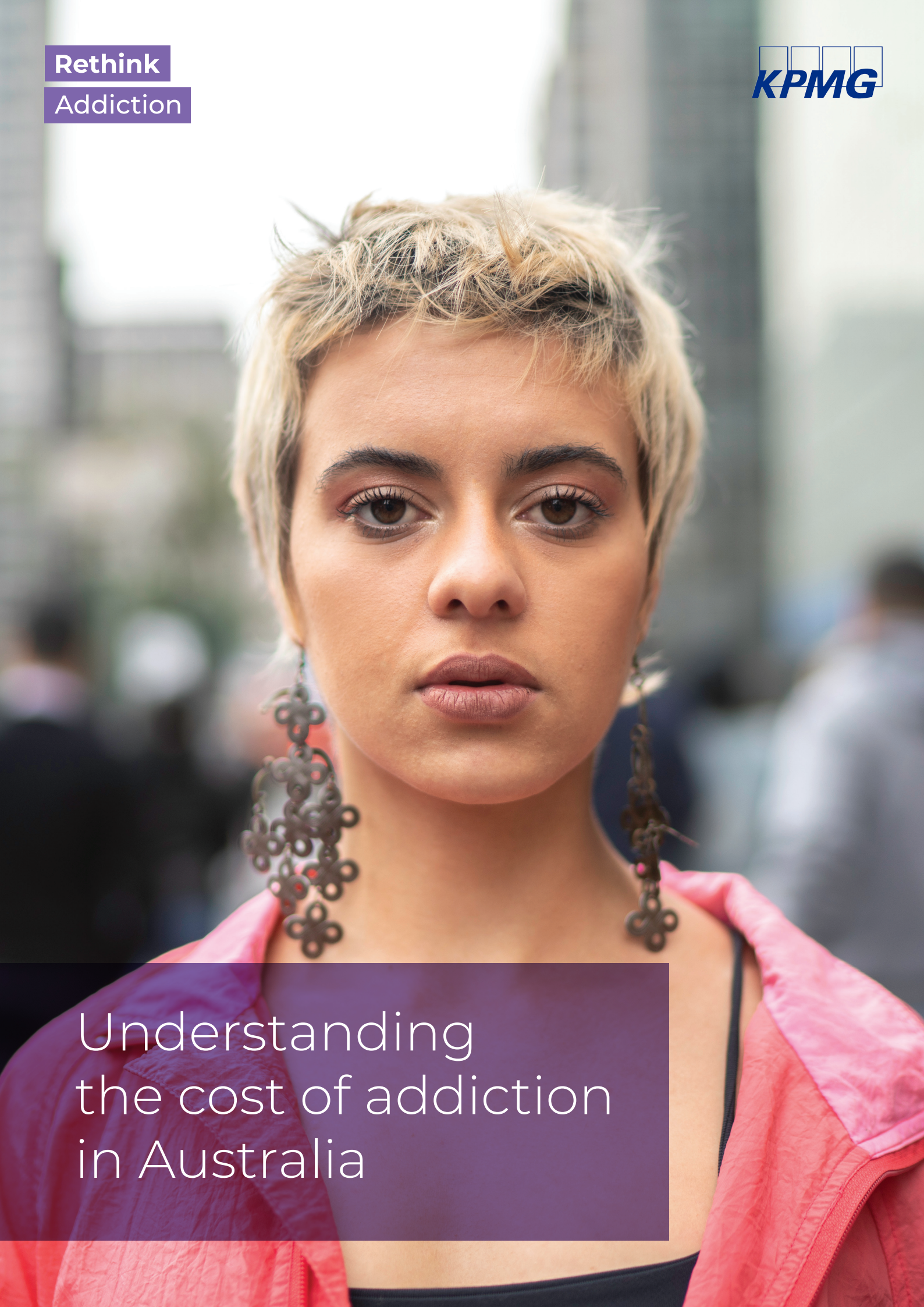
Rethink
Addiction

KPMG



Understanding the cost of addiction in Australia

Rethink Addiction

Rethink Addiction is an independent campaign representing a collaborative industry effort to challenge the prevailing myths and misconceptions around addiction. We promote a more informed, compassionate, and non-judgmental approach through evidence-based information and linkages to addiction treatment and support. Established in October 2020, Rethink Addiction educates and advocates for the need to change Australia's attitude and approach to addiction and now represents more than 60 partner organisations.

rethinkaddiction.org.au

KPMG

KPMG Australia is a leading professional services firm providing services to organisations across a wide range of industry, government and civil society sectors. We are led by our Purpose – to inspire confidence and empower change.

KPMG strongly believes that Australia should be at the forefront of providing innovative, high quality, world leading mental health and wellbeing services and are dedicated to realising this ambition.

Through our Corporate Citizenship strategy, we have made mental health a priority and aim to play a role, alongside community partners, in changing the narrative around mental health and addiction across Australia and to help create meaningful and lasting change to support help-seeking and life-long wellbeing.

KPMG has partnered with Rethink Addiction to develop this report.

Acknowledgments

We acknowledge the traditional custodians of the lands on which we live and work, and we pay our respects to Elders past, present, and emerging. We acknowledge the expertise, bravery, and resilience of people with lived and living experience of addiction, including individuals, their families, and carers. We also acknowledge the dedicated lived and living experience workforce, which plays an important role in providing peer support, harm reduction, and helping people to engage with and navigate the treatment system, as well as co-designing and shaping services so they are person-centred and trauma-informed. We wish to thank the people with lived and living experience who contributed their time, experience, and expertise to shape this report.

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Contents

Share your story

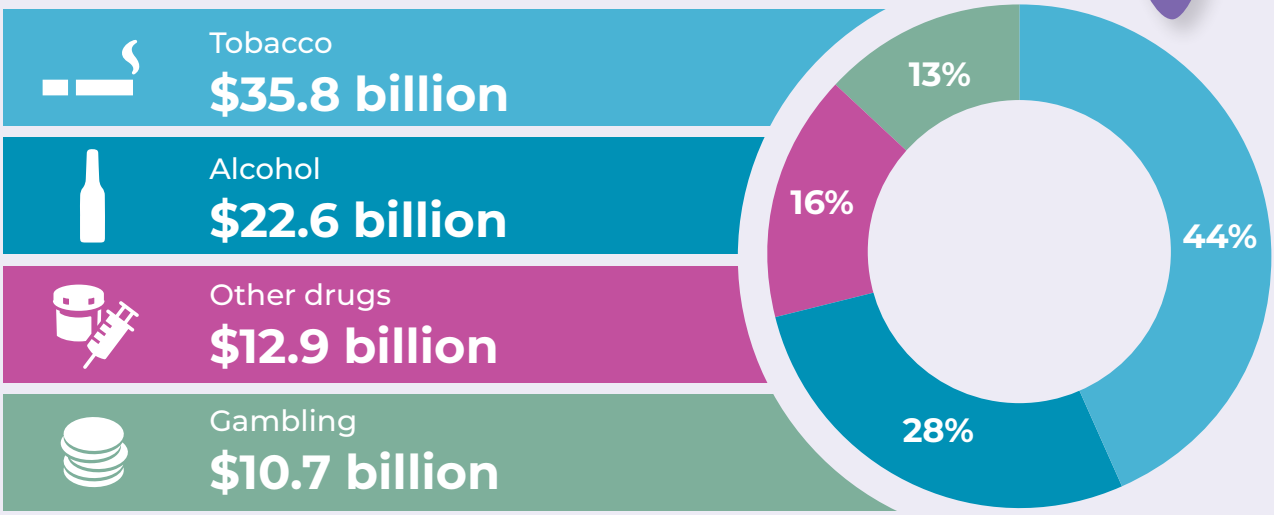
By sharing our stories we can change the conversation and humanise addiction.

Share your story at rethinkaddiction.org.au/shareyourstory

Findings at a glance

The estimated cost of addiction in 2021

(adjusted for overlap between addiction types)[1,2]



In addition, the value of life lost due to addiction is significant[3]

The estimated value of life lost when comparing the actual 2021 population to a hypothetical situation in which lives had not been lost to addiction in the past.

$48 billion

The estimated value of life lost when considering lives lost in 2021 and their potential contributions in the future.

$174 billion

1 The cost of addiction refers to tangible costs, which are costs for which a market price exists, and which can be traded in the market.

2 The total across the four categories is adjusted for double-counting or overlap. For this reason, the reported total is less than the sum of all addiction subtypes, reflecting the fact that many people will experience more than one addiction.

3 The value of lost life refers to intangible costs, which are costs which cannot be traded but which can be assigned a value to society. This covers the cost of lost life, the cost of premature illness, and pain and suffering of the individual and their friends and family.

Understanding the cost of addiction provides an opportunity to act – to improve the lives of those living with addiction and to reduce the social and economic costs

Tobacco

Workplace and household productivity-related losses were the major driver of tobacco-related costs, equating to **$24.2 billion** out of **$35.8 billion.**

Alcohol

Workplace and household productivity-related losses were the major driver of alcohol-related costs, at **$8.5 billion** out of **$22.6 billion**.

Other drugs

Justice and law enforcement costs were the main driver of other drug-related costs, at **$5.8 billion** out of **$12.9 billion**.

Gambling

Personal financial losses associated with harmful levels of gambling were the leading gambling-related cost, at **$5.4 billion** out of **$10.7 billion**.

While these findings highlight the significant cost of addiction in Australia, they are also likely to be an underestimation due to gaps and limitations in available literature, suggesting that the cost is likely to be far larger.

We know what works

- ✓ Make responding to addiction a national priority
- ✓ Implement evidence-based reforms
- ✓ Tackle stigma to promote help-seeking

Foreword

One in four Australians will struggle with alcohol, other drugs, or gambling in their lifetime, and one in ten currently smoke tobacco daily – so it's no surprise that Australia has one of the highest rates of addiction-related health burdens in the world. What has been unclear until now is the combined cost to the Australian community, and it is significant.

This report shows that addiction cost the Australian community an estimated $80.3 billion in 2021, with the value of lost life being an additional $173.8 billion. And as big as these numbers are, we know they are conservative due to gaps in the evidence base.

This significant cost is driven, in part, by an equally significant missed opportunity.

We know that for every dollar spent on addiction treatment we save up to $7,[4] and for every dollar spent on harm reduction we save up to $27.[5] Yet we aren't investing in treatment and harm reduction anywhere near as much as we should.

Australia has been an international leader in reducing tobacco consumption, but **smoking remains the leading cause of preventable death and disease**. We must redouble our efforts through greater investment and focus on more nuanced strategies targeted to priority populations.

In Australia, law enforcement consumes between 61 to 69 per cent of the total drug budget, and treatment a mere 20 to 23 per cent.[6] The result of our priorities being so out of order is that every year roughly half a million Australians cannot access the treatment and support they need and deserve, while 145,000+ are arrested for drug use.[7]

Our drug laws mean that the police, courts, and prisons are burdened with responding to people who have harmed no-one, while our treatment services are stretched so thin it can take months for people who need help to get a foot in the door.

And due to stigma, many people wait years, even decades, before seeking help for their struggles with alcohol, other drugs, or gambling.

For example, the average time to first treatment for addiction to alcohol is an astonishing 18 years.[8] This long delay is notable given that alcohol is a legal drug. How can we expect people to seek help for drugs that are illegal?

Delayed help-seeking and treatment delays significantly increase the social, health, and economic costs of addiction.

Tackling stigma will help reduce the time it takes for people to seek help and access treatment and has many positive effects. It will not just prevent struggles with alcohol, other drugs, and gambling harms resulting in costly health and social consequences, it will significantly improve other social problems associated with addiction, such as family violence and suicide.

These are some examples of how the enormous costs identified in this report aren't only borne by people with addiction – they affect families, friends, colleagues, and entire communities.

We are all impacted by addiction, and whether we realise it or not we all know someone who has struggled with alcohol, other drugs, or gambling. But stigma keeps us from talking about this important health issue.

For people with lived and living experience, their addiction is one part of their story, but it's often the only part that people choose to see. We need to combat addiction-related stigma the same way we tackle stigma related to mental health.

It's time for us to make responding to addiction a national priority, because we cannot afford to keep ignoring this problem.

This report urges all Australians and all levels of government to play their part to **#RethinkAddiction.**

Together, we can tackle stigma and the underlying drivers of addiction, invest in evidence-based reform, promote help-seeking, and enable people living with addiction to live healthier, happier, and more productive lives.

Professor Dan Lubman AM
Rethink Addiction Spokesperson

Andrew Dempster
KPMG Principal Director,
Mental Health Advisory Lead

4 National Institute on Drug Abuse (2018).
5 National Centre in HIV Epidemiology and Clinical Research (2009), 8.
6 Ritter, McLeod, and Shanahan (2013).
7 Australian Crime Intelligence Commission (2021) 14.
8 Chapman et al (2015).

Executive summary

The cost of addiction in Australia was estimated at $80.3 billion in 2021. The value of lost life was estimated to be an additional $48.4 billion or $173.8 billion, depending on the methodology.

Rethink Addiction partnered with KPMG to develop this report, which is underpinned by a scan of existing literature and engagement with experts in health economics, addiction treatment, public policy, and people with lived experience.

The cost of addiction

This report considered costs associated with alcohol, tobacco, other drugs, and gambling (see Figure 1).[9] The authors of this report recognise that not every use creates harm, and not all harmful use is associated with addiction. The results reported here are likely to represent situations in which the use of alcohol, tobacco, other drugs, and gambling leads to harm which can be measured as a cost. In most situations, this will arise in the context of harmful use, and often in the context of addiction. For simplicity, these costs are referred to throughout this report as "the cost of addiction".

Tobacco was the largest contributor to costs, contributing up to 45 per cent ($35.8 billion), followed by alcohol, up to 28 per cent ($22.6 billion), other drugs 16 per cent ($12.9 billion), and gambling 13 per cent ($10.7 billion).

A range of cost types were considered in this report to understand the impact on Australians (see Figure 2). A significant proportion of costs (48 per cent, $38.6 billion) were attributed to workplace and household productivity losses. This was followed by costs associated with the excessive/harmful consumption of alcohol, tobacco, other drugs, and engaging in gambling. These costs contributed 21 per cent, or $16.9 billion in 2021. Costs associated with justice and law enforcement made up 16 per cent ($12.9 billion) and healthcare costs contributed 10 per cent ($8.1 billion). Due to limitations in the scope of existing literature, these costs are likely to be conservative.

Figure 1
Total costs, by addiction type

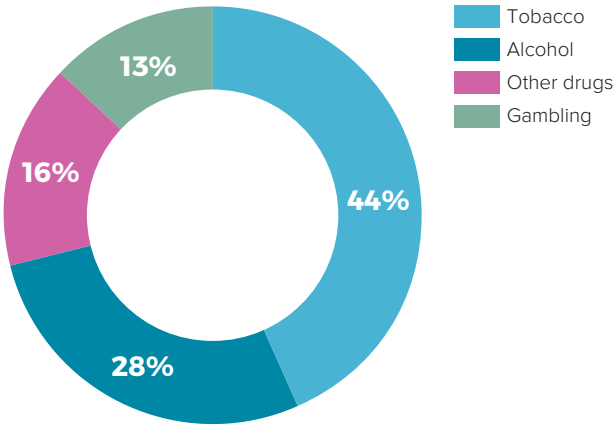
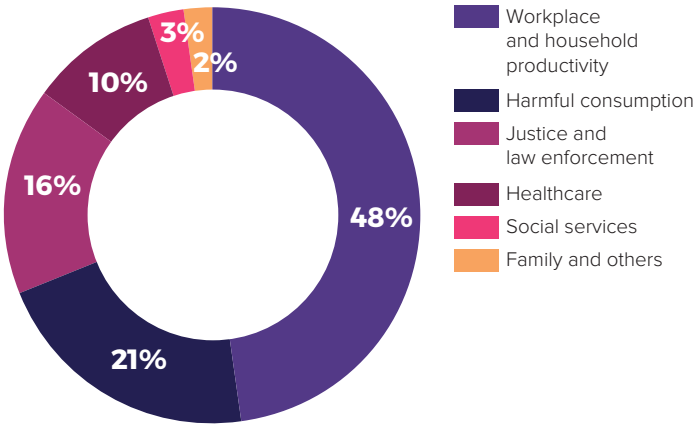


Figure 2
Total costs, by cost type



The cost of addiction is similar to the single largest spending program in Australia's history – JobKeeper, which cost an estimated $90 billion.[10]

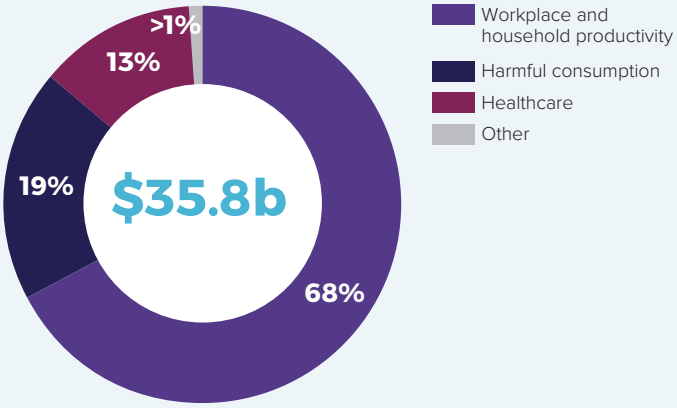
9 Drug-related harm refers to illicit use of other drugs including illegal drugs, misuse of pharmaceutical drugs, or inappropriate use of other substances such as inhalants.

10 Australian Government: The Treasury. (2021).

Tobacco

Tobacco-related harm incurred a cost of **$35.8 billion**, equating to 44 per cent of all tangible costs of addiction.

Workplace and household productivity losses were by far the largest cost burden, accounting for $24.2 billion, or nearly 70 per cent of tobacco-related costs.



The value of lost life due to tobacco-related harm was estimated to cost **$33.2 billion** (retrospective) or **$134.2 billion** (future-focused).[11]

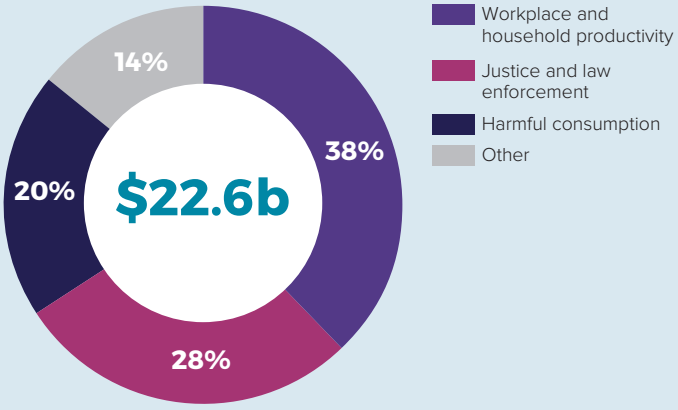
Value of lost life

$33.2b Retrospective ⟷ **$134.2b** Future-focused

Alcohol

Alcohol-related harm incurred a cost of **$22.6 billion**, equating to 28 per cent of all tangible costs of addiction.

Workplace and household productivity losses were the largest cost burden, accounting for $8.5 billion, or 38 per cent of alcohol-related costs. This was followed by justice and law enforcement, costing $6.4 billion, or 28 per cent of alcohol-related costs.



The value of lost life due to alcohol-related harm was estimated to be approximately **$6.6 billion** (retrospective) or **$31.6 billion** (future-focused).

Value of lost life

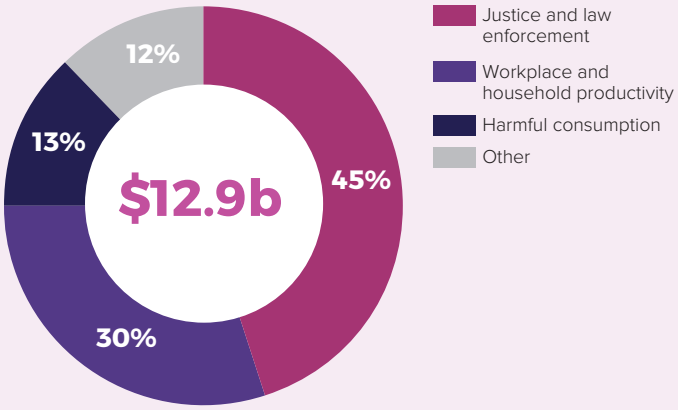
$6.6b Retrospective ⟷ **$31.6b** Future-focused

11 For the explanation of 'retrospective' and 'future-focused' approaches to estimating the value of lost life, see the 'Estimating the value of lost life' section in 'Estimating the cost of addiction' chapter of this report.

Other drugs

Harm related to other drugs incurred a cost of **$12.9 billion**, equating to 16 per cent of all tangible costs of addiction.

Justice and law enforcement costs were the major driver, contributing $5.8 billion, or 45 per cent of other drug-related costs. This was followed by workplace and household productivity losses, costing $3.9 billion, or 30 per cent of other drug-related costs.



The value of lost life due to drug-related harm was estimated to be approximately **$2.4 billion** (retrospective) or **$4.9 billion** (future-focused).

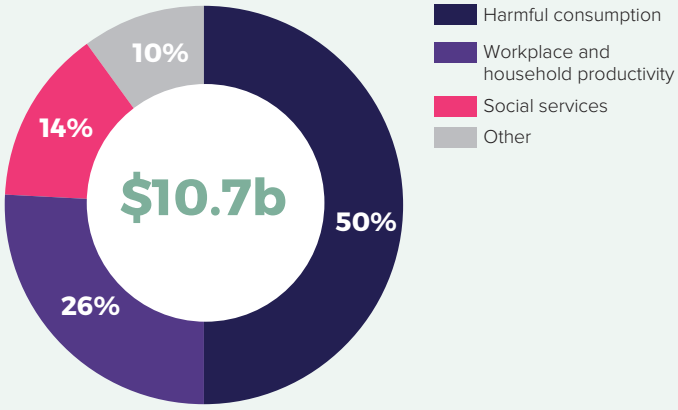
Value of lost life

$2.4b Retrospective <> **$4.9b** Future-focused

Gambling

Gambling-related harm incurred a cost of **$10.7 billion**, equating to 13 per cent of all tangible costs of addiction.

Consumption (engaging in gambling) imposed a significant cost to the individual, accounting for $5.4 billion, or 50 per cent of gambling-related costs.



The value of lost life for gambling was estimated to be **$7.3 billion** (retrospective).[12]

Value of lost life

$7.3b Retrospective <

12 The literature scan identified one study that valued the loss of health and life (Browne et al 2017) and this utilised the retrospective approach. A future-focused value is therefore unable to be presented.

Addiction is harming Australians

One in four Australians struggle with alcohol, other drugs, or gambling in their lifetime.[13]

Addiction doesn't just impact the health and wellbeing of people living with it – addiction also has a significant impact on their friends, loved ones, and the community. The harms related to alcohol, tobacco, other drugs and gambling can have differing effects, presentations, and associated lived experiences. Populations affected by each of these four addiction types can also overlap with other addictions and mental health conditions.

Tobacco-related harm

Tobacco is the leading preventable cause of morbidity and mortality in Australia,[14] with tobacco smoking-related diseases killing an estimated 20,500 Australians a year – contributing to 8.6 per cent of the total disease burden and 13 per cent of deaths in Australia in 2018.[15]

Some groups are disproportionately impacted by tobacco harms. For example, in 2018–19, 43 per cent of First Nations adults currently smoked, compared to just 15 per cent of non-First Nations adults in 2017–18.[16] People living with mental health conditions are also significantly more likely to smoke,[17] smoke heavily, and have an addiction to tobacco[18] than those without mental health conditions.

Alcohol-related harm

Harmful use of alcohol can impact a person's relationships with family, friends, and colleagues, and can have a detrimental impact on their health. Alcohol was the most common drug recorded in drug-related hospitalisation data across the five years to 2019–20, accounting for more than half (53 per cent) of drug-related hospitalisations in 2019–20.[19] The rate of alcohol-induced deaths in Australia is rising, with 1,452 deaths recorded in 2020.[20]

Alcohol and tobacco contribute to more than five times the burden of disease in Australia than all illicit drugs combined.[21]

Other drug-related harm

The number of deaths due to unintentional drug-related overdose has exceeded the national road toll since 2014.[22] In 2020, almost 2,000 deaths were drug-induced, among one of the highest rates on record.[23] Opioids, which include a number of drug types such as heroin, opiate-based analgesics and synthetic opioid prescriptions, continue to be the most common drug class present in drug-induced deaths over the past decade.[24] Most overdose deaths in Australia involve prescription medication.[25] People can become dependent on prescribed drugs even when they are used as directed and certain groups, such as people living with chronic pain or mental health conditions, are more vulnerable than others.

13 Slade et al (2009).
14 Australian Institute of Health and Welfare (2022a).
15 Australian Institute of Health and Welfare (2021).
16 Australian Institute of Health and Welfare (2022a).
17 Cooper et al (2012).
18 Forman-Hoffman et al (2016).
19 Australian Institute of Health and Welfare (2022a).
20 Ibid.
21 Ibid.
22 Penington Institute (2021).
23 Australian Institute of Health and Welfare (2022b).
24 Ibid.
25 Penington Institute (2021).

Gambling-related harm

Almost 1.4 million Australians are impacted by gambling harms,[26] with harms extending beyond financial losses to include adverse effects on work, education, and relationships, psychological harm and, tragically, suicide.[27]

Australians spent $225 billion on gambling in 2018–19, the highest in the world on a per capita basis.[28] We also have the largest per capita gambling losses (estimated $25 billion on legal forms of gambling in 2018–19, or $1277 per person).[29] This study conservatively estimates that personal financial losses associated with harmful levels of gambling total $5.4 billion.

People experiencing gambling harm are several times more likely than the general population to consider or attempt suicide.[30] Risk factors for suicide, such as financial distress and relationship breakdown, are often directly caused by gambling. Social support, employment, and physical health are factors which can protect against poor mental health, but they are also often compromised by a person's gambling.[31]

A Productivity Commission inquiry held in 1999 found an estimated 35 to 60 Australians who experienced gambling harm died by suicide and a further 2900 attempted suicide every year.[32] It is notable that despite such stark findings, little research has been done to better understand gambling related suicides since.

These harms intersect

Alcohol-, tobacco-, other drug-, and gambling-related harms often intersect as individuals can experience concurrent addictions. There is also a complex relationship between mental health and addiction. For example, pre-existing mental health conditions may predispose individuals to use drugs as a form of short-term relief or as a coping strategy, while others may find that drug use triggers their first symptoms of mental illness.[33]

26 Roger Wilkins (2017). Gambling. In: The Household, Income and Labour Dynamics in Australia survey: selected findings from waves 1 to 15.

27 Wilkins (2017).

28 'Spend' is defined as the amount wagered (also known as turnover). Queensland Government Statistician's Office, Queensland Treasury (2021), see: Summary Tables, 1.

29 'Loss' is defined as the amount wagered less the amount won by people who gamble (i.e. it is the gross profit of gambling services). Ibid, see: Summary Tables, 4, Explanatory notes 2; Letts, S. (2018).

30 Wardle et al (2019).

31 Suicide Prevention Australia and Financial Counselling Australia (2022).

32 Productivity Commission (1999) 26.

33 Australian Institute of Health and Welfare (2022a).


“Addiction doesn't discriminate.
I have a family history of addiction,
and while I've managed to avoid
going down the same path,
now I worry about my children.”
Jodie, lived experience as a family member

Addiction is not a choice

Addiction is a health condition that can affect anyone of any age, background, socio-economic group, or profession. People do not choose addiction any more than they choose to experience depression, diabetes, or heart disease. As with other chronic health conditions, vulnerability to addiction is influenced by an interplay of genetic and environmental risk factors, many of which are beyond an individual's control.

More than one-third of Australians with alcohol and other drug use addictions are living with at least one co-occurring mental illness.[34]

One in five people living with mental health conditions smoke daily, making them twice as likely to smoke daily than those without mental health conditons or only low levels of psychological distress.[35]

While there are many reasons why people initially use drugs or gamble, it can often be a coping mechanism in response to trauma, depression, anxiety, grief, or stress.

Some communities face multiple and compounding experiences of stigma and discrimination, making them more vulnerable than others. For example, First Nations peoples experience disproportionately higher rates of alcohol addiction and additional access barriers to health and support services.[36]

Broader social and cultural norms can further limit help-seeking by normalising the harms of alcohol, tobacco, other drugs, and gambling, blinding people to their true cost.

Recovery requires more than simply willpower or self-control. Wrongly framing addiction as a 'choice' only serves to increase stigma and associated feelings of shame and powerlessness, and discourages help-seeking.

34 Lubman et al (2017) 26; Prior, Mills and Teesson (2017) 319.
35 Australian Institute of Health and Welfare (2022a).
36 Queensland Mental Health Commission (2020); Ring and Brown (2002).


“Living in the bush is permament isolation. Getting help for addiction is so bloody hard when it’s stigmatised and you live in a community where everyone knows everyone and there are limited health and support services.”
Shanna, Founder of Sober in the Country and Australia’s Local Hero for 2022

Australians aren't getting the help they need

Roughly half a million Australians – between 43.6 and 73.2 per cent of the potential treatment population – cannot access the treatment they need.[37] This is due to the impact of stigma, limited resources, and excessive wait times for addiction treatment in the public health system. Navigating the healthcare system can also be confusing and costly. People often do not know who to contact, where to go, or how to obtain the right kind of information.

The risk of relapse for people living with addiction can be exacerbated by fragmented treatment, characterised by a lack of ongoing monitoring and coordination between different services, and insufficient linkage of specialist addiction treatment with mental health and primary care services.

People with co-occurring alcohol, tobacco, other drug or gambling addiction and mental illness face the additional challenge of navigating multiple service systems, with addiction treatment often siloed from other health services. A lack of specialist support within the addiction sector results in people being required to move between services, which increases their risk of dropping out of treatment.

Service gaps impact isolated rural and regional communities the hardest.

Telephone and online services are essential to overcoming geography and fear of stigma as barriers to service access. They do this by enabling people to seek support beyond their local community and anonymously if they wish.

37 Ritter, Chalmers, and Gomez (2019).

“The shame and stigma played a big role in holding me back. I thought, ‘If people know the truth, how are they going to react?”

Paul, lived experience of gambling addiction

Stigma delays help-seeking and treatment

Policy decisions, service responses, community attitudes, and individual perspectives on addiction and people living with addiction can often reflect stigma and the belief that individuals can avoid or overcome addiction through willpower. This is at odds with how other chronic health conditions, such as asthma, diabetes, and heart disease, are generally viewed and responded to.

Stigma can delay help-seeking by years, decades, or prevent help-seeking altogether.

Internalising negative stereotypes can increase feelings of shame and helplessness and lead to the belief that long-term recovery is impossible. Many people go to great lengths to hide their problems from family members, friends, and employers. These harmful stereotypes do not reflect reality for the majority of people living with addiction, but can prevent many from seeking help.

Stigma discourages help-seeking, thereby jeopardising recovery. In Australia, for example, the median time to first treatment for someone experiencing an addiction to alcohol is 18 years.[38]

Stigma is also present in Australian healthcare settings. This means that problems can be dismissed or ignored, regardless of whether or not they are related to harms due to addiction. Healthcare professionals are not immune to the negative stereotypes that influence public attitudes, and often report feeling under-skilled in managing addiction.[39]

While stigma can delay help-seeking and treatment, it can also limit the extent to which people living with addiction seek support from loved ones. A recent study demonstrated that over 80 per cent of people living with a gambling addiction used secrecy as their primary method to cope with and avoid stigma. This means that family and friends may be unaware of a person's experience of gambling addiction and are therefore unable to provide support.[40]

38 Chapman et al (2015).
39 McCann et al (2018).
40 Hing et al (2015).

Voices of Lived Experience from the 2022 Rethink Addiction Convention

"At Afri-Aus Care we use the UBUNTU positive change model. The most effective response to addiction among African communities is a grassroots, strengths-based community-led response."

Selba-Gondoza

"Addiction doesn't discriminate, so why do we? To Close the Gap we need to address addiction in First Nations communities. It's time to Rethink Addiction."

Jasmin

"I'm a gay man who kicked booze with the help of a home detox program. LGBTIQ+ affirming care is so important. It's time to Rethink Addiction."

Andrew

Treatment works

The misconception that treatment for addiction is only helpful for people who have reached their lowest point is based on the false assumption that once someone has lost everything, with no financial or social resources left to draw from, sheer desperation will be a catalyst for lasting change. This couldn't be further from the truth.

People shouldn't wait to hit 'rock bottom' before they seek help.

People are more likely to benefit from treatment when they still have jobs, family, and greater ties to mainstream society. Waiting until these vital supports are no longer available only hinders recovery. The earlier people seek treatment, the more likely they are to have a rapid recovery and better health outcomes.[41] That's why for every dollar spent on treatment, up to $7 is saved.[42]

The bottom line is treatment works.[43]

It's never too early or late to seek help. With the right treatment and support, people can manage their addiction, achieve recovery, and ultimately experience an improved quality of life.

41 Stocking et al (2016).
42 National Institute on Drug Abuse (2018).
43 Manning et al (2017).

“People shouldn’t be defined by their substance use. I’m a father. I’m a grandson. I’m a brother. Addictions are just a symptom of underlying issues. Given the right support, we can offer a lot, which is what I’m trying to do these days.”

Baden, lived experience of drug addiction

The way forward

To achieve real change we need to make responding to addiction a national priority. We also need to implement evidence-based solutions and share real stories of addiction that dispel the myths, humanise people living with addiction, and tackle the stigma and discrimination that prevents people from getting the help they need.

Make addiction a national priority

Responding to addiction should be a national priority that receives the same level of attention as any other highly prevalent health condition. We need to re-establish a national governance framework to prioritise investment, promote collaboration across levels of government, and improve the coordination of our approach to all forms of addiction. This must include gambling, which deserves its own national strategy to reduce gambling harm.

Addiction is significantly impacting many Australians, yet we know it can be successfully managed with the right treatment, care, and support. With appropriate multidisciplinary and integrated care, underpinned by wraparound supports and timely follow-up, we can help Australians living with addiction to live healthier, happier, and more productive lives.

Importantly, investing in treatment, care, and support alone is not enough. To reduce the harms of alcohol, tobacco, other drugs, and gambling, we must also bolster our efforts in prevention, early intervention, and harm reduction, which have significant social, health, and economic benefits. For example, for every dollar spent on needle and syringe programs, $27 is saved.[44]

Implement evidence-based reforms

Evidence-based reforms can reduce the cost of addiction in Australia by supporting effective prevention, early intervention, treatment, and harm reduction, and reducing the unintended consequences of policy and system responses on people living with addiction. Australia must leverage our experience and learn from international experience to implement effective, evidence-based reform to address all forms of addiction.

Population-wide strategies are only one piece of the puzzle. We also need to consider population-specific strategies that target priority groups. This is exemplified by the fact that despite Australia's world-leading efforts to reduce tobacco consumption and related harms, smoking remains the largest contributor to the cost of addiction in Australia, with the cost burden overwhelmingly falling on a small cohort of people who smoke with high rates of mental health conditions and from certain marginalised communities. Going forward, we need a more nuanced response to addiction with a greater focus on effective, evidence-based policy and practice that recognises the unique needs of priority populations.

Tackle stigma to promote help-seeking

We must reduce the impact of stigma and discrimination. Stigma is damaging and can delay help-seeking by years, even decades. We must tackle stigma to promote help-seeking while also ensuring that accessible, timely support is available when people do seek it.

Now is the time to #**Rethink**Addiction

44 National Centre in HIV Epidemiology and Clinical Research (2009), 8.

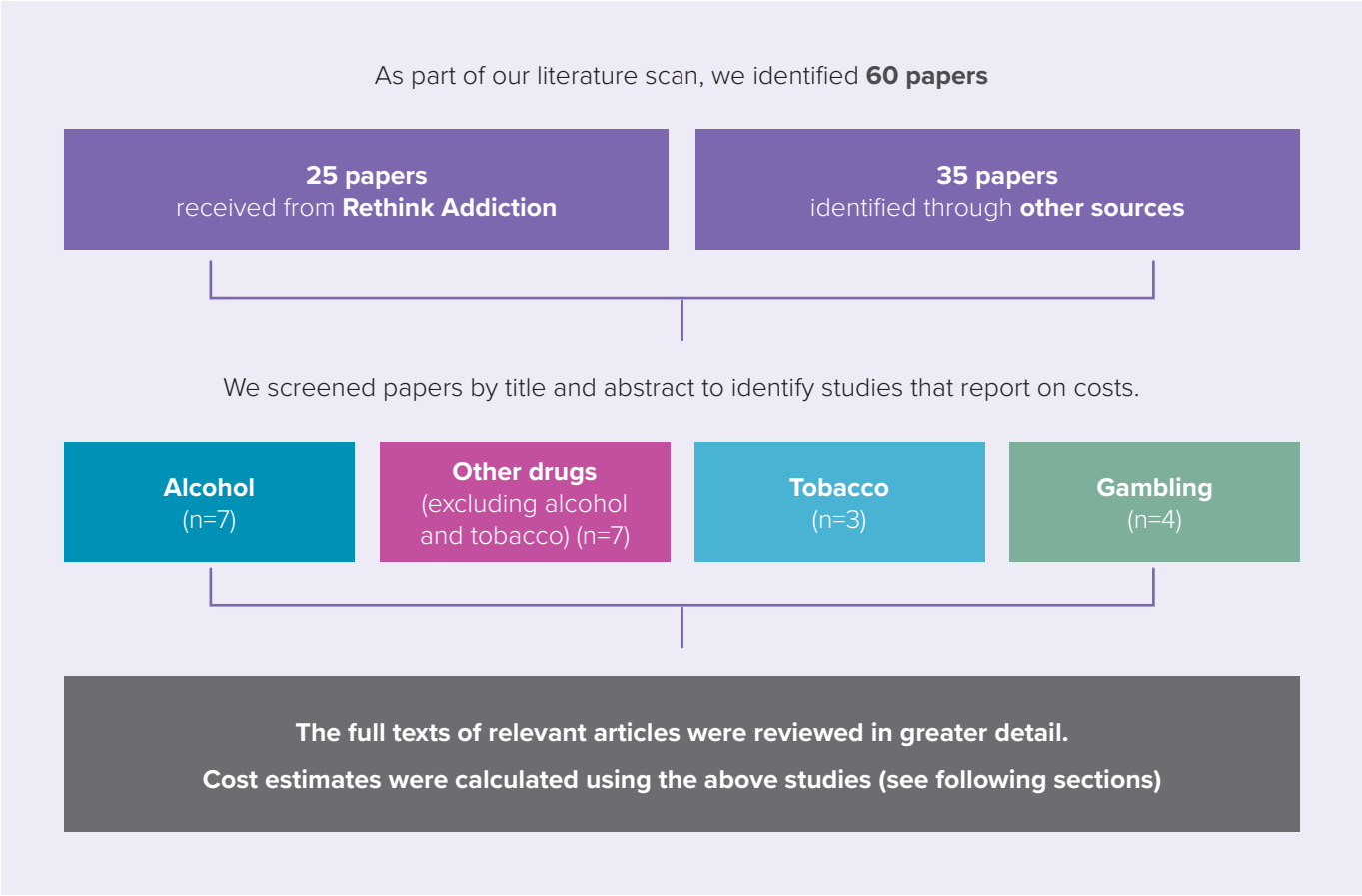
Estimating the cost of addiction

This report is informed by a scan of existing literature and engagement with experts in health economics, addiction treatment, public policy, and people with lived and living experience of addiction.

Literature scan

Data on the economic and societal costs of addiction as they relate to alcohol-, other drug-, tobacco-, and gambling-related harm were identified, systematically collected, standardised, and adjusted, to estimate the costs across each type of addiction.

Figure 3: Literature scan process



Development of a cost framework

An analytical framework was developed to ensure comprehensive collection and assessment of costs. Collecting data against a structured framework enabled standardising of results across studies and highlighted which cost components are well captured in the literature, and which ones are not. Consistent with the literature, the cost framework distinguished between tangible and intangible costs.

Tangible costs are those costs for which a market price exists as they can be effectively traded in the market economy; for example, the need to provide additional health care or lost wages.

Intangible costs are those costs that cannot be traded, such as reduced quality of life from ill-health or the value placed on lost years of life.[45]

In the body of this report, the tangible costs are referred to as **'the cost of addiction'**, and intangible costs are referred to as **'the value of lost life'**.

Because studies differ in their publication date, geographic focus and scope of cost, the cost estimation in this report involved adjusting and standardising results across studies to ensure results were broadly comparable. Table 1 summarises adjustments applied to cost estimates identified in the literature scan in order to determine the cost of addiction and value of lost life in Australia in 2021.

Table 1: Adjustments applied to cost estimates from the literature

Adjustment	Description
Inflation	Cost estimates identified in the literature scan were updated to 2021 Australian dollars using the ABS Consumer Price Index (CPI).[46]
Population growth	The reports/papers cited commonly reported total societal costs of addiction for a given year. To account for the changing size of the population, estimates from studies were standardised into costs per 100,000 adults for the specified year and region, and applied to the 2021 Australian adult population.[47]
Categorisation	Studies differ in their categorisation of costs. To enable comparability across studies, cost components were grouped into broader categories defined in the standard cost framework (see Appendix B).
Recency	More recent studies received higher weights than older studies. For tobacco-related studies, the recency penalty was doubled due to considerable reductions in smoking prevalence in Australia, rendering past tobacco-related studies more obsolete relative to other types of addiction. For more detail, see Appendix B.
Representativeness	Nationally-representative studies were given a greater weight compared to studies with restricted scope (e.g. geographic scope limited to a single state). For more detail, see Appendix B.
Overlap	When adding up costs associated with different types of addiction, there was a possibility of double-counting some of the costs due to a single person experiencing more than one type of addiction. An adjustment was applied to correct for this. For more details refer to Appendix B.

45 Whetton et al (2021).
46 Australian Bureau of Statistics. (2022).
47 Australian Bureau of Statistics. (2021).

Estimating the value of lost life

There are two approaches used in the literature to estimate the value of life and estimates vary widely depending on which approach is taken.

The demographic approach considers all lives lost to addiction in the past and how these losses impact on the current year. This approach compares the actual demographic structure to a hypothetical one in which these lives had not been lost. Due to the focus on past lives lost, this approach is referred to as the **retrospective approach or 'retrospective'** throughout this report.

By contrast, the human capital approach is future-oriented. It counts all lives lost to addiction in a given year, and considers the contributions these lives could have made in the future. Due to the focus on future impacts of lives lost, this approach is referred to as the **future-focused approach or 'future-focused'** throughout this report.

Because these approaches represent two fundamentally different ways of understanding how addiction affects any given year, their results have been reported separately. Methods used in the cost estimation are presented in more detail in Appendix B.

Consultation and validation with experts

Iterative updates were made to the framework based on feedback received through a series of consultations with academics and leaders in the fields of addiction and health economics. People with lived experience of addiction were also consulted and provided input into the development of the cost framework and this report. We would like to acknowledge all of those who provided their time and expertise and thank them for their knowledge and contribution to this important piece of work.

Study limitations

Interpretion of results presented in this study should consider a few limitations:

- Estimating the present cost of addiction based on studies from the past may result in inaccuracies even when steps are taken to adjust the data to current conditions, as the patterns and consequences of addiction change over time.
- There is a possibility that additional studies on the cost of addiction may exist in the literature, as a systematic literature review was not performed for this report.
- While there is uncertainty within results from the literature, in the interest of simplicity and accessibility this was not explored in this report. Different standards of uncertainty reporting across the studies found in the literature would require a major statistical endeavour to standardise and recalculate for the reported totals. This statistical exercise was not in scope for the present report.
- A single estimate for the value of lost life is unable to be presented as the two methodologies of estimating the value of lost life are not directly comparable. Care should be taken when interpreting the cost of addiction and the value of lost life as the total cost of addiction. Adding the cost of addiction and the value of lost life may lead to double-counting of lost productivity as the cost of addiction accounts for productivity losses and this may also be considered as part of the value of lost life.

Cost findings

The cost of addiction to Australia in 2021 was estaimed to be $80.3 billion. The value of lost life due to addiction was estimated to be $48.4 billion (retrospective) or $173.8 billion (future-focused).

These costs are similar to the single largest spending program in Australia's history – JobKeeper, which cost an estimated $90 billion in 2021.[48]

Analysing the cost of addiction and the value of lost life in Australia provides valuable insights into the breadth, depth, and nature of the impacts of addiction on the Australian economy and the lives of Australians. Addiction-related costs are incurred across the healthcare system, justice system, workplace and household productivity, as well as in other areas. Understanding the size and distribution of these costs can help inform policy and service system reform and improvement, and support responses to addiction including primary prevention, early intervention, treatment, and harm reduction (Table 2).

Table 2: Summary of tangible and intangible costs related to alcohol, tobacco, other drugs, and gambling in Australia[49]

	Cost of addiction (estimated 2021 $AUD millions)				
	Alcohol	Tobacco	Other drugs	Gambling	Adjusted Total^
Tangible ('the cost of addiction')					
Healthcare	$2,827	$4,467	$1,022	ND	$8,135
Justice and law enforcement	$6,435	$192	$5,826	$708	$12,875
Workplace productivity	$4,076	$10,979	$2,394	$698	$17,752
Household productivity	$4,444	$13,220	$1,512	$2,137	$20,849
Social services	$875	ND	$199	$1,490	$2,507
Family and others	$730	ND	$253	$304	$1,260
Engaging in harmful consumption	$3,237	$6,963	$1,711	$5,394	$16,928
Total tangible	**$22,625**	**$35,822**	**$12,918**	**$10,731**	**$80,305**
Intangible ('value of lost life')					
Pain and suffering	$2,698	ND	$134	$7,032	$9,649
Loss of health and life					
Demographic approach ('retrospective')	$3,856	$33,236	$2,309	$264	$38,801
Human capital approach ('future-focused')	$28,867	$134,173	$4,722	ND	$164,105
Total intangible (retrospective)	**$6,554**	**$33,236**	**$2,443**	**$7,297**	**$48,450**
Total intangible (future-focused)	**$31,565**	**$134,173**	**$4,855**	**ND**	**$173,753**

^ The total across the four categories is adjusted for double-counting, or overlap, between the categories

ND - Not enough data

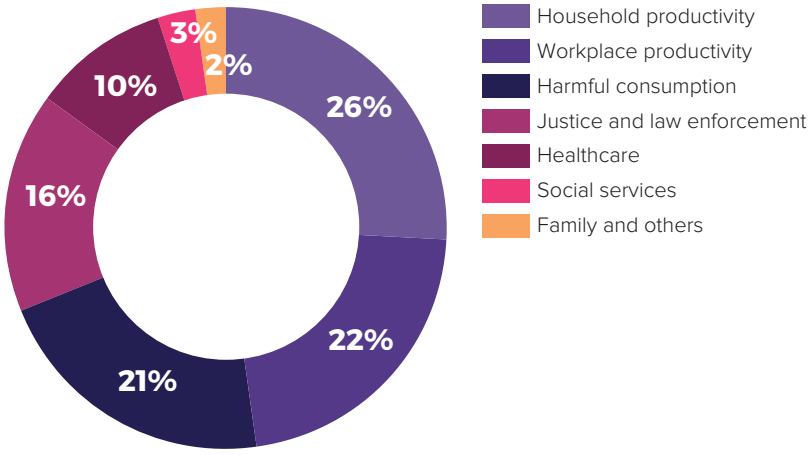
48 Australian Government: The Treasury. (2021).

49 Some intangible costs are currently not well captured in existing Australian studies and reports. For example, for alcohol-, other drug-, and tobacco-related harm, the intangible costs to family, friends, and others are not currently reported in Australian studies. There are some estimates on the intangible gambling-related costs to family, friends, and others.

The cost of addiction

The cost of addiction to Australia in 2021 was estimated to be $80.3 billion. Across all types of addiction, workplace and household productivity losses contributed to almost half of all tangible costs ($38.6 billion). This was followed by hamrful consumption (21 per cent or $16.9 billion) and justice and law enforcement (approximately 16 per cent or $12.9 billion). Justice and law enforcement costs included costs related to policing, courts, and prisons, among others. Healthcare also accounted for a substantial proportion of tangible costs (approximately 10 per cent or $8.1 billion). The remaining costs relate to social services (approximately 3 per cent or $2.5 billion), and impact on family and other persons affected (approximately 2 per cent or $1.3 billion).

Figure 4: Tangible costs, by type of cost



The value of lost life related to addiction

The value of lost life due to addiction was estimated to be $48.4 billion (retrospective) or $173.8 billion (future-focused). The value of lost health and life was the most significant contributor to the overall value of lost life in Australia (which also captured pain and suffering to the individual and others). This finding was consistent across alcohol, tobacco, and other drug addiction types regardless of the method applied. When considering the overall value of lost life in 2021, the value of lost health and life specifically contributed to approximately 80 per cent, or $38.8 billion in retrospective costs, or 94 per cent, or $164.1 billion in future-focused costs.

The value of pain and suffering associated with addiction was also substantial, estimated at $9.6 billion in 2021.

Value of lost life due to addiction

$48.4b < **$173.8b**

Retrospective **Future-focused**


Share your story
of addiction
By sharing our stories we can change the conversation and humanise addiction.
Share your story at
rethinkaddiction.org.au/shareyourstory

Tobacco $35.8 billion

Tobacco-related harm incurred a cost of $35.8 billion, equating to 45 per cent of the total cost of addiction.

Costs related to productivity and harmful consumption were the main drivers of costs.

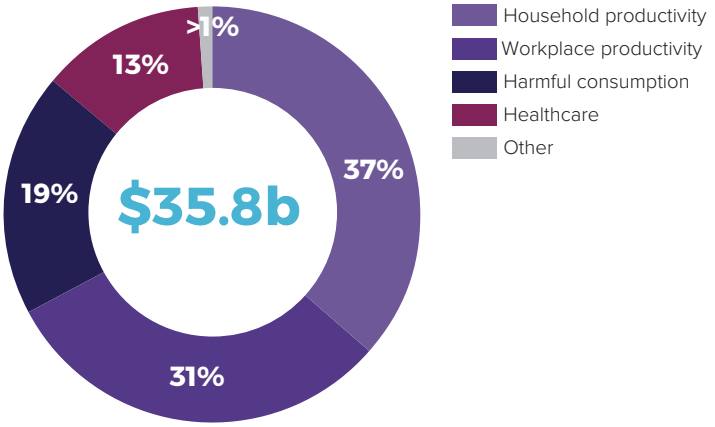
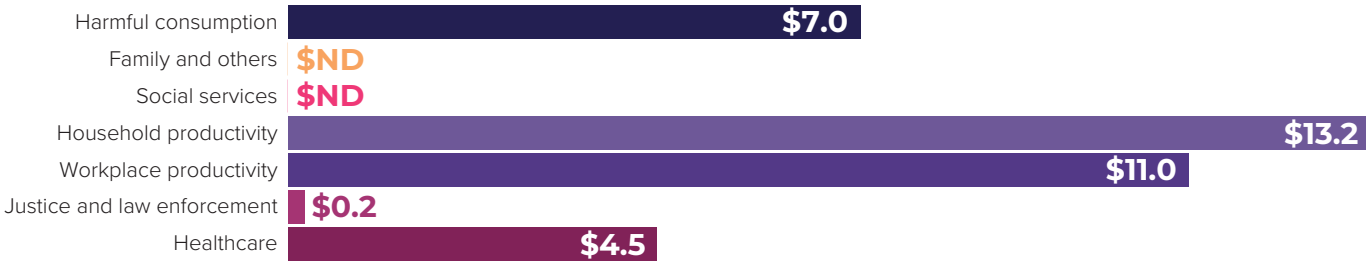


Figure 5: Costs of tobacco-related harm ($bn)



ND - Not enough data

Productivity-related losses	The loss of productive time in the household and in the workplace was a major driver of tobacco-related costs in Australia. In 2021, costs related to lost workplace and household productivity were $13.2 billion and $11.0 billion, respectively. Combined, these costs represented approximately 68 per cent of the tangible costs of tobacco use, or $24.2 billion in 2021.
Harmful consumption	The cost of consuming tobacco, which represents the expenditure on tobacco by people who smoke was the second largest contributor to the total cost of tobacco-related harm, representing 19 per cent of all tobacco-related costs, or $7.0 billion in 2021.
Healthcare costs	Healthcare accounted for a substantial proportion of tobacco-related costs, contributing to approximately 13 per cent, or $4.5 billion, in 2021.
The value of lost life	Death and illness resulting from tobacco use had an estimated cost of **$33.2 billion** (retrospective) or **$134.2 billion** (future-focused). These values included years of life lost due to premature mortality and poor quality of life due to living with a serious illness. This did not include the costs to family, friends and pain and suffering as these costs are not currently well understood in Australian literature for tobacco.

Value of lost life due to tobacco-related harm

$33.2b Retrospective < > **$134.2b** Future-focused

Alcohol **$22.6 billion**

Alcohol-related harm incurred a cost of up to $22.6 billion, equating to 28 per cent of the cost of addiction.

Costs related to productivity and the justice system are the main drivers of alcohol-related costs.

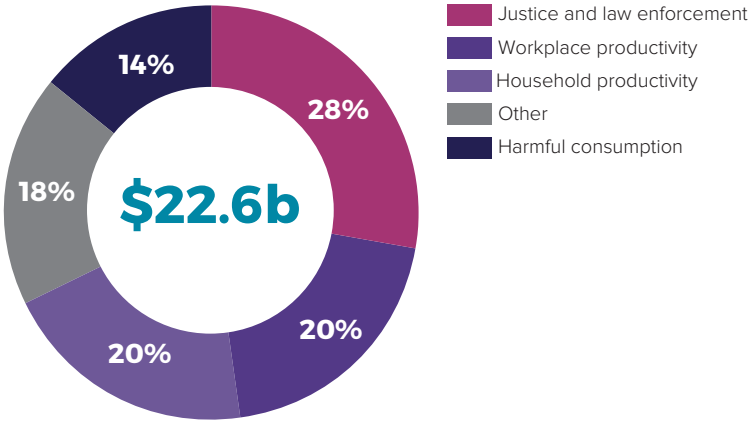
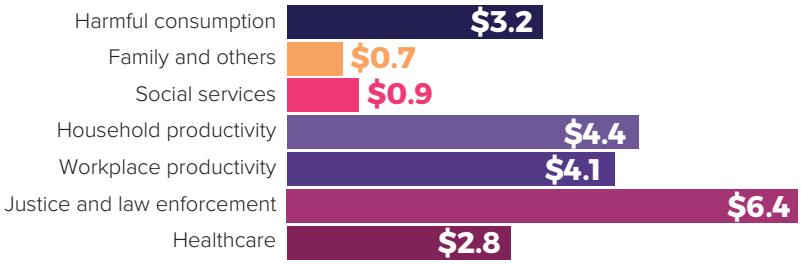


Figure 6: The costs of alcohol-related harm ($bn)



Productivity-related losses	The loss of workplace and household productivity was the major driver of costs caused by excessive consumption of alcohol in Australia. Costs related to workplace and household productivity accounted for $4.1 billion and $4.4 billion in 2021, respectively. Combined, these costs represented 38 per cent of alcohol-related costs, or $8.5 billion in 2021.
Justice & law enforcement	Justice and law enforcement activities contributed 28 per cent of costs associated with alcohol-related harm, or $6.4 billion in 2021. Road accidents were the largest contributor to justice and law enforcement costs at $3.7 billion in 2021.
Harmful consumption	The cost of consuming alcohol, including primarily the expenditure on alcohol itself, contributed 14 per cent of alcohol-related costs, or $3.2 billion in 2021.
Healthcare costs	The remaining costs associated with alcohol-related harm in 2021 were associated with healthcare ($2.8 billion), social services ($874.7 million) and family and others ($730.4 million).
The value of lost life	Both methods of valuing the loss of health and life reflect the magnitude of losses to Australia as a consequence of addiction. This loss was estimated to be **$3.9 billion** (retrospective) or **$28.9 billion** (future focused). Additionally, there were also losses related to the value of pain and suffering ($2.7 billion).

Value of lost life due to alcohol-related harm

$3.9b Retrospective < > **$28.9b** Future-focused

Other drugs | $12.9 billion

Other drug-related harm incurred a cost of $12.9 billion, equating to 16 per cent of the cost of addiction.

This was primarily comprised of costs occurring in the justice and law enforcement system and lost productivity.

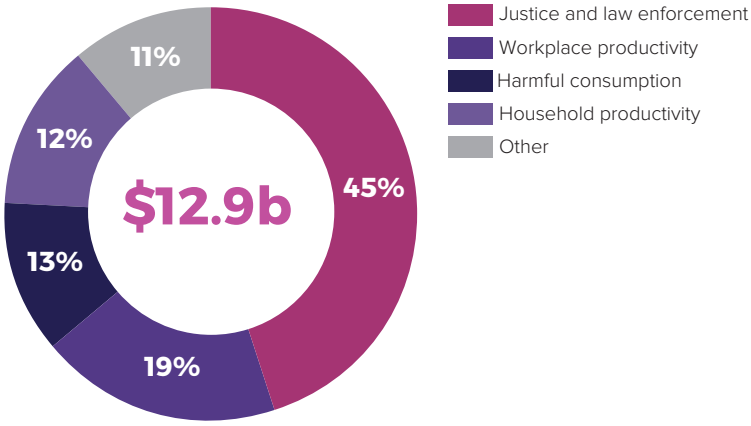
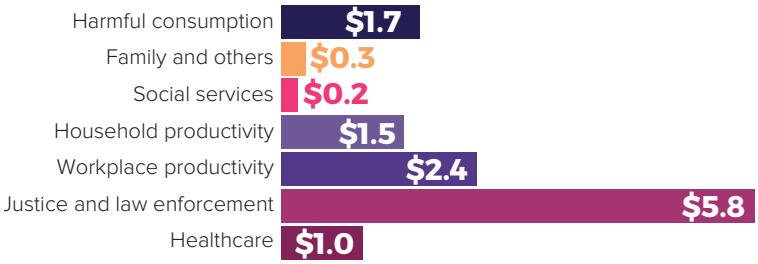


Figure 7: Costs of drug-related harm ($bn)



Justice & law enforcement	The leading costs associated with other drug-related harm occurred in the justice and law enforcement system. These systems contributed 45 per cent of drug-related costs, or $5.8 billion in 2021. The cost of policing and lost productivity of prisoners were the main drivers of costs related to justice and law, representing $1.2 billion (21 per cent) and $1.7 billion (30 per cent), respectively.
Productivity-related losses	Lost workplace and household productivity was another major driver of costs related to other drug related harm in Australia. In 2021, workplace and household productivity losses represented $2.4 billion and $1.5 billion, respectively. Combined, these costs contributed approximately 30 per cent of drug related costs, or $3.9 billion in 2021.
Harmful consumption	The cost of consuming prescription or illicit drugs contributed 13 per cent of costs related to drug-related costs in Australia, or $1.7 billion in 2021.
Other costs	The remaining costs were related to healthcare ($1.0 billion), social services ($198.7 million) and family and others ($252.9 million).
The value of lost life	The overall value of lost life was **$2.4 billion** (retrospective) or **$4.9 billion** (future-focused). The value of lost health and life contributed the majority of this value, estimated to be $2.3 billion (retrospective) or $4.7 billion (future-focused). The value of pain and suffering was estimated to be $133.6 million.[50]

Value of lost life due to other drug-related harm

$2.4b Retrospective < > **$4.9b** Future-focused

50 This does not include the impact on family and others. These values are not currently well reported in Australian literature for drug related harm.

Gambling | $10.7 billion

Gambling-related harm incurred a cost of up to $10.7 billion, equating to 13 per cent of the total cost of addiction.

Costs related to consumption, and productivity losses, were the main drivers of the cost of gambling.

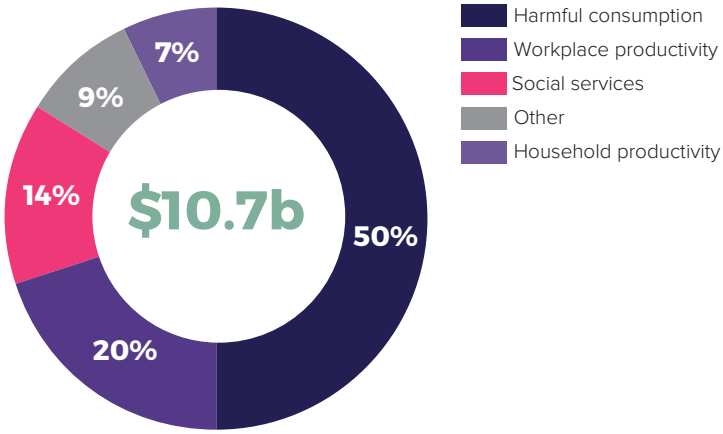
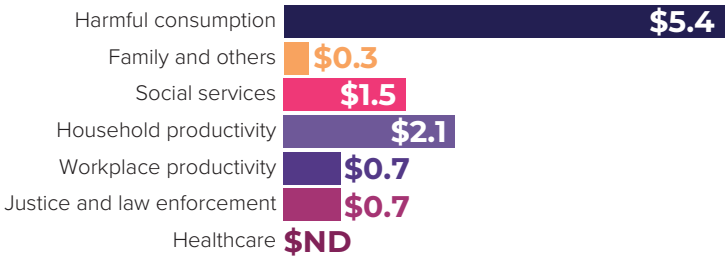


Figure 8: The cost of gambling-related harm ($bn)



ND - Not enough data

Harmful consumption	Australians have the highest per-capita gambling spend and losses in the world.[51] The results of this study indicate that gambling losses contributed to approximately half of all gambling-related costs, at $5.4 billion in 2021.
Productivity-related losses	Workplace and household productivity losses were another major driver of gambling-related costs. The loss of workplace productivity in 2021 was estimated to be $698.5 million. Lost household productivity accounted for a further $2.1 billion. Combined, productivity-related losses contributed approximately 27 per cent of total gambling-related costs, or nearly $2.8 billion in 2021.
Social services	Social services contributed 14 per cent of the total cost of gambling addiction, or $1.5 billion in 2021. This included costs to fund treatment, regulation and research.
Other costs	The remaining costs were related to justice and law enforcement ($707.7 million) and costs falling on families and other affected persons ($304.4 million) in 2021.
The value of lost life	The value related to the loss of health and life was estimated to be $264.4 million in 2021 (retrospective).[52] In addition, there were also losses related to pain and suffering, estimated to be $7.0 billion in 2021.

Value of lost life due to gambling-related harm

$7.3b
Retrospective

51 Queensland Government Statistician's Office, Queensland Treasury (2021), see: Summary Tables, 1, 4; Letts, S. (2018).

52 The literature scan identified one study that valued the loss of health and life (Browne et al 2017) and this study utilised the retrospective approach. A future-focused value is therefore unable to be presented.

Assessment of existing knowledge base

The literature scan provided a broad overview of the current knowledge of the cost of addiction in Australia. The scan highlighted the strengths of available data and areas that are well understood, as well as areas requiring further research.

Assessment of the literature

The literature scan captured seven alcohol-related studies, seven drug-related studies, three tobacco-related studies, and four gambling-related studies.

The existing literature on alcohol and other drug use includes studies that estimate their total costs, as well as more studies that target specific issues. In contrast, the literature on the costs of tobacco and gambling consists of total cost estimates only.

In terms of representativeness, literature on alcohol, tobacco, and other drugs is mostly comprised of national studies. Most gambling-related studies are focused on specific states, particularly Victoria and Tasmania, with only one national study available. The gambling literature is also more dated compared to other addiction types. The time period captured by gambling studies ranges from 1999 to 2017.

The below table summarises Australian studies identified in the literature scan which were used to estimate the overall cost of addiction in Australia.

Table 3: Characteristics of studies and reports included in the literature scan

	Alcohol	Other drugs	Tobacco	Gambling
Total number of studies and reports	7	7	3	4
Scope*				
Total costs	4	5	3	4
Specific issues and costs	3	2	0	0
Representativeness				
National	5	5	2	1
State-specific	2	2	1	3
Recency				
Published 0 to 5 years ago (2018 to 2022)	2	2	1	0
Published 6 to 10 years ago (2013 to 2017)	3	4	0	1
Published 11 to 15 years ago (2008 to 2012)	2	1	2	2
Published 16 to 20 years ago (2003 to 2007)	0	0	0	0
Published 21 to 25 years ago (1997 to 2002)	0	0	0	1

* Total cost studies refer to studies that estimate broader social and economic costs (see for example Collins and Lapsley (2008) and Whetton et al. (2021)). Specific cost studies refer to studies that estimate more specific cost components such as the impact on others (see for example Roche et al. (2014)).

Completeness of costs reported in the literature

Across all addiction types, productivity and law enforcement costs were generally reflected in total cost studies. For alcohol, tobacco, and other drug-related studies, key cost components within the healthcare and loss of life categories were also generally well-documented.

The Collins and Lapsley (2008) and Whetton et al. (2021) studies were identified as leading studies for the cost of alcohol, tobacco, and other drug consumption. These studies estimated the social and economic costs of alcohol, tobacco, and other drugs in Australia, and included comprehensive lists of relevant tangible (cost of addiction) and intangible (value of lost life) costs. Both studies generally categorised costs into healthcare, workplace and household productivity, crime, and premature mortality.

The most commonly cited methodology used for estimating the cost of gambling in Australia was developed by the Productivity Commission in 1999. The Productivity Commission categorised gambling-related costs into five cost categories: financial costs, productivity and employment costs, crime and legal costs, personal and family costs, and treatment costs.

The literature scan also found that, across addiction types, some cost components were not well documented, presenting important opportunities for future research.

Poorly documented cost components relating to the cost of addiction include:

- Impact on educational achievement of population
- Healthcare for gambling
- Patient-time costs
- Impact on family and others for tobacco

Poorly documented cost components relating to the value of life include:

- Stigma
- Loss of health and life for gambling
- Pain and suffering for tobacco

The adverse impacts of addiction on educational achievement and stigma are not well documented in existing literature across all addiction types. The costs to family, friends and others are not currently comprehensively captured in Australian studies on tobacco and alcohol. Similarly, while most of the gambling studies identify the intangible cost of suicide attempts and ideation, only one study estimated the cost of life lost to suicide. Some of the shortcomings of the past cost-of-addiction studies are now being addressed in the scientific literature. For example, recent research by Jiang et al. (2022) examined the problem of secondary harms, estimating the cost of alcohol-related harm to others at $19.8 billion.[53]

Furthermore, the cost of misuse of licit drugs in Australia is currently underreported in the literature. Of the seven studies focused on drug addiction identified in the literature scan, only one had the cost of licit drugs in its scope. This represents a substantial gap in existing knowledge given that most overdose deaths in Australia involve prescription medication.

Overall, the literature scan suggests there are notable gaps in the literature's understanding of costs related to addiction and more research is required to better understand its consequences to society. However, there are clear opportunities for targeted, high impact research that emerge from the present literature scan.

The impact of COVID-19 on addiction in Australia

In 2020, measures were introduced to minimise the spread of COVID-19, limiting the operation of nonessential services. While there is some evidence of the impact of the COVID-19 pandemic on consumption, the papers and reports reviewed in this study do not include the impacts of COVID-19 in their cost estimates. Consequently, there appears to be little published literature on how the pandemic has impacted the cost of addiction in Australia.

53 Jiang et al (2022).

Support services

Phone

National Alcohol and Other Drug Hotline

A 24/7 free and confidential national hotline for anyone affected by alcohol or other drugs. Support includes counselling, advice, and referral to local services.

PHONE: 1800 250 015

Gambler's Help

A free and confidential national hotline available 24/7 for those experiencing a gambling problem. Support includes counselling, information, referral, and advice.

PHONE: 1800 858 858

Online

Counselling Online

Counselling Online is a free, confidential national service that provides 24/7 support to people across Australia affected by alcohol or other drug use.

www.counsellingonline.org.au

Gambling Help Online

Gambling Help Online is a free, confidential national service that operates 24/7 to provide online support and referral for anyone affected by gambling.

www.gamblinghelponline.org.au

Peer support

SMART Recovery

Evidence-based support groups empowering people to take control of addictive behaviours associated with alcohol, other drugs, and gambling. Available in-person or online.

www.smartrecoveryaustralia.com.au

Narcotics Anonymous

A non-profit fellowship or society of men and women for whom drugs had become a major problem.

www.na.org.au

Alcoholics Anonymous

A fellowship of men and women who share their experience, strength, and hope with each other that they may solve their common problem and help others to recover from addiction.

www.aa.org.au

Gamblers Anonymous

A fellowship of men and women who share their experience strength and hope with each other that they may solve their common problem and help others recover from a gambling problem.

www.gaaustralia.org.au

Appendix A: Glossary

Terminology	Definition
Addiction	For the purposes of this report, the 'cost of addiction' refers to the cost of alcohol-, tobacco- other drug-, and gambling-related harms including diagnosed substance use or gambling disorders. The Rethink Addiction team recognises that many people find the term "addict" stigmatising. It reduces the identity of people who experience problems with alcohol, tobacco, other drugs or gambling to only their relationship with these substances and activities. This reductive view is a key driver of the stigma that people face, particularly when accessing health care. Similarly, the term "addiction" can have the unintended effect of reducing a complex range of issues spanning society, medicine, families, and personal factors to an over-simplified and potentially harmful label. Rethink Addiction does not use the word "addict" in any of its campaign activities. However, we do use the word "addiction" in our title because we know that it is how society refers to these issues and, if we want to genuinely address issues of stigma and discrimination, we need to reach and engage as many people as possible, from all walks of life. We respectfully acknowledge that part of "Rethinking Addiction" is addressing how we label and discuss these issues. We welcome the evolution of our language to become inclusive and genuinely reflective of the people and the issues that we represent.
Cost categories	Broad groups of costs such as those related to productivity, healthcare, justice and law enforcement etc.
Cost component	More specific types of costs within each cost category. For example, cost components within the healthcare category such as hospital costs, medical costs, ambulance, and others. Cost components add up to totals presented against cost categories.
Cost of engaging in harmful consumption	Resources used in the purchase of substances or services that involve or enable consumption.
Other drugs or 'Other drug-related harm'	Other drug-related harm refers to illicit use of drugs including illegal drugs, misuse of pharmaceutical drugs, or inappropriate use of other substances such as inhalants.
Family and others	Financial and emotional costs related to divorce and separation falling on the person experiencing an addiction problem and to others around them.
Future-focused approach	The future-focused approach refers to the human capital approach to estimating the value of lost life. This approach is defined in 'Estimating the value of lost life' in 'Estimating the cost of addiction' and in Appendix B.
Healthcare	Includes medical, hospital, nursing homes, primary healthcare, and outpatient care.
Intangible costs	The value of lost life refers to intangible costs, which are costs which cannot be traded but which can be assigned a value to society. This covers the cost of lost life, the cost of premature illness, and pain and suffering of the individual and their friends and family.
Justice and law enforcement	Includes policing, criminal courts, prisons, insurance administration, property damage and productivity of prisoners.
Loss of health and life	Includes years of life lost from premature death and reduced quality of life due to living with a serious illness.
Household productivity	Productive activities that individuals perform and enjoy outside of paid labour.
Workplace productivity	Costs related to the reduction in productivity and workforce as a result of absenteeism, presenteeism and lower participation in the labour market.
Retrospective approach	The retrospective approach refers to the demographic approach to estimating the value of lost life. This approach is defined in 'Estimating the value of lost life' in 'Estimating the cost of addiction' and in Appendix B.
Societal costs	Include both tangible and intangible costs.
Social services	Cost of prevention and treatment programs.
Tangible costs	Tangible costs are those costs for which a market price exists as they can effectively be traded in the market economy.
Value of lost life	See 'Intangible costs'.

Appendix B: Cost framework and methods

This section describes our approaches to the literature scan, cost framework and estimation of costs.

Literature scan

Data were systematically collected from a literature scan capturing cost estimates of the economic and societal costs of alcohol-, tobacco-, other drug-, and gambling-related harm in Australia. These data were used as inputs to estimate various types of costs across each type of addiction.

Sources of evidence

The literature scan was conducted using the following main sources of evidence:

1. Peer-reviewed studies using all types of methodologies, including reviews and primary research.
2. Grey literature sources, including organisational reports and evaluations, professional association guidelines, frameworks, and policy documents.
3. Consultations with expert stakeholder groups.

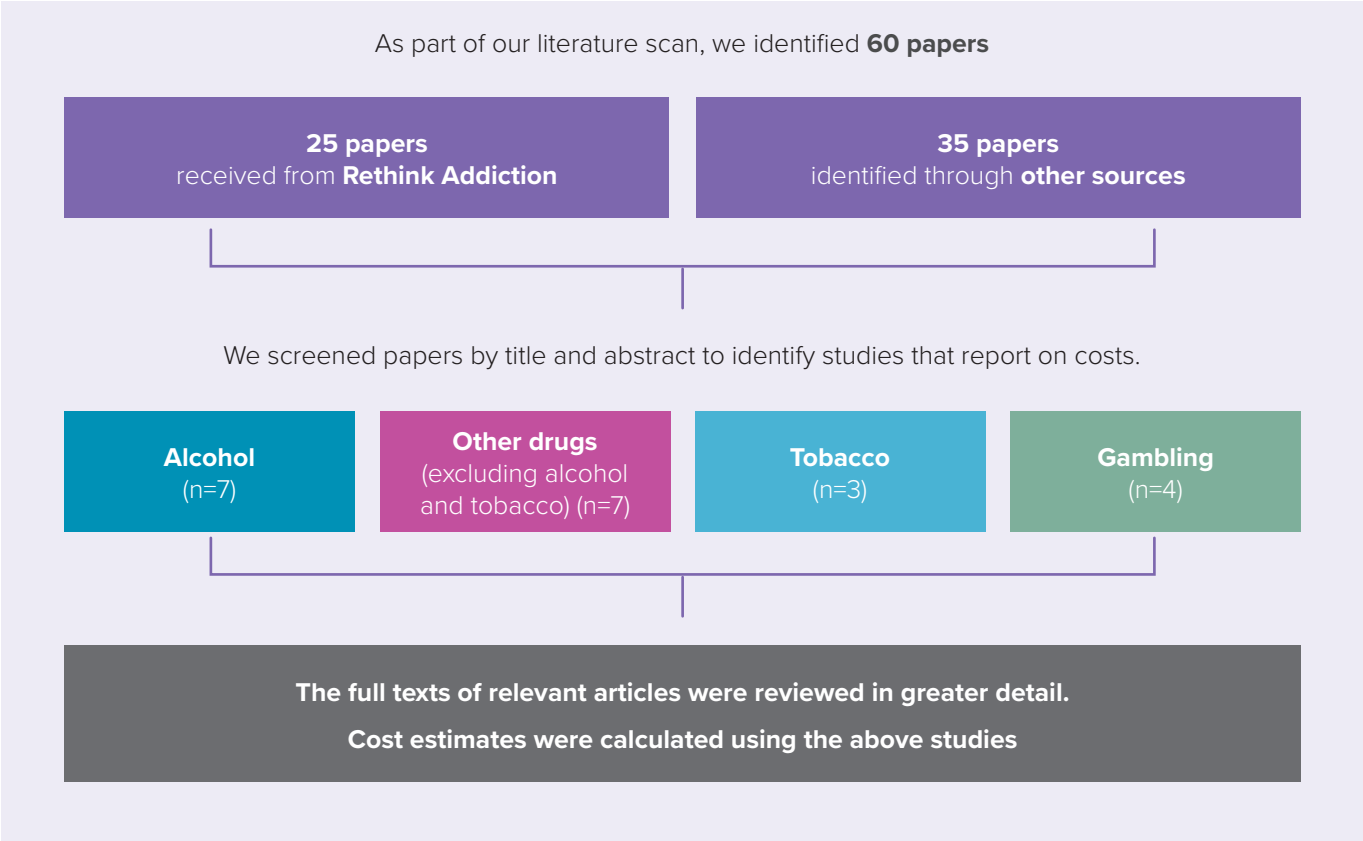
Selection of evidence

Searches were undertaken of the databases identified above, using a search strategy informed by the inclusion criteria. Key search terms are described in Table 4.

Table 4: Key search terms

Concept	Terms
Addiction	Addiction or Addicted + Substance use disorder
Addiction type	Alcohol + Illicit Drugs + Prescription Drugs + Tobacco + Gambling
Cost	Cost + Cost Analysis
Stigma	Stigma or Stigmatised
Intervention	Innovative + Prevention + Early Intervention + Intervention or Model of Care + Service System or System

Figure 9: Literature scan process



Approach to the cost framework

As part of this study, a cost framework was developed to enable comprehensive collection and presentation of cost estimates reported in the Australian literature. The framework aimed to:

1. Establish cost categories and components well documented in the literature,
2. Identify gaps in existing knowledge,
3. Assess the recency and relevance of studies,
4. Standardise and compare costs across different studies and addiction types, and
5. Manage the extent of overlap in cost estimates.

In addition to underpinning cost estimates, the literature scan informed the structure and contents of the framework. Commonly used reporting structures and cost components in the literature were identified, assessed and adapted into this study's cost framework to ensure it accurately and completely reflects the current knowledge base.

The working framework was assessed against the 'impact inventory' (Sanders et al. (2016), a generic catalogue of health and non-health costs used in economic evaluations, which provided a point of validation.

A series of consultations with a range of experts where preliminary research findings could be tested and validated. Consultations were undertaken with the following groups to ensure multiple perspectives were considered:

1. Lived experience,
2. Clinical experts in Australia and internationally,
3. Policymakers, and
4. Research academics.

In each consultation, participants provided feedback on the completeness of the cost framework and offered guidance regarding the approach to estimating the cost of addiction in Australia. Where applicable, participants were asked to identify papers and reports to help fill any existing gaps.

Development of the cost framework

A common approach identified in the literature was to distinguish between tangible and intangible costs (see for example Collins and Lapsley (2008) and Whetton et al. (2021). There were also considerable similarities in the cost components identified across studies. To reflect the literature, the framework was updated to distinguish between tangible and intangible costs and included cost components most commonly reported. For studies that focused on particular or uncommon areas of cost, for example costs falling on the family and other persons affected, additional cost components were added to the framework.

While the structure and contents within the framework were largely adopted from the relevant literature, updates were made to the framework to reflect advice received from expert consultations. For example, a suggestion raised in consultations led to the separation of tobacco from drug-related cost findings. Similarly, the framework was updated to include cost components related to 'primary healthcare'. Supporting studies and reports were also requested from experts and, where applicable, cost estimates were integrated into the cost framework.

After incorporating findings from the literature and advice received from consultations, the cost framework included the following types of costs.

Adjustments made to estimate the societal cost of addiction

Estimating the costs presented in this report involved adjusting and standardising results across studies due to differences in their publication date, geographic focus, and the scope of costs included. To ensure results were broadly comparable, adjustments were applied to cost estimates identified in the literature scan. These adjustments are summarised in Table 1 (see page 23). Presented below are additional details regarding selected adjustments.

Recency

All things being equal, more recent studies would be considered to give a more accurate representation of addiction costs compared to older studies. To reflect this, more recent studies were given a higher weight than older studies. For tobacco-related studies, the recency penalty was twice the penalty applied to a similar aged study for other types of addiction. This was due to considerable reductions in smoking prevalence in Australia. This was a result of significant investments made to reduce smoking rates among the Australian population, including mass-media campaigns, smoke-free environments, access to cessation aids, regulation of marketing, pictorial health warnings, and world-first standardisation of tobacco product package design. These policy efforts resulted in considerable reductions in smoking rates which, compared to less dramatic policy change regarding other types of addiction, render past tobacco-related studies relatively more obsolete and potentially less accurate. The penalties are summarised in Table 6.

Table 5: Cost components included in framework

Tangible	Costs include
Healthcare	Hospital, specialist and outpatient care, primary care, pharmaceuticals, nursing homes
Justice and law enforcement	Police, criminal courts, prisons, damage/theft of property, insurance administration, road accidents, fires, litter, bankruptcy, productivity of prisoners
Workplace productivity	Reduction in workforce and reduction in productivity due to absenteeism and presenteeism
Household productivity	Unpaid output lost due to premature mortality or sickness, economic costs of excess expenditure, job loss, patient-time costs, support provided by family and others
Social services	Prevention and treatment programs
Family and others	Financial costs related to divorce and separation to family and other affected persons
Consumption	Resources dedicated to the purchase of the substance consumed (alcohol, tobacco, other drugs) or used toward engaging in consumption (gambling).
Intangible	
Pain and suffering	Losses related to the emotional and physical distress experienced by the individual, their family and other persons affected
Loss of health and life	Reduced quality of life and years of life lost due to addiction

Table 6: Penalty weights applied due to recency and geographic focus

Characteristic	Alcohol, other drugs, gambling	Tobacco
Recency		
Published 0 to 5 years ago	0%	0%
Published 6 to 10 years ago	-5%	-10%
Published 11 to 15 years ago	-10%	-20%
Published 16 to 20 years ago	-15%	-30%
Published 21 to 25 years ago	-20%	-40%
Representativeness		
Nationally representatitve	0%	0%
Non-representative	-20%	-20%

Double counting the tangible and intangible costs of addiction

Collins and Lapsley (2008) recognised that there might be overestimation of tangible health-related costs involved when alcohol, tobacco and other drug-specific costs are aggregated to yield total health costs of addiction. This is due to the possibility that some individuals may be experiencing more than one type of addiction, for example, an individual simultaneously consuming tobacco and alcohol.[54] Their solution was to discount the aggregate health-related costs by an estimated 2.18 per cent. This present report follows a similar approach and applies the Collins and Lapsley (2008) estimate to correct for the aggregate cost of addiction for double-counting in both tangible and intangible costs.

Estimating the value of lost life

Addiction can cause premature deaths, and each life lost prematurely consists of a loss in productive capacity and its psychological effects. There are two approaches used in the literature to estimate the value of life and, depending on which approach is taken, estimates can vary widely. The demographic approach considers all lives lost to addiction in the past and how these losses impact on the current year. This approach compares the actual population size and structure with the size and structure of the hypothetical alternative non-excessive/harmful consumption population. From this comparison the actual and hypothetical outputs are compared to yield the production costs in the year of study of past and present excessive/harmful alcohol, tobacco, other drug and gambling consumption. The demographic approach calculates the present production costs of addiction-induced deaths which have occurred in past and present years. Collins and Lapsley (2008) use the base 1947 population, the history of births, life tables and migration data, to project forward the Australian population from 1947 to 2005.

By contrast, the human capital approach is future-oriented. It counts all lives lost to addiction in a given year, and considers the contributions these lives could have made in the future. Because these approaches represent two fundamentally different ways of understanding how addiction affects any given year, their results have been reported separately. Table 7 (see page 40) provides an overview of the two approaches used to estimate the value of life.

54 Collins and Lapsley (2008).

Table 7: Methods used to estimate the value of lost life

Method	Description	Examples
Demographic approach (retrospective)	Comparing the existing demographic structure to a hypothetical one in which deaths due to a particular cause did not occur, and estimating the cost implications of the difference.	**Collins and Lapsley (2008)[54]** Their valuation of a lost life is calculated using data from the Bureau of Transport Economics to calculate the value of a year's living by reference to the average life expectancy of the Australian population. **Browne et al. (2017)[55]** A similar approach was adopted to estimate the average annual cost of fatality by suicide. This was estimated by dividing the average lifetime cost of suicide fatality by the average years of life lost by gambling-related suicides.
Human capital approach (future-focused)	Today's value of all future years of life lost due to a particular cause, possibly accounting for GDP growth, using society's average willingness to pay to reduce the risk of premature death by one.	**Whetton et al. (2021)[56]** The value of a statistical life is first derived from Abelson (2008) and inflated to the relevant financial year.[57] The Abselson estimate is then converted to a net present annual value by treating the value of a statistical life as equivalent to the present value of an annuity over the expected years of life remaining. **Tait et al. (2018)[58]** Uses a range of potential value of statistical life estimates including Abelson (2008), Access Economics (2008) and the US Department of Transportation (2015).

Differences in the value of lost health, life, and pain and suffering for alcohol-related harm

These findings were based on two prominent studies that estimate the cost of alcohol-related harm: Collins and Lapsley (2008) which undertook a demographic approach and Whetton et al. (2021) which undertook a human capital approach. The two studies differ on an underlying assumption regarding the protective effects of alcohol, which is in line with recent research that highlighted the uncertainty of the extent and accuracy of protective effects of alcohol against a range of health conditions.[59] As part of their estimate, Collins and Lapsley (2008) assume that, for some medical conditions, alcohol consumption at appropriate levels can have a protective effect and can reduce the risk of illness or death. In contrast, Whetton et al. (2021) provide cost estimates on the assumption that there are no protective effects for males but a low-dose protective effect for women.

Testing adjustment parameter assumptions

Certain adjustments to cost estimates made in this study rely on assumptions regarding parameter values. This includes in particular the recency penalty, the representativeness penalty, and the correction for double-counting when adding up the costs of the four types of addiction examined. This assumes that different values of these parameters will result in different cost estimates. To explore the impact of the assumed parameters, one-way sensitivity analyses were performed.

When testing alternative values of recency penalties, the tangible costs ranged between $79.2 billion and $81.0 billion. For studies that used a retrospective approach to estimate the value of loss of life, the intangible costs ranged between $47.9 billion and $48.7 billion. For studies that used a future-focused approach to estimate the value of loss of life, the intangible costs ranged between $173.4 billion and $174.2 billion.

When testing the assumptions regarding representativeness penalties, the tangible costs ranged between $79.8 billion and $81.4 billion. For studies that used a retrospective approach to estimate the value of loss of life, the intangible costs ranged between $48.0 billion and $49.0 billion in 2021. For studies that used a future-focused approach to estimate the value of loss of life, the intangible costs ranged between $171.0 billion and $177.1 billion.

55 Browne et al (2017).
56 Whetton et al (2021).
57 Abelson (2008).
58 Tait et al (2018).
59 Conigrave et al (2021).

When testing the impact of correction for double-counting, the tangible costs ranged between $78.0 billion and $82.1 billion. For studies that used a retrospective approach to estimate the value of loss of life, the intangible costs ranged between $47.1 billion and $49.5 billion. For studies that used a future-focused approach to estimate the value of loss of life, the intangible costs ranged between $168.7 billion and $177.6 billion.

Results of the sensitivity analysis indicate that estimates were most sensitive to the level of correction for double-counting and least sensitive to recency penalties. Overall, the assumed values of adjustment parameters do not significantly affect the results and findings of this study. All cost estimates obtained through the sensitivity analyses fell within ±3 per cent of the base case results.

Appendix C: Frequently asked questions

1. How do you distinguish between use, harmful use, and addiction? Which one do the reported costs represent?

The authors of this report recognise that not every use creates harm, and not all harmful use is associated with addiction. The results reported here are likely to represent situations in which the use of alcohol, tobacco, other drugs, and gambling leads to harm which can be measured as a cost. In most situations, this will arise in the context of harmful use, and often in the context of addiction.

2. Are benefits of alcohol, tobacco, other drugs, and gambling considered?

While this study acknowledges there may be tangible and intangible benefits associated with engaging in alcohol, other drug, tobacco and gambling consumption, the exclusive focus of this study is on the costs of the harms and does not account for any benefits of consumption.

3. How do you account for situations in which a person may be addicted to more than one substance or activity?

When adding costs attributable to different types of addiction, it is possible that some of the costs would be double-counted. For example, when considering a hospital admission of a person who consumes other drugs and alcohol simultaneously, this healthcare cost may end up being counted twice. To correct for the possibility of such overlap, we discount the total cost of addiction by 2.18% as estimated in a study by Collins and Lapsley (2008).

4. Why are there two estimates of the value of lost health and life?

The demographic approach considers all lives lost to addiction in the past and how these losses impact on the current year. This approach compares the actual demographic structure to a hypothetical one in which these lives had not been lost. Due to the focus on past lives lost, this approach is referred to as the retrospective approach or 'retrospective' throughout this report.

By contrast, the human capital approach is future-oriented. It counts all lives lost to addiction in a given year, and considers the contributions these lives could have made in the future. Due to the focus on future impacts of lives lost, this approach is referred to as the future-focused approach or 'future-focused' throughout this report.

Because these two ways of thinking about the cost of addiction in the present year are fundamentally different, directly comparing or averaging their values makes little sense. Hence, their results have been presented separately. Both methods are used in the studies we examined and are valid methods of valuing loss of life and health.

5. Why are tangible costs and intangible costs presented separately? Can they not be added?

Tangible costs represent material losses that are more readily identifiable and measurable. Intangible costs are different in nature and may be more difficult to measure in value. In addition, both types of costs may include a productivity component and adding them would risk double counting the productivity losses.

6. When talking about 'other drugs', what types of drugs do you actually mean?

When talking about other drugs and the associated costs of their consumption, the literature generally considers illegal drugs (see summary table below). In fact, we find that the cost to Australia of legal drugs other than alcohol and tobacco is currently underreported in the literature. Of the seven other drug-related studies we identified, only one was related to the cost of legal drugs in Australia. Given that most overdose deaths in Australia involve prescription medication, this represents a major gap in our understanding of addiction.

7. How is pain and suffering measured in the literature?

Pain and suffering relates to the cost of physical and/or emotional distress associated with addiction-related harm. The studies reviewed either cited established estimates from dedicated reports, such as Collins and Lapsley deriving pain and suffering attributable to drug-related road accidents from a 2000 report by the Bureau of Transport Economics (BTE), or used a schedule of victim compensation for emotional and psychological injuries sustained as a result of addiction-related activities.

8. Some studies report higher costs for tobacco, why are your cost estimates lower?

The estimated social cost of tobacco use in 2015–16 was $136 billion which is substantially higher than one of the cost estimates reported here.[60] The difference is primarily due to differences in methodological approaches. A significant proportion of the costs associated with tobacco consumption are related to the value of life lost which, as discussed in the report, can be estimated using different methods yielding substantially different results. Furthermore, the societal cost of tobacco use is likely to decline over time due to the success of various policies introduced to address this issue.

9. Do we know how the COVID-19 pandemic affected the cost of addiction in Australia?

In 2020, measures were introduced to minimise the spread of COVID-19, limiting the operation of non-essential services. This impacted venues such as licensed liquor outlets, clubs and gambling venues, which were ordered to temporarily cease trade. On the other hand, consumption of alcohol and online gambling increased during the pandemic. In a survey conducted by the ABS to measure household impact of COVID-19, 20% of people reported increased alcohol use, 27% reported a decrease in alcohol use, and nearly half (47.1%) of participants said their consumption of alcohol stayed the same, since the spread of COVID-19. The increase was attributed to people spending more time at home, stress and boredom.[61] The Australian Institute of Family Studies found that there was a statistically significant overall increase in the frequency of gambling during COVID-19. A similar increase was observed in the number of Australians reported to have developed problems with smoking. At the same time, illicit consumption of other drugs fell during the pandemic. Analysis of wastewater by the National Wastewater Drug Monitoring Program found that, between 2019–20 and 2020–21, methamphetamine and MDMA markets were most impacted. During this period, consumption of methamphetamine and MDMA decreased by 21% and 53% respectively. Decreases in the consumption of cocaine (17%) and heroin (4%) were also observed. While there is some evidence of change in alcohol, other drug and gambling consumption during the COVID-19 pandemic, its overall and ongoing impact is yet to be determined, and the papers used in this study did not estimate the specific impacts of COVID-19.

10. Have any other relevant studies been released since this cost analysis?

Jiang et al. (2022) examined the problem of secondary harms, estimating the cost of alcohol-related harm to others at $19.8 billion. Although Jiang et al. (2022) report on 2016 data, the paper was published quite recently and was not identified in the literature scan. As such, it was not included in the cost analysis.

11. Why is your estimated cost of engaging in gambling ($5.4bn) lower than recent reports which suggest that losses due to problem gambling could be greater than $8bn?[62]

Our report reflects the best cost figures available in the literature at the time of writing. Because addiction is a dynamic problem, it is expected that as new data come to light, the cost estimates may differ, in some cases substantially, from what was established in the past. Discrepancy in the reported costs can also reflect different methods or assumptions being used. In the case of addiction, due to the magnitude of the problem growing in recent years, our results based on historical estimates from 2012 and 2017 are likely to be conservative, and possibly an underestimate.

60 Whetton et al (2019).

61 Australian Institute of Health and Welfare. (2022a).

62 Estimated as the proportion of excessive, harmful and problem gambling (33%) in all gambling losses ($25bn).

Appendix D: Summary of literature scan

To minimise the risk of double counting and overlap, a detailed cost framework was developed to capture costs.

● Tobacco ● Alcohol ● Other drugs ● Gambling

Table 9: Graphic summary of costs and savings included in each study

Form of cost	Collins and Lapsley (2008)	Whetton et al (2021)	Roche et al (2016)	AO NSW (2013)	Cadilhac et al (2009)	Manning et al (2013)	Whetton et al (2020)	Dale et al (2010)	Whetton et al (2019)	Ritter et al (2013)	Smith et al (2019)	Shanahan & Ritter (2014a)	Tait et al (2018)	Collins and Lapsley (2010)	Productivity commission (1999)	Browne et (2017)	VCEC (2012) VIC only	Shanahan & Ritter (2014b)	Whetton et al (2016)	ACG (2011) Tasmania only
Tangible costs																				
Healthcare																				
Medical	●●●	●		●		●	●		●					●						
Hospital	●●●	●					●		●		●		●	●					●	
Nursing homes	●●●	●		●			●		●		●		●	●					●	
Pharmaceuticals	●●●			●			●				●		●	●					●	
Ambulance	●●●	●		●			●		●		●			●					●	
Healthcare resources saved	●●●						●							●						
Individual out-of-pocket expenses											●									
Outpatient care																			●	
Primary healthcare											●								●	
Informal care																				
Support provided by friends and family																			●	
Cost of social services related to addiction			●		●			●		●	●		●		●	●	●			
Workplace productivity																				
Reduction in workforce	●●●										●			●	●	●	●			●
Reduced productivity	●●●	●	●●			●	●				●		●	●	●	●	●		●	●
Household productivity																				
Premature mortality or sickness (tangible)	●●●	●		●		●	●		●		●			●					●	
Economic costs of excess expenditure (gambling)																●	●			
Job loss																●	●			●

Tobacco Alcohol Other drugs Gambling

Form of cost	Collins and Lapsley (2008)	Whetton et al (2021)	Roche et al (2016)	AO NSW (2013)	Cadilhac et al (2009)	Manning et al (2013)	Whetton et al (2020)	Dale et al (2010)	Whetton et al (2019)	Ritter et al (2013)	Smith et al (2019)	Shanahan & Ritter (2014a)	Tait et al (2018)	Collins and Lapsley (2010)	Productivity commission (1999)	Browne et (2017)	VCEC (2012) VIC only	Shanahan & Ritter (2014b)	Whetton et al (2016)	ACG (2011) Tasmania only
Justice and law enforcement																				
Police	●●●	●	●			●	●		●	●	●		●	●	●	●	●			●
Criminal courts	●●●	●	●			●	●		●	●	●		●	●	●	●	●			●
Prisons	●●●	●	●			●	●		●	●	●		●	●	●	●	●			●
Property	●●●	●					●		●		●		●	●						
Insurance administration	●●●	●					●		●		●		●	●						
Road accidents	●●●	●				●	●		●				●	●						
Fires	●										●			●					●	
Litter																			●	
Bankruptcy															●	●	●			●
Productivity of prisoners	●●●	●					●		●					●						
Education																				
Impact on educational achievement of population												●								
Other																				
Resources used in harmful consumption	●●●	●					●		●					●					●	
Impact on family, relationships, and others (tangible)		●	●				●	●							●	●	●			●
Intangible costs																				
Health																				
Loss of life / Premature mortality (intangible)	●●●	●	●				●		●		●		●	●		●	●		●	
Pain and suffering	●●●	●				●	●		●					●	●	●	●			●
Stigma												●						●		
Other																				
Family and others			●								●				●	●	●			●

Table 10: Summary information for studies included in this study

Author/s (year)	Country	Aim/Objective	Addiction type	Cost reference	Type of cost	Key findings/cost estimated	Year/s costed
Collins and Lapsley (2008)	Australia	To estimate the costs of alcohol, tobacco, and illicit drugs for 2004-05.	Alcohol, drugs, and tobacco	Total net social cost method; impact of state budgets	Tangible and intangible costs	The total social cost of alcohol, tobacco and illicit drugs estimated to be $55 billion.	2004-05
Whetton et al (2021)	Australia	To provide an updated estimate of the social and economic costs of alcohol use to Australia.	Alcohol	Total cost method	Tangible and intangible costs	The overall total estimated social and economic cost of alcohol in 2017/18 to Australia estimated to be $66.8 billion.	2017-18
Roche et al (2016)	Australia	To estimate the cost of alcohol and other drugs related absenteeism in Australia using a nationally representative dataset.	Drugs and alcohol	Total cost method	Tangible costs	The total cost of absenteeism related to alcohol and other drugs estimated to be $3.68 billion.	2013
AO NSW (2013)	Australia	To assess the costs incurred by state agencies as a result of alcohol abuse.	Alcohol	Total cost method	Tangible and intangible costs	The total cost of alcohol-related abuse to NSW Government estimated to be $1.029 billion per annum.	2010
Cadilhac et al (2009)	Australia	To estimate the 'health status', 'economic', and 'financial' benefits of reducing the prevalence of the six behavioural risk factors.	Tobacco and alcohol	Life-time opportunity cost savings based on a specific cohort of adults	Intangible costs	Total potential attributable opportunity cost savings were $2.275 billion in health sector costs and $1.224 billion in production and leisure costs.	2008
Manning et al (2013)	Australia	To update the Collins and Lapsey estimates to 2010, but also further expand their estimates.	Alcohol	Total cost method	Tangible costs and intangible	The total costs to society of alcohol-related problems in 2010 estimated to be $14.352 billion.	2010
Dale et al (2010)	Australia	To estimate the cost of the extra time worked by Australian workers due to their co-workers' alcohol drinking.	Alcohol	Total cost method	Tangible costs	The total annual cost to the Australian economy of this extra work estimated to be $0.453 billion.	2008
Ritter et al (2013)	Australia	To calculate annual drug expenditure for the year 2009/10 by the federal and state/territory governments in Australia.	Illicit drugs	Top down approach	Tangible costs	Australian governments spent approximately $1.7 billion in 2009-10 responding to on illicit drugs.	2009-10
Smith et al. (2019)	Australia	To estimate the social and economic costs and harms of alcohol consumption in the Northern Territory.	Alcohol	Total cost method	Tangible and intangible costs	At a population level, estimated that the total social cost of alcohol in 2015/16 was $1.387 billion, with tangible costs of $0.701 billion, and intangible costs of $0.686 billion.	2015-16
Shanahan and Ritter (2014a)	Australia	To conduct a cost benefit analysis of two cannabis policy options: the status quo (where cannabis use is illegal) and a legalised–regulated option.	Illicit drugs	Net social benefits	Tangible costs and intangible costs	The mean net social benefit per annum for the status quo was $0.295 billion, not substantially different from the $0.234 billion for the legalised-regulated model which excludes government revenue as a benefit.	2007
Shanahan and Ritter (2014b)	Australia	The aim of this paper was to value one of the intangible benefits (decrease in stigma) from a potential change in drug policy using contingent valuation.	Illicit drugs	Willingness to pay	Intangible costs	The survey found respondents were willing to pay a mean of $1,231 ($1,112-1,322) to avoid the stigma from a criminal record for a loved one or for themselves.	2009
Tait et al (2018)	Australia	To report on the results of a cost-of-illness (CoI) study that quantified the social costs associated with methamphetamine use in Australia.	Illicit drugs	Total costs (annual)	Tangible and intangible costs	Total cost estimated at $5.024 billion in 2013/14 (range, $2.502 to $7.017 billion).	2013-14

Author/s (year)	Country	Aim/Objective	Addiction type	Cost reference	Type of cost	Key findings/cost estimated	Year/s costed
Collins and Lapsley (2010)	Australia	To provide new estimates of the social costs of tobacco use in NSW for the financial year 2006/07.	Tobacco	Total net social costs (annual)	Tangible costs	The total social costs of smoking were about $8.4 billion.	2006-07
Productivity Commission (1999)	Australia	To provide the first systematic national review of the impacts of gambling on the Australian economy and society.	Gambling	Total social costs (annual)	Tangible and intangible costs	The estimates of costs that gambling harms impose annually is $1.8 billion to $5.6 billion.	1997-98
Browne et al (2017)	Australia	To estimate the cost of gambling-related harm at all severity levels to Victoria in the 2014–15 financial year.	Gambling	Total social costs (annual)	Tangible and intangible costs	In 2014-15, the total cost of gambling problems in Victoria estimated to be $7 billion.	2014-15
VCEC (2012)	Australia	To report on the economic and social costs of gambling harms in Victoria.	Gambling	Total social costs (annual)	Tangible and intangible costs	The Commission estimates that the social and economic costs of gambling harms in Victoria are likely to be between $1.5 billion and $2.8 billion in 2010-11.	2010-11
ACG (2011) (Tasmania only)	Australia	To build on the previous study by including the social and economic impacts of gambling in selected low socioeconomic areas with control areas.	Gambling	Total costs (annual)	Tangible and intangible costs	The total estimates cost associated with gambling harms in Tasmania in the narrow application of PC survey scenario is beween $0.037 and $0.104 billion.	2011
Whetton et al (2020)	Australia	To estimate the social costs arising from extra-medical opioid use in Australia for the financial year 2015/16.	Licit and illicit drugs	Total costs (annual)	Tangible and intangible costs	The total cost of extra-medical opioid use was estimated to be $15.76 billion.	2015-16
Whetton et al (2019)	Australia	To produce as comprehensive as possible an estimate of the costs of tobacco use to Australian society.	Tobacco	Total costs (annual)	Tangible and intangible costs	The total cost of tobacco use to Australian society was estimated to be $136 billion.	2015-16

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