampling variation and underreporting.

Therefore, the estimated cost of gambling-related crime to the New Zealand justice system is between a lower bound of $13.6 million and an upper bound $33.6 million.

Table 31. Cost of crime to business and community due to gambling problems in New Zealand (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand population by PGSI	n	255,318	83,492	20,436	359,246
Petty theft or dishonesty					
Proportion of PGSI group who engaged in petty theft or dishonesty due to gambling	a	1.6%	2.7%	18.5%	
Number who engaged in petty theft or dishonesty due to gambling, less 20% causality discount	b = (a x n) x 80%	3,268	1,803	3,025	8,096
Cost per incident	c	$3,508			
Total cost of petty theft or dishonesty	**d = b x c**	**$11.5M**	**$6.3M**	**$10.6M**	**$28,401,020**
Major fraud					
Number of cases	e	6.57			
Cost per incident	f	$546,348			
Total cost of major fraud	**g = e x f**			**$3,589,348**	**$3,589,348**
Total cost of gambling-related theft and fraud to business and community	**d + g**	**$11.5M**	**$6.3M**	**$14.2M**	**$31,990,368**
Lower bound					$13,654,434
Upper bound					$33,589,886

Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy. The estimated number of major fraud cases was applied only to the problem gambling group, reflecting the severity and pattern of offending typically associated with this group.

6.8 Legacy harm

Legacy harms are long-term consequences of gambling that can extend across the life course or even between generations (Langham et al., 2016). While these impacts are recognised, they are difficult to quantify due to limited data and attribution challenges. As a result, these impacts and costs are largely excluded from this costing. This section includes only the cost of homelessness services, for which sufficient data is available to support economic costing.

6.8.1 Homelessness

Gambling harm can contribute to housing instability and, in severe cases, homelessness, particularly when compounded by financial hardship, mental health challenges, or relationship breakdowns (Browne, Greer et al., 2017). Although rarely the sole cause, gambling may escalate existing vulnerabilities and push individuals into housing insecurity. Government evaluations of gambling and housing services in New Zealand highlight housing instability as a key social impact of gambling, especially among those with complex needs (Malatest International and Sapere, 2024).

The economic impact of gambling-related homelessness to New Zealand was calculated using:

Rate of Homelessness Related to Gambling

- The proportion of people in each PGSI risk group who accessed emergency or temporary accommodation was drawn from the *Measuring the Burden of Gambling Harm in New Zealand Survey Report* (Browne, Greer et al., 2017).
- To account for attribution uncertainty, a causality discount was applied - 100% for low-risk gambling (excluding them from costing), and 20% for moderate-risk and problem gambling, consistent with Australian Productivity Commission (1999) guidance.

Estimated number of New Zealanders experiencing gambling-related homelessness

- The number of people in each PGSI category was obtained from the NZGS (2023/24). These figures were multiplied by the relevant prevalence rate and causality discount to estimate the number of New Zealanders experiencing homelessness due to gambling.

Cost to Government

- Vote Housing and Urban Development expenditure on severe housing deprivation

in 2023–24 was $522.6 million (Stats New Zealand, 2024). This expenditure was divided by the total number of people living without shelter or in temporary accommodation (112,496 people) (Stats New Zealand, 2024) to calculate an average service cost per person.

- This cost was then multiplied by the estimated number of people experiencing gambling-related homelessness to determine the total attributed cost.

The estimated economic impact of gambling-related homelessness to the New Zealand Government is around $5.2 million (Table 32).

Table 32. Cost of homelessness due to gambling problems in New Zealand (2023-24)

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand Adult population	a				4,305,930
Number of people in New Zealand with gambling problems	b	255,318	83,492	20,436	359,246
% of PGSI group who access emergency or temporary accommodation	c	0.8%	0.6%	4.4%	
Less causality discount (100% LR, 20% MR/PG)	d	0.0%	80.0%	80.0%	
Estimated number of people with gambling problems who access emergency or temporary accommodation (less causality discount)	e = b x c x d	0	401	719	1,120
Number of the population living without shelter or in temporary accommodation	f	112,496			
Proportion of severely housing deprived population with gambling-related cause	g = e ÷ f	0.00%	0.36%	0.64%	
Vote Housing and Urban Development expenditure related to severe housing deprivation	h	$522,616,000			
Average homeless services spend per person	i = h ÷ f				$4,646
Total cost of homeless services apportioned to people with gambling problems	**j = e x i**	**$0**	**$1,861,794**	**$3,341,829**	**$5,203,623**
Lower Estimate					$4,943,442
Upper Estimate					$93,510,043

Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.

To reflect uncertainty in the estimated cost of gambling-related homelessness, upper and lower bounds were applied. The lower bound was calculated using a simple 5% reduction across all cost items to account for potential sampling error and attribution uncertainty. The upper bound applied a higher per-person service cost of $83,483, derived by adjusting for inflation a $65,000 annual estimate of the cost of homelessness referenced in submissions to the 2016 Parliamentary report *Ending Homelessness in New Zealand* (Parliament of New Zealand, 2016). This estimate reflects broader service needs and long-term costs associated with severe housing deprivation.

Utilising these figures, the estimated cost of gambling-related emergency or temporary accommodation to the New Zealand Government is between a lower bound of $4.9 million and an upper bound of $93.5 million. This wide range reflects the uncertainty inherent in attributing homelessness directly to gambling, the variability in individual service use, and differences in per-person cost estimates. It also accounts for limitations in available data and the difficulty in capturing the full extent of long-term and system-wide impacts associated with severe housing deprivation.

6.9 Other Government or community costs

This category includes costs related to the administration, governance, and harm-reduction activities funded by the government, as well as the provision of services by non-profit organisations.

6.9.1 Policy, regulation, research (including treatment funding)

This section details government expenditure on the systems required to manage and mitigate gambling harm. It is important to clarify that while many of these activities are financed through a cost-recovery model funded by industry levies, they are included in this report as a social cost. The rationale for this approach is that these expenditures represent a significant diversion of economic resources toward managing the consequences of gambling. In the absence of gambling harm, these funds and resources would be available for other uses. Therefore, consistent with the study's scope, the aim is to provide a comprehensive measure of all harm-related costs, not to conduct a net fiscal analysis.

Policy, regulation, research, and treatment funding represent essential components of the government's strategy to prevent and minimise gambling harm in New Zealand. This category captures expenditure across multiple agencies to support a coordinated response. It includes the development, implementation, and enforcement of regulatory frameworks, primarily through the Department of Internal Affairs and the Gambling Commission (Department of Internal Affairs, 2023, 2024), as well as investment in research that informs evidence-based policy and service delivery (Ministry of Health., 2022), and the provision of publicly funded treatment services for individuals experiencing gambling-related harm. These functions align with the priorities set out in the *Strategy to Prevent and Minimise Gambling Harm 2022/23 to 2024/25* (Ministry of Health, 2022).

The cost to the New Zealand Government for gambling-related policy, regulation and research (including treatment funding) was calculated using:

Funding for addiction treatment services

- An estimated $5 million was invested nationally in mental health and addiction services (Te Hiringa Mahara & The New Zealand Mental Health and Wellbeing Commission, 2024). Based on Australian reporting, which suggests that gambling accounts for approximately 13% of demand for addiction-related services (KPMG & Rethink Addiction, 2022), the estimated share of this broader funding attributable to gambling problems was $650,000.

Delivery of the Strategy to Prevent and Minimise Gambling Harm

- The Ministry of Health's (2022) *Strategy to Prevent and Minimise Gambling Harm* outlines direct government investment in specialist services, including $11.6 million for intervention services such as counselling through non-profit organisations and the national gambling helpline.
- Additional funding for key strategic priorities included $2.4 million for research and evaluation, $2.8 million for service innovation, and $1.2 million for Ministry operational costs to support implementation and oversight.

Costs of regulating gambling

- Regulatory costs include government expenditure related to monitoring, compliance, and statutory oversight of gambling activities in New Zealand. In 2022/23, the Department of Internal Affairs reported $24.5 million in expenditure on regulating casino and non-casino gaming (Department of Internal Affairs, 2023).
- An additional $862,000 was allocated to support the Gambling Commission as part of statutory body operations (The Treasury, 2024).

- The implementation of the Offshore Betting Charges Regime incurred a direct cost of $4.9 million to the New Zealand Government (The Treasury, 2024).

The estimated cost to the New Zealand Government for gambling-related policy, regulation and research (including treatment funding) is around $48.8 million (Table 32). Upper and lower bounds were not applied to this category, as expenditure figures were sourced directly from government reports and budget documents. These reflect actual or committed funding across treatment, implementation, and regulation activities. While there is some uncertainty around the share of addiction services attributable to gambling, the 13% estimate is conservative and consistently applied. As such, total government expenditure was reported as a fixed estimate of $48.8 million.

Table 33. Cost of policy, regulation, research (including treatment funding) in New Zealand (2023-24)

Variable	Calculation	Total
Expenditure on mental health and addiction services	a	$5,000,000
Rate (%) of the total cost of services attributable to gambling	b	13%
Total cost of mental health and addiction services attributable to gambling	c = a x b	$650,000
Gambling intervention services (including helpline)	d	$11,571,000
Research and evaluation	e	$2,393,000
New services and innovation	f	$2,769,000
Ministry operating costs	g	$1,157,000
Annual amount for regulating casino and non-casino gaming	h	$24,516,000
Statutory Body Support - Gambling Commission	i	$862,000
Offshore Betting Charges Regime	j	$4,923,000
Total annual government expenditure related to gambling harm and regulation	**k = c + d + e + f + g + h + i + j**	**$48,841,000**
Lower Estimate		$48,841,000
Upper Estimate		$48,841,000

Note: Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy.

6.9.2 Non-profit service delivery

This section estimates the costs associated with services delivered by non-profit organisations in response to gambling harm, including financial support, welfare assistance, and public health initiatives. While many of these services are funded by the government or entities such as the Lottery Grants Board, the delivery is often carried out by community or non-profit providers. Individuals experiencing gambling-related harm often face a range of co-occurring issues - such as financial hardship, mental health challenges, and social instability - which may increase their use of non-profit and community services even when those services are not exclusively focused on gambling (Browne, Bellringer et al., 2017; Ministry of Health, 2022). For this reason, the costing approach extends beyond gambling-specific organisations to include a proportion of broader non-profit service funding where gambling harm is a likely contributing factor.

To estimate service-related costs, harm rates were derived based on the type of service accessed, using item-level data from the Measuring the Burden of Gambling Harm in New Zealand report (Browne, Bellringer et al., 2017). These rates were applied to the prevalence of each PGSI risk group from the NZGS (2023/24), and adjusted using a 20% causality discount to account for the likelihood that gambling was not the sole contributing factor.

The cost of services related to gambling addiction provided by non-profit organisations was calculated using:

Charity and grant-related expenditure

- In 2023/24, the Lottery Grants Board allocated $175 million to support a broad range of community initiatives (Department of Internal Affairs, 2025).
- To estimate the share of this funding attributable to gambling harm, harm rates were calculated based on responses to items indicating severe financial hardship or welfare need. These included: *'needed assistance from welfare organisations,' 'bankruptcy,' 'loss of significant assets (e.g. car, home, business, superannuation),'* and '*loss of supply of utilities (electricity, gas, etc.)'* Browne, Bellringer et al., 2017). These rates were applied to PGSI group prevalence data from the NZGS (2023/24), with a 20% causality discount.
- Applying this proportion to the funding of $175 million resulted in an estimated gambling-attributable cost of $557,009.

Financial capability support

- The Ministry of Social Development funds financial capability services that assist

individuals in managing debt, building financial resilience, and accessing support, and allocated $68.6 million to these services (The Treasury, 2024).

- To estimate the cost attributable to gambling harm, harm items reflecting both moderate and severe financial impacts were used, including: '*bankruptcy,' 'loss of significant assets,' 'loss of supply of utilities,' 'sold personal items,'* and '*less spending on essential expenses such as medications, healthcare and food*' (Browne, Bellringer et al., 2017). These rates were applied to PGSI group prevalence data from the NZGS (2023/24), with a 20% causality discount.
- Applying this proportion to the Ministry's total funding for financial capability support resulted in an estimated gambling-attributable cost of $570,740.

Public health services for harm prevention and minimisation

- The Ministry of Health (2022) allocated $8.8 million for public health initiatives as part of the Strategy to Prevent and Minimise Gambling Harm 2022/23 to 2024/25. These initiatives include community education and awareness campaigns, workforce development and training, early intervention services, and culturally tailored outreach programs.

The estimated cost to non-profit organisations arising from dealing with impacts from gambling is around $9.9 million (Table 34). However, estimating the costs of non-profit services is challenging, as many offerings, such as helplines and community support programs, respond to multiple overlapping issues. Gambling is often one of several contributing factors rather than the sole focus, particularly in services supporting financial hardship, mental health, or general wellbeing.

Given the uncertainty around this cost estimate, upper and lower bound estimates were applied. For the lower bound, a 5% discount was applied to account for potential variability in attribution, though this is likely conservative, given that the estimates draw on recent and New Zealand-specific data sources. For the upper bound, higher service use assumptions were applied based on Australian data which indicated that 10.6% of financial counselling service clients experienced gambling problems (Dowling et al., 2014). This rate was used to inform a higher estimate of financial capability support demand attributable to gambling harm.

Therefore, the estimated cost of non-profit service delivery to address impacts from gambling is estimated as between a lower bound of $9.4 million and an upper bound of $16.6 million.

Table 34. Costs associated with provisions of services to people with gambling problems by non-profit organisations in New Zealand (2023-24).

Variable	Calculation	LR	MR	PG	Total Gambling Problems
New Zealand Adult Population	a	4,305,930			
Num. gambling problems	b	255,318	83,492	20,436	359,246
% by PGSI, that seek welfare assistance, or have severe financial harms due to their own gambling	c	1.6%	7.5%	33.2%	-
Number of people welfare seeking and severe financial harm by PGSI (less 20% causality discount)	d = b x c x 80%	3,268	5,010	5,428	13,705
Proportion of the adult population welfare seeking and with severe financial harm due to gambling problems	e = d ÷ a	0.08%	0.12%	0.13%	0.32%
Department of Internal Affairs					
Lottery Grants Board allocations	f	$175,000,000			
Cost to the Department of Internal Affairs (charity and grant regulation) attributable to gambling problems	**g = e x f**	**$132,820**	**$203,595**	**$220,595**	**$557,009**
Community Support and Advice					
Cost of Community Support and Advice to build financial capability (financial support services)	h	$68,639,000			
% by PGSI that experience moderate or severe financial harm as a result of their own gambling	i	6.60%	20.40%	53.20%	-
Number of people that experience moderate or severe financial harm as a result of their own gambling (less 20% causality discount)	j = b x i	13,481	13,626	8,698	35,804
Proportion of the adult population that experience moderate or severe financial harm as a result of their own gambling	k = j ÷ a	0.31%	0.32%	0.20%	0.83%
Cost of Community Support and Advice to build financial capability (financial support services) attributable to gambling harm	**l = h x k**	**$214,892**	**$217,205**	**$138,644**	**$570,740**
Public Health services (harm prevention and minimisation)	**m**				**$8,800,000**
Total estimated cost of service provision and prevention	**n = g + l + m**				$9,927,750
Lower Estimate					$9,431,362
Upper Estimate					$16,632,743

Note: LR (low-risk gambling), MR (moderate-risk gambling), and problem gambling. Totals may not match exactly due to rounding. Calculations are based on the original unrounded figures to ensure accuracy. Some overlap may exist between service user groups captured under severe welfare-related harm (d) and moderate/severe financial harm (k). This analysis treats them as distinct to reflect differing points of service engagement and funding relevance.

Chapter 7: Evaluation of policy options

Identifying evidence-based strategies to reduce the costs associated with gambling problems presents a complex challenge, as much of the existing research prioritises individual-level treatments for those already experiencing problem gambling, rather than broader population-focused preventative measures. Despite this, several policies with the potential to make meaningful change have been identified. This chapter describes these options, which include enhancing treatment accessibility for individuals at high risk, and regulatory approaches like banning specific high-harm products such as offshore online EGMs, implementing loss limits, and reducing the accessibility and density of in-person EGMs. Given that EGMs, both offshore online and in venue, are identified in this report as the most significant contributors to the overall social cost of gambling harm in New Zealand, particular attention is given to interventions targeting this form of gambling. Evaluating the precise future benefits of policies not yet widely implemented or rigorously trialled in New Zealand often requires complex modelling and faces inherent uncertainties; therefore, this section will draw upon established health economic principles, existing research, and relevant case studies from other jurisdictions to estimate the potential impact of these selected policies on mitigating gambling harm costs in New Zealand.

The following policies were evaluated:

1. A ban on offshore online EGMs
2. The introduction of loss limits on in-person EGMs
3. Reducing the accessibility of in-person EGMs
4. A sinking-lid policy to reduce the number of in-person EGMs
5. Increase in treatment for those at highest risk of harm

The following sections will describe the policy, the methods used in the evaluation of its impact, including key assumptions, and the estimated impact of the policy.

7.1 Policy 1: A ban on offshore online EGMs

7.1.1 Introduction

Offshore (online) EGMs are accessible to individuals in New Zealand. This report found that offshore EGMs are the largest contributor to gambling-related harm in New Zealand, suggesting they may be of particular concern to policymakers. To date, no evaluations have been conducted on the effects of banning offshore EGMs in other jurisdictions. In this section, the potential impact of a hypothetical ban on offshore EGMs on total gambling harm in New Zealand is estimated, accounting for the impact on government tax revenue.

It is important to acknowledge that a regulatory ban on specific online products is unlikely to eliminate all associated harm. Evidence from other jurisdictions shows there is a significant risk of 'leakage,' where consumer activity is displaced to a 'black market' of unlicensed and unregulated operators (H2, 2023). This could potentially expose some individuals to different or even greater harms. In recognition of this, the cost-saving estimate in this analysis is not based on a total eradication of harm. The model assumes a 20% substitution effect, meaning that a portion of the expenditure and associated harm from banned offshore EGMs would be displaced to other gambling forms, including both legal domestic products and illegal black-market platforms.

7.1.2 Methods

As discussed, an 80% reduction to all cost forms attributable to offshore EGMs was applied, allowing for a 20% substitution of harm to other forms of gambling, including illegal offshore platforms that might continue after the implementation of the policy. Due to how the cost of harm attributable to each form of gambling is calculated, applying a reduction in the cost attributable to online EGMs only impacts tangible harms, and excludes governmental longer-term life course costs. To reflect a substitution to other taxed gambling forms, the tax revenue figures were reduced by 80%. The results are presented as changes in both total costs attributable to offshore EGMs and the total cost of gambling harm in New Zealand.

Due to the lack of data on the number of individuals reporting using offshore EGMs, our results cannot be disaggregated by population group. The cost reduction is applied to all cost forms including excess spend, harms to people who gamble and harms to others. As such, this

estimate should be viewed as a preliminary indication of the potential impact of the intervention rather than a definitive estimate.

7.1.3 Results

Table 35 presents a detailed breakdown of the cost calculations associated with the hypothetical ban. A hypothetical ban on offshore EGMs in New Zealand is estimated to reduce the total cost of gambling problems attributable to this form by $1.26 billion. This substantial decline is primarily driven by the significant contribution of offshore EGMs to gambling harm in New Zealand.

Table 35. Detailed changes to total costs following a hypothetical ban on offshore online EGMs

Cost Element		**Total**
Total cost attributed to offshore online EGMs (pre-ban) (Table 8)	a	$1,571,104,716
Percentage reduction in offshore online EGM costs (post-ban)	b	80%
Reduction in offshore online EGM costs (post-ban)	c = a * b	$1,256,883,773
Total cost attributed to offshore online EGMs (post-ban)	d = a - c	$314,220,943
Total cost of gambling problems (pre-ban) (Table 5)	e	$4,218,927,498
Total cost of gambling problems (post-ban)	f = e - c	$2,962,043,725
Percentage reduction in total cost of gambling harms (post-ban)	g = (e - f) / e	30%
Note: Totals may not match exactly due to rounding.		

7.2 Policy 2: The introduction of loss limits on in-person EGMs

7.2.1 Introduction

In 2022, the Australian state of Tasmania announced a mandatory pre-commitment scheme for in-person EGMs, requiring the use of player cards with pre-set loss limits set at AUD $100 daily, $500 monthly, and $5,000 annually. While exemptions to these limits will be permitted, the government has not yet specified how these will be granted. Despite this, EGM loss limits remain a policy of interest, as many jurisdictions have adopted similar measures. Cost data used in this study indicates that in New Zealand, in-person EGMs are the second-largest source of gambling-related harm, highlighting the relevance of such interventions for harm reduction. Therefore, in line with the proposed Tasmanian scheme, this study estimates

the potential impact of imposing an annual EGM loss limit of AUD $5,000 (approximately NZD $5,400) on overall gambling harm.

7.2.2 Methods

Due to limitations in individual-level survey data on gambling in New Zealand, this study is unable to estimate expenditure by specific gambling forms. Instead, aggregate data is used from the Department of Internal Affairs (n.d) to estimate annual per-person expenditure on EGMs, focusing specifically on those located in venues. Our analysis is limited to non-casino venues, as reported loss figures for casinos do not distinguish between EGMs and other gambling activities within those venues. Despite this, casinos represent a much smaller proportion of the licensed EGM market in New Zealand. While there are approximately 960 non-casino venues operating over 13,800 EGMs in New Zealand (Department of Internal Affairs, 2025), there are just 6 licensed casinos (only 5 operating) accounting for around 3,000 EGMs (Department of Internal Affairs, 2021). Furthermore, EGMs located outside of casinos are classified in the highest risk category (Malatest International & Sapere, 2024), underscoring the potential significance of policies targeting these venues.

Using estimated losses on non-casino EGMs (Class 4 pokies), the total number of people who report using these in the population, and estimated revenue shares of spend on gambling products split by PGSI group, estimations calculate the impact of imposing EGM loss limits on changes to:

1. Per-person annual expenditure on Class 4 pokies
2. Excess expenditure on Class 4 pokies
3. Total excess expenditure (all forms)
4. Total (tangible) costs of gambling attributable to Class 4 pokies
5. Total costs of gambling (all forms)

For this hypothetical policy analysis, prevalence survey data was used to simulate a representative population of people who gamble and EGM users in New Zealand. A right-skewed distribution of EGM expenditure was estimated based on mean losses within each PGSI group, derived from the aggregate expenditure data. An annual loss limit equal to $5,400 was applied and the impact on overall mean expenditure estimated. Since the Tasmanian government has not specified the requirements for exemptions to the proposed

limits, previous policy costings from Victoria, Australia (Browne et al., 2023) informed an assumption that 20% of people who gamble who would have otherwise exceeded $5,400 per year will apply for an exemption and instead spend on-average 20% more than the annual loss limit ($6,500). This generated a new set of mean expenditure figures (post-loss limits) by PGSI group. All preparatory analysis was conducted in R, the code is available on GitHub (https://github.com/esther-moore/Evaluation-NZ-gambling-policies).

Excess expenditure calculations include a discount, the level of which is dependent on the category of gambling behaviour. Previously, the VCEC (Victorian Competition and Efficiency Commission, 2012) defined excessive gambling expenditure to be the difference between the expenditure of people categorised as non-considered to be gambling at non-problem levels to those spending at levels categorised at each level of the PGSI above this baseline. However, the economic cost of this excess expenditure is not solely identified with gambling harm as people may experience some harms regardless of gambling behaviour. Hence, not all of the difference can be definitively classified as "excess gambling expenditure." To account for this discrepancy some reports have applied a baseline 20% discount, however research including detailed self-reported financial harm information suggests a more nuanced approach is appropriate (Browne et al., 2017). Browne et al.'s 2017 analysis linking reports of financial harms to PGSI categories suggested a tiered level of discount to excessive gambling calculations is appropriate. The process is detailed in Section 5.4.2 and takes the position that any benefit from excess gambling expenditure decreases as gambling occurs at higher risk levels. In alignment with Browne et al. (2017), a tiered discount was applied to calculations of excess expenditure across all categories of the PGSI.

The percentage reduction in excess expenditure following the implementation of the loss limits was then estimated. A 1:1 proportional reduction in harms was applied, associated with in-venue Class 4 pokies. Whilst this assumption may be viewed as strong, since it does not capture the true variability in the marginal cost of gambling problems, it is necessary due to data limitations. Detailed information on how expenditure and harm from EGMs vary at different levels of gambling was not available. However, it was assumed that people who gamble at lower risk levels may experience less than one dollar of harm for every one dollar spent, whereas those at higher risk levels may experience more than one dollar of harm for every dollar spent. This effectively balances-out some of the uncertainty. Nonetheless, this approach does not fully eliminate this uncertainty, which makes this most likely an

underestimation. As such, these estimates should be regarded as a starting point for understanding the potential impact of EGM loss limits on gambling harm in New Zealand, rather than a definitive estimate, given data limitations. Since data on in-venue EGM participation are available by ethnic group, the results are disaggregated to show differential impact across these groups.

7.2.3 Results

Table 36 presents the initial calculations of average expenditure on EGMs by PGSI group using the aggregated data. Table 37 summarises the change in excess spend following the loss limits, with counterfactual per-person EGM expenditure simulated using the above methodology.

Table 36. In-person non-casino EGM users and mean cost estimates

PGSI Group	**Population of in-venue Class 4 pokies users**	**Revenue Shares**	**Total Shares**	**Mean loss per-gambler**
	a	***b***	***c = a * b***	***f = e * b***
NPG	373,980	1.0	373,980	$651
LR	87,077	3.1	269,939	$2,017
MR	34,904	10.5	366,317	$6,828
PG	9,472	61.6	583,783	$40,095
Total	505,433		1,594,019	
Total losses from Class 4 Pokies (d)	$1,037,000,000			
Loss per share (e = d / b 'total')	$651			
*Note: This calculation assumes that the revenue shares across all products are equal to the revenue shares for in-person EGMs; NPG 'Non-problem gambling' (PGSI: 0); LR 'Low risk' (PGSI: 1 to 2); MR 'Moderate risk' (PGSI 3 to 7); PG 'Problem gambling' (PGSI: 8+). *Total losses from Class 4 pokies from Department of Internal Affairs (https://www.dia.govt.nz/gambling-statistics-expenditure);*				

Table 37. Changes in excess spend following hypothetical EGM loss limits

Gambling Form	Scenario	PGSI			Average Spend		Aggregate Spend		Excess spend relative to NPGs						
			Sample	Population (weighted)	Per person	Excess above NPG	Population $	% by PGSI group	Total			PG only	LR, MR, PG discounted		
	Calculation			a	b	c = b - b'NPG'	d = a x b		e = a x c				f		g = e x f
									%	$	%	$	Discount	%	$
EGMs (pubs/ clubs)	Current	NPG	646	373,980	$651	$0	$243,295,222	23.5%	0.0%	$0.00		0	0%	0%	$0
		LR	142	87,077	$2,017	$1,366	$175,610,450	16.9%	16.8%	$118,961,917		0	40%	9%	$47,584,767
		MR	67	34,904	$6,828	$6,177	$238,310,318	23.0%	30.4%	$215,603,284		0	80%	31%	$172,482,627
		PG	19	9,472	$40,095	$39,445	$379,784,011	36.6%	52.8%	$373,621,937	52.8%	$373,621,937	90%	60%	$336,259,743
		Total		505,433			$1,037,000,000		68.3%	$708,187,139	36.0%	$373,621,937		53.65%	$556,327,138
EGMs (pubs/ clubs)	Counter-factual	NPG	646	373,980	$649	$0	$242,612,045	41.0%	0.0%	$0		0	0%	0.0%	$0.00
		LR	142	87,077	$1,897	$1,248	$165,186,811	27.9%	41.2%	$108,697,348		0	40%	25.3%	$43,478,939
		MR	67	34,904	$3,847	$3,198	$134,279,876	22.7%	42.3%	$111,636,605		0	80%	52.0%	$89,309,284
		PG	19	9,472	$5,237	$4,588	$49,603,727	8.4%	16.5%	$43,458,957	16.5%	$43,458,957	90%	22.8%	$39,113,061
		Total		505,433			$591,682,460		44.6%	$263,792,910	7.3%	$43,458,957		29.05%	$171,901,284

Note: Per-person losses in the current scenario are taken from Table 36 (above); Per-person losses in the counterfactual scenario have been generated in R-programming by assigning a right-skewed spend distribution based on current scenario mean spend in Table 36. The changes in mean spend account for a proportion of gamblers (20%) who are already spending over the limits applying for an exemption and spending a proportion (20%) more than the limits; NPG 'Non-problem gambling' (PGSI: 0); LR 'Low risk' (PGSI: 1 to 2); MR 'Moderate risk' (PGSI 3 to 7); PG 'Problem gambling' (PGSI: 8+).

Tables 38 and 39 detail the proportional reduction in harms attributable to EGMs and the overall costs of gambling in New Zealand. Class 4 pokies an annual EGM loss limit of $5,400 results in 69% reduction in excess spend on Class 4 pokies and a 32% reduction in excess spend across all forms of gambling. Applying this 69% reduction to the total costs attributable to Class 4 pokies corresponds to $680 million decrease, representing an 16% reduction in the total costs of gambling in New Zealand.

Table 38. Proportional change in costs attributable to in-venue Class 4 pokies following the EGM loss limits

Cost Element		**Total**
Total cost attributable to in-venue Class 4 Pokies (pre-limits) (Table 8)	a	$983,998,064
Proportional reduction in costs attributable to in-venue Class 4 pokies (post-limits)	b	69%
Reduction in costs attributable to in-venue Class 4 pokies (post-limits)	c = a * b	$679,949,386
Total cost attributable to in-venue Class 4 pokies (post-limits)	d = a - c	$304,048,678
Total cost of gambling problems (pre-limits) (Table 5)	e	$4,218,927,498
Total cost of gambling problems (post-limits)	f = e - c	$3,538,978,112

Table 39. Summary of change in total cost of gambling due to EGM loss limits

Cost Element	**Total Cost**			
	Before	**After**	**Change ($)**	**Change (%)**
	a	***b***	***c=a-b***	***d=c/a***
Excess EGM spend (in venues)	$556,327,138 (Table 37)	$171,901,284	$384,425,853	69%
Total excess spend on gambling	$1,192,140,860 (Table 5)	$807,715,006	$384,425,853	32%
Total cost attributable to in-venue EGMs	$983,998,064 (Table 8)	$304,048,678	$679,949,386	69%
Total cost of gambling	$4,218,927,498 (Table 5)	$3,538,978,112	$679,949,386	16%

Table 40 breaks down the total reduction in gambling-related costs by ethnic subgroup. The European population group shows the largest overall reduction in total costs at $396 million. However, the greatest reductions per-person are observed in the Māori ($474) and Pacific ($326) population groups. Notably, the per-person reductions in the Māori group are almost

twice that of the European group. This difference is likely driven by the higher proportions of people who gamble in these population groups reporting using EGMs in pubs and clubs (non-casino venues) - approximately 35% for Māori and 24% for Pacific populations, compared to 18% for European and 5% for Asian populations (calculated as b/a from Table 40). This highlights the potential for targeted policy intervention to address gambling-related inequalities.

Table 40. Summary of changes in total costs of gambling due to EGM loss limits by ethnic group

Group	Total number of people who gamble	Total in-venue Class 4 pokies gamblers	Population shares of in-venue Class 4 pokies gamblers	Total reduction in gambling costs following EGM loss limits	Proportional reduction in gambling costs following EGM loss limits	Total reduction in gambling costs per-gambler following EGM loss limits
	a	***b***	***c = b / 'total' b***	***d (Table 38)***	***e = d * c***	***f = e / a***
European/ Other	1,662,682	294,254	58%	$679,949,386	$395,854,300	$238
Māori	433,698	152,919	30%	$679,949,386	$205,719,017	$474
Pacific	159,766	38,763	8%	$679,949,386	$52,147,125	$326
Asian	358,578	19,497	4%	$679,949,386	$26,228,943	$73
Total	2,614,725	505,433	100%	$679,949,386	$679,949,386	$260

7.3 Policy 3: Reducing the accessibility of in-person EGMs

7.3.1 Introduction

Western Australia (WA) is unique in permitting EGMs only within a single casino located in Perth, in contrast to other Australian states where EGMs are widely accessible. Russell et al. (2023) found that EGM participation in WA was approximately half that of other states, with self-reported gambling harms 2.7 times lower. The study employed a natural experimental design strengthening the causal inference that restricting the availability of EGMs directly reduces EGM participation and harms. Drawing on this study, along with findings from Rockloff et al. (2021), Browne et al. (2023) estimate the implementation of a similar policy in Victoria, Australia could reduce total gambling harms attributable to EGMs by around two thirds (Browne et al., 2023). Given the substantial contribution of in-person EGMs to

gambling harm in New Zealand, it would be valuable to estimate the impact of adopting a similar policy on gambling harms.

New Zealand differs from Australia in the density and accessibility of in-venue EGMs, as well as its geographical and demographic makeup. Rather than directly apply the findings from Australia, estimations were made to evaluate the impact of a similar hypothetical policy that restricts EGMs to casino venues only, effectively banning Class 4 pokies. This approach is supported by the above studies demonstrating a causal relationship between reduced EGM availability and lower rates of EGM harm. As noted previously, non-casino venues operate the majority of EGMs in New Zealand and are classified as the highest-risk category, highlighting the potential importance of a targeted policy response.

7.3.2 Methods

This hypothetical policy assumes a complete ban on EGMs in pubs and clubs, restricting their accessibility to the five licensed and currently operating casinos located in Auckland, Christchurch, Dunedin, Hamilton, and Queenstown. There is a sixth casino in Queenstown, however it is not currently operational. An 80% reduction in all (tangible) cost forms attributable to in-venue, Class 4 pokies was applied, allowing for a 20% substitution to other forms of gambling. Outputs for this policy evaluation are changes in total costs attributable to in-venue, Class 4 pokies and changes to the total cost of gambling harm in New Zealand with results presented for the total adult population and by ethnic group.

7.3.3 Results

Table 41 presents the detailed cost calculations behind this hypothetical policy scenario. As previously noted, this policy is assumed to reduce total costs attributable to in-venue, Class 4 pokies by 80% ($787m), which represents an 19% reduction in the total costs of gambling harm in New Zealand.

Table 42 breaks down the estimated cost reductions by ethnic group. The greatest proportional reduction in the total cost of gambling harm is observed within the European population. However, the largest per-person reductions are identified among Māori ($549) and Pacific ($378) populations, consistent with findings from the evaluation of the introduction of loss limits on in-person EGMs.

Table 41. Detailed changes to total costs following a ban on EGMs in non-casino venues

Cost Element		Total
Total cost attributed to in-venue Class 4 pokies (pre-restriction) (Table 8)	a	$983,998,064
Reduction in in-venue Class 4 pokies costs (post-restriction) (%)	b	80%
Reduction in in-venue Class 4 pokies costs (post-restriction) ($)	c = a * b	$787,198,451
Total cost attributed to in-venue Class 4 pokies (post-restriction)	d = a - c	$196,799,613
Total cost of gambling problems (pre-restriction) (Table 5)	f	$4,218,927,498
Total cost of gambling problems (post-restriction)	g = f - c	$3,431,729,047
Percentage change in total cost of gambling problems (post-restriction)	h = (f – g) / f	19%

Table 42. Detailed changes to the total cost of gambling problems by ethnic group following a ban on EGMs in non-casino venues

Group	Total number of people who gamble	Total in-venue Class 4 pokies gamblers	Population shares of in-venue Class 4 pokies gamblers	Total reduction in cost of gambling problems following restriction	Proportional reduction in cost of gambling problems following restriction	Total reduction in cost of gambling problems per-gambler following restriction
	a	***b***	***c = b / 'total'b***	***d (Table 41)***	***e = d * c***	***f = e / a***
European /Other	1,662,682	294,254	58.2%	$787,198,451	$458,292,777	$276
Māori	433,698	152,919	30.3%	$787,198,451	$238,167,274	$549
Pacific	159,766	38,763	7.7%	$787,198,451	$60,372,341	$378
Asian	358,578	19,497	3.9%	$787,198,451	$30,366,059	$85
Total	2,614,725	505,433	100%	$787,198,451	$787,198,451	$301

7.4 Policy 4: A sinking-lid policy to reduce the number of in-person EGMs

7.4.1 Introduction

Several territorial authorities in New Zealand have introduced sinking-lid policies for EGMs. These policies are designed to gradually reduce the number of EGMs by prohibiting the transfer of licences for Class 4 gambling venues (i.e., not casinos). Erwin et al. (2022)

estimated the impact of these sinking-lid policies on gambling expenditure and found that each year expenditure in territorial authorities with the sinking-lid policy in place reduced by 13% compared to areas without the policy. Results of this study are used to look at the potential impact of implementing sinking-lid policies across the whole of New Zealand on the cost of gambling harm.

7.4.2 Methods

To estimate the impact of a nationwide sinking-lid policy, a 13% reduction was applied to the (tangible) cost of gambling problems attributable to in-venue Class 4 pokies. This is the same approach taken when evaluating the introduction of loss limits and reducing the accessibility of in-person EGMs. While individual experiences with gambling vary widely, it is reasonable to assume that each dollar spent on gambling corresponds to approximately one dollar in social cost when estimating population-level harm.

An alternative approach to estimating the impact of the sinking-lid policy would have been to reduce excessive spending on in-venue Class 4 pokies by 13%. However, it is not possible to directly link excessive spending to gambling problems in the costing; therefore, this approach would have hugely underestimated the impact of the policy on the cost of gambling harm.

It is likely that if people no longer have access to in-venue Class 4 pokies they might switch to gambling on other products. Therefore, conservative assumptions were made that 20% of harm will still be experienced as people spend money elsewhere, including online gambling.

Outputs of this evaluation are changes in total costs attributable to in-venue, Class 4 pokies and changes to the total cost of gambling harm in New Zealand with results presented for the total adult population and by ethnic group.

7.4.3 Results

Table 43 shows the impact of applying a nationwide sinking-lid policy. Overall, there was an estimated 2.4% reduction in the overall cost of gambling harm, a reduction of $102,335,799.

Table 43. Detailed changes to costs of gambling harm following the introduction of a sinking-lid policy to reduce the number of in-venue Class 4 pokies

Cost Element		Total
Total cost attributed to in-venue Class 4 pokies (pre-sinking-lid policy) (Table 8)	a	$983,998,064
Policy reduction (13%)	b = (a × 0.13)	$127,919,748
Substitution (20%)	c = (b × 0.20)	$25,583,950
Net Reduction in cost attributable to Class 4 pokies	d = (b - c)	$102,335,799
Total cost attributed to in-venue Class 4 pokies (post-sinking-lid policy)	e = (a - d)	$881,662,266
Total cost of gambling problems (pre-sinking-lid policy) (Table 5)	f	$4,218,927,498
Total cost of gambling problems (post-sinking-lid policy)	g = (f – d)	$4,116,591,700
Percentage change in the total cost of gambling	h = ((f - g) / f) * 100	2.43%

Table 44 shows the total reduction in the cost of gambling harm per person who gambles, for each ethnic group. The Māori population group had the highest reduction in the cost of gambling harm per person who gambles ($71.5). As described earlier, this is due to a higher proportion of the Māori population participating in Class 4 pokies. This indicates that a sinking-lid policy could reduce the inequality in gambling harms between ethnic groups.

Table 44. Detailed changes to the total cost of gambling harm by ethnic group following the introduction of a sinking-lid policy to reduce the number of in-venue non-casino in-person EGMs

Group	Total number of people who gamble	Total in-venue Class 4 pokies gamblers	Population shares of in-venue Class 4 pokies gamblers	Total reduction in cost of gambling harm following restriction	Proportional reduction in cost of gambling harm following restriction	Total reduction in cost of gambling harm per-gambler following restriction
	a	*b*	*c = b / 'total'b*	*d (Table 43)*	*e = d * c*	*f = e / a*
European /Other	1,662,682	294,254	58.2%	$102,335,799	$59,559,434	$35.8
Māori	433,698	152,919	30.3%	$102,335,799	$31,007,747	$71.5
Pacific	159,766	38,763	7.7%	$102,335,799	$7,879,857	$49.3
Asian	358,578	19,497	3.9%	$102,335,799	$3,991,096	$11.1
Total	2,614,725	505,433	100%	$102,335,799	$102,335,799	$39.1

7.5 Policy 5: Increase in treatment for those at highest risk of harm

7.5.1 Introduction

The New Zealand Ministry of Health Strategy to Prevent and Minimise Gambling Harm 2025/26 to 2027/28 (2024) highlighted the need to increase the number of people receiving treatment. Recent data showed that the number of people seeking treatment has remained stagnant despite the number of people experiencing harm increasing. In the United Kingdom, the National Institute for Health and Care Excellence (NICE, 2025), the organisation which outlines the best practice in terms of effective and cost-effectiveness, recently used health economic modelling to determine the most cost-effective treatment for harmful gambling. The study focused on people identified as being in the problem gambling category of the PGSI. Group Cognitive Behavioural Therapy (CBT) was determined to be the only cost-effective treatment for harmful gambling. Using the data from this modelling the current study looks at two policy scenarios, focusing on the high-risk group. Data from the NZGS (2023/24) shows that 19.6% of people in the problem gambling category got professional help for their gambling, meaning that 80.4% did not get any treatment. Furthermore, 16.3% of this population reported that they felt they needed help for their gambling, but they did not seek help. The aim of this analysis will be to estimate the impact of two scenarios on the proportion of the population at risk of gambling harm and the overall impact of the cost of gambling harm.

1. Scenario 1 will take a targeted approach and assume that those who reported needing help, but not receiving it, do in fact receive Group CBT therapy (16.3% of the high-risk population)
2. Scenario 2 will take a universal approach and assume that everyone in the high-risk PGSI category receives Group CBT therapy, except those who report already receiving treatment, affecting 80.4% of the high-risk population.

7.5.2 Methods

Figure 7 shows the process we followed to estimate the impact of the two policy scenarios.

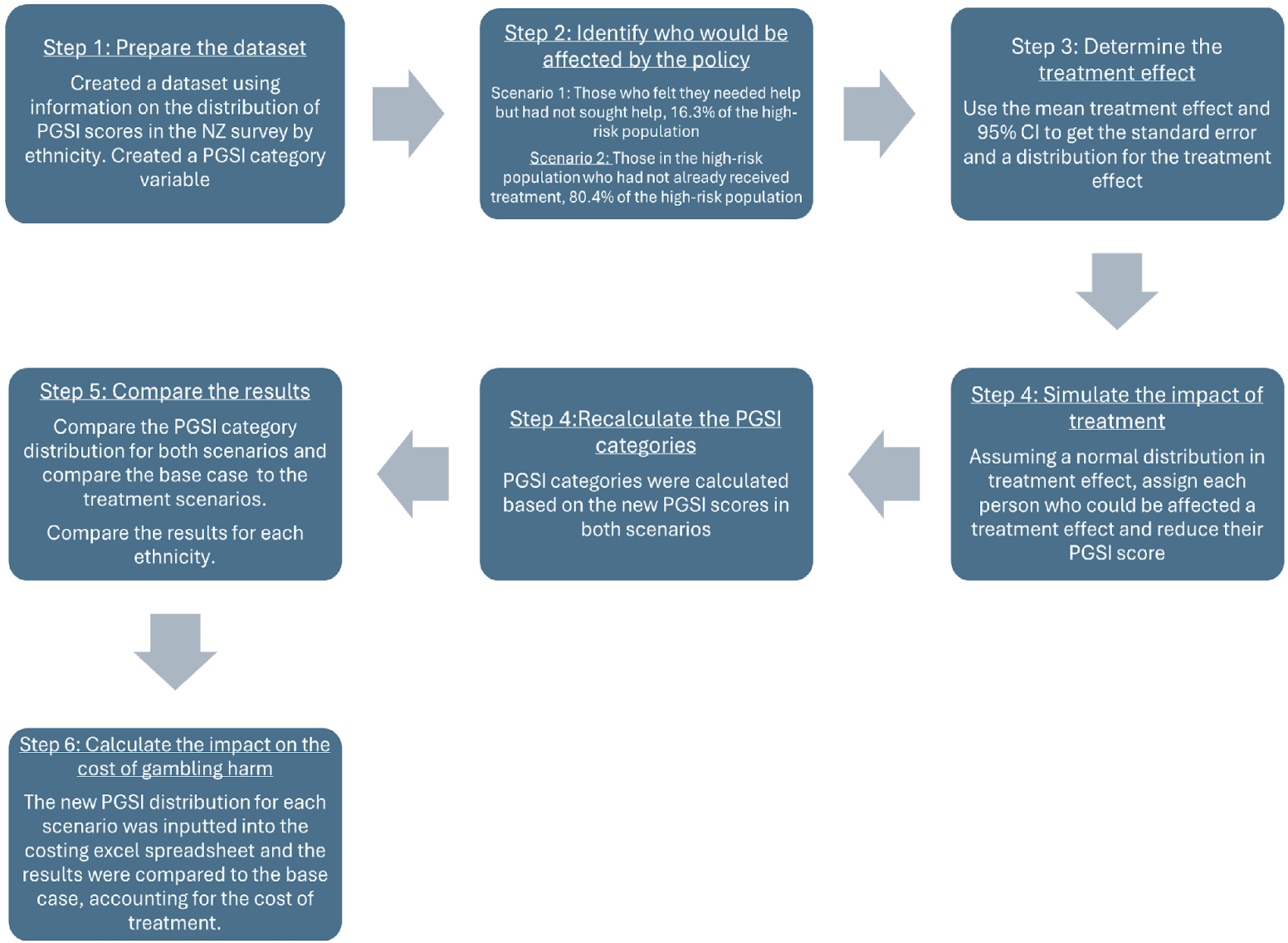

Figure 7. Policy impact estimation process

Data: Weighted summary data from the NZGS (2023/24) was used in this study. This provided us with the number of people in New Zealand with each possible PGSI score and their ethnicity.

Sample: The sample was comprised of the adult population of New Zealand who are in the problem gambling category, defined as having a PGSI score ≥ 8. For scenario 1 we focused on 16.3% of this population who reported that they needed help for gambling but did not seek help. Scenario 2 focused on 80.4% of the population who did not report receiving treatment.

Treatment effect: Using the NICE (2025) review to inform the health economic modelling, the average treatment effect of Group CBT therapy for those in the problem gambling category is -1.08 with 95% confidence limits of -0.34 to -1.83 and a standard error of 0.38. On average, receiving Group CBT therapy decreased PGSI score by approximately 1. Using the standard error and assuming a normal distribution a treatment effect from the distribution was sampled. On average people receiving the treatment will reduce their PGSI score by 1, however, it could be higher or lower than this. Figure 8 shows the distribution of the treatment effect.

Cost of treatment: It is important to consider the increase in cost of gambling problems associated with increasing numbers of people who receive treatment. In the UK, the cost of 3-months of group CBT for one individual was calculated to be £453. Using 2024 Purchasing Power Parities, this was converted into $972 NZ. This is the cost of treatment only and does not consider the cost associated with setting up new treatment services. To take these into account an additional 20% was added to the cost per person, $194 NZ. This makes the total cost of the intervention $1,166 per person.

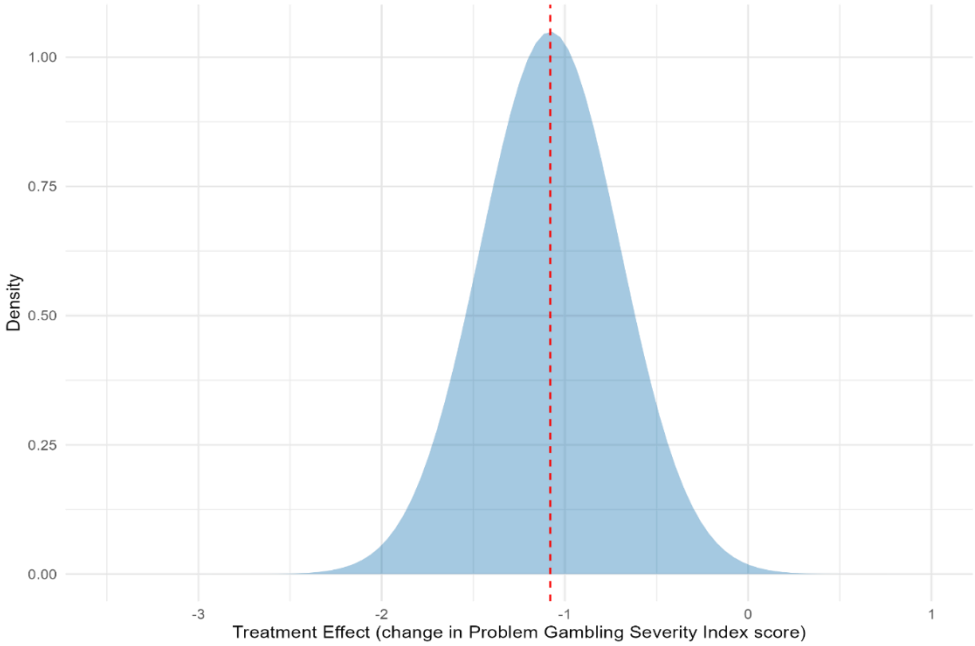

Figure 8. The distribution of the treatment effect of Group CBT therapy on Problem Gambling Severity Index scores, in the problem gambling category

7.5.3 Results

Change in distribution across the PGSI categories

The changes in the proportion of the population in each PGSI category in each scenario can be seen in Table 45. Since the intervention only affected those in the Problem Gambling category, and the average treatment effect was approximately 1, changes were only observed in the problem gambling and moderate-risk categories. In scenario 1, there was a 0.03% decrease in the proportion of the population in the problem gambling category, which corresponded with a 0.03% increase in the proportion in the moderate-risk category. In scenario 2, this shift increased to 0.15%.

These results by ethnicity can be seen in Figure 9. The biggest change in the proportion of the population in the problem gambling group was in the Māori population, a change of 0.56% in scenario 2, compared to 0.11% in the European/Other ethnicity group. This is to be expected since this population has the highest proportion of people in the problem gambling category.

Table 45. The proportion of the adult population of New Zealand in Scenario 1 and Scenario 2 compared to the current situation

	PGSI categories			
	NPG	**LR**	**MR**	**PG**
Current situation	52.40%	5.93%	1.94%	0.47%
Scenario 1: CBT therapy for those in the problem gambling PGSI category who felt that they needed help but did not seek it group	52.40%	5.93%	1.97%	0.44%
Scenario 2: Universal Group CBT therapy for those categorised as problem gambling, excluding those who report already receiving treatment	52.40%	5.93%	2.09%	0.32%

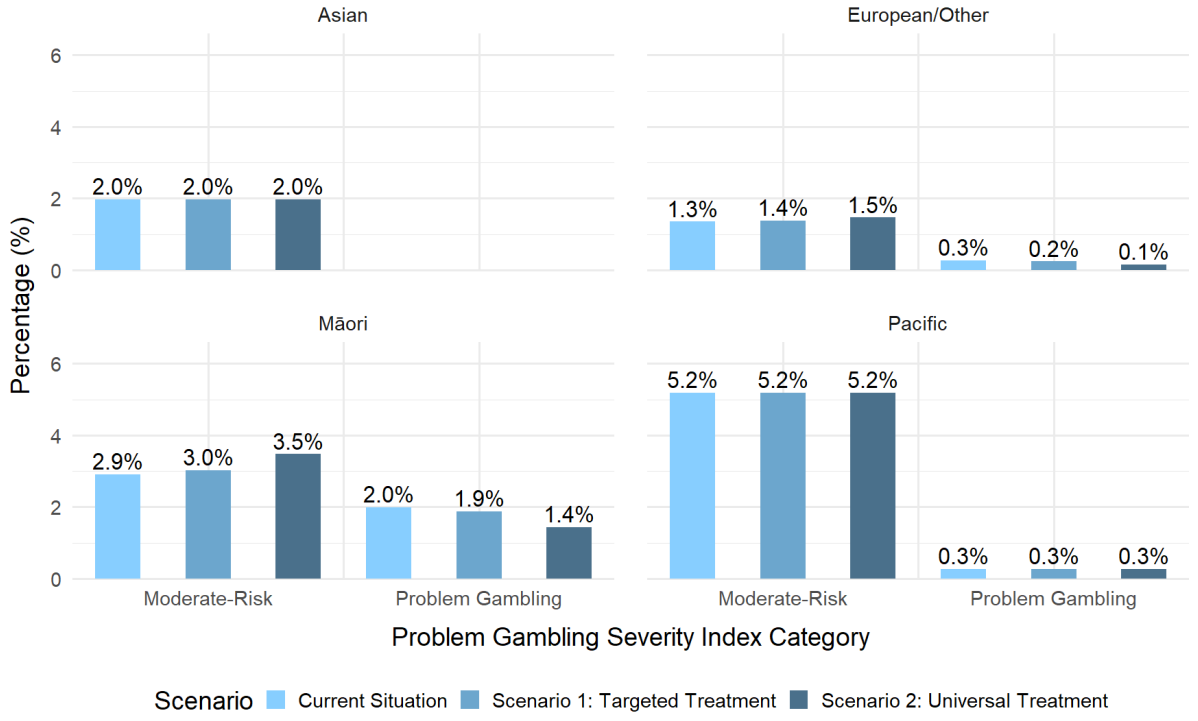

Figure 9. The percentage of each ethnic group in each of the PGSI Category in the current situation, scenario 1 and scenario 2

Table 46 shows the impact of the two scenarios on the cost of gambling problems, accounting for the cost of increasing treatment. Overall, scenario 1 resulted in a 2.44% reduction in the cost of gambling problems, whereas scenario 2 resulted in a 10.87% reduction.

Table 46. The impact of scenario 1 and scenario 2 on the cost of gambling harm in New Zealand, compared to the current situation.

Cost category		**Current Situation (CS)**	**Scenario 1 (S1)**	**Scenario 2 (S2)**	**Scenario 1- change in cost (%) (CS-S1)**	**Scenario 2- change in cost (%) (CS-S2)**
Financial impacts	a	$1,193,208,654	$1,150,006,917	$1,002,671,067	$43,201,737 (3.62)	$190,537,587 (15.97)
Relationship disruption, conflict or breakdown	b	$185,225,197	$177,634,778	$151,741,138	$7,590,419 (4.10)	$33,484,059 (18.08)
Health	c	$2,043,344,805	$1,989,077,579	$1,805,049,608	$54,267,226 (2.66)	$238,295,197 (11.66)
Work or study impacts	d	$678,829,001	$663,032,858	$609,920,764	$15,796,143 (2.33)	$68,908,237 (10.15)
Criminal activity	e	$54,347,468	$53,132,344	$48,999,320	$1,215,124 (2.24)	$5,348,148 (9.84)
Life course harm (homelessness)	f	$5,203,623	$4,989,738	$4,260,015	$213,885 (4.11)	$943,608 (18.13)
Other government or community costs	g	$58,768,750	$58,749,286	$58,684,498	$19,464 (0.03)	$84,252 (0.14)
Subtotal cost of harm	h = (a+b+c+d+e+f +g)	**$4,218,927,498**	**$4,096,623,499**	**$3,681,326,412**	$122,303,999 (2.90)	$537,601,086 (12.74)
Number of additional people receiving Group CBT	i	NA	3331	16430	NA	NA
Cost of treatment per person	j	NA	$972	$972	NA	NA
20% uplift to account for administrative costs	k	NA	$195	$195	NA	NA
Additional cost of treatment	l = (j+k) *i	NA	$3,885,278	$19,163,952	NA	NA
Total cost	**m = h + l**	**$4,218,927,498**	**$4,100,508,777**	**$3,700,490,364**	**$118,418,721 (2.81)**	**$518,437,134 (12.29)**

7.6 Strengths and limitations of the evaluation of policy option evaluation

This study has estimated the potential impact of several policy interventions on gambling-related harm costs in New Zealand, including their differential effects across population groups. However, it is important to acknowledge that these evaluations are constrained by data gaps, and several assumptions were required. In most cases, a uniform cost reduction across all cost forms including excess spend, harms to people who gamble and harms to others was applied. The distribution of expenditure on EGMs, and the potential effect of treatment for high-risk people who gamble was also estimated. A 1:1 ratio between gambling expenditure and harm was assumed. Whilst these assumptions likely do not capture the true variability in these measures, they were essential given the evidence gaps, and they likely result in an underestimation of projected impact.

These evaluations do not account for the dynamic complexities of the gambling system, including potential behavioural responses from both individuals who gamble and the industry following policy implementation. Reductions in cost attributable to specific forms apply only to tangible costs and therefore do not account for additional harms such as longer-term life course harms. As such, these estimates should be viewed as indicative rather than definitive. They offer a starting point for understanding policy options available to reduce gambling harm in New Zealand. More accurate estimates, including an understanding of longer-term impact, would require additional data to support a more sophisticated modelling approach.

Public health economic models can estimate policy impacts, including longer-term impacts. They have been used extensively in other areas of public health including in the modelling of alcohol and tobacco policies and interventions (Brennan et al., 2015; Hoang et al., 2016; Singh et al., 2021). However, they usually require large amounts of data and can take years to develop and validate. Improved data collection efforts could enable the development of such models in New Zealand. Additionally, any policy implementation should be accompanied by a full evaluation, with results used to inform public health economic models for estimating longer-term impacts. Future research should prioritize filling these data gaps and developing more sophisticated models to capture population behavioural responses and industry adaptations to policy changes.

Chapter 8: Discussion

This study aimed to provide a comprehensive assessment of the economic and social costs associated with gambling harm in Aotearoa New Zealand for the 2023-24 period. Recognising the significant impact of gambling harm on individuals, whānau, and communities, the analysis sought to quantify these effects by integrating both tangible and intangible costs. The scope included estimating the distribution of costs across different cost categories among various bearers (individuals who gamble, affected others, and the wider community/government), and specifically for Māori and Pacific communities who experience disproportionate harm. A central finding of this research is the substantial scale of these impacts, with the total estimated social cost of gambling harm in Aotearoa New Zealand calculated at $4.219 billion for 2023-24. This headline figure provides context for the following discussion, which will review the key drivers of this cost, its distribution, methodological considerations, and implications for future policy and research.

8.1 Key cost drivers

The total estimated social cost of $4.219 billion is driven primarily by two major categories: health impacts and financial impacts. Health-related costs account for nearly half of the total burden, estimated at approximately $2.043 billion. The large majority of this health impact stems from the intangible costs associated with decrements in HRQoL, totalling $1.68 billion. This highlights the profound, though often hidden, effect of gambling harm on wellbeing. Notably, this HRQoL impact is almost evenly split between the individuals who gamble ($830.6 million) and their affected others ($852.2 million), underscoring the significant burden carried by those close to the person experiencing gambling problems.

The second-largest category, financial impacts, contributes approximately $1.192 billion (28.3%) to the total cost. This is predominantly driven by the opportunity cost associated with excess gambling expenditure, calculated at $1.192 billion. This specific cost represents the estimated value of money spent on gambling by individuals experiencing harm, beyond rational expenditure, i.e., the typical recreational spending by people categorised as non-problem gambling. It reflects the lost utility that would have been gained had these funds been spent on other category necessary or beneficial economic consumption. These two components – HRQoL decrements and the opportunity cost of excess spend – represent the most substantial drivers of the overall social cost of gambling identified in this study.

8.2 Distribution of costs

The economic burden of gambling is spread across several groups, with individuals who gamble bearing the largest single share (43.5% or $1.84 billion). However, a very significant proportion is also borne by affected others (family, whānau, friends, and community members), who shoulder approximately 33.8% ($1.43 billion) of the total cost. The remaining 22.7% ($0.96 billion) falls upon the wider community, businesses, and government.
These costs should be interpreted in the context of differing distribution patterns of gambling's economic benefits versus its social costs. Economic benefits, such as industry activity (employment, venue operations), tax revenue, and potential consumer surplus for non-problem gambling, are distributed broadly. Conversely, the social costs identified in this study, particularly intangible health and wellbeing impacts, are largely externalised and concentrated on a smaller population segment comprising individuals experiencing gambling problems and those around them. This difference in distribution provides a rationale for assessing the social costs of gambling separately from generalised economic benefits.

When analysing the costs attributed to specific gambling forms, EGMs are overwhelmingly the primary drivers of harm costs. Offshore online EGMs (as distinct from other offshore online gambling such as offshore online casino games, sports betting, esports betting and lotteries) account for an estimated $1.57 billion, and venue-based EGMs contribute approximately $984 million. Combined, these EGM activities are responsible for 63.5% of all form-attributable gambling harm costs. This aligns strongly with feedback received during Community Consultations, which identified offshore online gambling as a principal area of concern.

Offshore online gambling presents a substantial and disproportionate burden on New Zealand, with social costs nearing $2 billion in 2023/24 - primarily driven by online. This economic drain occurs with minimal local benefits like employment, and a significant portion of gambling industry revenue stems from harmful 'excess spend' rather than recreational enjoyment. Individuals engaging with offshore platforms face a higher risk of problem gambling due to factors like 24/7 accessibility and aggressive marketing, as supported by findings from the Community Consultation. Crucially, addressing harms from offshore gambling would likely not disrupt the domestic industry; rather, it could protect it from competition and ensure player protection, making it a prime area for policy intervention.

A critical finding in the New Zealand context is the inequitable distribution of gambling harm costs across cultural groups. Māori experience a disproportionately high share of the burden, accounting for 31.5% of gambling problems despite representing 15.0% of the population and bearing an estimated cost of $1.33 billion. Similarly, Pacific peoples account for 10.9% of gambling problems compared to their 6.4% share of the population, bearing an estimated cost of $460 million. While this analysis highlights significant disparities based on problem prevalence, it is important to acknowledge the limitations in quantifying the unique nature and full extent of cultural harms due to current data constraints.

8.3 Methodological considerations & limitations

As with any complex economic costing exercise, particularly one addressing multifaceted social issues like gambling harm, certain limitations and uncertainties exist. Firstly, it is important to reiterate that this study focuses exclusively on estimating the costs associated with gambling harm in New Zealand. It does not attempt to quantify the potential economic benefits of the gambling industry nor the recreational consumer surplus that may be experienced by people classified as non-problem gambling. As discussed previously, this focus on costs is justified by the observed pattern where the costs of harm are highly concentrated, while economic and recreational benefits are more broadly distributed across the population.

It's important to acknowledge that a number of our foundational estimates rely on the 2017 'Measuring the Burden of Gambling Harm in New Zealand' study (Browne, Greer et al., 2017). While comprehensive, the survey of harms, from which specific harm prevalences were derived, was based on an online panel rather than a strictly representative population sample. Furthermore, when segmenting the survey data to create profiles for different gambling risk categories, the number of individuals was relatively modest for detailed subgroup analysis (314 people reporting gambling problems and harms).

While findings from Australian jurisdictions provide a useful point of comparison, it is important to acknowledge a major structural difference between the two markets. In Australia, online casinos (including products like online EGMs) are illegal. This prohibition has fostered an illegal ‘black market’ that operates outside of regulatory controls. This black market, comprising completely unregulated and unlicenced operators, differs from the ‘grey

market', which involves operators licensed in a different country outside of Australia (H2, 2023). Recent market analysis estimates Australia's offshore wagering black market alone to be worth approximately A$571 million in 2022 (H2, 2023). In New Zealand, the estimated annual expenditure on offshore online gambling ranges from $342 million to $500 million (Regulatory impact statement: Offshore online gambling, 2024; SkyCity Entertainment Group, 2023). The lower end of this range is primarily derived from more traceable sources, such as GST data from registered offshore providers, and is therefore unlikely to capture the full extent of any untracked 'black market' activity similar to that identified in Australia. This key difference complicates direct comparisons and suggests the total offshore expenditure and resulting harm, in New Zealand may be greater than this report has been able to estimate.

A significant methodological consideration relates to the calculation of the opportunity cost of excess gambling spend, estimated at $1.192 billion. Due to limitations in the available data from the NZGS (2023/24) (specifically, the lack of detailed self-reported expenditure per gambling form), it was necessary to apply relative expenditure patterns derived from recent Australian prevalence studies. While checks across Australian jurisdictions showed reasonable consistency in these relative patterns, this reliance on external data represents a deviation from the preferred approach of using jurisdiction-specific expenditure data and introduces a degree of uncertainty to this major cost component. In a similar vein, challenges in capturing the full extent of gambling-related issues from available data sources were highlighted during Community Consultations. For example, feedback from a financial counsellor suggested that the true prevalence of gambling as a contributing factor to financial distress among service users may be significantly higher than indicated by initial intake data (e.g., 6% at intake versus a believed 25% actual), as clients often disclose gambling-related issues only in subsequent sessions after trust has been established. This indicates another potential area where the quantified costs related to financial support services might be conservative, as initial reporting may not capture the full demand driven by gambling harm.

Furthermore, while this study identifies the disproportionate burden of gambling harm costs borne by Māori and Pacific peoples based on problem prevalence, significant limitations remain in quantifying the unique cultural interactions with harm that potentially exist in these communities. The current knowledge base prevents a robust quantitative assessment of these specific cultural impacts. Similarly, adequately costing the harms experienced by children affected by others' gambling is challenging due to difficulties in accessing representative data

and the ethical complexities involved in researching this group. These areas represent acknowledged gaps where the full social cost of gambling is likely underestimated in the current analysis.

Across most economic costing studies, a standard 20% causality discount was often applied to account for the potential influence of co-occurring factors, when better evidence for discounting was not available. This approach aligns with precedents set in studies such as those by the Australian Productivity Commission. However, applying a uniform discount has inherent limitations, as the true strength of the causal link between gambling and specific impacts likely varies across different types of harm and severity levels. This heuristic is employed due to the current lack of empirical evidence to support more nuanced differential discounting. Furthermore, we took a conservative stance such that for certain severe harms such as divorce, homelessness, and suicide attempts, costs attributable to low-risk and potentially moderate-risk gambling were excluded entirely.

The specific regulatory context of New Zealand also influences certain cost estimations. For instance, the approach to offshore gambling, where GST has been collected since 2016, and an online gambling duty was introduced in July 2024, differs from jurisdictions like Australia which largely ban such operators. This framework may affect the scale of illegal offshore gambling and related economic losses. While this study costs offshore wagering primarily in terms of estimated excess gambling spend and the costs of regulation, the ongoing challenges in monitoring all offshore activity mean that some gambling expenditure and associated harms might still escape the regulatory net and, consequently, full quantification in this costing.

Similarly, the New Zealand context regarding personal insolvency influences the cost estimates for bankruptcy. Processes designed to avoid formal bankruptcy proceedings may contribute to lower formal bankruptcy rates compared to jurisdictions like Australia. However, there appears to be a lack of data on how many people are turning to these options as a result of a gambling problem. Consultation feedback also indicated that financial counsellors often steer clients towards alternatives before pursuing bankruptcy. This specific context affects the comparability of bankruptcy-related costs and means the calculated figure likely represents only a portion of severe gambling-related debt issues.

The costing of criminal activity also faces limitations. Feedback during consultations highlighted that a significant amount of gambling-related crime, particularly theft from family and friends, often goes unreported to the police. However, reliable data on the prevalence of these crimes is unavailable. Consequently, the cost estimate was based on crimes to government, business and other people (not family/whānau/friends). These crimes are more likely to be associated with official justice system statistics (police, courts, corrections). However, they are likely to underestimate the true societal cost arising from gambling-related criminal behaviour.

The cumulative impact of these methodological considerations, data gaps, and inherent assumptions contributes to uncertainty in the final cost estimate. While efforts were made to use the best available data and apply conservative assumptions where necessary, the overall figure should be interpreted with these limitations in mind. The use of parametric bootstrapping to generate a 90% confidence interval ($3.72 billion to $4.73 billion) provides a quantitative measure of this uncertainty around the central estimate of $4.219 billion.

8.4 Contextual comparisons

Comparing the findings from this New Zealand study with recent research from Victoria, Australia (Browne, Tulloch, Rawat, et al., 2025) provides valuable context, particularly regarding gambling prevalence, market size, and structural differences. However, it is important to acknowledge that direct comparisons between the New Zealand and Australian gambling environments must be made with caution. Significant differences exist in regulatory frameworks, state-level variations, and cultural attitudes to gambling. However, the recent comprehensive social cost study from Victoria, Australia, represents one of the few comparable and contemporary benchmarks available. Therefore, the following comparison is not intended to suggest the jurisdictions are identical, but rather to use the Victorian findings to contextualise and highlight the unique aspects of New Zealand's gambling landscape, its market structure, and the scale of harm.

8.4.1 Different prevalence patterns

The profile of gambling risk levels differs between New Zealand and Victoria. While the overall prevalence of individuals experiencing some level of gambling problem (low-risk or higher on the PGSI) is broadly similar (NZ 8.34% vs. Vic 8.51%), the distribution across

severity levels varies. New Zealand tends to have a higher proportion of people classified as low-risk gambling (5.93% vs. Vic's 5.31%). Conversely, Victoria has shown higher rates of moderate-risk gambling (2.27% vs. NZ's 1.94%) and nearly double the rate of people classified as problem gambling (0.93% vs. NZ's 0.47%).

8.4.2 Total social costs and market size

The total estimated social cost of gambling harm differs significantly between the two jurisdictions. This study estimates the cost in New Zealand at approximately $4.219 billion NZD, whereas the comparable figure for Victoria in 2022-23 was $14.1 billion AUD (equivalent to around $15.26 billion NDZ). This substantial difference in overall cost is linked to variations in both the total market size (gambling expenditure/losses) and the prevalence profiles mentioned above. The total gambling market size in New Zealand is estimated at approximately $3.1 billion NZD (combining regulated losses of $2.792 billion and estimated offshore losses of $354 million), compared to $7.4 billion AUD in Victoria (NZD $8.01 billion). The higher prevalence of moderate-risk and problem gambling in Victoria also contributes to its larger overall social cost.

8.4.3 Structural differences in EGM markets

Key structural differences in the EGM markets also contribute to the distinct contexts in New Zealand and Victoria. As noted during Community Consultations for this study, New Zealand employs unique regulatory approaches such as 'sinking-lid' policies in several council areas, which prevent the relicensing of EGMs once a venue removes them or closes. Furthermore, EGM venues in New Zealand are generally smaller in scale compared to the large sporting clubs commonly found in some Australian states like Victoria. These structural and regulatory differences likely influence EGM accessibility, expenditure patterns, and potentially the associated harms within each jurisdiction.

Further comparisons reveal nuances in how gambling harm costs are driven and contextualised. In terms of attribution to specific gambling forms, both New Zealand and Victoria identify EGMs as the predominant source of social costs. In New Zealand, EGMs collectively (offshore online and venue-based) account for approximately 63.5% of form-attributable costs, with offshore online EGMs alone representing the largest single contributor at 39.0%. Similarly, in Victoria, EGMs are responsible for around half of all gambling costs,

but this tends to reflect in-venue rather than online play. Wagering also emerges as a significant cost driver in both jurisdictions, though secondary to EGMs.

The regulatory context also presents differences. For instance, New Zealand's lower costs associated with bankruptcy may be influenced by its distinct personal insolvency management framework. Consultation feedback also indicated that New Zealand financial counsellors often prioritise alternatives to formal bankruptcy.

8.5 Conclusions

The findings of this study, estimating the total social cost of gambling harm in New Zealand at $4.219 billion for 2023-24, have significant implications for future policy development and harm minimisation strategies, and future research priorities.

8.5.1 Implications for policy and harm minimisation

A primary implication is the clear need to focus on high-harm gambling forms. This study identified that specific products, particularly offshore online EGMs which account for 39.0% of form-attributable costs, are major drivers of the total social cost in New Zealand. This finding, reinforced by Community Consultation feedback highlighting concerns around offshore online gambling, suggests that regulatory and harm minimisation efforts should be directed towards these high-risk products and platforms to achieve the most significant impact in reducing negative impacts from gambling.

Secondly, the disproportionate burden of gambling harm costs on Māori and Pacific peoples signals a need for culturally tailored and equitable strategies to reduce this harm. With Māori accounting for 31.5% of gambling problems (against a 15.0% population share) and bearing an estimated $1.33 billion in costs, and Pacific peoples accounting for 10.9% of problems (against a 6.4% population share) and $460 million in costs, approaches that fail to address the core drivers of this inequality are likely to be insufficient. Policy and service provision must be co-designed and implemented in partnership with these communities to ensure they are culturally safe, relevant, and effective in addressing specific needs and reducing these disparities. As the economic modelling in this report indicates, structural changes targeting high-harm products represent a particularly powerful lever for achieving this equity.

The substantial costs borne by affected others, estimated at 33.8% of the total cost in New Zealand, highlight that the impacts of gambling harm extend far beyond the individual who gambles. This implies a necessity for increased recognition of affected others within policy frameworks and the development and funding of dedicated support services, resources, and interventions for families, whānau, and friends impacted by someone else's gambling.

The prominent costs linked to offshore online gambling in the New Zealand context underscore the critical importance and inherent challenges of effective regulation and enforcement in this space. Levies, such as the New Zealand's Offshore Gambling Duty represents one approach to this issue, but the high degree of costs attributable to online sources suggests that ongoing efforts, potentially including enhanced monitoring, international cooperation, and public awareness campaigns about the risks of unregulated offshore sites, are necessary to mitigate these harms.

Furthermore, the report's economic modelling of several potential policy options suggests that substantial reductions in these social costs are achievable through targeted interventions. The analysis indicates that structural changes aimed at the highest-harm products offer the most significant potential for harm reduction. Specifically, a hypothetical ban on offshore online EGMs - the single largest contributor to harm identified in this study—is estimated to reduce the total social cost of gambling by approximately $1.26 billion (30%). Major interventions for in-person EGMs also show significant promise; introducing universal loss limits is projected to lower the total cost by $679 million (16%), while restricting their availability to casinos could reduce costs by $787 million (19%). The evaluation considered a spectrum of interventions, finding that expanded access to treatment for high-risk individuals and sinking-lid policies also yield positive, albeit more modest, cost reductions.

The modelling suggests that these EGM-focused policies would deliver disproportionately large benefits to Māori and Pacific communities, making them a key lever for addressing the inequities identified in this report. For example, under a policy restricting in-person EGMs to casinos, the per-gambler cost reduction for Māori was estimated to be $549, and for Pacific peoples, $378. These disproportionate benefits are linked to higher reported use of Class 4 venues among these groups. The evaluation underscores that while knowledge is limited and a variety of costing assumptions were by necessity employed, broad regulatory changes

targeting the most harmful products offer the most substantial pathway to mitigating the overall economic and social costs of gambling in New Zealand.

Finally, this costing has highlighted that the primary driver of impact overall is via excessive financial losses, resulting in a significant net negative consumer surplus among at-risk gambling, which then contributes to a lower HRQoL among people who gamble and affected others. The total negative consumer surplus of $1.192 billion constitutes a very significant portion of the total gross industry revenue ($3.146 billion). Specifically, this 'excess spend' that is costed as a welfare loss represents approximately 37.9% of the entire gambling industry's revenue. This implies that a substantial part of the money flowing to the gambling industry is derived from expenditure patterns deemed harmful and economically inefficient for the consumers involved.

The high economic impact of excess gambling expenditure and the role of financial counsellors in New Zealand in seeking alternatives to bankruptcy for their clients suggest an avenue for intervention. Bolstering financial counselling services with specific expertise in gambling-related financial harm, alongside exploring and promoting effective debt management solutions, could help alleviate some of the severe financial consequences for individuals and their families. Given the central role of gambling losses in driving negative impacts, relatively straight-forward and non-stigmatising 'money management' interventions – involving both people who gamble and affected others – might warrant further attention.

8.5.1.1 Future research directions

The current study also highlights several areas where further research is essential to refine understanding, improve data quality, and enhance the precision of future costings. Addressing these knowledge gaps will be crucial for informing more effective and targeted harm minimisation strategies.

- *Collection of NZ-Specific Gambling Expenditure Data:* A significant limitation in this study was the necessity of using relative gambling expenditure patterns from Australian data to calculate the 'excess spend' component of financial costs This was due to the lack of detailed New Zealand-specific expenditure data broken down by gambling risk categories and product type. Future research should prioritise the

regular collection of more precise, form-specific data on gambling expenditure to enable more precise local estimations of this major cost driver.

- *Methodologies for Costing Cultural Harm*: This report acknowledges the profound impact of gambling harm on Māori and Pacific peoples, and the current limitations in quantitatively costing the unique cultural dimensions of this harm. Developing and validating culturally appropriate quantitative research methodologies to better understand, measure, and value these culturally contingent impacts is a critical priority for future work. This will require close collaboration with Māori and Pacific communities.
- *Understanding and Costing Impacts on Children:* Consistent with findings in other jurisdictions like Victoria, this study was unable to effectively cost impacts to children and the potential for long-lasting impacts. While challenging, dedicated research employing ethical and sensitive methodologies is needed to understand and quantify these harms more thoroughly.
- *Longitudinal Studies and Legacy Harms:* This study primarily captures the costs associated with gambling harm within a 12-month period. However, gambling harm can have enduring consequences, or 'legacy harms,' that persist even after gambling behaviour ceases. Longitudinal studies are needed to track the progression of gambling problems, recovery, relapse, and the long-term economic and social costs associated with these trajectories, including intergenerational impacts.
- *Refining Causality and Attribution Models:* The standard 20% causality discount applied in this, and other studies, is a heuristic to account for co-occurring conditions or causes when better information is not available. Further research into the complex causal pathways between gambling, co-morbidities (like mental health issues or substance use), and specific harms could lead to more nuanced and accurate attribution models, refining the precision of cost estimates.
- *Investigating Unreported Gambling-Related Crime:* Community Consultations highlighted that a considerable amount of gambling-related crime, particularly theft from family and friends, may go unreported to authorities. Future research could explore methodologies to better capture the prevalence and costs of these hidden crimes, providing a more complete understanding of this aspect of gambling harm.
- *Enhancing HRQoL Measurement:* While this study utilised established HRQoL decrements, ongoing refinement in measuring the HRQoL impacts of specific

gambling harms, and for diverse groups of affected others, would be beneficial. This could improve the sensitivity and accuracy of this major intangible cost component.

In conclusion, this report, the first to apply this comprehensive public health framework to monetise social costs in New Zealand, finds a substantial $4.219 billion annual social and economic costs from gambling in Aotearoa New Zealand, which exceeds the $2.792 billion in annual gambling industry revenue (Department of Internal Affairs, n.d). These findings provide a critical evidence base that can guide future strategies to reduce this impact on individuals, whānau, and communities across the nation.

Chapter 9: References

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