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The cost of adverse mental health outcomes in the LGBTIQ+ Victorian adult population

Thorne Harbour Health

Final report | March 2022


STAND
OUT

The cost of adverse mental health outcomes in the LGBTIQ+ Victorian adult population | Thorne Harbour Health

Contents

Glossary

Acronym	Full name
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory, Australia
AIHW	Australian Institute of Health and Welfare
ATC	Anatomical Therapeutic Chemical
AUD	Australian Dollar
AWE	Average Weekly Earnings
COVID-19	Coronavirus disease 2019
DALY	Disability-adjusted life years
DHHS	Department of Health and Human Services
ED	Emergency Department
EQ-5D	European Quality of Life – Five Dimensions
GBD	Global Burden of Disease
GDP	Gross Domestic Product
GP	General Practitioner
HIV	Human Immunodeficiency Virus
ICD-10	International Classification of Diseases
IHME	Institute for Health Metrics and Evaluation
LGBTIQ+	Lesbian, Gay, Bisexual, Trans and gender diverse, Intersex and Queer. The '+' represents non cisgender and/or heterosexual identities not explicitly captured in the term LGBTIQ
MH	Mental Health

Acronym	Full name
MMSM	Married men who have sex with men
NPV	Net Present Value
NSMHWB	Australian National Survey of Mental Health and Wellbeing
NSPS	National Suicide Prevention Strategy
NSW	New South Wales, Australia
NT	Northern Territory, Australia
NZ	New Zealand
OECD	Organisation for Economic Co-operation and Development
PHN	Primary Health Networks
QALY	Quality-adjusted life years
QLD	Queensland, Australia
RANZCP	Royal Australian and New Zealand College of Psychiatrists
TAS	Tasmania, Australia
US	United States
USD	United States Dollar
VAHI	Victorian Agency for Health Information
VIC	Victoria, Australia
VSLY	Value of a statistical life year
YLD	Years of health life lost due to living with a disability
YLL	Years of life lost due to premature death

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Support services

If you are in immediate danger:

Please call emergency services (Police and Ambulance) on 000

LGBTIQ+ specific services:

Thorne Harbour Health

Provides professional, affordable counselling for members of LGBTIQ+ communities and individuals or couples who are affected by or at risk of HIV.

Open: 9am – 5pm, Monday to Friday

Phone: (03) 9865 6700

QLife

Provides anonymous and free LGBTIQ+ peer support and referral for people wanting to talk about sexuality, identity, gender, bodies, feelings or relationships.

Open: 3pm – 12am, Everyday

Phone: 1800 184 527

Rainbow Door

A free helpline run by Switchboard Victoria which supports LGBTIQ+ Victorians, their friends and family during the coronavirus (COVID-19) pandemic and beyond. The service can provide LGBTIQ+ specialist, multidisciplinary support for family violence, mental health and relationship issues.

Open: 10am – 5pm, Everyday

Phone: 1800 729 367

Text: 0480 017 246

Email: support@rainbowdoor.com.au

Other useful services (24/7 crisis support):

Beyond Blue

Provides a Coronavirus Mental Wellbeing Support Service

Phone: 1800 512 348

Lifeline

A crisis support service offering short term support at any time for people who are having difficulty coping or staying safe.

Phone: 13 11 14

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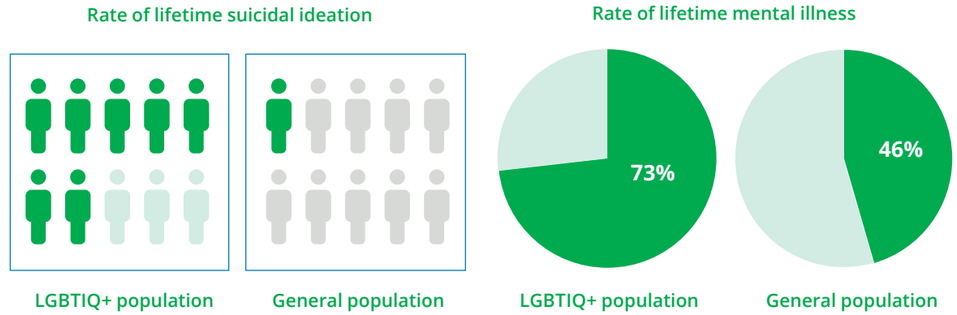
Executive summary

The LGBTIQ+ population in Victoria is at significantly higher risk of adverse mental health outcomes as compared to the general population, as shown below.

Figure i: Rates of mental illness in the LGBTQA+/LGBTIQ+[1] population



Mental illness can be challenging for those impacted by it. However, there are unique drivers and complexities for those in the LGBTIQ+ community impacted by mental illness. Amongst others, these include:

- Marginalisation and discrimination both in society and in the health system
- Intersectionality of identities (i.e., belonging to more than one group that is marginalised and discriminated, including diverse cultural and religious backgrounds)
- Trauma associated with conversion practices
- Increased drug or alcohol use
- Isolation from the LGBTIQ+ community and support in regional and rural areas
- The unique community impacts of suicide.

These factors mean those in the LGBTIQ+ community are more at risk of mental illness, and that those living with mental illness in the LGBTIQ+ community may be more likely to experience exacerbated or untreated mental illness.

Thorne Harbour Health engaged Deloitte Australia to conduct a comprehensive Victoria based study of the economic cost of adverse mental health outcomes in the LGBTIQ+ population, to better understand the prevalence and costs associated with anxiety, depression, suicides, suicide attempts, and suicide bereavement. This study is the first of its kind and will contribute to much needed evidence to support investment in programs seeking to improve mental health outcomes for the LGBTIQ+ population.

Importantly, it is firstly acknowledged that the LGBTIQ+ community is made up of many unique and diverse individuals, and that the term itself comprises different sub-communities. This report has analysed mental health outcomes in aggregate across the LGBTIQ+ community, owing to several key data and methodological limitations. This is not intended to diminish or minimise the experiences, needs, individual impacts or diversity across any of these sub-communities.

This project is important, given the high levels of mental illness and impacts experienced across the community. Prevalence modelling in this report indicates that a significant number of people in the LGBTIQ+ population in Victoria experienced adverse mental health outcomes in 2019.

Figure ii: Prevalence of mental illness in the LGBTIQ+ population[2] in Victoria in 2019 – **lower** (left) and **upper** (right) bound

371,606	people in the LGBTIQ+ population in Victoria	517,558
105,751	people in the LGBTIQ+ population with anxiety	147,285
118,900	people in the LGBTIQ+ population with depression	165,599
1,660	people in the LGBTIQ+ population attempted suicide	2,312
83	people in the LGBTIQ+ population died by suicide	116
581	people bereaving a death by suicide in the LGBTIQ+ community	809

Data around the size of the LGBTIQ+ population in Victoria is limited, as there is currently no population wide surveying that enables people to self-identify as members of the community (such as a census). As society's understanding and acceptance of gender identity and sexual orientation evolves, it is becoming more common for people to openly identify as a member of the community. This is evidenced by emerging studies which show high rates of identification with the community amongst younger generations. However, barriers such as stigma and fear continue to limit people's willingness to openly self-identify.

There are no validated population-wide measures of identification with the LGBTIQ+ community as yet available in Victoria, Australia or even internationally. Nor are there any which are able to consider intersectionality within the community, including in particular those who identify as an Aboriginal and Torres Strait Islander Person, those from culturally and linguistically diverse (CALD) backgrounds, refugee-status, or those with disability, amongst other important identities.

As such, available data likely represents a significant underestimate. To account for this, the report uses a lower bound (7.2%) based on the Victorian Population Health Survey 2017[3, 4] and an upper bound (10%) based on an international OECD report[5], noting that neither of these surveys are inclusive of the whole rainbow. Results are presented for both this lower and upper bound estimate of LGBTIQ+ population size.

This study considers costs relating to the impacts of anxiety, depression, suicides, suicide bereavement and suicide attempts that occurred in Victoria in the calendar year 2019.[6] This includes new and repeat cases of suicide attempts, as some individuals attempt suicide more than once. The study considers long-term costs that may occur over many years, which are due to anxiety, depression, suicides or suicide attempts that occurred in 2019. These include forgone remaining lifetime earnings, long-term formal care, reduced government tax revenue, ongoing health costs, lost wellbeing and bereavement costs, which are discounted to 2019 dollars. Other costs are only incurred in the year of a suicide or suicide attempt, including coronial costs, brought forward funeral costs and police costs.

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Figure iii: Costs of adverse mental health outcomes in the LGBTIQ+ population.

Total costs	
Economic and financial cost **$2.2 to $3.0 billion**	Intangible cost **$16.8 to $23.4 billion**

Costs by condition		
Anxiety	**Depression**	**Suicides**
$0.9 - $1.3 bn total	$1.0 - $1.5 bn total	$27.0 - $37.5 m total
$5.5 - $7.6 bn total	$10.9 -$15.2 bn total	$359.4 - $500.5 m total
Attempted suicides		**Suicide bereavement**
$249.5 - $260.7 m total		$6.5 - $9.0 m total
$18.7 - $26.0 m total		$6.9 - $9.6 m total

The total estimated economic and financial cost[7] of anxiety, depression, suicides, suicide bereavement and suicide attempts in Victoria in 2019 was **$2.2 to $3.0 billion** (lower to upper bound) while the intangible costs[8] amounted to **$16.8 to $23.4 billion**. As can be seen in Chart i and Chart ii, anxiety and depression costs account for the majority of all costs, despite relatively low per person costs, as compared to suicide. This is largely due to the higher rates of anxiety and depression compared to suicides, suicide attempts and suicide bereavement. In addition, the prevalence of depression and anxiety in the LGBTIQ+ community is comparatively higher than the general population, with research showing that LGBTI people are nearly six times more likely to experience depression and over three times more likely to report having an anxiety-related condition.[9]

Chart i: Total cost of anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019, by cost component – **lower bound**

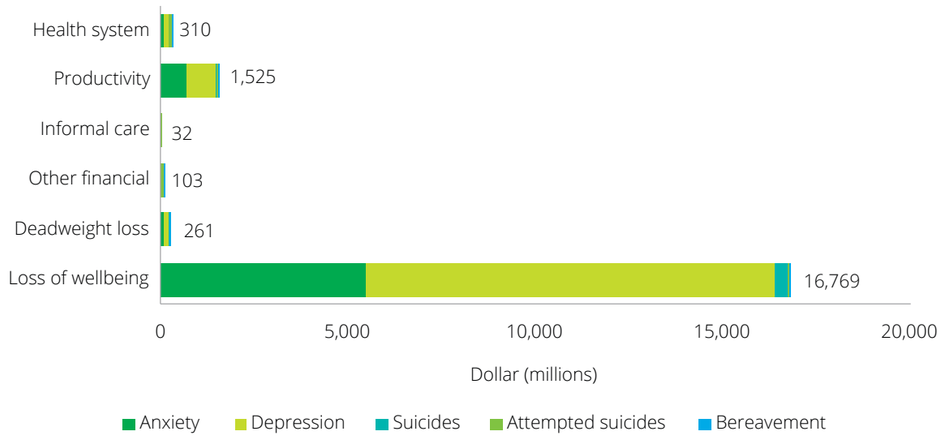
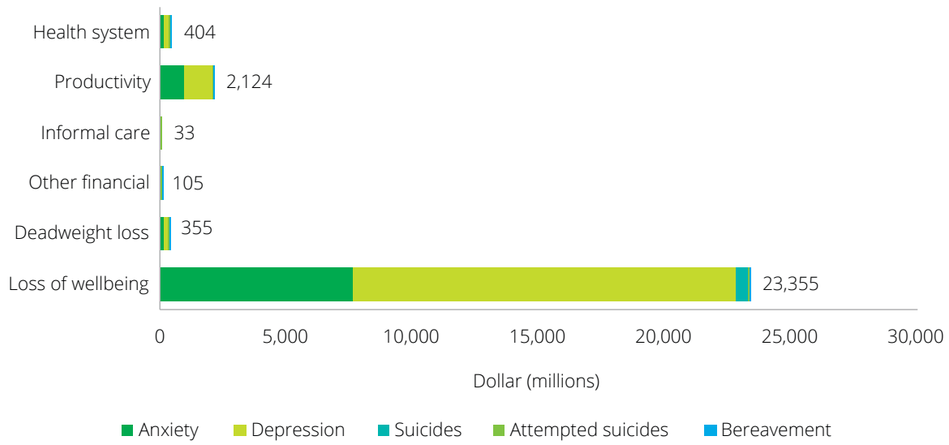


Chart ii: Total cost of anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019, by cost component – **upper bound**



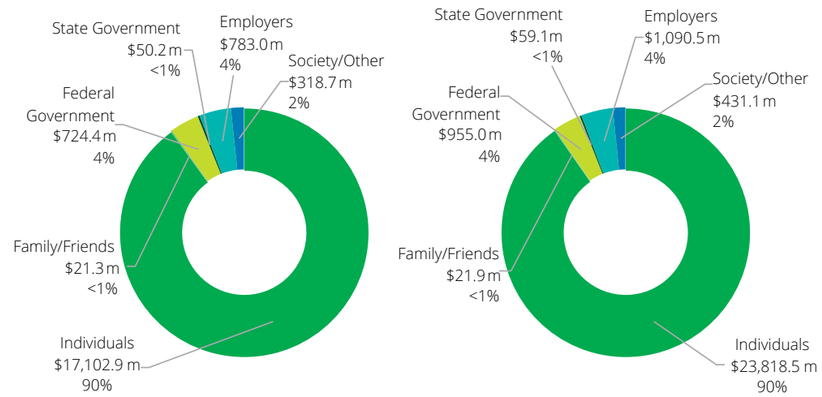
Source: Deloitte calculations.

Note: Components may not sum to totals due to rounding. Other financial costs include police, coronial and brought forward funeral costs.

As can be seen in Chart iii, individuals bore the greatest cost overall, between **$17.1 to $23.8 billion** (lower to upper bound), primarily due to loss of life or wellbeing from anxiety, depression or a suicide or suicide attempt. However, employers bore the second greatest overall cost because of productivity costs, at **$0.8 to $1.1 billion**. The State and Federal Government bore financial and economic burdens ranging between **$0.8 to $1.0 billion**. This is largely due to lost productivity, with anxiety, depression, suicide and suicide attempts leading to substantial reduction in future income streams and associated taxation revenues.

Additionally, in 2019 the State and Federal Governments also funded health services, including emergency department presentations (EDs), hospitals, mental health units, allied health and primary care to support people impacted by adverse mental health outcomes. This included $1.4 to $1.6 million invested into suicide prevention and bereavement postvention services and $1.4 to $1.9 million for anxiety and depression related prevention programs which are attributable to the LGBTIQ+ community.[10] The cost bearer breakdown of the total costs is shown in Chart iii for both lower and upper bound estimates.

Chart iii: Total cost of anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019, by cost bearer – **lower** (left) and **upper** (right) bound



Source: Deloitte calculations.

This study highlights not only the significant costs of mental illness in the LGBTIQ+ population in Victoria, but also the unique complexities of mental illness within the community. In doing so, it demonstrates the need for a mental health system which meets the specific needs of the LGBTIQ+ population, as well as one that seeks to support early intervention in order to reduce the impact of mental illness within the LGBTIQ+ community.

Interpretation of the results

This study has robustly estimated the economic, financial and intangible costs associated with anxiety, depression, suicides, suicide attempt and suicide bereavement. However, there are certain considerations to note regarding the data sources and methodology used in this study, which are summarised below and detailed in full in Section 8 of the report.

Estimating population size: data around the size of the LGBTIQ+ population is limited. While the data used in this analysis is the most comprehensive and appropriate data available, it also has notable limitations. The VAHI Victorian Population Health Survey 2017 was used to determine the lower bound estimate. Despite being published in 2020, the data was collected in 2017 and as such is now dated. The data used for the upper bound estimate was drawn from an OECD report around LGB population internationally. The most significant limitation of this data is that despite being higher than the VAHI data (which includes a broader range of sexual orientations and gender identities), the OECD data only includes lesbian, gay and bisexual individuals. It is also not specific to the Victorian population.

Estimation of prevalence of anxiety, depression, suicides, suicide attempt and suicide bereavement: there are a number of limitations around the way prevalence for adverse mental health outcomes was calculated. It is unclear how representative data sources used in this analysis to determine prevalence are, given the ambiguity around population size and the omission of data collection relating to sexual orientation, gender diversity and intersex status in the national census. Further, the modelling was unable to account for the intersection of anxiety and depression diagnoses due to significant limitations around the scale of data available. As such, there is likely some overestimation in the costs and utilisation of services presented in the report. Other limitations are described in detail in the report.

Cost calculations: there exists a baseline burden of mental health outcomes in the general population, and this baseline exists in the LGBTIQ+ population. However, due to the discrimination, stigma and other challenges faced by LGBTIQ+ communities, it is expected there would be an incremental burden of mental health outcomes and associated costs. The incremental cost of adverse mental health outcomes pertaining specifically to LGBTIQ+ communities was not estimated in this study.

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1 Introduction

This section presents the project's background and context and outlines the purpose of the report.

1.1 Background

Adverse mental health has a significant impact on individuals and their communities. In Australia, adverse mental health outcomes are the fourth highest disease group contributing to the total burden of disease, higher than physical injuries, respiratory diseases and neurological conditions. The vast majority of this burden is due to living with the effects of mental illness.[11]

Mental illness impacts many Australians, with the 2007 National Survey of Mental Health and Wellbeing[12] showing around 20% of Australians aged 16–85 experienced a mental illness in the previous 12 months. Two of the most common mental illnesses are anxiety and mood disorders (such as depression). However, many of those who do not meet the criteria for a specific mental illness or are not diagnosed with a mental illness experience mental health challenges.[13]

Anxiety and depression are particularly prevalent mental illnesses. Around 13.1% Australians have an anxiety-related condition, and 10.4% had depression or feelings of depression at any point in time. The number of Australians with these conditions is also rising.[14] Individuals with mental illness are also more likely to experience suicidality. In the 2007 National Survey of Mental Health and Wellbeing, almost 9% of those with mental illness reported suicidality in the 12 months prior to the survey, compared with 0.8% of those without mental illness.[15]

There are a number of factors which can impact the mental health of individuals, such as socioeconomic factors, an individual's access to services, living conditions and employment status. Some communities are particularly impacted by mental illness.[16]

1.1.1 LGBTIQ+ mental health

One group more likely to experience mental illness is the lesbian, gay, bisexual, trans, intersex, queer and other gender identities and sexual orientations (LGBTIQ+) community.[17] Those in the LGBTIQ+ community also have higher rates of suicidality than the general population.[18] However, the LGBTIQ+ community is itself diverse. This broad grouping includes individuals who identify with one or more of the identities and/or orientations. This report acknowledges that the nature of LGBTIQ+ identity is evolving and that the community is not homogenous.

There are many drivers of increased risk of mental illness among LGBTIQ+ individuals. However, this community primarily face a higher risk of institutional and interpersonal discrimination and marginalisation, leading to increased mental health vulnerability.[19] Those in the LGBTIQ+ population may also be more at risk of adverse mental health outcomes associated with drug or alcohol use (see Box 1). Some of those who form part of the LGBTIQ+ community, such as those who conceal their sexual orientation, may also live with higher rates of mental illness (see Box 2).

Box 1: The impact of drug or alcohol use

Within the LGBTIQ+ community, drug and alcohol usage tends to occur more frequently, among a larger population proportion, and from a younger age.

Within the lesbian, gay and bisexual communities, studies show higher proportions of the community have consumed hallucinogens and have engaged with non-medical usage of prescription medicines over lifetime and 12-month periods, with 4 times higher rates of ecstasy and methamphetamine consumption.[20, 21] The average age of initial tobacco consumption was also lower, at 15.2 for lesbian and bisexual women compared to 16.6 for heterosexual women.[22] In terms of alcohol consumption, lesbian and bisexual women commenced on average at the age of 15.5 compared to 17.7 for heterosexual women.[23]

Meyer's minority stress model is often academically endorsed as the explanation for higher and earlier alcohol consumption, suggesting it is a response to perceived stigmatisation and social anxiety.[24] However, this is not the sole reason for drug and alcohol consumption in the LGBTIQ+ community. Historically, the role of bars and clubs as counter-institutions and safe spaces for the community has contributed to a normalisation of substance use[25,26], and has historically put the LGBTIQ+ community at the "forefront of emergent drug trends".[27]

Regardless of the reason behind the consumption, comorbidity between substance use disorders and mental health issues such as depression has been shown to be high, making increased and earlier substance consumption in the LGBTIQ+ community a concerning medical issue.[28]

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Box 2: The impact of sexual concealment on the health and wellbeing of LGBTIQ+ people

While some traits, such as sex and race, can be outwardly observed, sexual orientation can be concealed in cases where the individual may not wish to disclose it. In a national survey of gay, lesbian, bisexual and transgender Australians, 33% to 44% of respondents reported occasionally or usually hiding their sexual orientation/gender identity in public, at work, or when accessing services.[29] Concealment of one's sexual orientation may help avoid discrimination and prejudice.[30] However, this concealment can also pose significant risk to the mental health and wellbeing of affected individuals.

Those concealing their sexual orientation experience a range of challenges leading to poor mental health outcomes. A recent study found a relationship between concealment of sexual orientation and mental health challenges, including depression and anxiety.[31] Drivers may include:

- Internalised stigma (i.e., when negative and discriminatory attitudes towards a group of people become part of one's nature or thinking),
- Isolation from others in the community and from important social supports,
- Detachment from one's true identity[32], and
- High levels of self-consciousness in social settings based on the constant threat of being discovered.

Further exacerbating this issue are challenges associated with accessing and utilising health services. Individuals may avoid disclosing their sexual orientation to health professionals or may delay seeking care due to fear of discrimination, humiliation or confidentiality breaches[33].

For example, research conducted on married men who have sex with men (MMSM) in heterosexual marriages found that conditions such as depression and anxiety were often chronic and self-managed because participants were not aware of appropriate support services and mainstream mental health professionals lacked sufficient understanding of the unique issues facing this population.[34] When taken together, these factors can lead to reduced detection of physical and mental health conditions, unmet health needs, escalation of health issues and poorer prognoses.[35]

Concealment of sexual orientation has further implications on our understanding of the prevalence and impacts of mental ill-health in the LGBTIQ+ community. This is a particular gap in estimating suicide rates, which depend on the knowledge of family members and friends of the individual's sexuality. It is therefore recognised that the true scale of costs presented in this report are underestimated as they do not fully capture the experiences of those who hide their sexual orientation.

Further risks also exist in the LGBTIQ+ population around mental illness, particularly the risk of high stress events. For example, 40% of LGBTIQ+ reported experiencing some form of abuse by an intimate partner.[36] Those in the LGBTIQ+ community are also more likely to experience homelessness.[37] These are high stress events that can contribute to negative health outcomes. Even factors not related to the LGBTIQ+ experience specifically, such as climate change[38] and the ongoing impacts of the COVID-19 pandemic have most likely had impact on people's mental health that may not be expressed in this modelling.

Intersectional identities for LGBTIQ+ individuals have also been found to lead to exacerbation of mental health risk.[39] LGBTIQ+ people may be subjected to stigma and experience unequal access to healthcare, as specialised services that affirm their LGBTIQ+ identity may not be suitable for the person due to the nature of the medical issue. Further, traits such as age, ethnic and cultural background, disability or long-term health conditions, area of residence, and financial security all influence mental health outcomes in addition to an individual's LGBTIQ+ identity.

For instance, independent and assisted living services[40] (often run by religious organisations) and health services for older Victorians may not be specifically designed for LGBTIQ+ people, or may not consider the historical discrimination, including in the healthcare system, experienced by older members of the LGBTIQ+ community.[41] This can be compounded given older people are at greater risk of adverse mental health impacts because of the cumulative effect of numerous risk factors, including chronic illness and isolation.[42]

LGBTIQ+ Aboriginal and Torres Strait Islander Peoples are another group with a higher degree of intersectional mental health risk. They may experience complex forms of marginalisation due to traditional gender and cultural roles, remote locations, in addition to the historical and ongoing discrimination against Aboriginal and Torres Strait Islander Peoples.

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Box 3: Aboriginal and Torres Strait Islander Peoples LGBTIQ+ mental health risk

Aboriginal and Torres Strait Islander Peoples are at a greater risk of poor emotional wellbeing, anxiety and depression than non-Indigenous Australians.[43] As a result, in 2020, suicide accounted for 5.5% of deaths of Indigenous Australians, compared to 1.9% of deaths in the general population.[44] As has been explored in this report, LGBTIQ+ Australians are also at increased risk of adverse mental health outcomes. Although specific research has not yet been published on those who identify as both Indigenous and LGBTIQ+, it is believed that mental health outcomes are worse still amongst people with these intersecting identities. There are also many health concerns unique to the intersection between Aboriginal and Torres Strait Islander Peoples and LGBTIQ+ identities. For example, due to a lack of adequate healthcare in many remote communities, individuals may have to move off Country in order to seek gender-affirming care or other appropriate health services. This can result in feelings of isolation or dislocation from Country, which have been shown to contribute to mental illness.[45]

Family and community is a very important element of wellbeing for most Aboriginal and Torres Strait Islander Peoples. Supportive families are an important source of emotional support, and relationships with homophobic/transphobic family members can negatively impact mental health.[46] Levels of acceptance of LGBTIQ+ people differ between Indigenous Australian communities.[47] Even with accepting families, some people describe feeling uncomfortable sharing their struggles as LGBTIQ+ people with their relatives, especially when compounded by intergenerational cultural trauma.[48]

Many LGBTIQ+ people may cut off contact with unaccepting family members and instead favour 'chosen families'. Indigenous Australian people often find this more difficult because connecting and reconnecting with Country is a complex process that relies on relationships with older family members and Elders. Some Aboriginal and Torres Strait Islander LGBTIQ+ people may find themselves having to choose between fully expressing their identities and being accepted by their family and community.

Furthermore, individuals may find it difficult to navigate gendered rules in certain communities. For example, it may be unclear whether avoidance rules apply to same-sex relationships, if non-binary people are welcome in men's or women's Aboriginal spaces, or how to participate in Lore.[49] In general, this need to sacrifice one identity in order to fully embrace the other has the potential to significantly worsen mental health.

Results from the Private Lives 3 (2020), a national survey of the health and wellbeing of lesbian, gay, bisexual, transgender and queer Australians, provide an insight into the overall prevalence of anxiety, depression and suicide attempt for the LGBTIQ+ community. The results indicate that rates of mental illness and suicide attempts are higher for some parts of the community, such as trans men and women, non-binary, asexual and pansexual people.[50]

1.1.2 Impacts of recent events and other external factors on mental health

In 2019 and 2020, people in Victoria experienced bushfires and the COVID-19 pandemic, followed by the onset of self-isolation, increased unemployment and economic recession. This series of events is expected to heavily impact upon an individual's mental wellbeing and therefore on anxiety, depression, suicides, suicide attempt and suicide bereavement prevalence. The extent of the impact of these events on suicide rates is not yet clear, as there is likely to be a lag in the impact of such events on mental health and wellbeing and suicidal behaviours.

Further, it is likely the impact of bushfires and the COVID-19 pandemic will exacerbate anxiety and depression, suicidal ideation and suicide attempts in 2020, and the years ahead. This is particularly true of LGBTIQ+ people who faced the global challenges of the COVID-19 pandemic, as well as some unique and more acute impacts as a result of discrimination and disparities.[51] While noting this, this report intends to measure the economic impact in 2019, preceding these significant recent confounding factors.

In 2019, Australia was facing a prolonged and severe drought, which particularly impacted rural communities.[52] [53] While it is impossible to isolate this effect, the potential impact on regional and rural LGBTIQ+ communities of this drought should be considered when understanding the results.

1.2 Previous research on the cost of adverse mental health outcomes

For the purposes of this study, adverse mental health outcomes refer to experiences of depression, anxiety, suicides, suicide attempts and suicide bereavement. It is acknowledged that there are likely other mental health conditions which may disproportionately impact the LGBTIQ+ community, such as post-traumatic stress disorder (PTSD) and substance use disorders. However, this study focuses on mental health conditions which are known to be of higher prevalence and for which sufficient data is available to estimate the economic costs.

Table 1.1 summarises key studies examining the economic cost of adverse mental health outcomes. Notably, none of the studies estimated the cost of anxiety, depression, suicides, attempted suicide and suicide bereavement in the LGBTIQ+ population in Australia or in an Australian state or territory.

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Table 1.1: Previous research on the socio-economic cost of adverse mental health outcomes for the LGTBIQ population

Study	Summary	Scope	Estimated cost
Anxiety			
Shirneshan (2013), United States.[54]	This study estimated the societal costs of anxiety disorders for the ambulatory adult population of the United States including direct medical costs and indirect costs (mortality).	• Anxiety only • United States.	• $33.71 billion total, $1,657.52 per person in 2013 USD.
Anxiety, suicide and substance use			
Lee, Y.C. et al. (2017), Australia.[55]	This study estimated the costs associated with the high prevalence mental illnesses (depression, anxiety-related and substance use) in Australia.	• Anxiety-related, suicide and substance use • Annual healthcare cost and productivity loss • Australia.	• $974 million total annual healthcare costs, and a productivity loss of up to $12.9 billion to the population with high prevalence mental illnesses in 2017 AUD.
Depression			
Hawthorne, G. et al. (2003), Australia.[56]	This study estimated the costs associated with depression in South Australia, based on the prevalence of depression and the associated excess burden of depression costs.	• Depression only South Australia.	• $2.8 million total costs in 2003 AUD.
Luppa et al. (2006), United States.[57]	This study estimated the combined cost-of-illness studies of depression worldwide.	• Depression only Global estimate.•	• Average annual costs per case ranged from $1,000 to $2,500 for direct costs, $2,000 to $3,700 for morbidity costs and from $200 to $400 for mortality costs per person in 2006 USD.
Suicide			
Kinchin and Doran (2018), Australia.[58]	This study estimated the economic cost of suicide in Australia for youth (aged 15-24 years). It included productivity costs, financial costs and bereavement costs.	• Youth costs only • Suicide only • Australia • Included estimation of bereavement costs.	• $24.2 billion • $3,071,000 per suicide

Study	Summary	Scope	Estimated cost
KPMG (2014), Australia.[59]	This study estimated the economic cost of suicide in Australia. It included productivity costs, financial costs and bereavement costs.	• Suicide only • Australia • Included estimation of bereavement costs.	• $1.9 billion • $800,000 per male suicide, $372,000 per female suicide
Everymind (2019), Australia.[60]	This study estimated the cost of the burden of disease for neurological, mental health and substance use disorders, and estimated the costs relating specifically due to suicide based on productivity costs.	• Suicide only • Australia • Productivity cost only.	• $6.3 billion • $2 million per suicide
Kennelly (2007), Ireland.[61]	This study estimated the economic cost of suicide in Ireland, including productivity costs (including paid and unpaid work), wellbeing costs (based on a willingness-to-pay method) and financial costs.	• Suicide only • Ireland • Excluded bereavement costs.	• 906 million euros in 2001 euros.
Suicide and suicide attempt			
Shepard et al. (2015), United States.[62]	This study estimated the cost of fatal and nonfatal suicide attempts for the whole American population, including direct health system costs and productivity costs.	• Suicide and suicide attempts • United States • Excluded wellbeing and bereavement costs.	• US$58.4 billion • US$1,329,553 per suicide in 2013 US dollars.
O'Dea and Tucker (2005), New Zealand.[63]	This study estimated the economic cost of suicide and attempted suicide in New Zealand by estimating financial costs, hospital and victim support costs, productivity costs and wellbeing costs.	• Suicide and attempted suicide • New Zealand • Excluded bereavement costs.	• $238.5 million • $448,250 per suicide, $6,350 per attempted suicide in 2004 NZ dollars.

Source: As indicated in the table.

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1.3 Purpose of study

Anxiety, depression, suicides, suicide attempt and bereavement associated with suicide have significant economic and social costs. The ripple effects of these mental illnesses are observable across a vast array of networks, impacting the individual, their family, friends and colleagues, as well as staff involved in providing incident response services, medical care or bereavement services.

This study estimates the economic cost of adverse mental health outcomes (i.e., anxiety, depression, suicides, suicide attempt and suicide bereavement) in LGBTIQ+ adults in Victoria in 2019. The costs are financial, economic[64] and intangible[65] in nature and are estimated using an approach distinct from the existing literature, utilising updated and publicly available data sources and methodology. It is believed to be the first study in an Australian context to estimate the cost of adverse mental health outcomes in the LGBTIQ+ population, and in estimating the cost of suicides that extend to chosen family members, friends and other closely associated individuals through the experience of grief and bereavement.

Given some of the existing data limitations for mental health, the chosen five outcomes represent those for which robust data and literature exist. Further, they represent conditions with a significant impact on the quality of life of a large number of LGBTIQ+ Victorian individuals.

The base year, 2019, has been selected as it represents a year which has not been impacted by the effects of the COVID-19 pandemic. Pre-existing marginalisation affecting LGBTIQ+ communities had been compounded under COVID-19, and the multiple and intersecting vulnerabilities experienced by LGBTIQ+ people place them at higher risk of developing mental health issues. Those issues that cannot be modelled quantitatively (such as the intersectional impact of culture, race and location, among other key points) have been described qualitatively in this report.

This study provides important evidence to inform decision making regarding the continued investment in mental health initiatives in Victoria specifically tailored to the needs of LGBTIQ+ communities. It provides the most complete view of the cost of anxiety, depression, suicides, suicide attempt and suicide bereavement.

1.4 Policy context

1.4.1 National context

The *Fifth National Mental Health and Suicide Prevention Plan* was endorsed by the Council of Australian Governments Health Council in 2017. The Plan is underpinned by eight priority areas that align with the aims and policy directions in the *National Mental Health Policy* and includes priority areas including achieving integrated regional planning and service delivery, reducing stigma and discrimination and coordinated treatment and supports for people with severe and complex mental illness. The Plan also recognises the diverse experiences of those living with mental illness, influenced by age, gender, sexuality, family situation and cultural background.

At a federal level, the Australian Department of Health has a *National Suicide Prevention Strategy* (NSPS) which emphasises promotion, prevention and early intervention to prevent suicide.[66] The NSPS provides national leadership and supports activity led by Primary Health Networks (PHNs) at the state and territory level. The NSPS has a specific focus on supporting Indigenous Australian communities and considers the recommendations of the Aboriginal and Torres Strait Island Suicide Prevention Strategy. The Department of Health jointly contributes to the *Fifth National Mental Health Plan* to prevent suicide and ensure people who have attempted suicide receive follow up support. The Department of Health also provides funding for Indigenous Australian suicide prevention, the national headspace network, the national suicide information initiative and the Suicide Prevention Research Fund, as part of its broader work to support mental health in Australia.[67]

1.4.2 Victorian context

Victoria's 10-year Mental Health Plan was launched in 2015, and focuses on improving mental health promotion and prevention, improving service quality and outcomes and integrating expertise of those with living experience. Specific measures in the plan include:

- Policies around increased mental health community treatment
- Expansion of residential services
- Increased care packages
- A prevention and recovery centre
- Additional funding of community providers
- General expansion of services.[68]

Victoria also has a Suicide Prevention Framework, introduced in 2016. The Framework aims to build resilience, support vulnerable people, strengthen care for suicidal individuals, improve testing of new initiatives and data and support communities to prevent suicide. This includes provision for the particular risk factors around suicide, self-harm and mental illness in the LGBTIQ+ community, including partnerships to tackle discrimination and improving inclusiveness of health and social services.[69]

The Royal Commission into Victoria's Mental Health System was established in early 2019 and delivered its final report in early 2021. The final report makes recommendations with the aim to:

- Provide a responsive and integrated system with community at its heart
- Create a system attuned to promoting inclusion and addressing inequities
- Re-establish confidence through prioritisation and collaboration
- Provide contemporary and adaptable service.

Recommendation 34 in the Final Report focuses on "working in partnership with and improving accessibility for diverse communities". This recommendation is inclusive of LGBTIQ+ communities and acknowledges the systematic barriers to accessing mental health support.

There are a number of specific programs which directly or indirectly support the mental health needs of the LGBTIQ+ community. Since late 2014, the Victorian Government has invested more than $60 million in initiatives for LGBTIQ+ Victorians. These include funding of the *Victorian Pride Centre* (($15 million announced in 2017, and an additional $15 million in 2020), grants for LGBTIQ+ community organisations ($4 million), and funding to support LGBTIQ+ people experiencing, or at risk of, family violence ($5.3 million).[70, 71] Victoria is leading the way in legislative and historic firsts for LGBTIQ+ Victorians, including banning practices seeking to change or suppress a person's sexual orientation or gender identity.

The Victorian Government also funds the state-wide support service *Switchboard Victoria*, which pilots suicide prevention programs across Victoria. Through Switchboard Victoria, *Rainbow Door* is a helpline designed to help LGBTIQ+ Victorians, their friends and family with mental health, family violence and relationship issues during the COVID-19 pandemic and beyond. The Victorian Government also funds specialised counselling services for LGBTIQ+ people and their families through a number of organisations.[72]

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2 Methodology

This section presents the methodological framework and sources used to estimate the prevalence of adverse mental health outcomes in the LGBTIQ+ adult population in Victoria in 2019 and associated costs.

2.1 Scope

This study considers the costs relating to the impacts of anxiety, depression, suicides, suicide attempt and suicide bereavement that occurred in calendar year 2019. This includes new and repeat cases of suicide attempts, as some individuals attempt suicide more than once. The study takes a lifetime approach to considering long-term costs that may occur over many years, due to living with adverse mental health in 2019. These include forgone lifetime earnings, long-term formal care, reduced government tax revenue, ongoing health costs, lost wellbeing and bereavement costs, which are discounted in 2019 dollars. Other costs are assumed to occur only in the year of the adverse mental health outcome, such as for suicide or suicide attempt – this includes coronial costs, funeral costs and police costs. Further information about the time horizon for estimates are included in Appendix A.1.

Although a lifetime approach was taken, second order impacts such as the heightened risk of subsequent suicides or attempts out of 2019 were not included. In addition, the costs of underlying mental health conditions associated with anxiety, depression, suicides or suicide attempts were not considered in this study. Furthermore, the costs associated with bereavement related to suicide attempts were excluded due to limited evidence around the impacts of suicide attempts on friend or chosen families. Section 8 provides a detailed list of limitations and assumptions used in this study.

2.2 Definitions

For the purposes of the economic costing, not all categories under gender identity and sexual orientation can be modelled and disaggregated, due to the lack of robust data. As such, based on the review of available literature, data and informed from stakeholder consultations, categories captured under sexual orientation and gender identity have been largely informed from the categorisation found in Private Lives 3 (2020).

The approach undertaken in this study has also been informed regarding sex characteristics which refers to the chromone patterns, gonad or genital characteristics that can be assigned as male, female, or intersex. The modelling includes intersex status and this is detailed in the modelling approach.

Table 2.1 outlines the definitions of the population which are considered in the modelling and the costing.

Table 2.1: Definitions of cohort

Term	Definition
Sexual orientation	Refers to an individual's sexual and romantic attraction to another person. The sexual orientations in this report align with those reported in Private Lives 3 (2020)[73]: • Lesbian • Gay • Bisexual • Pansexual • Queer • Asexual • Something else (includes 'homosexual', 'prefer not to have a label' or 'something different').
Gender identity	Refers to the gender that a person identifies as, regardless of the gender they were assigned at birth. Five gender categories align with those reported in Private Lives 3 (2020)[74]: • Cisgender female: people who were assigned female at birth and who chose only female as their gender identity • Cisgender male: people who were assigned male at birth and who chose only male as their gender identity • Trans woman: people who were assigned male at birth and who chose only 'female', 'trans woman' or 'sistergirl' as their gender identity • Trans man: people who were assigned female at birth and who chose only 'male', 'trans man' or 'brotherboy' as their gender identity • Non-binary: people who chose only a gender identity that was not a binary identity or who 'did not find it possible to choose a single gender identity' or are gender queer or agender.'
Intersex	Intersex is an umbrella term used to describe people born with sex characteristics (including genitals, gonads and chromosome patterns) that do not fit typical binary notions of male or female bodies and can manifest at birth or in later life.

Source: As indicated in the table.

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The population was grouped for analytical purposes into five categories:

- Gay or lesbian
- Bisexual, pansexual
- Transgender, gender diverse (trans woman, trans man and non-binary)
- Intersex
- Asexual, queer, another term.

While it is recognised that these groupings are imperfect, for analysis purposes such groupings were necessary owing to the small number of respondents in several of the individual categories in the Private Lives 3 results. While this report recognises the fluid and individual nature of sexual orientation and gender identity, data limitations impact on the ability to reflect this in the modelling. In future research, a survey with a larger sample size would allow for more specificity in the modelling approach.

For example, it is acknowledged that many LGBTIQ+ persons may identify as queer in both their sexual orientation and gender identity and could also be a person with intersex status. Queerness can be understood as a deviation or rejection of heteronormative and/or gender binary assumptions perpetuated by social, legal, and medical institutions. For this economic model to present a reasonable estimate, the methodology has defined an economic framework to establish the scope of the work.

Table 2.2 outlines the definitions of the adverse mental health outcomes in scope which are considered in the modelling and the costing.

Table 2.2: Definition of adverse mental health outcomes

Term	Definition
Anxiety-related disorders	Anxiety comprises a group of disorders typically characterised by excessive worry and symptoms that may result in significant distress or impairment in daily functioning. This includes phobic anxiety disorders (e.g., social phobia), other anxiety disorders (e.g., Generalised Anxiety Disorder) and obsessive-compulsive disorders, for example.
Depressive disorders	Depressive disorders are characterised by low mood, loss of interest and enjoyment, and other symptoms that significantly impact a person's ability to function. Depressive disorders can range in severity from mild to severe, with or without psychotic features.
Suicide	Self-injurious behaviour that is intended to kill oneself and is fatal.
Suicide attempt	Self-injurious behaviour or self-harm that is intended to kill oneself but is nonfatal. Self-harm that is accompanied by any intent to die is classified as a suicide attempt. Note, non-suicidal intentional self-harm does not include an intent to die. It is clinically difficult to distinguish self-harmful behaviour with and without suicidal intent and therefore either are in scope. Self-harm hospitalisation data used in this report may include either suicide attempts or non-suicidal self-harm as it is not possible to distinguish between them on the basis of ICD-10. Further, suicidal ideation includes thoughts about killing oneself, which may include a plan. To the extent that suicidal ideation can be separated from self-harm, it has been excluded from the analysis. For instance, the costs associated with suicidal ideation prior to an attempt are not included
Suicide bereavement	Grief and bereavement relating to the loss of someone who dies by suicide experienced by family, friends or other close relationships such as colleagues. Bereavement relating to a suicide attempt was not estimated.

Source: WHO (2021) *International Classification of Diseases 11th Revision*[75] and Deloitte.

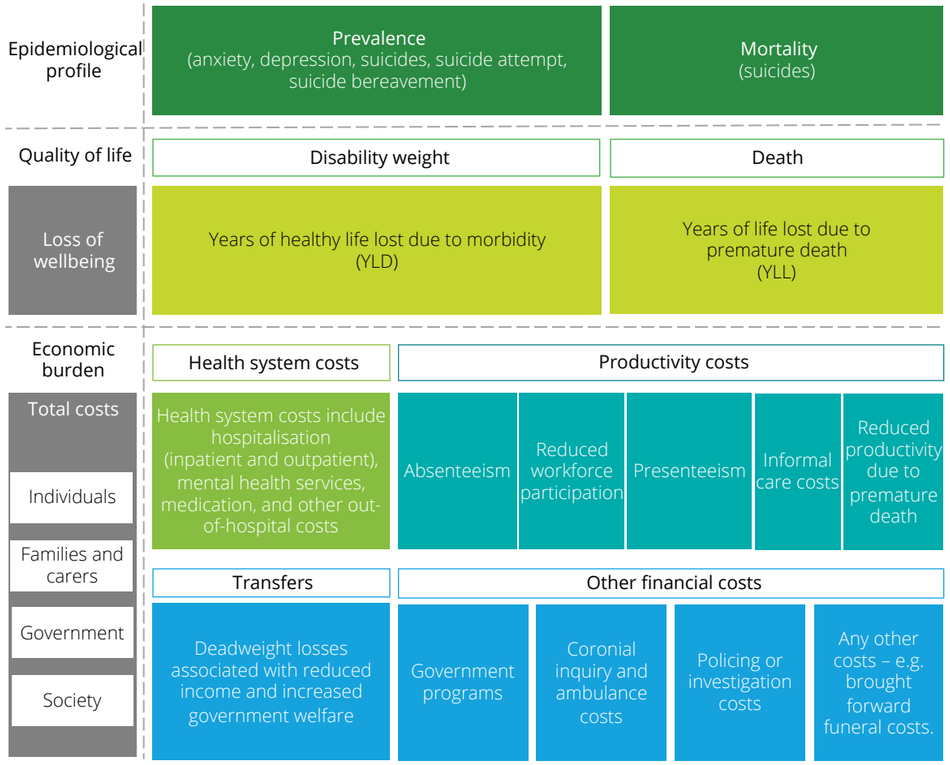
2.3 Summary of methodology

The economic cost of anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria was estimated using a cost-of-illness methodology applying a prevalence approach.

This approach involves estimating the number of persons living with anxiety, depression, suicide, suicide attempt and suicide bereavement in LGBTIQ+ adults in Victoria in a base year (2019) and the costs attributable to the adverse mental health outcomes in that year.

Figure 2.1 provides an overview of the cost-of-illness model framework and indicates epidemiological profile by type of adverse mental health outcome. The analysis was based on targeted literature and the detailed approach to the methodology are described in the following subsections.

Figure 2.1: Cost-of-illness model framework overview



Source: Deloitte (2022).

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2.3.1 Literature review

A literature scan was conducted to understand the impacts of anxiety, depression, suicide, suicide attempt and suicide bereavement on the individual, their friends and chosen family, and the broader community. These impacts are financial, economic, and intangible in nature and include health system costs, productivity losses, other financial and economic costs (e.g., deadweight losses[76] or funeral costs), and loss of wellbeing.

Appendix A.2 provides a literature review of the impacts of anxiety, depression, suicide, suicide attempt and suicide bereavement. It also includes further explanation of which impacts are estimated as cost components in this study, as well as discussion around those that were not considered. Literature and data on prevalence, behaviours and costs were reviewed against an evidence hierarchy, to ensure where possible, high-quality studies were used to inform the methodology.

2.3.2 Stakeholder consultation and focus group discussion

Stakeholders from the Productivity Commission, Victorian Department of Health, North Western Melbourne Primary Health Network, Australian Research Centre in Sex, Health and Society and University of Melbourne who work with diverse communities were engaged to better understand the data sources available, and potential considerations in estimating the cost of the anxiety, depression, suicides, suicide attempts and suicide bereavement.

These were validated via a focus group with key representatives from the Victorian LGBTIQ+ community including Thorne Harbour Health, LGBTIQ+ Health Australia, the Victorian Government LGBTIQ+ Taskforce, Department of Families, Fairness and Housing, Telethon Kids Institute, Switchboard, Transgender Victoria and the newly appointed Victorian Commissioner for LGBTIQ+ Communities.

2.3.3 Modelling considerations

The effect of adverse mental health outcomes on the behaviour of individuals, their chosen families and friends was quantified. This involved estimating factors such as changes in health care utilisation, workplace productivity and wellbeing. Then, the unit costs or aggregate costs associated with these behavioural changes were considered, depending on the data available.

The cost components considered for anxiety, depression, suicides, suicide attempts and suicide bereavement are summarised in the methodology framework shown in Figure 2.2. Financial costs are actual costs incurred, while economic costs include opportunity cost involved in performing an activity relative to another. It is acknowledged that the characteristics and symptomology of anxiety and depression varies between the two conditions. However, for analysis and modelling purposes, the impact of the two conditions have been grouped together given the impacts share commonalities. Figure 2.2 also outlines the potential cost bearers for each cost type, being the individual, their families and friends, businesses, or the broader community and government.

Figure 2.2: Methodology framework to estimate the cost of adverse mental health outcomes in the Victorian LGBTIQ+ adult population in 2019

Anxiety/ depression	Suicide	Suicide attempt	Suicide bereavement	Cost category	Cost component	Cost bearer breakdowns
	◇			Financial costs	Coronial costs	Individual
	◇				Funeral costs	Families and carers
		◇			Police costs	Government and society
◇			◇		Government pre- and postvention programs	
	◇	◇			Health costs relating to self-harm behaviours (including hospital, GP, allied health, pharmaceutical ambulance and other costs)	
			◇		Health costs relating to bereavement (including hospital, GP, and mental health visit costs).	
◇					Health costs relating to anxiety and/or depression (including hospital, mental health visit, GP, medication and ambulance costs)	
◇	◇	◇	◇	Economic costs	Forgone future income/ reduced employment	Individual
◇			◇		Presenteeism	Families, carers and friends
◇		◇	◇		Absenteeism	Government and society
		◇			Informal care costs	Employers
◇	◇	◇	◇		Government welfare and reduced taxation revenue	
	◇			Intangible costs	Years of life lost due to premature death (YLL)	Individual
◇		◇	◇		Years of healthy life lost due to disability (YLD)	Families, carers and friends

Source: Deloitte (2022).

Further, it was not possible to account for the comorbidity of anxiety and depression in the modelling. Anxiety and depression is a common dual diagnosis, and both of these conditions lead to higher risk of suicidality. However, due to a lack of data around their intersection or intersections, each is costed separately for this analysis.

All costs are broken down by cost bearer (being the individual, their chosen families and friends, businesses, or the broader community and government). As gender-specific unit costs were not appropriate to be used in this population, where available person unit costs were used or calculated (i.e., applying a weighted average from gender-specific unit costs) in the modelling. According to the modelling conducted, unit costs do not differ by LGBTIQ+ subgroup.

Where data was available, costs were calculated based on individual demographic information. For instance, for some cost components, such as healthcare and productivity related adverse mental health outcomes, the unit costs were estimated separately for different age groups. However, for other cost components, the average cost, or population weighted cost was used. For instance, average coronial, police and funeral costs for any person, irrespective or gender identity, sexual orientation or intersex status, were used. Further, for people bereaved by suicide, population weighted earnings data and health costs data were used.[77] These cost components are summarised in Table 2.3.

Table 2.3: Breakdown of unit costs by age and LGBTIQ+ group

Level of unit cost breakdown	Cost elements
Unit costs are estimated separately based on **LGBTIQ+ group** and **age**	• Forgone future earnings relating to suicides, and associated reduction in government taxation revenue • Reduced employment, presenteeism and absenteeism relating to anxiety, depression, suicide attempt, and associated government welfare costs or reduced government taxation revenue • Health care costs relating to anxiety, depression, suicide attempt and suicide bereavement.
Unit costs are the same for all individuals	• Loss of wellbeing • Funeral costs • Coronial and police costs relating to suicides or suicide attempts • Ambulance costs relating to suicide attempts • Informal care costs – assumes population weighted sample of bereaved people • All costs related to bereavement – assumes population weighted sample of bereaved people • Taxation and deadweight losses.

Source: Deloitte (2022).

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3 Prevalence of adverse mental health outcomes

This section discusses the methodology that was followed to estimate the prevalence of anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019.

3.1 LGBTIQ+ adult population in Victoria

In the absence of an alternative data source that more readily captures gender identity, sexual orientation or intersex status, the prevalence of the LGBTIQ+ adult population in Victoria in 2019 was calculated using two approaches (lower and upper bound estimates). Both of these options rely upon available prevalence estimates which was used to derive the relative prevalence of LGBTIQ+ groups. As noted earlier in this report, it is acknowledged that this approach is imperfect. However, for the purposes of analysis and in the absence of more appropriate sources, these prevalence estimates will be used. For further detail, see chapter 8.

A summary of each of the two approaches is provided in Table 3.1 with a more detailed description provided in the following sub-sections.

Table 3.1: Summary of the two approaches detailed in this report

Approach	Sources used to estimate the prevalence of LGBTIQ+ adult population in 2019	Sources used to distribute the prevalence of LGBTIQ+ adult population by age
Lower bound (approach 1)	• The Victorian Agency for Health Information (VAHI; 2020) • Private Lives 3 (2021) • Blackless et al (2000) • Australian Bureau of Statistics (ABS; 2019).	• Private Lives 3 (2021).
Upper bound (approach 2)	• VAHI (2020) • Organisation for Economic Co-operation and Development (OECD; 2017) • ABS (2019).	• Private Lives 3 (2021).

Source: As indicated in the table.

3.1.2 Lower bound (approach one)

The **VAHI Victorian Population Health Survey 2017 (2020)** is the primary data source for the number of LGBTQ+ adults in Victoria. This source estimates that 5.5% of Victorian adults identified themselves as LGBTQ+ in 2017.[78] The prevalence of diverse gender identities and sexual orientation was estimated to be 0.2% and 5.3% (respectively) of the Victorian adult population.[79] **Blackless et al** (2000) was used to inform the prevalence of intersex variation in the adult Victorian population. This source is considered to provide the most broadly accepted approximation of intersex variation in the population – that is, 1.7%. The prevalence rate for gender identity, intersex status, and sexual orientation for a LGBTIQ+ person can vary and often there is fluidity in terms of a person's gender identity and sexual orientation. Overall, the prevalence of LGBTIQ+ in the lower bound approach is 7.2% of the population.

To estimate the number of LGBTIQ+ Victorian adults in 2019, the prevalence rate estimates derived were applied to the total Victorian adult population obtained from the **ABS Australian Demographic Statistics (2019)**.[80]

The age group and LGBTIQ+ group disaggregation was informed by Victoria-specific LGBTIQ+ adult population data collected through the **Private Lives 3 (2020)**[81]. Victoria-specific data disaggregation was requested through the Australian Research Centre in Sex, Health and Society (La Trobe University).

3.1.3 Upper bound (approach two)

Anecdotal evidence from key stakeholders engaged throughout this project suggested that the 5.5% estimate from VAHI (2020) is likely to under-estimate the Victorian LGBTQ+ adult population. Further, it is likely that prevalence has increased over time due to greater awareness and acceptance in relation to the LGBTIQ+ community increasing in recent years. Therefore, a second approach has been proposed to estimate an upper estimate of LGBTIQ+ Victorian adults.

A report published from **OECD (2020)** summarises existing prevalence of LGBTI in OECD countries.[82] The report shows the estimates for the size of the LGB population vary considerably, depending on whether sexual orientation is defined by reference to sexual self-identification, sexual behaviour or sexual attraction. It is acknowledged these definitions do not represent all cohorts within LGBTIQ+ communities, and as such the prevalence of the entire LGBTIQ+ population is likely to be higher than 10%. As such, a 10% prevalence value has been taken to represent the best available conservative upper bound estimate of the LGBTIQ+ adult Victorian population. See Appendix B for detailed explanation of the OECD source.

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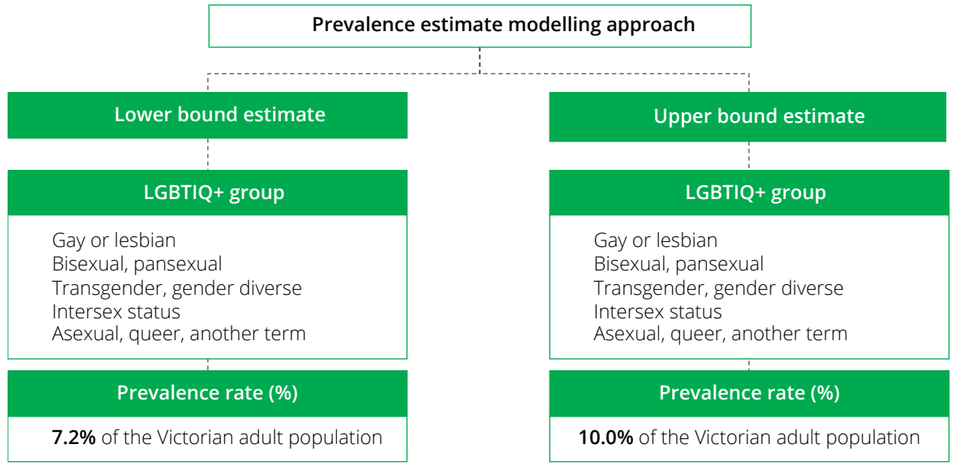
An illustrative framework of the prevalence approaches is outlined in Chart 3.1.

Chart 3.1: Framework to estimate prevalence of LGBTIQ+ adult population in Victoria in 2019



Source: Deloitte (2022).

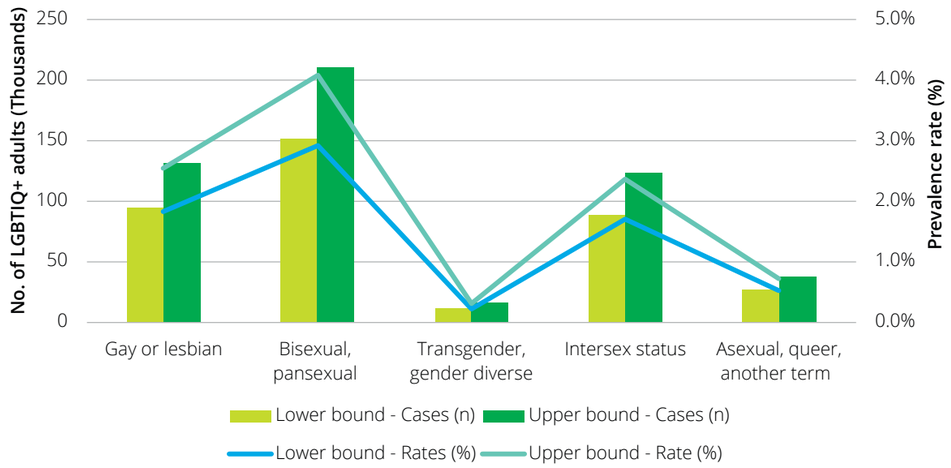
Overall, the prevalence of LGBTIQ+ adults in Victoria was estimated to range between 7.2% to 10.0% (lower to upper bound), or between **371,606 to 517,558 people** in 2019. The highest proportion of the overall prevalence was attributed to bisexual and pansexual (2.9% to 4.1% for lower and upper bound estimates, or between 151,127 to 210,483 people), followed by gay or lesbian (1.8% to 2.5% or between 94,195 to 133,635 people). Table 3.2 and Chart 3.2 provide detailed prevalence estimates of the LGBTIQ+ adult population in Victoria in 2019, disaggregated by LGBTIQ+ group. The prevalence number of LGBTIQ+ adults in Victoria in 2019, disaggregated by age and LGBTIQ+ group is shown in Appendix A.3.1.

Table 3.2: Prevalence rates and cases of LGBTIQ+ adults in Victoria in 2019, by LGBTIQ+ group – **lower and upper bound**

	Lower bound Rate (%)	Lower bound Cases (n)	Upper bound Rate (%)	Upper bound Cases (n)
Gay or lesbian	1.8	94,195	2.5	131,191
Bisexual, pansexual	2.9	151,127	4.1	210,483
Transgender, gender diverse	0.2	11,386	0.3	15,858
Intersex status	1.7	87,985	2.4	122,541
Asexual, queer, another term	0.5	26,913	0.7	37,483
Total LGBTIQ+	**7.2**	**371,606**	**10.0**	**517,558**

Source: Deloitte calculation using VAHI (2020), Private Lives 3 (2021), ABS (2019), Blackless (2000) and OECD (2017).

Chart 3.2: Prevalence rates and cases of LGBTIQ+ adults in Victoria in 2019, by LGBTIQ+ group – **lower and upper bound**



Source: Deloitte calculations.

3.2 Anxiety

The **Private Lives 3 (2020)** is the primary data source to estimate the number of LGBTQ+ adults in Victoria living with anxiety. Victoria-specific data disaggregation was requested through the Australian Research Centre in Sex, Health and Society (La Trobe University). **Jones et al (2016)** was used to estimate the prevalence of anxiety in the intersex community instead of Private Lives 3 given the small sample size of intersex status reported in the survey.[83]

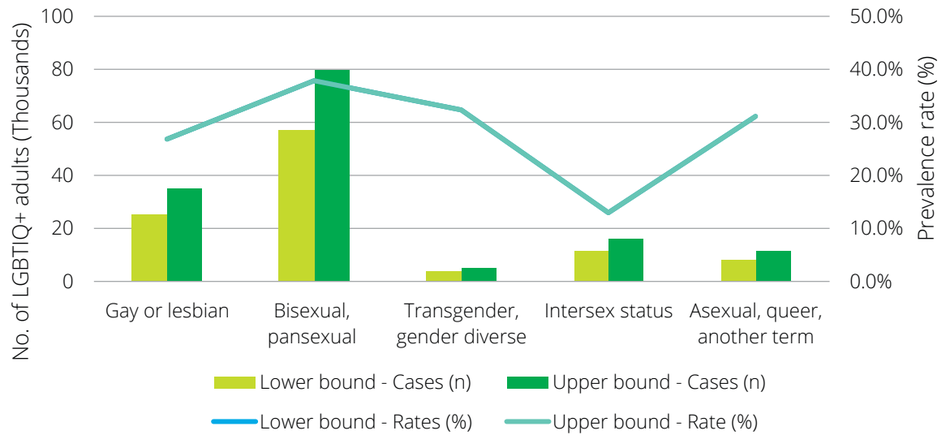
Diagnosis of anxiety in the past 12 months as reported in Private Lives 3 (2020) and Jones et al (2016) will be used to estimate the prevalence of anxiety in LGBTIQ+ Victorian adults, disaggregated by LGBTIQ+ group. Table 3.3 and Chart 3.3 provide detailed prevalence estimates of the LGBTIQ+ adult population in Victoria in 2019, disaggregated by LGBTIQ+ group.

Table 3.3: Prevalence rates and cases experiencing anxiety in LGBTIQ+ adults in Victoria in 2019, by LGBTIQ+ group – **lower and upper bound**

	Rate – lower and upper bound[84](%)	Lower bound Cases (n)	Upper bound Cases (n)
Gay or lesbian	26.8	25,274	35,201
Bisexual, pansexual	37.8	57,072	79,487
Transgender, gender diverse	32.4	3,687	5,136
Intersex status	12.9	11,350	15,808
Asexual, queer, another term	31.1	8,367	11,653
Total LGBTIQ+	**28.5**	**105,751**	**147,285**

Source: Deloitte calculations.

Chart 3.3: Prevalence rates and cases experiencing anxiety in the LGBTIQ+ adult population in Victoria in 2019, by LGBTIQ+ group – **lower and upper bound**[85]



Source: Deloitte calculations. Note: prevalence rate (%) for lower and upper bound overlap.

3.3 Depression

The **Private Lives 3 (2020)** is the primary data source to indicate the number of LGBTQ+ adults in Victoria living with depression. Victoria-specific data disaggregation was requested through the Australian Research Centre in Sex, Health and Society (La Trobe University). **Jones et al (2016)** was used to estimate the prevalence of depression in the intersex community instead of Private Lives 3 given the small sample size of intersex status reported in the survey.

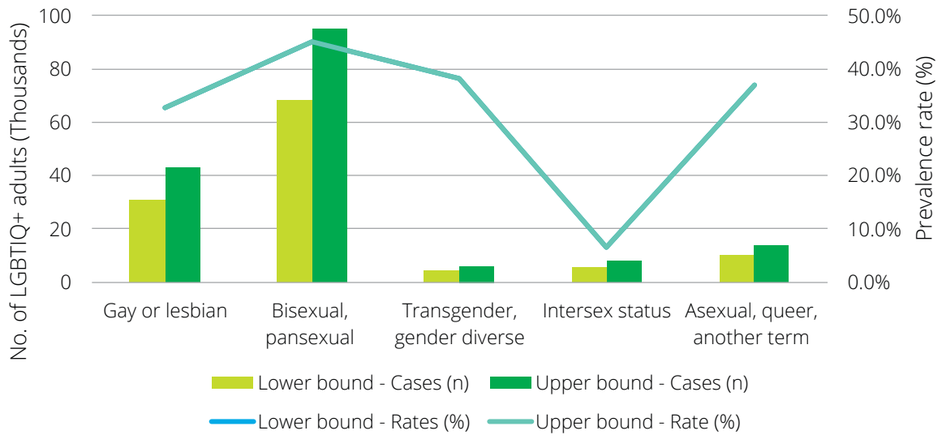
Diagnosis of depression in the past 12 months as reported in the Private Lives 3 and Jones et al (2016) will be used to estimate the prevalence of depression in LGBTIQ+ Victorian adults, disaggregated by LGBTIQ+ group. Table 3.4 and Chart 3.4 provide detailed prevalence estimates of the LGBTIQ+ adult population in Victoria in 2019, disaggregated by LGBTIQ+ group.

Table 3.4: Prevalence rates and cases experiencing depression in LGBTIQ+ adults in Victoria in 2019, by LGBTIQ+ group – **lower and upper bound**

	Rate – lower and upper bound[86](%)	Lower bound Cases (n)	Upper bound Cases (n)
Gay or lesbian	32.8	30,883	43,013
Bisexual, pansexual	45.0	68,072	94,807
Transgender, gender diverse	38.3	4,356	6,067
Intersex status	6.4	5,652	7,871
Asexual, queer, another term	36.9	9,937	13,840
Total LGBTIQ+	**32.0**	**118,900**	**165,599**

Source: Deloitte calculations.

Chart 3.4: Prevalence rates and cases experiencing depression in the LGBTIQ+ adult population in Victoria in 2019, by LGBTIQ+ group – **lower and upper bound**[87]



Source: Deloitte calculations. Note: prevalence rate (%) for lower and upper bound overlap.

3.4 Suicide deaths

The Coroners Courts of Victoria and ABS Cause of Death publications does not actively record and/or publicly release LGBTIQ+-specific death data. Research suggests that as many as 20 people may attempt to end their lives for each suicide death.[88] More conservative estimates suggest this number may be in the range of 10 to 20.[89] It is also known that suicidality and suicide attempts among LGBTIQ+ people is elevated, caused by a multitude of factors including isolation from family and peers, substance use disorders, trauma and victimisation (e.g., being the target of bullying, being abused etc.).[90] Further, there are suicides relating to conversion practices which are specific to the LGBTIQ+ community, and discussed in Box 4. For this reason, the use of existing literature (using general population cohorts) is likely to over-inflate the number of suicides if this ratio is applied to the prevalence of suicide attempts in the LGBTIQ+ population. Instead, a conversative ratio, **20 suicide attempts for every one suicide** was used to estimate the number of suicides deaths in the LGBTIQ+ Victorian adult population. This ratio was applied to all LGBTIQ+ groups.

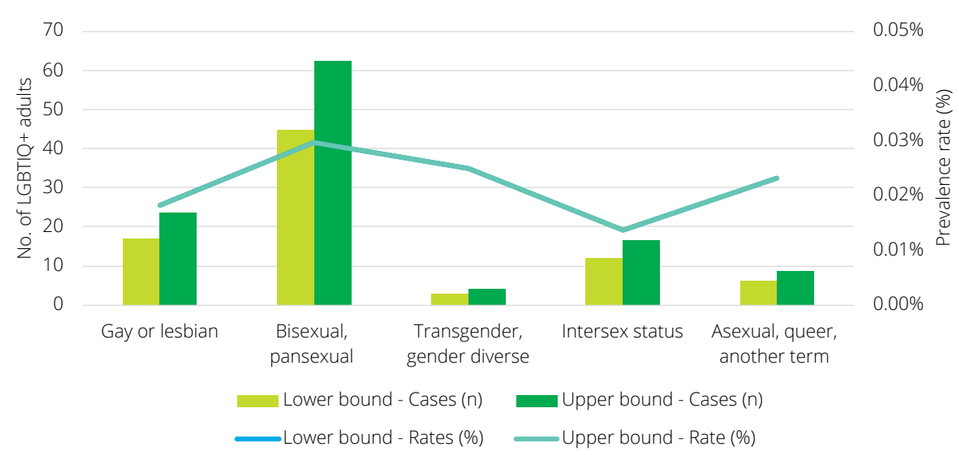
Table 3.5 and Chart 3.5 provide detailed prevalence estimates of the LGBTIQ+ adult population in Victoria in 2019, disaggregated by LGBTIQ+ group. Note that in 2019, there were 707 suicides by adults in Victoria.[91] Based on our analysis, this means that at least 13.9%-19.2% of people who took their life in Victoria were a part of the LGBTIQ+ community.

Table 3.5: Prevalence rates and cases of suicides in the LGBTIQ+ adult population in Victoria in 2019, by LGBTIQ+ group – **lower and upper bound**

	Rate – lower and upper bound[92](%)	Lower bound Cases (n)	Upper bound Cases (n)
Gay or lesbian	0.018	17	24
Bisexual, pansexual	0.030	45	62
Transgender, gender diverse	0.025	3	4
Intersex status	0.014	12	17
Asexual, queer, another term	0.023	6	9
Total LGBTIQ+	**0.022**	**83**	**116**

Source: Deloitte calculations.

Chart 3.5: Prevalence rates and cases of suicides in the LGBTIQ+ adult population in Victoria in 2019, by LGBTIQ+ group – **lower and upper bound**[93]



Source: Deloitte calculations.

Box 4: Suicide relating to conversion practices

Conversion practices can have significant impacts on the lifetime mental health outcomes of members of the LGBTQ+ community exposed to them. Conversion practices include teachings, counselling, spiritual care activities, or other psychological or medical interventions and are based around the ideology that identifying or thinking you may identify as LGBTQ+ is wrong.[94] Despite declining religious affiliation[95] and increasing recognition of LGBTIQ+ rights both legally and socially[96], forms of conversion, change and suppression practices still exist in Australia. A pilot study has shown that between 2016 and 2018, around 10% of LGBTQ+ Australians were vulnerable to change and suppression practices.[97]

These practices create significant harm for the individuals exposed. Research from the United States has shown that exposure to conversion practices can double the risk of lifetime suicide ideation.[98] More broadly, those with unaccepting families, which is often associated with conversion therapy, experienced increased rates of substance use disorders and worsened general health.[99] While these effects were not able to be quantified, the significant impact of these practices should be taken into account when considering the mental health risks members of the LGBTIQ+ community are exposed to.

3.5 Suicide attempt

The **Private Lives 3 (2020)** survey was the primary source of data regarding the number of LGBTIQ+ adults in Victoria who tried to take their own lives in 2019. Victoria-specific data was requested through the Australian Research Centre in Sex, Health and Society (La Trobe University). Suicide attempt prevalence for intersex status was sourced from the **LGBTIQ+ Health Australia (2021)** Snapshot of mental health and suicide prevention statistics for LGBTIQ+ People.[100]

Responses to the question "have you attempted suicide or to end your life in the past 12 months?" as reported in the Private Lives 3 (2020) was used to estimate the prevalence of suicide attempt in LGBTIQ+ Victorian adults disaggregated by LGBTQ+ group. LGBTIQ+ Health Australia (2021) was used to estimate prevalence in intersex variation.

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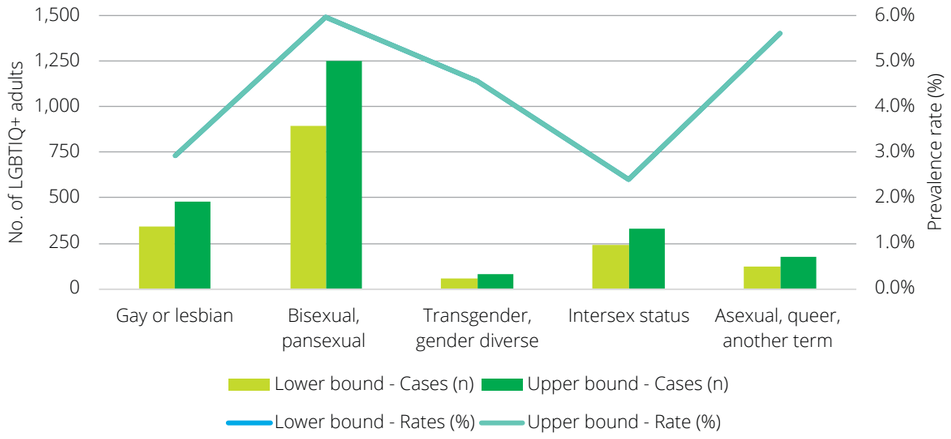
Table 3.6 and Chart 3.6 provide detailed prevalence estimates of the LGBTIQ+ adult population in Victoria in 2019, disaggregated by LGBTIQ+ group.

Table 3.6: Prevalence of suicide attempt in LGBTIQ+ adults in Victoria in 2019, by LGBTIQ+ group – **lower and upper bound**

	Lower bound Cases (n)	Upper bound Cases (n)
Total suicide attempts		
Gay or lesbian	436	608
Bisexual, pansexual	1,143	1,592
Transgender, gender diverse	73	101
Intersex status	305	425
Asexual, queer, another term	159	221
Total LGBTIQ+	**2,116**	**2,947**
Prevalence of suicide attempts^		
Gay or lesbian	342	476
Bisexual, pansexual	897	1,249
Transgender, gender diverse	57	79
Intersex status	239	333
Asexual, queer, another term	125	173
Total LGBTIQ+	**1,660**	**2,312**

Source: Deloitte calculations. ^Refers to the number of unique individuals who attempt suicide.

Chart 3.6: Prevalence rates and cases of suicides attempts (unique individuals) in the LGBTIQ+ adult population in Victoria in 2019, by LGBTIQ+ group – **lower and upper bound**[101]



Source: Deloitte calculations. Note: prevalence rate (%) for lower and upper bound overlap.

3.6 Suicide bereavement

The number of people affected by bereavement due to a suicide may vary, and so may the intensity of bereavement. Based on prior research, there are typically **seven people who are directly impacted by a suicide** (based on having daily contact with the deceased), and a further 13 (based on the remaining chosen family members, friends and colleagues) who are impacted to a lesser extent by the death. Further research suggests that a broader 135 people are impacted by each suicide. Additional research is available in Appendix A.4. The estimates used in this study are outlined in Figure 3.1.

Figure 3.1: Number of people impacted by suicide

Source: Berman (2011),[102] and Cerel (2019).[103]

The costing methodology only considers the costs pertaining to the inner circle of seven people, due to the lack of robust evidence regarding the impact of a suicide on the broader groups. It is acknowledged that a death by suicide of a LGBTIQ+ person has significantly broader, widespread impacts across the rest of the LGBTIQ+ population, due to the dynamics and relationships within the community. This is discussed in detail in Box 5. Therefore, for the purpose of the costing, based on the 83 to 116 (lower to upper bound) suicides in 2019 it was estimated that there would be a minimum of between 581 to 809 people in Victoria directly affected and bereaved by suicide in 2019.[104]

Further, people bereaved by suicide are affected for varying amounts of time. Based on a study of young people who were bereaved by suicide:

- 32% reported no impact to their health
- 22% reported their health was affected for less than six months
- 16% reported their health was affected for between six months and a year
- 17% reported their health was affected for one to two years
- 13% reported their health was still affected after two years.[105]

The timeframes in which people bereaved by suicide have affected health are assumed to also reflect the timeframes in which productivity and wellbeing are affected. Therefore, these timeframes are used throughout the health, productivity and wellbeing modelling.

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Box 5: Understanding the unique and widespread impact of suicide in the LGBTIQ+ community

When a person who identifies as LGBTIQ+ dies by suicide, the impact on their friends, family (including 'chosen families') and the wider LGBTIQ+ community can be destabilising and expansive. For loved ones, grief may be compounded by complexities surrounding who is involved in commemorations of the person's death and lack of acknowledgement of partners or spouses.[106] For the LGBTIQ+ community, the suicide of an LGBTIQ+ person can be experienced as a personal loss due to a shared social identity that bonds members of the community together. This is especially true given the wide reach of new media platforms where tragedies affecting LGBTIQ+ people, such as suicide and hate crimes, can be heard and felt in the community within minutes.

Recent research by Switchboard Victoria demonstrates how the impact of LGBTIQ+ suicide deaths extends beyond personal connections with the deceased.[107] The loss of Ingrid Zhang, a Switchboard staff member, was felt widely across the LGBTIQ+ community due to a sense of kinship with the deceased based on LGBTIQ+ identity, a view that the deceased was someone who positively embodied queerness, and a shared experience of suicidal thoughts or behaviour. Ingrid's death was widely reported and speculated about in the mainstream press, which may have contributed to the increased identification with Ingrid's story and experience.

It is therefore recognised that the number of people affected by bereavement due to an LGBTIQ+ suicide is likely underestimated. Postvention support should recognise the unique ways people experience grief following a LGBITQ+ suicide and the varying degrees of connectedness with the deceased to ensure people are properly supported through the bereavement process.

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4 Financial costs

Anxiety, depression, suicides, suicide attempts and suicide bereavement often result in financial costs which would otherwise not have occurred. Health system costs may occur for those with anxiety or depression, an individual who attempts suicide (and has not yet died) or for people bereaved by suicide, who are more likely to access health care services than the general population. Other financial costs including police costs, coronial costs and brought forward funeral costs may also occur due to suicidal behaviours. Further, there are also additional prevention services for both the general population and people who have attempted suicide, and postvention service costs for people with anxiety or depression or who are bereaved by suicide.

Note, this study only quantifies financial costs that are directly incurred by anxiety, depression, suicides, suicide attempts and suicide bereavement. Costs associated with pre-existing conditions such as mental illness prior to the suicide or suicide attempt are not considered in this study. Appendix A.5 and Appendix A.6 provides detailed information on costing calculations and assumptions applied.

Table 4.1 presents the total financial costs in Victoria for the LGBTIQ+ adult population by cost component in 2019. Table 4.2 and Table 4.3 show the total costs broken down by anxiety, depression, suicides, suicide attempts and suicide bereavement for lower and upper bound estimates respectively. **Financial costs were estimated to range between $413.0 to $508.8 million (lower to upper bound)**. Health system costs and formal care costs make up the majority (93-94%) of financial costs, most of which are related to self-inflicted injuries following suicide attempts.

Table 4.1: Summary of financial costs due to anxiety, depression, suicides and suicide attempt and suicide bereavement in LGBTIQ+ adults in Victoria in 2019 ($ millions) – **lower and upper bound**

Cost component	Lower bound costs	Upper bound cost
Health system	309.6	404.0
Funeral	1.0	1.4
Formal care	99.1	99.1
Coronial inquiry	0.2	0.3
Police	0.3	0.4
Pre- and postvention funding	2.7	3.5
Total	**413.0**	**508.8**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

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Table 4.2: Summary of financial costs due to anxiety, depression, suicides and suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019 ($ millions) – **lower bound**

Cost component	Anxiety	Depression	Suicide	Suicide attempt	Suicide bereavement	Total	% of total
Health system	110.0	123.4	-	73.9	2.3	309.6	75.0%
Funeral	-	-	1.0	-	-	1.0	0.3%
Formal care	-	-	-	99.1	-	99.1	24.0%
Coronial inquiry	-	-	0.2	-	-	0.2	0.1%
Police	-	-	0.1	0.2	-	0.3	0.1%
Pre- and postvention funding	0.7	0.7	0.6	0.6	0.1	2.7	0.7%
Total	**110.7**	**124.0**	**2.0**	**173.9**	**2.4**	**413.0**	**100.0%**
% of total	**26.8%**	**30.0%**	**0.5%**	**42.1%**	**0.6%**	**100.0%**	**-**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

Table 4.3: Summary of financial costs due to anxiety, depression, suicides and suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019 ($ millions) – **upper bound**

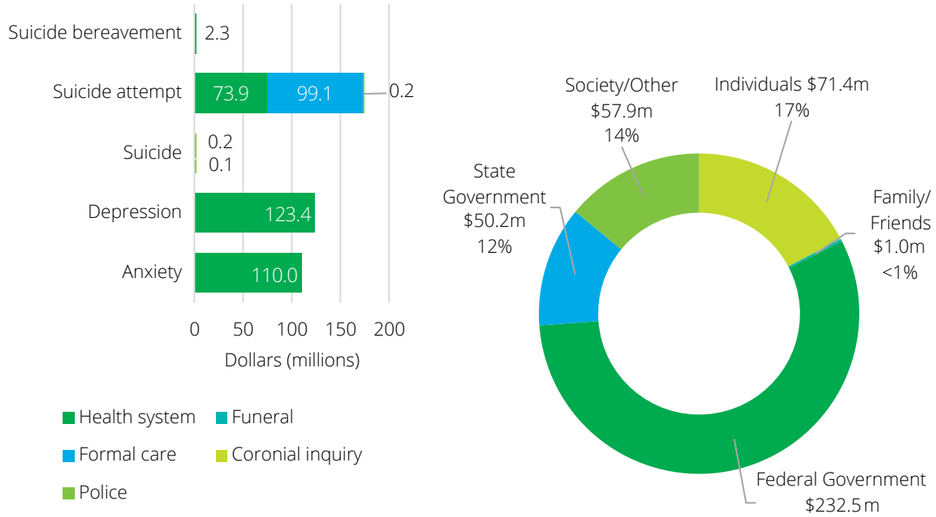
Cost component	Anxiety	Depression	Suicide	Suicide attempt	Suicide bereavement	Total	% of total
Health system	153.2	171.8	-	75.8	3.2	404.0	79.4%
Funeral	-	-	1.4	-	-	1.4	0.3%
Formal care	-	-	-	99.1	-	99.1	19.5%
Coronial inquiry	-	-	0.3	-	-	0.3	0.1%
Police	-	-	0.1	0.3	-	0.4	0.1%
Pre- and postvention funding	1.0	1.0	0.7	0.7	0.1	3.5	0.7%
Total	**154.2**	**172.8**	**2.6**	**175.9**	**3.3**	**508.8**	**100.0%**
% of total	**30.3%**	**34.0%**	**0.5%**	**34.6%**	**0.7%**	**100.0%**	**-**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

Chart 4.1 and Chart 4.2 present the total costs broken down by anxiety, depression, suicides, suicide attempts and suicide bereavement, as well as by cost bearer (in the pie chart) for lower and upper bound estimates respectively. Health system costs due to anxiety, depression and suicide attempts, and formal care costs due to suicide attempts make up the majority of financial costs, due to the significant number of interactions with the health care system. Health system costs associated with suicide bereavement may be higher if a broader group of people were considered, rather than only the seven people directly impacted. Notably, such costs are not likely to exist for those that die by suicide, as it is likely that once an individual reaches the health care system, they survive the attempt.

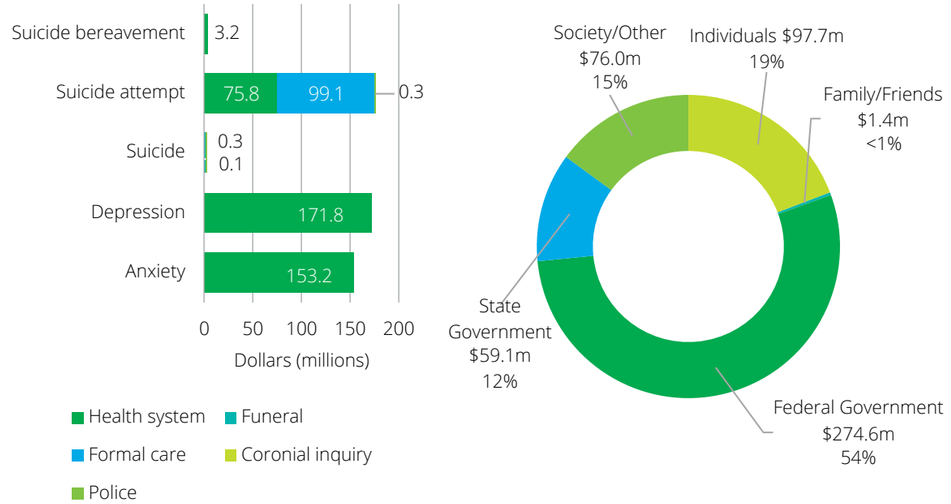
The Federal Government bears the majority (54-56%) of financial costs. Specifically, for healthcare, the Federal Government funds the largest portion, followed by the individuals and then State Government. The Federal Government pays for formal care, while the Victorian state government funds police and coronial costs. Family and friends were assumed to be solely responsible for funeral costs incurred in 2019 due to a suicide in the LGBTIQ+ adult population.

Chart 4.1: Financial costs due to anxiety, depression, suicides, suicide attempt and suicide bereavement, including by bearers, in LGBTIQ+ adult population in Victoria in 2019 ($ millions) – **lower bound**



Source: Deloitte calculations.

Chart 4.2: Financial costs due to anxiety, depression, suicides, suicide attempts and suicide bereavement, including by bearers, in LGBTIQ+ adult population in Victoria in 2019 ($ millions) – **upper bound**



4.1 Health system costs

Health costs associated with anxiety, depression, suicides, suicide attempts and suicide bereavement may include ambulance, hospital, ED, general practitioner (GP), allied health, medical imaging, pathology, pharmaceutical, dental and other specialist costs.[108] Hospitals and EDs respond to both the psychological and emotional needs of the individual, as well as any physical injuries resulting from a **suicide attempt**.[109] Further, GPs, allied health care professionals and other health specialists also play a role in helping an individual treat anxiety and depression, or recover from a suicide attempt, whether that be physically or mentally.

It was assumed that if an individual interacts with the health system following a **suicide attempt**, they survive and therefore do not die by suicide. Therefore, health costs are estimated based on the prevalence of suicide attempts only, and not the number of suicides.

There are a number of health costs associated with treatment of **anxiety and depression**, such as hospital, GP, medication and mental health consultation costs.[110] Immediate health system costs and longer-term health system costs relating to suicide attempts have been estimated separately, to account for variation in the long-term impacts of a suicide attempt. There are also likely to be greater hospital, GP and mental health costs associated with people bereaved by suicide, due to the impacts of bereavement on wellbeing (discussed further in Appendix A.4), which are calculated separately. LGBTIQ+ peoples' pattern of health system use and experience differs from the general population, and it is important to consider this in the scope of this work. Some of the impacts of this are detailed in Box 6.

Box 6: Health system experience of the LGBTIQ+ community

LGBTIQ+ people face disproportionate health risks in several areas, most of which are attributable to the high levels of overt and implicit discrimination they face.[111] Despite this, LGBTIQ+ people may exhibit poor help seeking behaviours due to actual or anticipated experiences of stigma or discrimination from medical practitioners. These may include the use of incorrect names and pronouns, assumptions about gender identity, sexual orientation or sex characteristics, or overt abuse and discrimination.[112]

People who are trans and gender diverse experience many unique barriers when seeking mental health and other services. Practitioners may be inexperienced or transphobic, and individuals may find themselves having to educate their GP on transgender issues.[113] Further, trans and gender diverse individuals experience a greater risk of violence, sexual violence and harassment than their cisgendered peers in bed based settings. Practitioners that are 'trans-friendly' often have very long waiting lists, and even then, gender affirming medication and surgery can be prohibitively expensive.[114] People with intersex variation also have unique negative experiences with health care, including receiving inadequate information about treatment and being excluded from treatment decisions. For example, many intersex people undergo medical intervention as an infant, child or adolescent to assign them a binary sex and 'normalise' them. In later life, this can cause anxiety or trauma, shame, loss of sensation and sexual function, mental ill-health, and physical complications from surgeries and hormone treatments.[115]

Trans and intersex people may also experience doctors inappropriately attributing unrelated medical or mental health issues to their sex or gender, rather than the genuine source.[116] Other barriers to accessing services for LGBTIQ+ people include service costs, distance to services and a perceived lack of LGBTIQ+ trained practitioners, all of which are exacerbated in regional or rural areas. Services in regional and rural areas may cover large geographical areas, and there may not be specific or appropriate services for LGBTIQ+ individuals. Even where these services are available, there may be barriers around fear of discrimination and concerns around privacy.[117]

A lack of treatment is likely to result in reduced screening for a range of physical and mental conditions and worsening of the health issue and prognosis.[118] This lack of necessary treatment, in addition to the discrimination that deterred them in the first place, is likely to negatively impact an individual's mental health. In general, being isolated from experienced practitioners and effective affirmative services, no matter the reason, has a significant negative impact on mental health.[119]

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4.1.1 People with anxiety and depression

LGBTIQ+ people are more likely to seek professional help for a mental health problem compared with heterosexual non-LGBTIQ+ adults.[120] The proportion of LGBTIQ+ individuals with anxiety and depression who accessed a psychologist, psychiatrist, public mental health service inpatient service, GP consultation, other mental health care consultation or other general service, was ascertained from VAHI (2020). Rates of hospitalisation were also taken from VAHI (2020), but specific rates for the LGBTIQ+ population were not available because of the small sample size. The proportion prescribed medication for anxiety and depression was based on a 2017 report *Cost of high prevalence mental disorders*.[121]

Unit costs and number of units consumed were inputs only available for the general population, and as such are not LGBTIQ+ specific. The unit costs and number of units of each health service consumed were taken from the AIHW for all parameters except for hospitalisation, medication and public mental health service inpatient service.[122] For hospitalisation, the unit costs and number of units consumed were taken from the Independent Hospital Pricing Authority.[123] For annual medication costs, the ABS National expenditure on MH-related medications (2019-20) was used to estimate the average cost of specific medication used for anxiety or depression.[124] The unit cost of public mental health service inpatient services was obtained from the Victorian DHHS Policy and funding guidelines 2019–20[125], and the average length of stay from the Victorian DHHS Mental Health Prevention and Recovery Care Unit briefing.[126]

The population of those in the LGBTIQ+ community with anxiety and depression using these services was multiplied by the number of units consumed and the unit cost to produce an annual cost of usage for each health service component for those with anxiety and depression in the LGBTIQ+ community. **The total health system cost of anxiety was estimated to range between $110.0 to $153.2 million (lower and upper bound estimate) and for depression was estimated to range between $123.4 to $171.8 million**. This equates to between $1,040 in health system costs per person with anxiety, and $1,037 per person with depression.

Table 4.4 shows the total health care costs for anxiety and depression to **range between $233.4 to $325.0 million (lower and upper bound)**, disaggregated by age group. The health care costs for anxiety and depression by LGBTIQ+ group is shown in Appendix A.5.1 and Appendix A.5.2 respectively.

Table 4.4: Health costs associated with anxiety and depression in LGBTIQ+ adults in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Lower bound cost	Upper bound cost
Anxiety		
18-24	34.3	47.8
25-34	40.3	56.1
35-44	19.7	27.4
45-54	9.1	12.6
55+	6.7	9.4
Total	**110.0**	**153.2**
Depression		
18-24	34.5	48.1
25-34	42.7	59.5
35-44	21.3	29.7
45-54	16.2	22.6
55+	8.6	12.0
Total	**123.4**	**171.8**
Anxiety and depression total	**233.4**	**325.0**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

4.1.2 Suicide attempts – immediate health costs

The AIHW Injury Expenditure database and data from Turning Point were used to estimate total immediate health expenditure relating to **suicides** and **suicide attempts** in LGBTIQ+ adults in Victoria in 2019. The data suggests the total immediate health cost per person that attempts suicide (using self-inflicted injury as a proxy) is **$2,516**. Adjusting for inflation and prevalence from a 2016 base, the total expenditure according to the AIHW Injury Expenditure database in 2019 was **$35.8 to $36.4 million (lower and upper bound)**.[127]

This includes $18.2 million (for both lower and upper bound) of outpatient costs, based on the proportion of ambulance call outs due to suicide attempts which are transferred to ED.[128] This also includes $11.2 million (for both lower to upper bound) of inpatient costs, and $4.7 million (for both lower to upper bound) of medical imaging, pathology, pharmaceuticals, GP, specialists and other health professional costs. Ambulance costs were also estimated, by multiplying the number of ambulance call outs by the average cost of a call out. Based on research undertaken by Turning Point, the number of ambulance call outs in 2019 was 27,531. The unit cost of an ambulance callout is approximately **$1,229**, leading to a **total ambulance cost of $1.7 to $2.4 million** (lower and upper bound) in 2019.

It was assumed that this cost represents immediate health system costs within the first year of attempt, in 2019. Note, this estimate is likely to underestimate health costs, as it is expected the AIHW Injury expenditure data does not capture health costs associated with all suicide attempts due to coding issues.

Table 4.5 shows the **total immediate health costs of $35.8 to $36.4 million (lower to upper bound)**, disaggregated by age group, of LGBTIQ+ adults in Victoria who attempted suicide. Appendix A.5.4 provides the immediate health costs and ambulance call outs associated with LGBTIQ+ suicide attempts in Victoria in 2019 by LGBTIQ+ group.

Table 4.5: Immediate health costs and ambulance associated with LGBTIQ+ suicide attempts in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Lower bound cost	Upper bound cost
18-24	14.9	15.2
25-34	11.8	12.1
35-44	5.5	5.6
45-54	2.2	2.3
55+	1.3	1.3
Total	**35.8**	**36.4**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

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4.1.3 Suicide attempts – ongoing health costs

People who have attempted **suicide** are more likely to experience long-term health care costs, due to the injurious nature of suicide attempts. A small proportion, approximately 0.6% of people who attempt suicide, suffer from permanent incapacity, meaning they are unable to perform their daily tasks such as work or maintaining self-care, for the rest of their life.[129] For the remaining 99.4% of people, the **suicide attempts** vary in mechanism and result in a wide range of injuries. It was assumed that it would take approximately 2.9 years for those who are not permanently incapacitated to recover fully from their injury.[130] Future year costs were discounted back to 2019 using a discount rate of 7%.

For those people who become **permanently incapacitated** following an attempt, it was assumed their ongoing health costs (from the second year onwards) are equivalent to that of people who experience quadriplegia, based on a study by Access Economics (2009).[131] This permanent incapacity results in lifetime **health care costs of $35.1 million** (for both lower and upper bound), for people that attempt suicide and become permanently incapacitated, based on their life expectancy.

For the remaining 99.4% of people who **attempt suicide**, the Australian National Survey of Mental Health and Wellbeing (NSMHWB) 2007 was used to estimate health utilisation following an attempt. The NSMHWB found that people who have attempted suicide are more likely to have ongoing health costs beyond the year of their attempt, relative to people who have not attempted suicide. This holds true when controlling for mental health or substance use disorders. Notably, based on the NSMHWB, of those who have attempted suicide at some point in their lifetime, although not in the last year:

- 28% have been admitted to hospital overnight or longer for a physical health condition in the last 12 months, compared to 12% of those who have not attempted suicide but have a mental health condition – an incremental difference of 16%.
- 94% have seen a GP for a physical or mental health condition in the last 12 months compared to 90% of those who have not attempted suicide but have a mental health condition – an incremental difference of 4%.

Based on the NSMHWB, it was assumed that 16% of the 1,660-2,312 people who attempted suicide are admitted to hospital at least once each year, over 2.9 years from their attempt, and would not have been admitted if they had not attempted suicide. The average cost of a hospitalisation is **$4,282**.[132] **This results in hospital costs of $3.0 to $4.2 million** (lower to upper bound).[133] Furthermore, it was assumed that 4% of the 1,660-2,312 people who attempt suicide visit a GP at least once each year, over 2.9 years from their attempt, and otherwise would not have if they had not attempted suicide. The average GP cost for mental health is **$80.95**, based on an adjustment for bulk billing rates and the average out-of-pocket costs for individuals.[134] **These GP costs sum to a total of $14,124 to $19,671** (lower to upper bound).[135]

The costs associated with the long-term increase in health care utilisation among those who are permanently incapacitated and those that are not are summarised in Table 4.6. Appendix A.5.5 provides the long-term health costs associated with suicide attempts in LGBTIQ+ adults in Victoria in 2019 by LGBTIQ+ group.

Table 4.6: Long-term health costs associated with suicide attempts in LGBTIQ+ adults in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Permanent incapacitation		Others who have attempted suicide		Total	
	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost
18-24	12.6	12.6	1.2	1.7	13.8	14.3
25-34	11.9	11.9	0.9	1.3	12.9	13.3
35-44	5.5	5.5	0.5	0.6	5.9	6.1
45-54	3.0	3.0	0.2	0.3	3.3	3.3
55+	2.0	2.0	0.2	0.3	2.2	2.3
Total	**35.1**	**35.1**	**3.0**	**4.2**	**38.1**	**39.3**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

NSMHWB also shows that people who have attempted suicide are 6% more likely to have been admitted to hospital overnight for a mental health condition and 17% more likely to have seen a GP for a mental health condition in the last 12 months. However, this increased mental health care utilisation was not estimated in this study, as it is difficult to ascertain whether this increased utilisation was due to the attempt.

4.1.4 People bereaved by suicide

There is evidence that **people bereaved by suicide** are more likely to use health services such as hospitals, mental health consultations and GP consultations, due to the impact bereavement has on an individual's mental and physical wellbeing.[136] The health system costs for people bereaved by suicide are considered for only the seven people who are directly impacted by the suicide, as discussed in Section 3.6. The length of time a person bereaved by suicide increases their usage of health care services was assumed to be in line with the estimates outlined in Section 3.6, which ranges from no time at all, to up to two years.

A study by United Synergies and Griffith University found that **people bereaved by suicide** in the control group spent approximately 2.37 days in hospital in the past 12 months.[137] See Appendix A.4 for more information about this study. By comparison, in Victoria, the average patient days per person was 1.13 in 2018-19.[138] The daily cost of an average hospitalisation day is $1,956.[139] This results in an additional cost of **$1.4 to 2.0 million** (lower and upper bound) of hospitalisation costs due to suicide bereavement.

Furthermore, the study found that the control group consulted with a mental health care specialist 11.96 times per year on average.[140] By comparison, in Victoria, the average person visits a mental health care specialist 0.31 times per year.[141] The average cost of a mental health care consultation with a psychologist is $103, based on total benefits paid per mental health service in Victoria.[142] Based on these assumptions, there is a mental health care cost of **$0.7 to $1.0 million** (lower and upper bound) which is attributable to suicide bereavement.

Lastly, the study found that the control group consulted with a GP 12.5 times per year on average.[143] By comparison, in Victoria the average person attends 8.19 times per year.[144] The average cost of a GP consultation is $80.95, based on total fees charged and benefits paid per GP service in Victoria. This results in an additional cost of **$0.2 to $0.3 million** (lower and upper bound) of GP costs due to suicide bereavement.

Table 4.7 summarises the total hospitalisation, mental health care and GP costs due to suicide bereavement, broken down by the age and gender of the individual that died by suicide. **The total lifetime cost is $2.3 to $3.2 million** (lower and upper bound), **equivalent to $27,910 per suicide**. Appendix A.5.7 provides the health costs associated with suicide bereavement associated with LGBTIQ+ adult suicides in Victoria in 2019 by LGBTIQ+ group.

Table 4.7: Health costs associated with suicide bereavement associated with LGBTIQ+ adult suicides in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Lower bound cost	Upper bound cost
18-24	0.6	0.8
25-34	0.7	1.0
35-44	0.4	0.6
45-54	0.3	0.4
55+	0.3	0.4
Total	**2.3**	**3.2**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding. The age and gender breakdown is based on the individual that has attempted suicide.

4.2 Police costs

Police attend all sudden deaths including **suicides**, to speak with family members or friends about the death and to conduct an investigation.[145] The police are responsible for reporting the death to the Coroner and organising for the body to be transported to the mortuary. The police may also be involved with the coronial inquiry following a suicide, particularly when there is initial uncertainty as to whether the cause of death was suicide or homicide.[146] The cost of a police officer call out due to a suicide is approximately **$890**, which was assumed to be incurred for all 83 to 116 (lower to upper bound) suicides in 2019.[147] **This results in an additional police cost of $0.1 million (for both lower and upper bound) due to suicides**, which is outlined in Table 4.6.

Policing costs may also occur following a **suicide attempt**, as police are often some of the first responders to a suicide attempt. Police have a role in seeking the intervention of health professionals, assisting health workers when there are issues of safety in dealing with a person who has attempted suicide, and acting as a referral service to health agencies. The Turning Point paper found that 40% of ambulance call outs were attended by police.[148] This proportion was applied to all suicides. The cost of a police attendance to a suicide attempt case is approximately **$284**, resulting in a **total additional cost of $0.3 to $0.4 million** (lower and upper bound), outlined in Table 4.8. This is equivalent to an average cost of **$145** per person that attempts suicide. Appendix A.5.7 provides the police costs due to suicides and suicide attempts associated in LGBTIQ+ adult in Victoria in 2019 by LGBTIQ+ group, noting that this cost estimate does not account for the trauma that may be experienced by police in responding to a suicide or suicide attempt.

Table 4.8: Police costs due to suicides and suicide attempts in LGBTIQ+ adults in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Suicides		Suicide attempts		Total	
	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost
18-24	0.0	0.1	0.1	0.1	0.1	0.2
25-34	0.0	0.0	0.1	0.1	0.1	0.1
35-44	0.0	0.0	0.0	0.1	0.0	0.1
45-54	0.0	0.0	0.0	0.0	0.0	0.0
55+	0.0	0.0	0.0	0.0	0.0	0.0
Total	**0.1**	**0.1**	**0.2**	**0.3**	**0.3**	**0.4**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding. Costs are incurred for all age groups and cost components for both lower and upper bound and are represented as 0.0 as costs are reported to the nearest millions of dollars.

4.3 Coronial costs

There is a coronial investigation following all sudden deaths, which includes **suicides**. The investigation may involve reviewing the person's medical history, specialist reports from experts and external investigators, or statements from witnesses, to ensure the cause of death was suicide.[149] This process may range from a few months, to over one year. Further, some suicides may also warrant an inquest (a court hearing to confirm the cause of death), for which the average cost may also be considered. The average cost of a coronial investigation, based on a road fatality, is **$2,593**, which was assumed to be incurred for all suicides within the year of death.[150] **The total coronial costs associated with suicides were $0.2 to $0.3 million** (lower and upper bound), outlined further in Table 4.9. Appendix A.6.2 provides the coronial costs due to suicides in LGBTIQ+ adult in Victoria in 2019 by LGBTIQ+ group.

Table 4.9: Coronial costs due to suicides in LGBTIQ+ adults in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Lower bound cost	Upper bound cost
18-24	0.1	0.1
25-34	0.1	0.1
35-44	0.0	0.0
45-54	0.0	0.0
55+	0.0	0.0
Total	**0.2**	**0.3**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding. Costs are incurred for all age groups and cost components for both lower and upper bound and are represented as 0.0 as costs are reported to the nearest millions of dollars.

4.4 Funeral costs

Suicides result in premature funeral costs which includes transportation fees, the cost of the coffin, cremation, death certificate and funeral director fees. There are also likely to be reception or wake costs faced by the family. As the funeral cost would have occurred eventually, the difference between the cost in 2019 and the discounted future cost was considered, using a 7% discount rate. It was assumed that the individual otherwise would have died of natural death at life expectancy, which depends on the individual's age and gender. The average funeral cost in Australia is $9,500 for a cremation, noting that it may be more expensive for burials or for other cultural funeral traditions.[151] Based on these assumptions, the total **brought forward funeral cost per suicide is approximately $12,541, or $1.0 to $1.4 million (lower and upper bound) in total**, as outlined in Table 4.10. Appendix A.6.3 provides the funeral costs due to suicides in LGBTIQ+ adult in Victoria in 2019 by LGBTIQ+ group.

Table 4.10: Funeral costs due to suicides in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Lower bound cost	Upper bound cost
18-24	0.3	0.4
25-34	0.2	0.3
35-44	0.2	0.3
45-54	0.2	0.2
55+	0.1	0.1
Total	**1.0**	**1.4**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

4.5 Formal care

Similarly to health care costs, those permanently incapacitated following a **suicide attempt** were assumed to have ongoing formal care costs (from the second year onwards) equivalent to that of people who experience quadriplegia, based on a study by Access Economics (2009).[152] As such, this permanent incapacity results in **formal care costs of $99.1 million (for both lower and upper bound), for all LGBTIQ+ adults** who attempt suicide and become permanently incapacitated.

Table 4.11: Formal care costs due to suicide attempts in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Lower bound cost	Upper bound cost
18-24	37.6	37.6
25-34	33.9	33.9
35-44	15.0	15.0
45-54	8.1	8.1
55+	4.5	4.5
Total	**99.1**	**99.1**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding. The lower and upper bound costs remain the same as costs are reported to the nearest 100 thousand of dollars and therefore increases in cost smaller than this unit are not shown in the table.

4.6 Pre- and postvention funding

There are additional government suicide prevention and bereavement postvention costs.[153] In 2019, the Victorian Government invested **$2.5 million** on suicide prevention and postvention activities. Further, the Commonwealth Government funds various suicide prevention and postvention programs at both a national level and within Victoria specifically. Total Commonwealth spending in 2019 was approximately **$5.5 million**, and **$0.9 million** in bereavement postvention services.[154] Suicide prevention activities may be targeted either to the general population or to those that have attempted suicide, and therefore in allocating the prevention costs, it was assumed that half of the funding was related to suicides and half was related to suicide attempts. There is also additional spending by the Victorian Government around programs related to depression and anxiety, which in 2019 was approximately **$19 million**.

To attribute a proportion of pre- and postvention funding to the LGBTIQ+ community, the lower and upper bound prevalence estimates (7.2% and 10%) of the LGBTIQ+ Victorian population were applied to the total funding. This totalled **$1.4 to $1.6 million** invested into suicide prevention and bereavement postvention services and **$1.4 to $1.9 million** for anxiety and depression related prevention programs which are directly attributable to the LGBTIQ+ community.

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5 Economic costs

Anxiety, depression, suicides, suicide attempts and suicide bereavement also carry with them a range of economic costs. These economic costs are predominantly productivity losses that affect individuals, employers and government. While not involving a direct financial exchange between members of society, these economic costs are real costs to the economy. For example, if worker productivity is lower due to an injury caused by a **suicide attempt** or because they live with **anxiety or depression**, a firm's output may be reduced, incurring a cost to the firm and to government (through reduced taxes). For those who die by **suicide**, the stream of future income that would have been realised over their remaining life, if not for the suicide, is lost. This is the same logic for those who live with anxiety or depression and require time away from work, resulting in loss of income in 2019. Further yet, the impacts of suicide are felt by family members and friends, some of whom may also experience reduced productivity at work through increased absenteeism or presenteeism.

A human capital approach was adopted to estimate productivity costs. This involves the calculation of the difference in employment or production between those who live with anxiety or depression, die by suicide, attempt suicide or are bereaved by suicide and the general population. These production differentials are multiplied by average weekly earnings (AWE) to estimate the costs associated with the loss in output. Productivity losses from premature deaths due to suicide are estimated in terms of the net present value (NPV) of future income streams lost. The economic costs considered in this analysis include productivity losses which arise from the reduced ability to participate in the workforce, for those who live with anxiety or depression, those who attempt suicide and those bereaved by suicide as well as transfer and associated deadweight losses (i.e., lost taxation revenue or additional expenditure to fund the provision of government programs). Productivity losses include:

- The NPV of the stream of future income lost due to premature mortality among those who die by suicide and permanent incapacitation among those who attempt suicide
- Reduced employment among those who live with anxiety or depression, attempt suicide, due to disadvantages in job-seeking or self-selection out of the labour force
- Increased days off work (absenteeism) for those who live with anxiety or depression, attempt suicide and those who are bereaved by suicide
- Reduced at-work productivity (presenteeism) for those who live with anxiety or depression or due to grief and bereavement from suicide[155]
- Greater need for informal care among those who become permanently or partially incapacitated due to suicide attempts.

Table 5.1 presents the total economic cost due to anxiety, depression, suicides, suicide attempt and suicide bereavement in LGBTIQ+ adults in Victoria in 2019. It was estimated that there was between **$1.8 to $2.5 billion (lower to upper bound) in economic costs**. This was comprised of **$1.6 to $2.2 billion (lower to upper bound)** in productivity losses and between **$260.8 to $355.1 million in deadweight losses**. Presenteeism was the largest single driver of economic costs, accounting for between 47.3% to 47.7% (lower to upper bound) of the total cost, owing to the significant presenteeism associated with anxiety and depression.

It is acknowledged that chosen family/carers who provide informal care to someone with a mental illness may also experience impacts upon their own mental health. As a result, this may impact the productivity of these individuals who are in the workforce, as they may have more absent days or be less productive while at work. The impact of informal care on the health and wellbeing of carers is discussed in Box 7.

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Table 5.1: Summary of productivity costs due to anxiety, depression, suicides and suicide attempts and suicide bereavement in Victoria in 2019 ($ millions) – **lower and upper bound**

Cost component	Lower bound cost	Upper bound cost
Productivity losses	**1,557.6**	**2,157.0**
Premature mortality	23.1	32.1
Permanent incapacitation	1.3	1.8
Reduced employment	204.9	285.4
Absenteeism	435.0	605.8
Presenteeism	861.0	1,199.1
Search, hiring & training	0.1	0.1
Informal care	32.3	32.7
Deadweight losses	**260.8**	**355.1**
Total	**1,818.4**	**2,512.1**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

Table 5.2 and Table 5.3 (lower and upper bound respectively) show the total costs broken down by anxiety, depression, suicides, suicide attempt and suicide bereavement. **The economic costs were estimated to range between $0.8 to $1.1 billion (lower to upper bound) for anxiety, $0.9 to $1.3 billion for depression, $25.1 to $34.9 million (lower to upper bound) for suicides, $75.6 to $84.8 million for suicide attempts and $4.1 to $5.7 million (for both lower and upper bound) for suicide bereavement**.

Chart 5.1 and Chart 5.2 (lower and upper bound respectively) present the total economic cost broken down by anxiety, depression, suicides, suicide attempts and suicide bereavement, as well as by cost bearer (in the pie chart). The high prevalence of **anxiety and depression** explain the high economic cost attributable to presenteeism, absenteeism and deadweight loss costs. The cost attributable to **suicides**, **suicide attempts** and **suicide bereavement** is small in comparison, accounting for just 5-5.8% of the total economic cost.

For the lower bound estimate, employers bear the greatest burden of economic cost (43%). This stems from the absenteeism and presenteeism costs associated with **depression and anxiety**. Costs to employers also include the cost of searching for, hiring and training replacement employees. Federal Government bears the next largest burden of economic cost (27%). This stems from the fact that the Federal Government loses the taxable proportion of all after-tax income for individuals. Society bears the cost of deadweight losses, accounting for 14% (upper and lower bound) of the total economic cost. Individuals bear 14% (lower and upper bound) of the total economic cost, as a result of loss of all after-tax income. Finally, family and friends paid for the lost income experienced as a result of providing informal care, accounting for 1% of the total economic cost.

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Table 5.2: Summary of economic costs due to anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adult population in Victoria in 2019 ($ millions) – **lower bound**

Cost component	Anxiety	Depression	Suicide	Suicide attempt	Suicide bereavement	Total	% of total
Premature mortality	-	-	23.1	-	-	23.1	1.3%
Permanent incapacitation	-	-	-	1.3	-	1.3	0.1%
Reduced employment	88.7	102.1	-	14.1	-	204.9	11.3%
Absenteeism	127.6	302.5	-	3.6	1.2	435.0	23.9%
Presenteeism	466.1	392.9	-		2.0	861.0	47.3%
Search, hiring and training	-	-	-	0.1	-	0.1	0.0%
Informal care	-	-	-	32.3	-	32.3	1.8%
Deadweight losses	110.0	123.7	2.0	24.2	0.9	260.8	14.3%
Total	**792.5**	**921.2**	**25.1**	**75.6**	**4.1**	**1,818.4**	**100.0%**
% of total	**43.6%**	**50.7%**	**1.4%**	**4.2%**	**0.2%**	**100.0%**	**-**

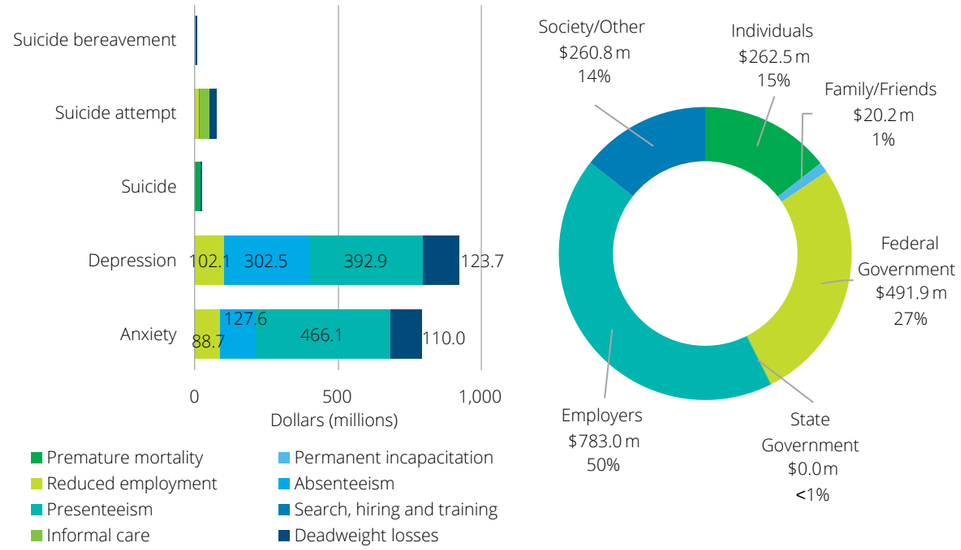
Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

Table 5.3: Summary of economic costs due to anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adult population in Victoria in 2019 ($ millions) – **upper bound**

Cost component	Anxiety	Depression	Suicide	Suicide attempt	Suicide bereavement	Total	% of total
Premature mortality	-	-	32.1	-	-	32.1	1.3%
Permanent incapacitation	-	-	-	1.8	-	1.8	0.1%
Reduced employment	123.5	142.3	-	19.6	-	285.4	11.4%
Absenteeism	177.8	421.3	-	5.0	1.7	605.8	24.1%
Presenteeism	649.2	547.2	-		2.8	1,199.1	47.7%
Search, hiring and training	-	-	-	0.1	-	0.1	0.0%
Informal care	-	-	-	32.7	-	32.7	1.3%
Deadweight losses	153.2	172.2	2.8	25.6	1.3	355.1	14.1%
Total	**1,103.7**	**1,283.0**	**34.9**	**84.8**	**5.7**	**2,512.1**	**100.0%**
% of total	**43.9%**	**51.1%**	**1.4%**	**3.4%**	**0.2%**	**100.0%**	**-**

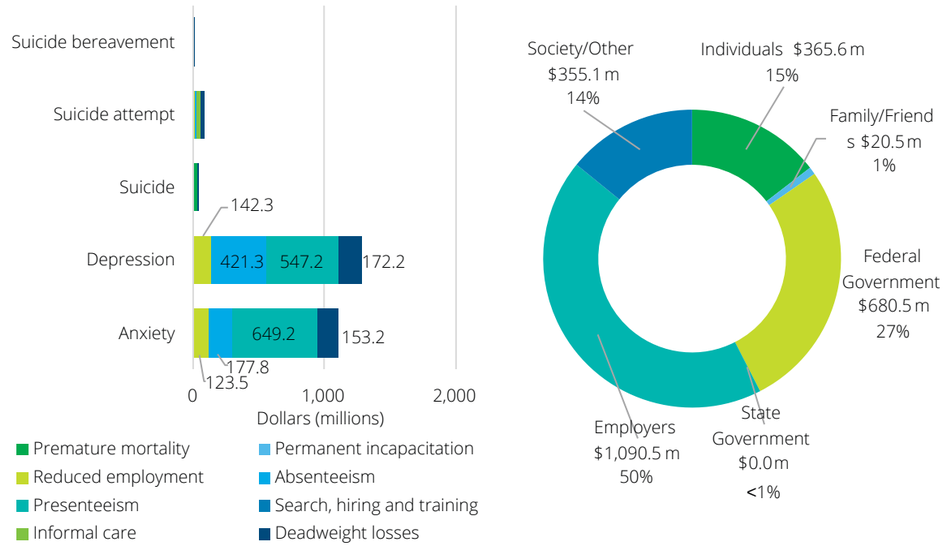
Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

Chart 5.1: Productivity costs due to anxiety, depression, suicides, suicide attempts and suicide bereavement, including by bearer, in LGBTIQ+ adult population in Victoria in 2019 ($ millions) – **lower bound**



Source: Deloitte calculations.

Chart 5.2: Productivity costs due to anxiety, depression, suicides, suicide attempts and suicide bereavement, including by bearer, in LGBTIQ+ adult population in Victoria in 2019 ($ millions) – **upper bound**



Source: Deloitte calculations.

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Box 7. Impact of informal care on the health and wellbeing of carers

Living with anxiety, depression and other forms of adverse mental health can be a chronic and debilitating experience. Those with anxiety and/or depression may require additional help from others with day-to-day tasks, like housework and transport, and for emotional support. These individuals are considered informal carers and are typically family members or friends of the person requiring care. In the LGBTIQ+ community, friends (or 'families of choice') are more likely to assume the caregiving role, as biological families or formal services may be perceived as unsafe.[156,157]

There is evidence to suggest that caring for a person with adverse mental health or some form of disability can have a negative impact on caregivers' lives. The 2021 Carer Wellbeing Survey found that Australian carers reported lower levels of wellbeing and higher rates of psychological distress than the average Australian.[158] Carers were also three times more likely to experience loneliness, and almost two-thirds reported not having enough time for themselves. These findings highlight the significant consequences of living with adverse mental health for both the affected individual, but also their carer. While these findings reflect the experiences of Australian carers more broadly, carers of LGBTIQ+ individuals may face unique challenges that can exacerbate the mental ill-health of affected individuals and their carers. For example, they may face difficulties accessing health and support services due to issues such as stigma or discrimination.

While the mental health impact of informal caregiving could not be quantified in this study, these issues highlight the need for further research and support to address the unique needs of carers across areas such as health, wellbeing, and employment.

5.1 Productivity losses

5.1.1 Premature mortality and permanent incapacitation

Suicides result in a future stream of productivity losses that can be approximated through the lost potential earnings up to the age of retirement. Similarly, a small proportion of LGBTIQ+ people who **attempt suicide** will sustain severe injuries leading to permanent incapacitation. In both cases, the individual will never return to the labour force, resulting in significant productivity losses from forgone earnings.

The exact productivity losses from these two channels were calculated by multiplying the number of deaths from suicide and permanent incapacitations from suicide attempts within the working age population by the age specific employment rates and AWE.[159,160] Person employment rates and AWE were calculated by using a weighted average of the gender-specific employment rates and AWE and applied to the LGBTIQ+ groups. It was assumed that people enter the labour market at the age of 15 and that everyone is retired by the age of 74. All remaining future earnings were discounted by 7% per annum.

As discussed in Section 3.4, there were an estimated 83 to 116 (lower to upper bound) suicide deaths in the LGBTIQ+ adult population in Victoria in 2019. Most of these were among the bisexual and pansexual group who accounted for 45 to 62 (lower and upper bound) of the suicide deaths. One individual was estimated to become permanently incapacitated following their suicide attempt, based on literature suggesting that 0.6% of suicide attempts result in permanent incapacitation.[161]

Overall, the total estimated productivity loss due to premature mortality and permanent incapacitation in LGBTIQ+ adults in Victoria in 2019 ranged between **$24.4 to $33.9 million** (lower to upper bound). Premature death among the LGBTIQ+ adult population was the primary driver of this cost, accounting for 94.6% of the total cost. Appendix A.7.1 provides the productivity costs from premature mortality due to suicides and suicide attempts in Victoria in 2019 by LGBTIQ+ group.

Table 5.4: Productivity costs from premature mortality due to suicides and suicide attempts in Victoria in 2019 ($millions) – **lower and upper bound**

Age	Suicides (premature mortality)		Suicide attempts (permanent incapacitation)		Total	
	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost
18-24	7.4	10.3	0.4	0.6	7.8	10.8
25-34	11.8	16.5	0.7	0.9	12.5	17.4
35-44	2.6	3.6	0.2	0.2	2.7	3.8
45-54	0.9	1.3	0.1	0.1	1.0	1.4
55+	0.4	0.5	0.0	0.0	0.4	0.5
Total	**23.1**	**32.1**	**1.3**	**1.8**	**24.4**	**33.9**

Source: Deloitte calculations based on ABS data. Note: Components may not sum to totals due to rounding.

5.1.2 Reduced employment

Individuals who attempt **suicide** have a lower likelihood of employment following their attempt. The employment rate for people living with anxiety and depression is also lower. This occurs due to disadvantages faced in job-seeking and self-selection out of the labour force. Barriers to employment faced by LGBTIQ+ people, in particular the experiences of trans and gender diverse people may also explain reduced employment. In Private Lives 3 (2020), 9.9% of LGBTIQ+ participants reported having been refused employment or promotion in the last 12 months on the basis of discrimination against their sexual or gender identity.[162] The productivity loss associated with this is captured through the lost wages that the individual otherwise would have gained if not for their suicide attempt, anxiety or depression.

To attribute any reduction in the likelihood of employment to **anxiety, depression or suicide attempt**, the employment rates of people who have anxiety, depression or attempted suicide in the last 12 months can be compared to those of the general population. Data from the NSMHWB were analysed to understand this difference in employment rates.[163] The analysis showed that there is a 2.1 and 2.3 percentage point reduction in employment rates among those who live with mental illness and have attempted suicide (respectively) in the last 12 months, relative to the general population, controlling for mental health issues and substance disorders. This difference was applied to ABS employment data (adjusted for age and gender [weighted average of male and female to produce person figures]) to calculate the number of people who remain out of the workforce after a suicide attempt.[164] This was then applied to the AWE data from the ABS to estimate the total lost earnings.[165] Further detail of this approach is provided in Appendix A.7.

The total cost of this reduced employment due to anxiety, depression and suicide attempts was estimated to range between $204.9 to $285.4 million (lower and upper bound). This lower and upper bound cost is disaggregated by age in Table 5.5. Appendix A.7.2 provides the productivity costs from reduced employment due to anxiety, depression, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019 by LGBTIQ+ group.

Table 5.5: Productivity costs from reduced employment due to anxiety, depression, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Lower bound cost	Upper bound cost
18-24	32.3	44.9
25-34	87.6	122.0
35-44	50.6	70.5
45-54	31.3	43.7
55+	3.1	4.3
Total	**204.9**	**285.4**

Source: Deloitte calculations based on ABS data. Note: Components may not sum to totals due to rounding.

5.1.3 Absenteeism

People who **attempt suicide** are likely to take more days off work due to the injuries sustained during their attempt. This is also likely to occur among those who live with **anxiety** or **depression**, as the individual takes time off work for their mental wellbeing, and for those who are **bereaved by suicide**, as the individual takes time off work to process their grief and make end of life arrangements. The measure of absenteeism captures the additional number of days per year that an employee takes off work as a result of their anxiety, depression, suicide attempt or suicide bereavement.

When considering the working lives of people with **anxiety** and **depression**, the NSMHWB estimated that an average number of lost working days due to depression is 35 days and due to anxiety is 27 days.[166] Based on a review of the literature, it was estimated that 33.8% of people who **attempt suicide** do not sustain injuries serious enough to require a greater amount of time off work. For the remainder, 38.1% were assumed to sustain minor injuries, 24.8% moderate injuries and 3.2% would be partially incapacitated.[167,168,169]

The incremental increase in absence for these three groups was assumed to be one day, 32 days and 225 days, respectively.[170] Furthermore, it was estimated that those who are **bereaved by suicide** take an additional 16 days off work in the year following the suicide.[171,172] These absences were multiplied by the AWE and probability of employment (adjusted by age) for each person who attempted suicide or was bereaved by suicide in 2019.[173,174] Further detail of this parameter and the other assumptions for the calculation of absenteeism is provided in Appendix A.7.

The total cost of this increased absenteeism due to anxiety, depression, suicide attempt and suicide bereavement was estimated to range between $435.0 to $605.8 million in 2019. This cost is disaggregated by age in Table 5.6. Appendix A.7.3 provides the productivity costs from increased absenteeism due to anxiety, depression, suicide attempts and suicide bereavement in Victoria in 2019 by LGBTIQ+ group.

Table 5.6: Productivity costs from increased absenteeism due to anxiety, depression, suicide attempts and suicide bereavement in Victoria in 2019 ($ millions) – lower and upper bound

Age	Anxiety		Depression		Suicide attempts		Suicide bereavement		Total	
	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost
18-24	20.8	29.0	43.1	60.1	1.0	1.4	0.2	0.2	65.1	90.7
25-34	57.0	79.4	124.9	174.0	1.5	2.1	0.5	0.6	183.9	256.2
35-44	32.6	45.5	73.0	101.7	0.7	1.0	0.3	0.5	106.7	148.5
45-54	15.3	21.4	56.6	78.8	0.3	0.5	0.2	0.3	72.5	101.0
55+	1.8	2.5	4.8	6.7	0.1	0.1	0.0	0.0	6.7	9.4
Total	**127.6**	**177.8**	**302.5**	**421.3**	**3.6**	**5.0**	**1.2**	**1.7**	**435.0**	**605.8**

Source: Deloitte calculations based on ABS data. Note: Components may not sum to totals due to rounding.

5.1.4 Presenteeism

People living with **anxiety** or **depression** or who are **bereaved by suicide** are also likely to experience a reduction in their at-work productivity due to the impacts of their mental health condition (e.g., reduced concentration, motivation, etc.) and/or grief. Australian research has found that those bereaved by suicide self-rate their productivity 12.3% lower than that of their colleagues.[175] The cost of this presenteeism was estimated by applying the reduction to the AWE of those who are employed (adjusted by age and gender).[176,177] There was insufficient evidence to establish a link between suicide attempts and presenteeism. Rather, presenteeism in this cohort was assumed to be attributable to pre-existing mental health conditions.

On average, people with mental illness, such as **anxiety and depression**, reported that they reduced the amount of work they did on 14 to 18 days per year. It was assumed that workers with mental illness had a lower productivity of 50% on days that they cut down. Based on this, approximately 7 to 9 days per worker per year, on average, was lost because of presenteeism due to mental illness.[178] A conservative approach using seven days per worker per year for presenteeism has been used in the modelling.

The total cost of this increased presenteeism due to anxiety, depression and suicide bereavement was estimated to range between $873.1 to $1,216.0 million in 2019. This cost is disaggregated by age in Table 5.7. Appendix A.7.4 provides the productivity costs from increased presenteeism due to anxiety, depression, suicide attempts and suicide bereavement in Victoria in 2019 by LGBTIQ+ group.

Table 5.7: Productivity costs from increased presenteeism due to anxiety, depression, suicide attempts and suicide bereavement in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Anxiety		Depression		Suicide bereavement		Total	
	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost
18-24	76.0	105.8	56.0	78.0	3.2	4.5	135.2	188.4
25-34	208.3	290.1	162.3	226.0	5.8	8.1	376.4	524.2
35-44	119.2	166.0	94.8	132.0	3.3	4.5	217.3	302.6
45-54	56.0	78.0	73.5	102.4	1.6	2.2	131.1	182.6
55+	6.7	9.3	6.3	8.7	0.2	0.3	13.2	18.3
Total	**466.1**	**649.2**	**392.9**	**547.2**	**14.1**	**19.6**	**873.1**	**1,216.0**

Source: Deloitte calculations based on ABS data. Note: Components may not sum to totals due to rounding.

5.1.5 Search, hiring and training costs

One productivity cost associated with a suicide or suicide attempt is the cost to the employer when the employee is no longer able to work and must be replaced. To estimate these costs, it was assumed that an average of 26 weeks is required to replace an existing staff member.[179] It was also assumed that, in the absence of premature death or permanent incapacitation, the employee would have left their job three years into the future.[180] As such, the value of the search, hiring and training costs was estimated as the difference between the lost earnings in 2019 and the present value of the same lost earnings three years from now. The lost earnings over the 26-week period were estimated by multiplying the AWE and likelihood of being employed for those who died by suicide or attempted suicide (adjusted by age).

The total cost of the time taken to replace LGBTIQ+ workers who died by suicide or where permanently incapacitated from a suicide attempt was estimated to be $0.1 million (for both lower and upper bound) in Victoria in 2019.

5.1.6 Informal care

Those who are either fully incapacitated or partially incapacitated due to a **suicide attempt** may require additional support in their everyday lives after the attempt. This support is often provided by an informal carer, typically a partner, friend or another member of the person's chosen family. Though informal care is provided free of charge, the services are not free from an economic perspective.

This study used the opportunity cost approach to value the informal care provided to people who are permanently or partially incapacitated due to suicide attempts. The opportunity cost approach assumes that, in the absence of the care requirements of the permanently or partially incapacitated individual, the carer may be in paid employment. It was assumed that the 0.6% of people who become permanently incapacitated following a suicide attempt would require lifetime informal care, while the additional 3.2% who sustain a long-term disability would require informal care for 225 days.[181,182,183]

An average of 25.2 hours of informal care per week was applied to each carer for a permanently or partially incapacitated individual. This is equivalent to the difference between the average 36.2 hours of weekly informal care provided by primary carers in Australia and the average 11 hours of informal care provided to people with a mental illness.[184,185] A one-to-one carer to recipient ratio was assumed. Life expectancies were adjusted for those who become permanently incapacitated using literature regarding spinal cord injuries.[186] The cost of this care can be estimated by multiplying the AWE (adjusted for the age distribution of carers) of the carers by the probability of being employed. Further information on the number of informal carers and the annual hours of care provided can be found in Appendix A.7. Appendix A.7.5 provides the productivity costs from informal care due to anxiety, depression, suicide attempts and in LGBTIQ+ adults in Victoria in 2019 by LGBTIQ+ group.

The total cost of this increased informal care due to suicide attempts was estimated to range between $32.3 to $32.7 million (lower and upper bound) in 2019. This is equivalent to a cost of $19,472 to $14,138 (upper and lower bound[187]) per unique person who attempted suicide. For those who were permanently incapacitated, ongoing informal care costs were discounted back to 2019 dollars. The total informal care cost is disaggregated by age and disability status in Table 5.8. As can be seen, most of the costs were attributable to those who become fully incapacitated following their suicide attempt. These individuals accounted for 96-97% of the total cost, owing to the lifetime requirement for informal care.

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Table 5.8: Productivity costs from informal care due to anxiety, depression, suicide attempts and in LGBTIQ+ adults in Victoria in 2019 ($ millions) – **lower and upper bound**

Age	Permanent incapacitation		Partial incapacitation		Total	
	Lower bound cost	Upper bound cost[188]	Lower bound cost	Upper bound cost	Lower bound cost	Upper bound cost
18-24	10.1	10.1	0.4	0.5	10.5	10.6
25-34	12.0	12.0	0.3	0.4	12.3	12.4
35-44	5.3	5.3	0.1	0.2	5.5	5.5
45-54	2.4	2.4	0.1	0.1	2.5	2.5
55+	1.5	1.5	0.1	0.1	1.6	1.6
Total	**31.4**	**31.4**	**0.9**	**1.3**	**32.3**	**32.7**

Source: Deloitte calculations based on ABS data. Note: Components may not sum to totals due to rounding.

5.2 Deadweight losses

A deadweight loss is defined as a loss of economic efficiency that occurs when equilibrium is not achieved in a market. In the case of adverse mental health outcomes, this arises due to the government's need to collect additional tax revenue to fund costs that would otherwise not have been incurred. These costs include the lost consumer, company and informal carer taxes, and Federal and State health expenditure.

There are frictions associated with the collection of this additional tax revenue. Specifically, levying taxes reduces the efficiency with which resources are allocated within an economy. This may be through higher income taxes, which increases the price of work relative to leisure and, therefore, creates a disincentive to work. Additionally, higher sales taxes increase the cost of goods and services and results in a loss of sales to businesses. These mechanisms result in a reduction in consumer and producer surplus, respectively, which is known as the deadweight loss, or excess burden, of tax.

Deadweight losses increase when taxes are raised above the level that they would otherwise have been in the absence of adverse mental health outcomes. This study assumes that the government maintains a budget neutral position despite the decreased tax revenue and increased government spending (e.g., to pay for additional health services).

Maintaining the budget neutral position requires the government to levy taxes on other members of society to:

- Maintain the same amount of tax revenue despite a smaller pool of taxable income from individuals and taxable profits from businesses
- Pay for additional government spending in areas such as health care as a result of anxiety, depression, suicides, suicide attempts and suicide bereavement.

The respective tax rates used in the calculation of deadweight losses were:

- 22.3% average personal income tax rate and 15.1% average indirect tax rate
- 29.2% average company tax rate.

These tax rates were calculated by dividing the net income tax and net indirect tax by the taxable income, based on data from the Australian Taxation Office.[189] This method was also used to derive the average company tax rate, using the net tax for companies divided by the total taxable income for companies.

Applying these tax rates to the total productivity impacts (including informal care costs), the total loss of tax revenue was estimated to range between $491.9 to $680.5 million in 2019. As presented in Section 4.1, a further $180.4 to $230.3 million (lower to upper bound) in health expenditure was incurred due to anxiety, depression, suicides, suicide attempts and suicide bereavement. It was estimated that between $132.9 to $174.9 million (lower to upper bound) of this was funded by the Federal government and between $47.4 to $55.5 million was funded by the Victorian Government.

Table 5.9 presents the estimated increase in health expenditure and reduction in taxation income, the applied efficiency loss of raising taxation, and the resulting deadweight loss in Victoria in 2019. All rates of efficiency loss include a 0.8% administrative loss which covers expenses of administering taxation. **Overall, it was estimated that $260.8 to $355.1 million (lower to upper bound) in deadweight losses was generated in 2019 due to suicides, suicide attempts and suicide bereavement**. Appendix A.7.6 provides the deadweight losses due to adverse mental health outcomes in LGBTIQ+ adults in Victoria in 2019 by LGBTIQ+ group.

Table 5.9: Deadweight losses due to anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019 – **lower and upper bound**

Cost component	Total cost ($ millions)		Rate of efficiency loss (%)	Deadweight loss ($ millions)	
	Lower bound	Upper bound	Lower and upper bound	Lower bound	Upper bound
Federal health expenditure	132.9	174.9	29.8%	39.6	52.0
State health expenditure	47.4	55.5	38.3%	18.2	21.2
Lost consumer taxes	156.8	218.4	23.3%	36.5	50.8
Lost company taxes	323.0	449.8	50.7%	163.8	228.1
Lost carer taxes	12.1	12.2	23.3%	2.8	2.8
Total	**672.2**	**910.8**	**-**	**260.8**	**355.1**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

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6 Intangible costs

6.1 Loss of wellbeing

There was a substantial loss of wellbeing due to adverse mental health outcomes in the Victorian LGBTIQ+ community in 2019, due to the reduction of quality of life, associated injuries and premature death. The reduction in wellbeing can be quantified using the burden of disease methodology.

6.1.1 Valuing life and health

The burden of disease methodology is a non-financial approach to quantifying the loss of wellbeing, where life and health are measured in terms of disability-adjusted life years (DALYs). DALYs combine the years of healthy life lost due to living with a disability (YLD) and the years of life lost due to premature death (YLL). One DALY (the summation of YLD and YLL) is equivalent to one year of healthy life lost.

In the burden of disease methodology, various health states are assigned a disability weight, where zero represents perfect health and one is equivalent to death. Other health states are given a weight between zero and one to reflect the loss of wellbeing from a particular condition relative to perfect health. For example, a disability weight of 0.2 is interpreted as a 20% loss in wellbeing relative to perfect health for the duration of the condition.

DALYs can be converted into a dollar figure using an estimate of the value of a statistical life year (VSLY), an estimate of the value society places on an anonymous life. The Department of Prime Minister and Cabinet (2019) estimated the net VSLY (that is, subtracting financial costs borne by individuals) to be $213,000 in 2019 dollars.[190]

6.2 Estimated loss of wellbeing due to anxiety, depression, suicides, suicide attempts and suicide bereavement

The total DALYs attributable to anxiety, depression, suicides, suicide attempts and suicide bereavement was estimated to range between 78,728 and 109,649 (lower to upper bound) in the LGBTIQ+ adult population in Victoria in 2019. The majority of these DALYS were attributable to **anxiety** and **depression**, owing to the high prevalence of those conditions. Converted to a dollar estimating using the VSLY, the total cost associated with this loss of wellbeing was estimated to range between $16.8 to $23.4 billion (lower to upper bound). It is important to note that this is a non-financial cost that is not measured within gross domestic product (GDP). Sources and methodological approach used to estimate loss of wellbeing due to anxiety, depression, suicides, suicide attempts and suicide bereavement are detailed in Appendix A.8.

As shown in Table 6.1 and Chart 6.1 (lower bound) and Table 6.2 and Chart 6.2 (upper bound), there are notable differences in the age distribution of YLDs and YLLs. This reflects the differing profile of anxiety, depression, suicides and suicide attempts, which are reflected in Chart 3.3, Chart 3.4, Chart 3.5 and Chart 3.6 respectively. Notably, the majority of YLDs – that is, the healthy life lost due to disability – were attributable to those below the age of 35. Similarly, most of the YLLs occurred among those aged below the age of 35. Appendix A.8.1 provides the loss of wellbeing due to anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adult in Victoria in 2019 by LGBTIQ+ group.

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Table 6.1: Loss of wellbeing due to anxiety, depression, suicides, suicide attempts and suicide bereavement (aggregated) in LGBTIQ+ adults in Victoria, by age group, in 2019 – **lower bound**

Age	YLDs (anxiety)	YLDs depression)	YLDs (suicide attempts	YLDs (suicide breavement)	YLLs (suicides)	DALYs	DALYs ($, millions)
18-24	8,034	14,312	41	8	869	23,264	4,955.2
25-34	9,421	17,725	26	10	519	27,701	5,900.2
35-44	4,603	8,844	12	6	168	13,633	2,903.9
45-54	2,120	6,723	5	4	93	8,946	1,905.5
55+	1,572	3,567	4	4	39	5,184	1,104.3
Total	**25,750**	**51,171**	**88**	**32**	**1,687**	**78,728**	**16,769.0**

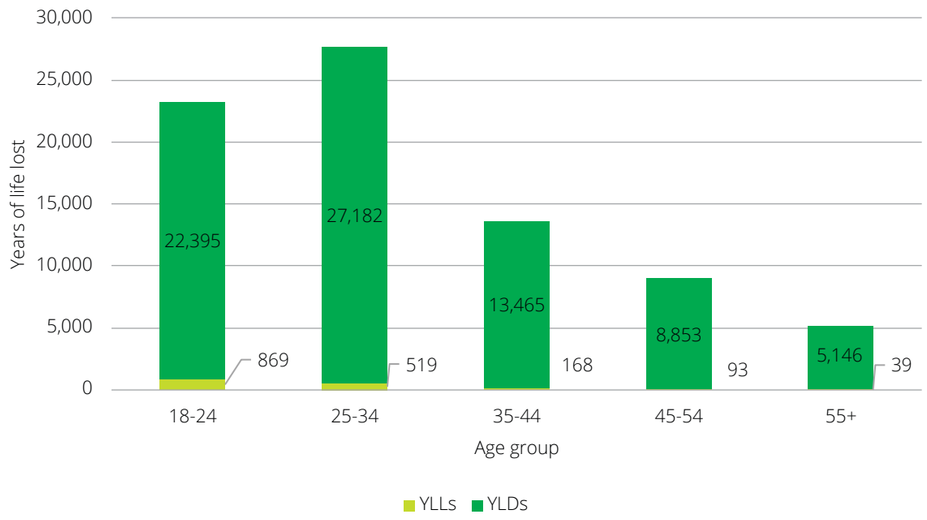
Source: Deloitte calculations. Note: Components may not sum to totals due to rounding.

Table 6.2: Loss of wellbeing due to anxiety, depression, suicides, suicide attempts and suicide bereavement (aggregated) in LGBTIQ+ adults in Victoria, by age group, in 2019 – **upper bound**

Age	YLDs (anxiety)	YLDs depression)	YLDs (suicide attempts	YLDs (suicide breavement)	YLLs (suicides)	DALYs	DALYs ($, millions)
18-24	11,189	19,933	57	12	1,210	32,401	6,901.4
25-34	13,121	24,687	36	14	723	38,580	8,217.6
35-44	6,411	12,318	16	9	234	18,988	4,044.4
45-54	2,953	9,363	7	6	130	12,459	2,653.8
55+	2,189	4,967	5	5	54	7,220	1,538.0
Total	**35,863**	**71,268**	**122**	**45**	**2,350**	**109,649**	**23,355.2**

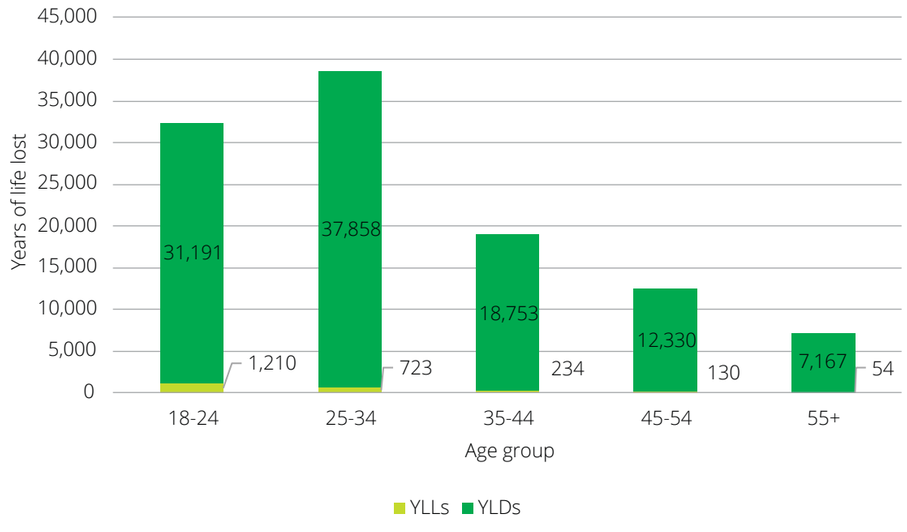
Source: Deloitte calculations.

Chart 6.1: YLDs and YLLs due to anxiety, depression, suicides, suicide attempts and suicide bereavement (aggregated) in LGBTIQ+ adults in Victoria, by age group, in 2019 – **lower bound**



Source: Deloitte calculations.

Chart 6.2: YLDs and YLLs due to anxiety, depression, suicides, suicide attempts and suicide bereavement (aggregated) in LGBTIQ+ adults in Victoria, by age group, in 2019 – **upper bound**



Source: Deloitte calculations.

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6.2.2 Years of life lost due to premature death

Suicides incur a significant loss of wellbeing due to premature death. As discussed in Section 3.4, there were an estimated 83 to 116 (lower to upper bound) suicide deaths in the LGBTIQ+ adult population in Victoria in 2019. The YLLs from these deaths were estimated by multiplying the number of deaths in each age and LGBTIQ+ group by the expected years of life remaining at the age of death. The age at death was assumed to be the midpoint of the five-year age groups within which the death occurred. Average life expectancy data was obtained from the Australian Burden of Disease Study. A discount rate of 7% was applied to the YLLs when applying the VSLY to calculate the equivalent dollar value, while no age weighting was applied. Based on this approach, it was estimated that there were 3,220 to 4,484 (lower to upper bound) YLLs due to suicides (undiscounted).

6.2.3 Years of life lost due to disability

As discussed in Section 3.2 and Section 3.3, there were between 105,751 to 147,285 (lower to upper bound) LGBTIQ+ adults who were diagnosed with anxiety and between 118,900 to 165,599 LGBTIQ+ adults who were diagnosed with depression respectively in Victoria in 2019. The YLDs from anxiety and depression were calculated by applying the YLD rate per case of anxiety or depression in Australia, based on data from the GBD study 2017.[191] These YLD rates were applied to the estimated number of LGBTIQ+ adults who were diagnosed with anxiety or depression in the LGBTIQ+ adult population in Victoria in 2019. Using this approach, it was estimated that there were between 25,750 to 35,863 YLDs (lower and upper bound) due to anxiety, and between 51,171 to 71,268 YLDs due to depression.

There is also a substantial loss of wellbeing experienced by people who attempt suicide due to the injuries sustained during the attempts. As discussed in Section 3.5, there were between 1,660 to 2,312 unique individuals who attempted suicide in the LGBTIQ+ adult population in Victoria in 2019. The YLDs from these suicide attempts were calculated by applying the YLD rate per case of self-harm in Australia (as a proxy measure), based on data from the GBD study 2017. These YLD rates were applied to the estimated number of unique individuals who attempted suicide in the LGBTIQ+ adult population in Victoria in 2019. Using this approach, it was estimated that there were 88 to 122 YLDs due to suicide attempts.

Finally, the loss of wellbeing experienced by those who are bereaved due to suicide was estimated using the European Quality of Life – Five Dimensions (EQ-5D). Evidence shows that the average EQ-5D score among bereaved individuals can fall as low as 0.72 depending on the time elapsed since the suicide[192], relative to a population average of approximately 0.86.[193] These time aspects were incorporated into the analysis by separately estimating the YLDs for those who experience bereavement for less than six months, six to twelve months and up to two years. In total, it was estimated that there were 32 to 45 YLDs attributable to suicide bereavement in Victoria in 2019.

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7 Cost summary

7.1 Total costs

The total economic and financial cost of anxiety, depression, suicides, suicide attempts and suicide bereavement in the LGBTIQ+ adults in Victoria in 2019 was estimated to range between **$2.2 to $3.0 billion** (lower to upper bound) while the intangible costs amounted to **$16.8 to $23.4 billion**. Intangible costs, relating to the loss of life, or loss of wellbeing, made up 88% of the total cost. Economic costs, referring to lost productivity costs, made up the second largest segment (10%), followed by the financial costs (2%).

The total economic, financial and intangible cost of anxiety was between **$6.4 to $8.9 billion** (lower to upper bound), of depression was between **$11.9 to $16.6 billion**, of suicides was between **$386.4 to $538.0 million**, of suicide attempts was between **$268.2 to $286.7 million**, and of suicide bereavement was between **$13.4 to $18.6 million**. The cost per person living with anxiety, living with depression, that suicides, that attempts suicide and that bereaves a suicide are outlined in Table 7.1 and Table 7.2 (lower and upper bound estimated respectively).

Table 7.1: Total costs by cost type in LGBTIQ+ adults in Victoria in 2019 ($ millions) – **lower bound**

Cost type	Anxiety	Depression	Suicides	Attempted suicides	Suicide bereavement	Total	% of total
Financial	110.7	124.0	2.0	173.9	2.4	413.0	2.2%
Economic	792.5	921.2	25.1	75.6	4.1	1,818.4	9.6%
Intangible	5,484.7	10,899.3	359.4	18.7	6.9	16,769.0	88.3%
Total	**6,387.9**	**11,944.5**	**386.4**	**268.2**	**13.4**	**19,000.4**	**100.0%**
% of total	**33.6%**	**62.9%**	**2.0%**	**1.4%**	**0.1%**	**100.0%**	**-**
Cost per person	**60,405.6**	**100,459.0**	**4,656,320.5**	**161,580.5**	**23,054.5**	**-**	**-**

Source: Deloitte calculations. Note: Components may not sum to totals due to rounding. The bereavement cost per person relates to the cost per suicide rather than person bereaved.

Table 7.2: Total costs by cost type in Victoria in 2019 ($ millions) – **upper bound**

Cost type	Anxiety	Depression	Suicides	Attempted suicides	Suicide bereavement	Total	% of total
Financial	154.2	172.8	2.6	175.9	3.3	508.8	1.9%
Economic	1,103.7	1,283.0	34.9	84.8	5.7	2,512.1	9.5%
Intangible	7,638.9	15,180.1	500.5	26.0	9.6	23,355.2	88.5%
Total	**8,896.8**	**16,635.9**	**538.0**	**286.7**	**18.6**	**26,376.1**	**100.0%**
% of total	**33.7%**	**63.1%**	**2.0%**	**1.1%**	**0.1%**	**100.0%**	**-**
Cost per person	**60,405.6**	**100,459.0**	**4,654,959.7**	**124,050.9**	**23,089.9**[194]	**-**	**-**

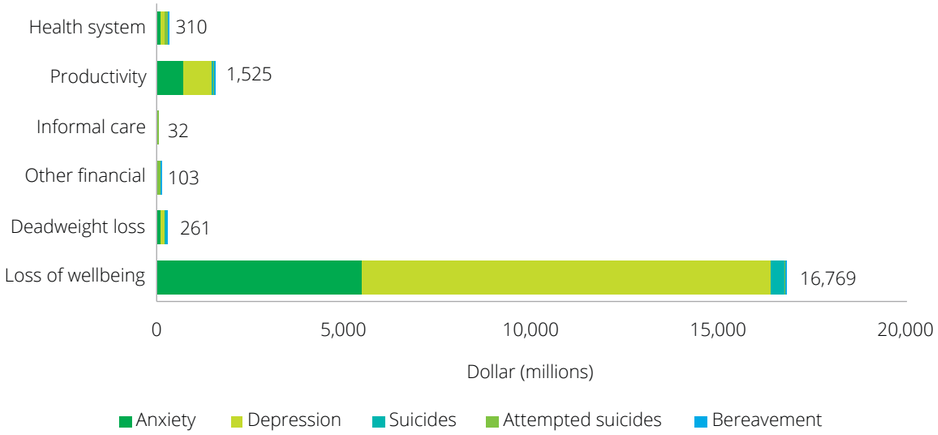
Source: Deloitte calculations. Note: Components may not sum to totals due to rounding. The bereavement cost per person relates to the cost per suicide rather than person bereaved.

Chart 7.1 and Chart 7.2 summarises costs by various cost types for anxiety, depression, suicides, suicide attempts and suicide bereavement, for lower and upper bound estimates respectively.

Most of the loss wellbeing costs (between $16.4 to $22.8 billion for lower and upper bound estimate) were attributable to anxiety and depression. This is primarily driven by the high prevalence of anxiety and depression in the LGBTIQ+ adult population.

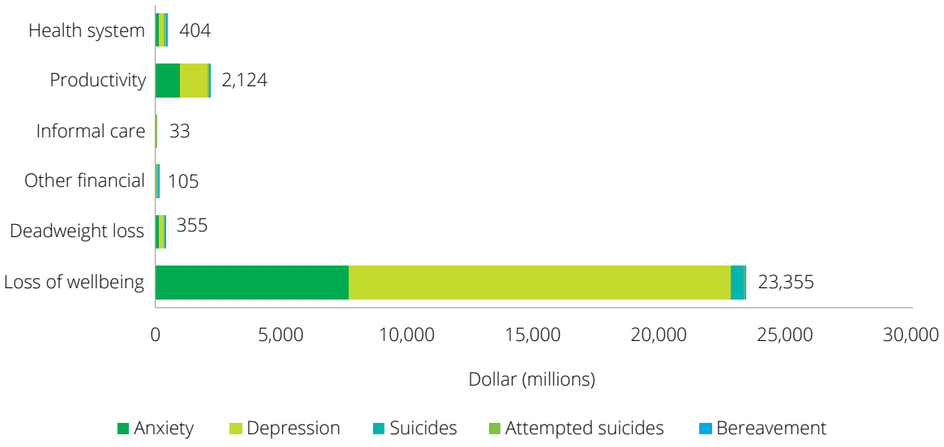
There was also high loss of wellbeing costs (between $386.4 to $538.0 million for the lower and upper bound estimate) attributable to suicide, owning to the high number of years of healthy life lost due to premature death. While bereavement is only associated with a small proportion of costs, this is due to the conservative estimate of seven people impacted directly by each suicide. It is expected that the costs associated with bereavement would be substantially higher, given the far-reaching impacts of suicides and suicide attempts which could not be quantified.

Chart 7.1: Total cost of anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019, by cost component – **lower bound**



Source: Deloitte calculations.

Chart 7.2: Total cost of anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019, by cost component – **upper bound**



Source: Deloitte calculations.

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7.2 Distribution of costs by bearer

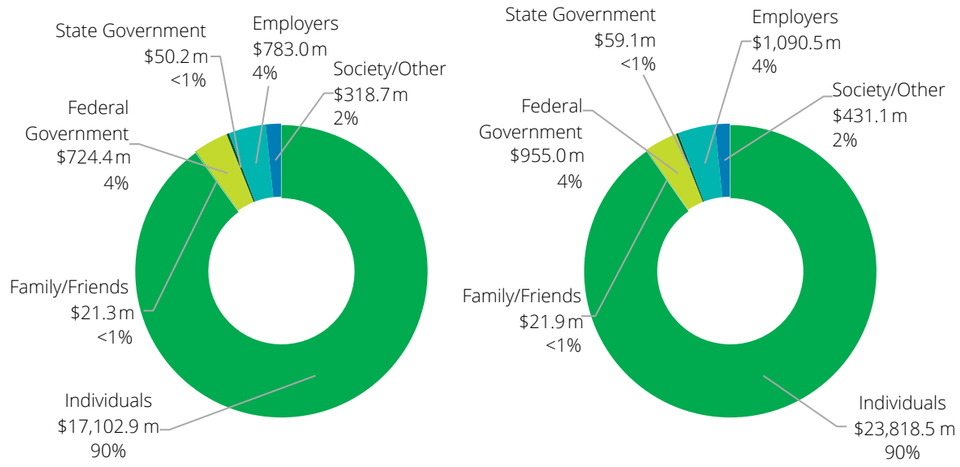
The costs of anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria were categorised by six main cost bearers: the individual, their family and friends, their employers, their society, the Victorian State Government and the Federal Government.

Individuals bore the greatest cost overall, between **$17.1 to $23.8 billion** (lower to upper bound), primarily due to loss of life or wellbeing from anxiety, depression or a suicide or suicide attempt. However, employers bore the second greatest overall cost because of productivity costs, at **$0.8 to $1.1 billion**. The State and Federal Government bore financial and economic burdens ranging between **$0.8 to $1.0 billion**.

This is largely due to lost productivity, with anxiety, depression, suicides and suicide attempts leading to substantial reduction in future income streams and associated taxation revenues.

Additionally, the State and Federal Governments also funded health services, including EDs, hospitals, mental health units, allied health and primary care to support people impacted by adverse mental health outcomes. This included $1.4 to $1.6 million invested into suicide prevention and bereavement postvention services and $1.4 to $1.9 million for anxiety and depression related prevention programs directly attributable to the LGBTIQ+ community. The cost bearer breakdown of the total costs is shown in Chart 7.3 for both lower and upper bound estimates.

Chart 7.3: Total cost of anxiety, depression, suicides, suicide attempts and suicide bereavement in LGBTIQ+ adults in Victoria in 2019, by cost bearer – **lower** (left) and **upper** bound (right)



Source: Deloitte calculations.

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8 Caveats and considerations

This study has robustly estimated the economic, financial and intangible costs associated with anxiety, depression, suicides, suicide attempts and suicide bereavement. However, there are certain considerations to note regarding the data sources and methodology used in this study, which are outlined below.

This report acknowledges that there are many factors which impact upon a person's mental health. There are unique drivers and complexities for those in the LGBTIQ+ community impacted by mental illness. Amongst others, these include:

- Marginalisation and discrimination both in society and in the health system
- Intersectionality of identities (i.e., belonging to more than one group that is marginalised and discriminated, including diverse cultural and religious backgrounds)
- Trauma associated with conversion practices
- Increased drug or alcohol use
- Isolation from the LGBTIQ+ community and support in regional and rural areas
- The unique community impacts of suicide.

It is also acknowledged that the LGBTIQ+ community is made up of many unique and diverse individuals, and that the term itself comprises different sub-communities. This report has analysed mental health impacts in aggregate, owing to several key data and methodological limitations. This is not intended to diminish or minimise the experiences, needs, individual impacts or diversity across any of these sub-communities but instead reflects the nature and scale of data regarding LGBTIQ+ communities at the present time.

Most broadly, this analysis was unable to consider some of the key nuances of identity, intersectionality and mental health. Data limitations have meant that in some cases, the same assumptions had to be applied across the LGBTIQ+ community, and that some key disaggregations were not possible.

8.1 Estimating population size

As discussed in Section 3.1, data around the size of the LGBTIQ+ population is limited. While the data used in this analysis is the most comprehensive and appropriate data available, it also has notable limitations.

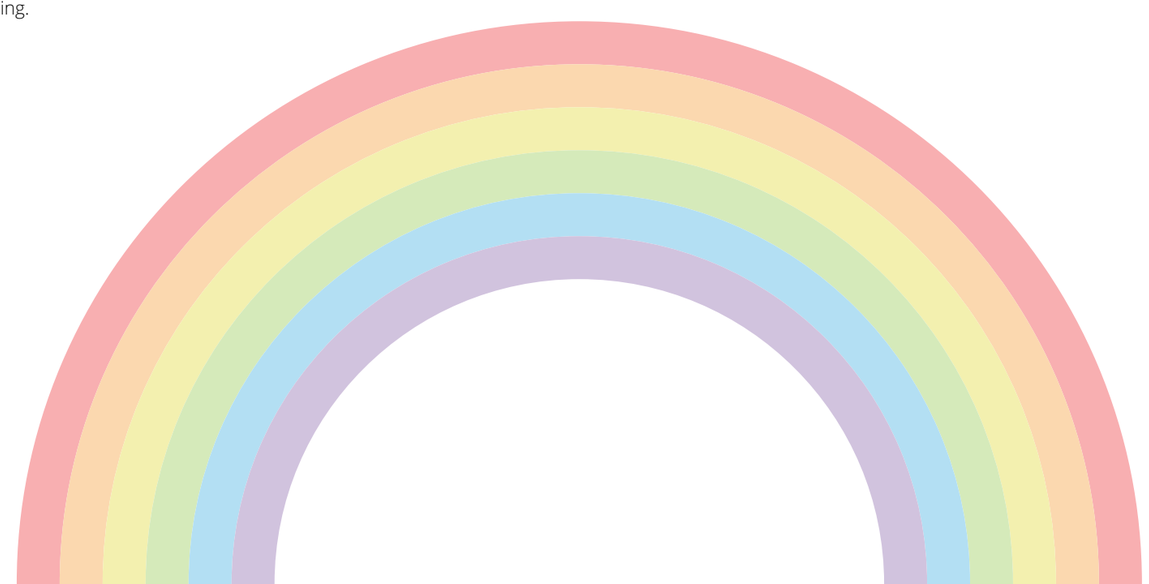
- The VAHI Victorian Population Health Survey 2017 was used to determine the **lower bound estimate**. Despite being published in 2020, the data was collected in 2017 and as such is now dated. Further, the question used in the VAHI survey also had limitations of its own, with 2.8% of respondents saying they did not know how to answer and 3.4% refusing to answer.
- The data used for the **upper bound estimate** was drawn from an OECD report around LGB population internationally. The most significant limitation of this data is that despite being higher than the VAHI data (which includes a broader range of sexual orientations and gender identities), the OECD data only includes lesbian, gay and bisexual individuals. It is also not specific to the Victorian population.

There are inherent challenges in capturing the LGBTIQ+ population quantitatively. This report acknowledges the fluidity of identity, and the importance of a nuanced approach to understanding the LGBTIQ+ community. However, given the limitations described above, our analysis is not able to fully capture every member of the community, and as such likely represents a considerable underestimate, even at the upper bound. It is also important to acknowledge that many people are "not out" or have not arrived on their final sexuality/gender and these individuals are often experiencing mental health issues and at risk of suicide.

8.2 Estimation of prevalence of anxiety, depression, suicides, suicide attempts and suicide bereavement

There are a number of limitations around the way prevalence for adverse mental health outcomes was calculated.

- The prevalence of anxiety, depression, suicides, suicide attempts and suicide bereavement all draw directly or indirectly on data from the **Private Lives 3** survey. It is difficult to know how representative this data is, given the ambiguity around population size, as mentioned in Section 8.1, and the omission of data collection relating to sexual orientation, gender diversity and intersex status in the national census. However, in the absence of other data, this has been used directly for anxiety, depression, and suicide attempts, and indirectly for suicide deaths and suicide bereavement (which are based on suicide attempt estimates).
- Further, the Private Lives 3 data is **self-reported**. Therefore, it is not possible to definitively determine the prevalence rate, or be certain that the self-reported data meets the criteria for diagnosis using a clinical measure such as the DSM-5.
- As described in Section 2.3.3, the modelling was unable to account for the **intersection of anxiety and depression** diagnoses due to significant limitations around the scale of data available. As such, there is likely some overestimation in the costs and utilisation of services presented in the report (i.e., a person who may be living with both anxiety and depression has been costed separately). However, this report acknowledges that the dual diagnosis of anxiety and depression does not necessarily reduce the impact of either condition individually on a person, or reduce the costs of either condition.
- This report acknowledges that with a greater scale of data, stratification of large disease populations, such as anxiety or depression into severity groups (i.e., mild, moderate and severe) could be possible. This would enable application of population-specific rates and cost estimates across all cost components, and less reliance on average estimates.
- The prevalence of **deaths by suicide** is not known unequivocally. Coronial data is limited in terms of its usefulness in identifying a person's LGBTIQ+ status in death reports, and relies on identifying someone as LGBTIQ+ after their death, without the possibility of their consent. The lack of coronial data available, and the imperfect way in which it is able to record LGBTIQ+ status, created significant limitations in the way suicide prevalence has been calculated.
- The methodology for **suicide bereavement** prevalence is also somewhat limited. There are no studies available that quantify the impacts to the LGBTIQ+ community of suicide bereavement. As such, the figure used reflects bereavement experiences of the general population. Further, the number of people bereaved is based on the number of deaths by suicide, which is also likely underestimated, and, as described in Box 5, the circle of people impacted by a suicide in the LGBTIQ+ community is also likely underestimated.
- It is likely that some **suicide attempts** occur without any interaction with the health system (e.g., hospital admission, ED presentation, ambulance call out). Data has not been identified to adjust for these unaccounted-for suicide attempts.
- It has been assumed that those who **die by suicide** did not interact with the health system prior to their death. It is possible that prior to death, an individual requires an ambulance call out or is hospitalised, which would mean they are captured in both the suicides and suicide attempts prevalence data. However, consultees suggested that it is rare for this to occur and the majority of hospitalisations or ambulance call outs would result in the individual surviving.



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8.3 Cost calculations

- Costs associated with increased **presenteeism** following suicide attempts have not been estimated. There is no strong evidence suggesting that suicide attempts are associated with increased presenteeism above and beyond what would have already been observed due to underlying mental health conditions. As such, it was assumed that any presenteeism observed upon an individual's return to work following a suicide attempt would be associated with the mental health condition they had been experiencing prior to the attempt.
- Mental health costs following **the year of the suicide attempt** are not estimated.
- It was assumed that certain costs would not have occurred if the individual died a natural death at life expectancy age. These costs include coronial costs, police costs, ambulance costs, health costs and bereavement costs.
- Costs associated with **second order impacts** such as increased risk of suicides or suicide attempts following an attempt in a year outside of the base year has not been considered due to data limitations.
- **Unit costs and wages** were based on averages where data is available (and based on demographic information where possible). In the circumstance where there was no specific LGBTIQ+ data (e.g., wages) a weight average was calculated to determine a 'person' figure, and applied to all LGBTIQ+ groups.
- It is acknowledged there exists a **baseline burden of mental health outcomes** in the general population, and that this baseline exists in the LGBTIQ+ population. However, due to the discrimination, stigma and other challenges faced by LGBTIQ+ communities, it is expected there would be an incremental burden of mental health outcomes and associated costs. The incremental cost of adverse mental health outcomes pertaining specifically to LGBTIQ+ communities was not estimated in this study.

While these caveats are important to consider, it is expected that their impact on the total cost estimates would be limited. Evidently, there is a lack of sufficient data on the size of the LGBTIQ+ population in Victoria and Australia more broadly. There are opportunities in future surveys such as the Australian Census to collect data on sexual orientation, gender identity and intersex status, which can be used to estimate the prevalence of the LGBTIQ+ population more accurately and subsequently the economic impact of adverse mental health outcomes in this community. These data, in turn, could be used to inform critical decision-making about which services LGBTIQ+ Australians need and where. As such, improved data collection is needed to better understand and respond to the unique health and wellbeing needs of this community.

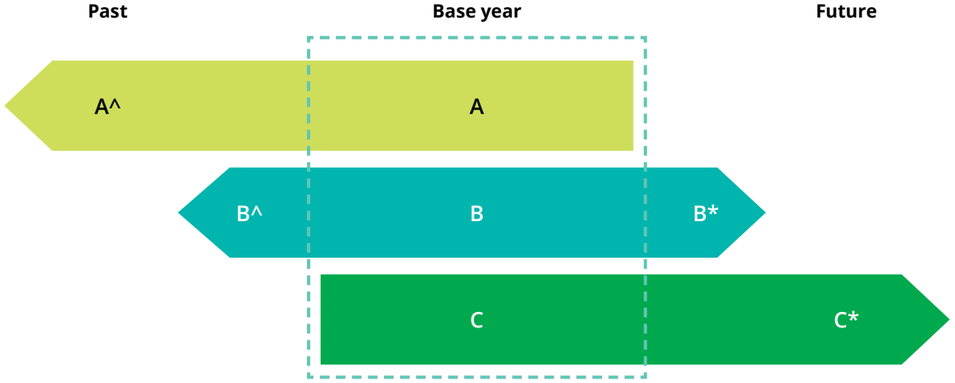
Appendix A Technical appendix

A.1. Time horizon for estimates

The time horizon considered in the analysis will directly impact on the number of people captured within these groups. It will also have important implications for how impacts are considered, and costs are calculated. Figure A.1 demonstrates the conceptual differences between approaches to measuring the prevalence and costs of adverse mental health outcomes, using suicide attempt as an example.

- Case a represents a person who has made an attempt on their life in the past and up to the base year, where the associated lifetime costs include A^ and A.
- Case b represents a person who has made an attempt on their life in the base year, the past and in future years, with associated lifetime costs equal to the sum of B^, B and B*.
- Case c represents a person who has made an attempt on their live in the base year, with lifetime costs equal to the sum of C and C*.

Figure A.1: Conceptual differences between approaches to measuring prevalence



Source: Deloitte (2022).

This study considered Case c above. It considered the costs associated with suicides and suicide attempts that occur in 2019, and future lifetime costs associated with those suicides and suicide attempts.

Costing time horizons vary across cost components. As the time horizon grows, there is greater scope for long term outcomes to be confounded by other factors not directly associated with the suicide or suicide attempt itself. As such, it becomes difficult to precisely estimate the impacts and costs associated with suicide and suicide attempts continuing into subsequent years. Table A.1 shows the time horizons considered for different cost components and prevalence groups.

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Table A.1: Costing time horizons

Cost	Prevalence group	Time period
Immediate health costs	Suicide attempts	• Whole of 2019
Ongoing health costs	Suicide attempts	• For permanent incapacity, the remainder of one's life based on life expectancy (adjusted)[195] • For partial incapacity, three years – 2020-2022
Health costs	Anxiety, depression, people bereaved by suicide	• Whole of 2019
Formal care	Suicide attempts	• For partial incapacity, 225 days • For permanent incapacity, the remainder of one's life based on life expectancy (adjusted)
Premature mortality and permanent incapacity	Suicides and suicide attempts resulting in permanent incapacity	• The remainder of one's life based on life expectancy
Reduced employment	Anxiety, depression, suicide attempts	• Whole of 2019
Absenteeism	Suicide attempts	• 1 day for 38.1% of suicide attempts • 32 days for 24.8% of suicide attempts • 225 days for 3.2% of suicide attempts[196]
Absenteeism	Anxiety, depression, people bereaved by suicide	• 27 days for anxiety[197] • 25 days for depression[198] • 16 days for suicide bereavement[199]
Presenteeism	Anxiety, depression, people bereaved by suicide	• 7 days for anxiety • 7 days for depression[200] • 3 months for 22% of bereaved people • 9 months for 16% of bereaved people • 18 months for 30% of bereaved people[201]
Informal care	Suicide attempts	• For partial incapacity, 225 days[202] • For permanent incapacity, the remainder of one's life based on life expectancy (adjusted)
Search, hiring and training costs	Suicides and suicide attempts	• 26 weeks
Loss of wellbeing	Anxiety, depression, suicides and suicide attempts	• The remainder of one's life based on life expectancy
Loss of wellbeing	People bereaved by suicide	• 3 months for 22% of bereaved people • 9 months for 16% of bereaved people • 18 months for 30% of bereaved people[203]

Source: Deloitte estimates except where referenced in the table.

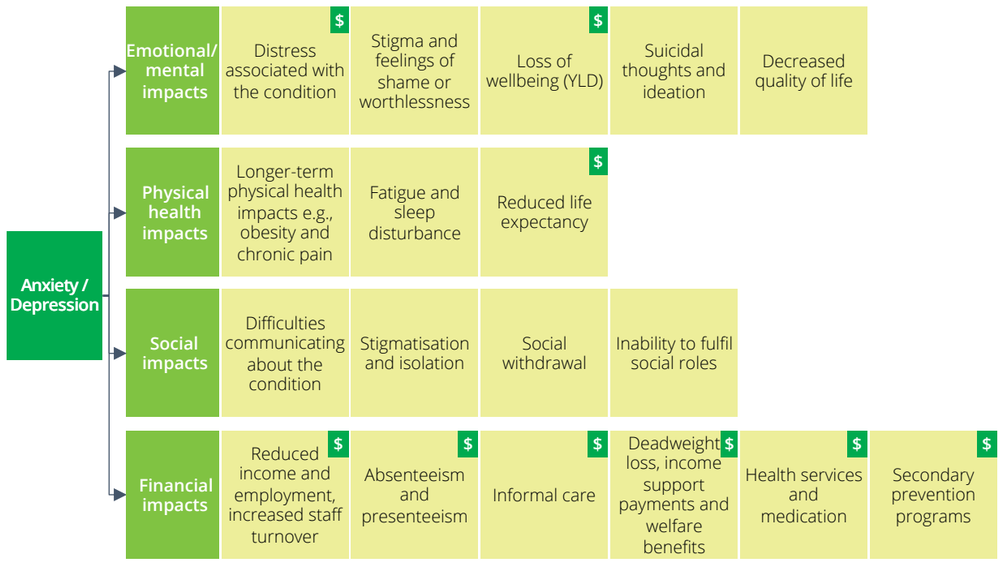
A.2. Literature review: The impact of anxiety, depression, suicides, suicide attempts and suicide bereavement

The consequences of mental illnesses are diverse and affect a range of stakeholders. For the individual, anxiety and depression can negatively impact their wellbeing and quality of life. They may experience stigma associated with their condition, have difficulty coping with life's stressors, and withdraw from relationships or activities that provide a sense of joy or fulfilment.[204] This section will describe the impacts of each adverse mental health outcome though they are not intended to be exhaustive. Instead, the impacts have been discerned through literature and seek to articulate the categories and subcategories of impacts. It is acknowledged that each individual's experience of mental illness is both unique and complex, so not all impacts that are described in this section may be incurred in the same way through each illness. However, for analytical purposes, these models intend to articulate impacts that are frequently reported and evidenced in the literature.

Mental illness not only impacts those effected, but also those around them – people who live with or care for individuals with living experience of anxiety or depression can experience a deterioration in their own health and reduced participation in the workforce.[205] The economic burden of these impacts is felt by most, if not all, the community. For the government, there are direct impacts associated with expenditure on healthcare and support services to support those in need.

It is acknowledged that the characteristics and symptomology of anxiety and depression varies between the two conditions. However, for analysis and modelling purposes, the impact of the two conditions have been grouped together given the impacts share commonalities. These impacts have been identified through extensive analysis of the literature and are summarised in Figure A.2.

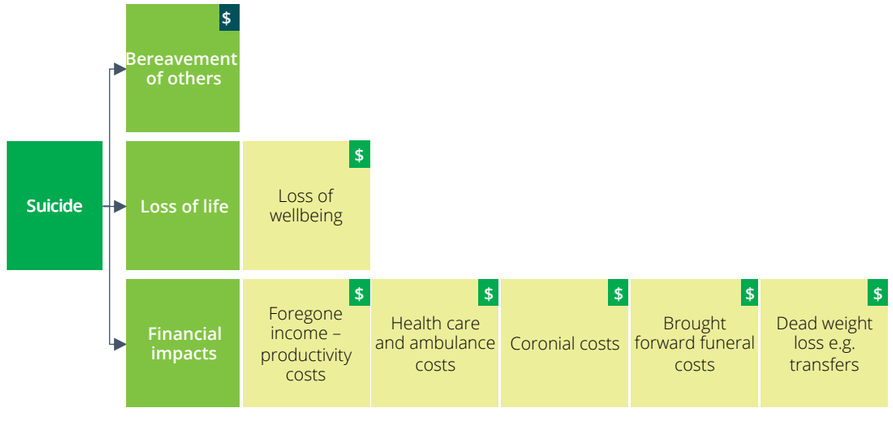
Figure A.2: The impacts of anxiety and depression



Source: Deloitte (2022).

Suicide impacts upon the individual, their family, employer, community and the government. Suicide results in not only the loss of life and wellbeing for the individual, but largely impacts the people around them who bereave their loss.[206 207] Further, there are financial impacts associated with their death such as health care costs, ambulance, police, coronial and funeral costs, and productivity costs resulting from forgone income. These impacts are summarised in Figure A.3.

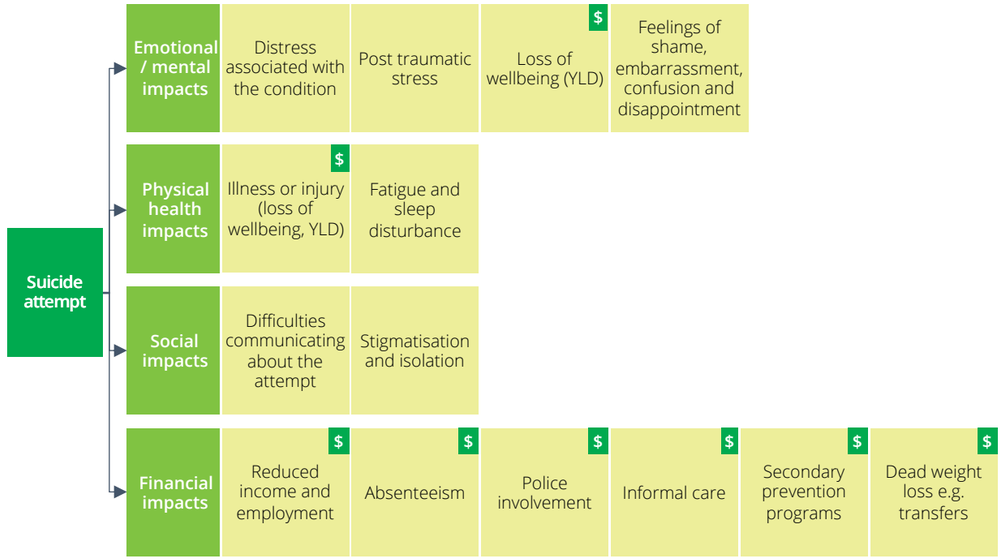
Figure A.3: The impacts of suicide



Source: Deloitte (2022).

Suicide attempts may vary in impact, depending on the nature and severity of the attempt. Suicide attempts generally result in illness or injury (temporary or permanent), which reduces the individual's wellbeing. Further, people are likely to experience high levels of distress, embarrassment, confusion, or shame following an attempt, and some may experience post-traumatic stress.[208] There are also likely to be social impacts, where it may be difficult to discuss the suicide attempt with family members, friends and colleagues due to the stigma associated with suicide. Further, there are financial impacts such as reduced income and employment following a suicide attempt which may lead to government welfare costs, absenteeism costs, informal care costs, health system costs, ambulance and police costs.[209 210] These impacts are summarised in Figure A.4.

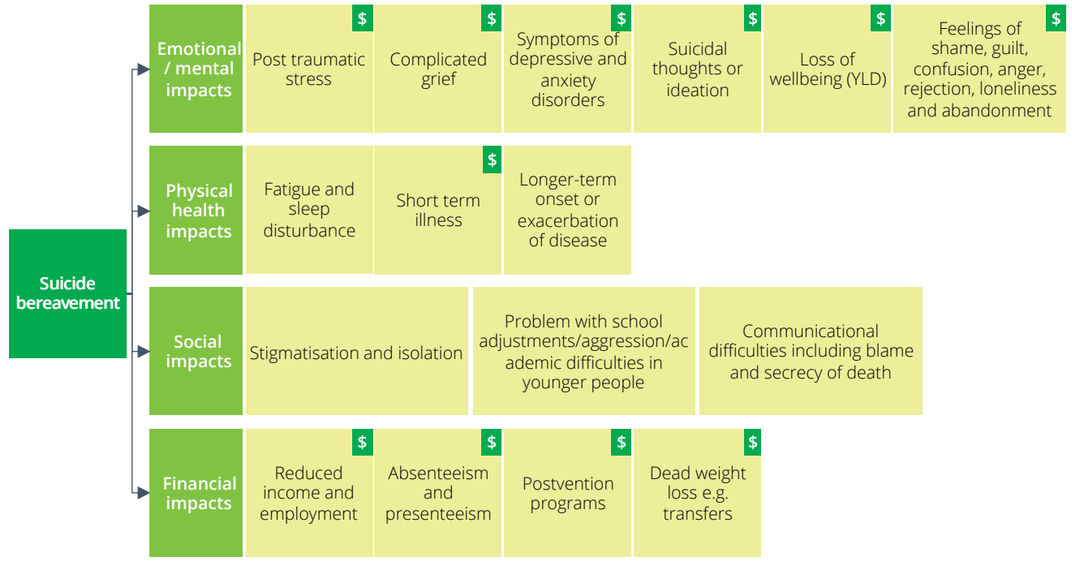
Figure A.4: The impacts of attempted suicide



Source: Deloitte (2022).

Furthermore, following a death by suicide, there is often a period of bereavement and intense grief or the loss of a loved one. Grief and bereavement in response to suicide can be particularly complicated due to feelings of guilt, shame, anger, regret and blame, and due to the stigma surrounding suicide.[211 212] Further, friends, family and the community may not react in the usual manner when someone loses their life – some people can find it difficult to be open about the cause of death because of the stigma associated with suicide.[213 214] Suicide bereavement is likely to impact on a person's wellbeing mentally, physically and socially. These impacts are discussed further in Appendix A.5.7. A summary of these impacts is provided in Figure A.5.[215]

Figure A.5: The impacts of suicide bereavement



Source: Deloitte (2022).

A.3 Prevalence estimates in the LGBTIQ+ Victorian adult population in 2019

A.3.1 Prevalence of LGBTIQ+ adults in Victoria in 2019

Table A.2: Prevalence of LGBTIQ+ adults in Victoria in 2019, by age and LGBTIQ+ group

	Lower bound cases (n)	Upper bound cases (n)
Gay or lesbian		
18-24	24,322	33,874
25-34	28,796	40,105
35-44	18,099	25,207
45-54	12,771	17,787
55+	10,209	14,218
Gay or lesbian Total	**94,195**	**131,191**
Bisexual, pansexual		
18-24	39,022	54,348
25-34	46,199	64,345
35-44	29,038	40,443
45-54	20,490	28,537
55+	16,379	22,811
Bisexual, pansexual Total	**151,127**	**210,483**

	Lower bound cases (n)	Upper bound cases (n)
Transgender, gender diverse		
18-24	2,940	4,095
25-34	3,481	4,848
35-44	2,188	3,047
45-54	1,544	2,150
55+	1,234	1,719
Transgender, gender diverse Total	**11,386**	**15,858**
Intersex status		
18-24	22,718	31,641
25-34	26,897	37,461
35-44	16,906	23,545
45-54	11,929	16,614
55+	9,535	13,281
Intersex status Total	**87,985**	**122,541**
Asexual, queer, another term		
18-24	6,949	9,678
25-34	8,227	11,459
35-44	5,171	7,202
45-54	3,649	5,082
55+	2,917	4,062
Asexual, queer, another term Total	**26,913**	**37,483**
LGBTIQ+		
18-24	95,950	133,635
25-34	113,600	158,217
35-44	71,401	99,444
45-54	50,382	70,170
55+	40,273	56,091
LGBTIQ+ Total	**371,606**	**517,558**

A.3.2 Estimates of anxiety, depression and suicide attempt in the LGBTIQ+ Victorian adult population

The prevalence estimates of anxiety, depression and suicide attempt in the LGBTQ+ Victorian adult population was derived from Private Lives 3 (2020) survey. Participants who reported having ever been diagnosed with a mental health condition at some point during their lives were then asked if they had been diagnosed or treated for that condition in the past 12 months. This survey captured a range of mental health conditions including depression, anxiety, amongst others. Participants were asked in a separate question about suicide attempts through the question 'have you attempted suicide or to end your life' in the past 12 months. Victoria-specific data disaggregation was requested through the Australian Research Centre in Sex, Health and Society (La Trobe University).

The sample size of people with intersex variation was small in the Private Lives 3 survey and was not used in estimating prevalence of anxiety, depression and suicide attempt. Instead, alternative sources were used to estimate each condition:

- Anxiety – Jones et al (2016)
- Depression – Jones et al (2016)
- Suicide attempt – LGBTIQ+ Health Australia (2021)

This methodology is described in detailed in Section 3.

A.4. Estimates of the prevalence of people bereaved

Table A.3 summarises the research regarding the number of people impacted by a suicide. Based on these reports, preferred estimates of bereavement prevalence were outlined in Section 3.6.

Table A.3: Number of people impacted by a suicide

Source	Summary of findings
Schneidman (1972).[216]	In a study in the late 1960s: • It was estimated that for every death seven people are directly affected.
Maple et al. (2016).[217]	In a survey of self-selected 3,220 Australians over age 18 • Exposure – 89% of respondents knew someone who had attempted suicide – 85% knew someone who had died by suicide – 46% reported as kin to the deceased • Closeness – 32% reported being very close with the deceased – 18% reported being close – 20% reported being moderately close – 12% reported being a bit close – 18% reported not being close • Impact – 37% reported "the death had a significant or devastating effect on me that I still feel" – 20% reported "The death disrupted my life in a significant or devastating way, but I no longer feel that way" – 17% reported "The death disrupted my life for a short time" – 22% reported "The death had somewhat of an effect on me by did not disrupt my life" – 4% reported "The death had little effect on my life"
Cerel et al. (2019).[218]	In a recent study in Kentucky USA: • It was estimated that for each suicide, up to 135 family members, friends and colleagues are impacted. • The mean lifetime incidence rate was estimated to be 0.0232 exposures per person, per year, reflecting 46.7% of the sample that reported exposure to suicide in their lifetime.
Berman (2011).[219]	In a survey of Americans: • The median number of family members directly affected by a suicide is just above 5. • The average number of extended family members affected was 14.5 • The median number of friends, co-workers or classmates affected was 20. • The median number of people in daily contact with the deceased was 7; and the average number in weekly contact was 10.5.

A.5. Health system costs

A.5.1. Anxiety

Table A.4: Health system costs for people with anxiety, by LGBTIQ+ group

LGBTIQ+ group	Lower bound ($ millions)	Upper bound ($ millions)	% of total
Gay or lesbian	26.3	36.6	23.9
Bisexual, pansexual	59.4	82.7	54.0
Transgender, gender diverse	3.8	5.3	3.5
Intersex status	11.8	16.4	10.7
Asexual, queer, another term	8.7	167.4	7.9
Total	**110.0**	**153.2**	**100.0**

A.5.2. Depression

Table A.5: Health system costs for people with depression, by LGBTIQ+ group

LGBTIQ+ group	Lower bound ($ millions)	Upper bound ($ millions)	% of total
Gay or lesbian	32.0	44.6	26.0
Bisexual, pansexual	70.6	98.4	57.3
Transgender, gender diverse	4.5	6.3	3.7
Intersex status	5.9	8.2	4.8
Asexual, queer, another term	10.3	14.4	8.4
Total	**123.4**	**171.8**	**100.0**

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A.5.3. Anxiety and depression – detailed methodology

Table A.6: Detailed methodology of health system costs for people living with anxiety

Cost component	Calculation	Source	Assumptions
Population sizes accessing professional help	Population of LGBTIQ+ individuals x proportion accessing professional help	• VAHI (2020) • Lee (2017)	• According to the Victorian Population Health Survey, 36.9% of the LGBTIQ+ population had sought professional help for a mental health related problem in the last year, as compared to just 17% of the non-LGBTIQ+ population
Hospitalisation	LGBTIQ+ population accessing professional help x proportion accessing hospital services x unit cost	• VAHI (2020) • Lee (2017) • IHPA (202)	• While results were not able to be presented for those in the LGBTIQ+ population specifically, the Victorian Population Health Survey revealed that 2.4% of those who had sought professional help for a mental health problem in the last year had engaged with a hospital. • The daily cost of an average hospitalisation day is $1,920 in Victoria, and the average length of stay was 2.23 days.
Mental health care consultations	LGBTIQ+ population accessing professional help x proportion accessing mental health care consultations x unit cost	• VAHI (2020) • AIHW (2020)	• The Victorian Population Health Survey revealed that 87.8% of those in the LGBTIQ+ population who had sought professional help for a mental health problem in the last year had seen a mental health specialist, as compared to 72.8% of the non-LGBTIQ+ population. • The frequency of use was not clear, however in the general Victorian population those that receive these services do so an average of 4.7 times
GP consultations	LGBTIQ+ population accessing professional help x proportion accessing GP consultations x unit cost	• VAHI (2020) • AIHW (2020)	• The Victorian Population Health Survey revealed that 59.0% of those in the LGBTIQ+ population who had sought who had sought professional help for a mental health problem in the last year had seen GPs, as compared to 60.1% of the non-LGBTIQ+ population. • The frequency of use was not clear, however, in Victoria, those who attended a GP consultation for mental health had contact about 1.7 times.
Medication	LGBTIQ+ population with depression x proportion of those with depression accessing medication x average cost of depression medication per year LGBTIQ+ population with anxiety x proportion of those with anxiety accessing medication x average cost of depression medication per year	• Lee (2017) • AIHW (2021) • ABS (2019)	• Overall, 35% of those with depression, 21% of those with anxiety reported being prescribed medications. • To determine the average annual cost of medication expenditure for anxiety and depression, the national expenditure on mental health related medications for 2019-20 by ATC group divided by the number of persons diagnosed with anxiety and depression in 2019. • ATC group anxiolytics expenditure was used for anxiety and antidepressants was used for depression. • The per person cost (adults) for anxiety medication in 2019 was $8.20[220] and for depression was $72.06. • It is acknowledged that this is a lower bound estimate, however, this is a conservation approach and reflects the inability to stratify the population to a greater extent due to the lack of scope of data.

A.5.4. Suicide attempts – immediate health costs

Table A.7: Immediate health costs for people who attempted suicide, by LGBTIQ+ group

LGBTIQ+ group	Lower bound ($ millions)	Upper bound ($ millions)	% of total
Gay or lesbian	7.5	7.7	21.1
Bisexual, pansexual	19.2	19.6	53.7
Transgender, gender diverse	1.3	1.3	3.5
Intersex status	5.0	5.1	14.0
Asexual, queer, another term	2.8	2.8	7.8
Total	**35.8**	**36.4**	**100.0**

A.5.5. Suicide attempts – ongoing health costs

Table A.8: Ongoing health costs for people who attempted suicide, by LGBTIQ+ group

LGBTIQ+ group	Permanent incapacitation		Others who have attempted suicide		Total	
	Lower bound	**Upper bound**	**Lower bound**	**Upper bound**	**Lower bound**	**Upper bound**
Gay or lesbian	7.0	7.0	0.6	0.9	7.6	7.9
Bisexual, pansexual	7.0	7.0	1.6	2.3	8.7	9.3
Transgender, gender diverse	7.0	7.0	0.1	0.1	7.1	7.2
Intersex status	7.0	7.0	0.4	0.6	7.5	7.6
Asexual, queer, another term	7.0	7.0	0.2	0.3	7.2	7.3
Total	**35.1**	**35.1**	**3.0**	**4.2**	**38.1**	**39.3**

Note: The lower and upper bound costs remain the same as costs are reported to the nearest 100 thousand of dollars and therefore increases in cost smaller than this unit are not shown in the table.

A.5.6. Suicide attempts detailed methodology

Table A.9: Detailed methodology of health system costs for people who attempted suicide

Cost component	Calculation	Source	Assumptions
Health system costs - immediate	AIHW Victoria health expenditure on suicide and self-inflicted injuries in 2016 x inflation adjustment.	• AIHW (2020) Injury Expenditure in Australia 2015-16, Data tables: Table 12 • AIHW (2019) Health expenditure Australia, 2017-18, Series no. 57. Cat. no. HWE 67. Canberra: AIHW. • Turning Point (2019)	• The total health expenditure related to suicide and self-inflicted injuries in Victoria, adjusted for inflation from 2015-16 expenditure. • The cost data was adjusted for prevalence of self-harm hospitalisations in 2019, however outpatient costs are adjusted for prevalence of ED presentations according to data Turning Point and ambulance call out resulting in ED presentation. • The national breakdown by age was applied to Victoria.
Health system costs - ongoing	0.6% x remaining years of life x yearly health and formal care costs + 99.4% x 2.9 years x average hospitalisation / GP cost x increased likelihood	• Access Economics (2009). • NSMHWB (2007). • Council for Disability Awareness, (2016) • Independent Hospital Pricing Agency (2020) • AIHW 2020) Medicare-subsidised GP, allied health, diagnostic imaging and specialist health care, by Primary Health Network (PHN) area, 2013–14 to 2017–18. • Kinchin and Doran (2017)	• 0.6% of people who attempt suicide, suffer from permanent incapacity; it was assumed their ongoing health costs and formal care costs (from the second year onwards) are equivalent to that of people who experience quadriplegia, based on a study by Access Economics (2009). • 99.4% experience injuries that last for 2.9 years. • The NSMHWB suggests the proportion of people who attempt suicide that have been admitted to hospital overnight for a physical health condition in the last year is 16% higher than an individual with a mental health condition who has not attempted suicide. Likewise, an additional 4% have seen a GP for a physical or mental health condition in the last 12 months, at least one year after the most recent attempt, relative to someone who has not attempted suicide, controlling for mental health. • The average hospitalisation cost is $5,366 equivalent to the cost of an average acute separation. • The average GP cost is $81, based on an adjustment for bulk billing rates and the average out-of-pocket costs for individuals. • Costs were discounted back to 2019 using a discount rate of 7%.

Cost component	Calculation	Source	Assumptions
Ambulance costs	Number of ambulance call outs x unit cost	• Turning Point (2019). • AIHW (2019), Trends in hospitalised injury. • Productivity Commission (2019). • ABS (2020) Consumer Price Index	• Through an analysis of coded ambulance data in 2015-16 in NSW, ACT, NT, Qld, Tas and Vic, there were approximately 8,894 ambulance attendances for men's suicide attempts in 2015-16, and a further 21,303 for suicidal ideation, or self-injury. • This was adjusted for Victoria prevalence based on population in Victoria in 2019. • Number of ambulance call outs are adjusted to account for females, based on prevalence of self-harm hospitalisations using AIHW data. • The total ambulance services expenditure in Victoria in 2017-18 was $1,073,133,000, and there were 889,381 incidents. This suggests that each incident costs an average of $1,207, or $1,229 in 2019 dollars.

A.5.7. Suicide bereavement

Table A.10: Health system costs for people who are bereaved, by LGBTIQ+ group

LGBTIQ+ group	Lower bound ($ millions)	Upper bound ($ millions)	% of total
Gay or lesbian	0.6	0.8	25.3
Bisexual, pansexual	0.9	1.3	40.7
Transgender, gender diverse	0.1	0.1	3.1
Intersex status	0.5	0.8	23.7
Asexual, queer, another term	0.2	0.2	7.2
Total	**2.3**	**3.2**	**100.0**

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A.5.8. People who are bereaved detailed methodology

Table A.11: Health system costs for people who are bereaved

Cost component	Calculation	Source	Assumptions
Hospitalisation costs	Number of bereaved people x increased hospitalisations x years of bereavement x unit cost	• United Synergies and Griffith University (2011) • AIHW Admitted patient care (2019) Medicare-subsidised GP, allied health, diagnostic imaging and specialist health care, by Primary Health Network (PHN) area, 2013–14 to 2017–18 • IHPA (2020)	• People bereaved by suicide spent approximately 2.37 days in hospital in the past 12 months. By comparison, in Victoria, the average patient days per person was 1.13 in 2016-17. • Due to absence of information on the type of hospitalisations received by people bereaved by suicide, it was assumed that the cost is equivalent to an average acute separation in Victoria ($4,282, adjusted for inflation). This is equivalent to $1,956 per day on average.
GP consultation costs	Number of bereaved people x increased rate in GP consultations in one-year x unit cost	• United Synergies and Griffith University (2011) • AIHW (2019) Medicare-subsidised GP, allied health, diagnostic imaging and specialist health care, by Primary Health Network (PHN) area, 2013–14 to 2017–18	• The average cost of GP visit is $81. • People bereaved by suicide consulted with a GP 12.5 times per year on average. • By comparison, using a weighted sample of Victoria (adjusting for 88% females to match the sample of United Synergies and Griffith University 2011), 91% of the general population attend a GP consultation per year, equivalent to 8.19 services per person.
Mental health consultation costs	Number of bereaved people x increased rate in mental health care consultations in one-year x unit cost	• United Synergies and Griffith University (2011) • AIHW (2019) Medicare-subsidised GP, allied health, diagnostic imaging and specialist health care, by Primary Health Network (PHN) area, 2013–14 to 2017–18	• People bereaved by suicide consulted with a mental health care specialist 11.96 times per year on average. • By comparison, using a weighted sample of Victoria (adjusting for 88% females to match the sample of United Synergies and Griffith University 2011), only 6% of the general population receive allied mental health care, and those that do receive services equivalent to 0.31 services per person. • The average cost of psychologist visit was $104, adjusted for inflation from 2017-18. This is based on total benefits paid per mental health service in Victoria. Fees are not included as there may be limited out of pocket costs for people bereaved by suicide.

A.6. Other financial costs

A.6.1. Police costs

Table A.12: Police costs for people who attempt suicide or die by suicide, by LGBTIQ+ group

LGBTIQ+ group	Suicides		Suicide attempts		Total	
	Lower bound	Upper bound	Lower bound	Upper bound	Lower bound	Upper bound
Gay or lesbian	0.0	0.0	0.0	0.1	0.1	0.1
Bisexual, pansexual	0.0	0.1	0.1	0.2	0.2	0.2
Transgender, gender diverse	0.0	0.0	0.0	0.0	0.0	0.0
Intersex status	0.0	0.0	0.0	0.0	0.0	0.1
Asexual, queer, another term	0.0	0.0	0.0	0.0	0.0	0.0
Total	**0.1**	**0.1**	**0.2**	**0.3**	**0.3**	**0.4**

A.6.2. Coronial cost

Table A.13: Coronial costs for people who die by suicide, by LGBTIQ+ group

LGBTIQ+ group	Lower bound ($ millions)	Upper bound ($ millions)	% of total
Gay or lesbian	0.0	0.1	20.6
Bisexual, pansexual	0.1	0.2	54.0
Transgender, gender diverse	0.0	0.0	3.4
Intersex status	0.0	0.0	14.4
Asexual, queer, another term	0.0	0.0	7.5
Total	**0.2**	**0.3**	**100.0**

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A.6.3. Funeral cost

Table A.14: Funeral cost for people who die by suicide, by LGBTIQ+ group

LGBTIQ+ group	Lower bound ($ millions)	Upper bound ($ millions)	% of total
Gay or lesbian	0.2	0.2	15.1
Bisexual, pansexual	0.7	1.0	66.8
Transgender, gender diverse	0.0	0.0	2.5
Intersex status	0.1	0.1	10.0
Asexual, queer, another term	0.1	0.1	5.5
Total	**1.0**	**1.4**	**100.0**

A.6.4. Formal care

Table A.15: Formal care cost for people who attempt suicide, by LGBTIQ+ group

LGBTIQ+ group	Lower bound ($ millions)	Upper bound ($ millions)	% of total
Gay or lesbian	19.8	19.8	20.0
Bisexual, pansexual	19.8	19.8	20.0
Transgender, gender diverse	19.8	19.8	20.0
Intersex status	19.8	19.8	20.0
Asexual, queer, another term	19.8	19.8	20.0
Total	**99.1**	**99.1**	**100.0**

Note: The lower and upper bound costs remain the same as costs are reported to the nearest 100 thousand of dollars and therefore increases in cost smaller than this unit are not shown in the table.

A.6.5. Other financial costs detailed methodology

Table A.16: Other financial costs associated with suicide

Financial cost	Calculation	Source	Assumptions
Police costs	Number of suicides x unit cost	• Turning Point (2019) • O'Dea and Tucker (2005) • Victoria Police (2019) Salary benefits of police officers • Victoria Police (2019) Annual Report 2019-20	• It was assumed that the police attend all suicides, whether the death occurs at home, at the hospital or elsewhere • There is limited information on the unit cost of policing a suicide. However, based on New Zealand police data in 2003, police officers spent on average 17.9 hours per sudden death. • Further, the starting salary of a Victorian police probationary constable is $73,026. Police are expected to work 38 hours per week. Further, employee related expenses make up 74.32% of all of Victoria Police's expenses. These estimates imply a unit cost of $890 per suicide.
Coronial costs	Number of suicides x coronial investigation unit cost + (Number of suicides x proportion that require inquest x inquest unit cost)	• Department of Infrastructure, Transport, Regional Development and Local Government Bureau of Infrastructure, Transport and Regional Economics (2009)	• To calculate the average coronial costs associated with a suicide, the average cost associated with a road fatality was used. In 2006, assuming 80% of road fatalities proceed to post-mortem examination and inquests are held for 2% of deaths, the average coronial cost was $1,965 in 2016 dollars. This is equivalent to $2,682 in 2019 dollars
Brought forward funeral costs	Number of suicides x (unit cost of funeral in 2019 – unit cost of funeral at year of average life expectancy)	• Money Smart (2020) • AIHW 2019, Australian Burden of Disease Study 2015	• All suicides are assumed to involve brought forward funeral costs. • The average funeral cost in Australia is $9,500 for a cremation, however it may be more expensive for burials or for other cultural funeral traditions. Only the difference between the current cost and the discounted future cost was considered.

Table A.17: Other financial costs associated with suicide attempts

Financial cost	Calculation	Source	Unit cost
Police costs	Number of suicide attempts x unit cost	• Turning Point (2019) • O'Dea and Tucker (2005) • Victoria Police (2019) Salary benefits of police officers • Victoria Police (2019) Annual Report 2019-20	• Approximately 40% of ambulance call outs associated with suicide attempts by men involved police. • It was assumed the rate of ambulance call outs is the same for women. • It was assumed there are no police call outs for suicide attempts which did not involve an ambulance. • It was assumed only one policeman is called for each incident. • There is limited information on the unit cost of policing a suicide attempt. However, based on New Zealand police data in 2003, police officers spent on average 5.71 hours per suicide attempt • The starting salary of a Victorian police probationary constable is $73,6026. Police are expected to work 38 hours per week. Further, employee related expenses make up 74.32% of all of Victorian Police's expenses. These estimates imply a unit cost of $284 per suicide attempt which involves police.

A.7. Productivity costs

A.7.1. Premature mortality and permanent incapacitation

Table A.18: Productivity costs associated with premature mortality and permanent incapacitation, by LGBTIQ+ group

LGBTIQ+ group	Suicides (premature mortality)		Suicide attempts (permanent incapacitation)		Total	
	Lower bound	Upper bound	Lower bound	Upper bound	Lower bound	Upper bound
Gay or lesbian	4.7	6.5	0.2	0.3	4.9	6.8
Bisexual, pansexual	12.5	17.4	0.7	0.9	13.2	18.4
Transgender, gender diverse	0.8	1.1	0.0	0.1	0.8	1.2
Intersex status	3.4	4.7	0.3	0.4	3.6	5.1
Asexual, queer, another term	1.7	2.4	0.1	0.1	1.8	2.5
Total	**23.1**	**32.1**	**1.3**	**1.8**	**24.4**	**33.9**

A.7.2. Reduced employment

Table A.19: Productivity costs from reduced employment due to anxiety, depression, suicide attempts and suicide bereavement, by LGBTIQ+ group

LGBTIQ+ group	Lower bound ($ millions)	Upper bound ($ millions)	% of total
Gay or lesbian	49.7	69.3	24.3
Bisexual, pansexual	114.0	158.8	55.7
Transgender, gender diverse	7.2	10.1	3.5
Intersex status	16.6	23.1	8.1
Asexual, queer, another term	17.3	24.1	8.5
Total	**204.9**	**285.4**	**100.0**

A.7.3. Absenteeism

Table A.20: Productivity costs from increased absenteeism due to anxiety, depression, suicide attempts and suicide bereavement, by LGBTIQ+ group – lower bound

LGBTIQ+ group	Anxiety ($ millions)	Depression ($ millions)	Suicide bereavement ($ millions)	Total ($ millions)	% of total
Gay or lesbian	30.2	76.4	0.3	106.9	24.8
Bisexual, pansexual	68.2	175.2	0.5	244.0	56.6
Transgender, gender diverse	4.4	10.9	0.0	15.4	3.6
Intersex status	13.8	14.1	0.3	28.2	6.5
Asexual, queer, another term	11.0	25.9	0.1	37.0	8.6
Total	**127.6**	**302.5**	**1.2**	**431.4**	**100.0**

Table A.21: Productivity costs from increased absenteeism due to anxiety, depression, suicide attempts and suicide bereavement, by LGBTIQ+ group – upper bound

LGBTIQ+ group	Anxiety ($ millions)	Depression ($ millions)	Suicide bereavement ($ millions)	Total ($ millions)	% of total
Gay or lesbian	42.1	106.4	0.4	148.9	24.8
Bisexual, pansexual	95.0	244.1	0.7	339.8	56.6
Transgender, gender diverse	6.2	15.2	0.1	21.4	3.6
Intersex status	19.2	19.7	0.4	39.3	6.5
Asexual, queer, another term	15.3	36.1	0.1	51.5	8.6
Total	**177.8**	**421.3**	**1.7**	**600.8**	**100.0**

A.7.4. Presenteeism

Table A.22: Productivity costs from increased presenteeism due to anxiety, depression, suicide attempts and suicide bereavement, by LGBTIQ+ group – lower bound

LGBTIQ+ group	Anxiety ($ millions)	Depression ($ millions)	Suicide bereavement ($ millions)	Total ($ millions)	% of total
Gay or lesbian	110.3	99.2	0.5	210.0	24.4
Bisexual, pansexual	249.2	227.6	0.8	477.6	55.5
Transgender, gender diverse	16.2	14.1	0.1	30.4	3.5
Intersex status	50.3	18.3	0.5	69.2	8.0
Asexual, queer, another term	40.1	33.6	0.1	73.9	8.6
Total	**466.1**	**392.9**	**2.0**	**861.0**	**100.0**

Table A.23: Productivity costs from increased presenteeism due to anxiety, depression, suicide attempts and suicide bereavement, by LGBTIQ+ group - upper bound

LGBTIQ+ group	Anxiety ($ millions)	Depression ($ millions)	Suicide bereavement ($ millions)	Total ($ millions)	% of total
Gay or lesbian	153.7	138.1	0.7	292.5	24.4%
Bisexual, pansexual	347.0	317.0	1.1	665.1	55.5
Transgender, gender diverse	22.5	19.7	0.1	42.3	3.5
Intersex status	70.1	25.5	0.7	96.3	8.0
Asexual, queer, another term	55.9	46.8	0.2	102.9	8.6
Total	**649.2**	**547.2**	**2.8**	**1,199.1**	**100.0**

A.7.5. Informal care

Table A.24: Productivity costs from informal care due to anxiety, depression, suicide attempts, by LGBTIQ+ group

LGBTIQ+ group	Permanent incapacitation		Partial incapacitation		Total	
	Lower bound	Upper bound	Lower bound	Upper bound	Lower bound	Upper bound
Gay or lesbian	5.8	5.8	0.2	0.3	6.0	6.1
Bisexual, pansexual	6.4	6.4	0.5	0.7	6.9	7.1
Transgender, gender diverse	6.4	6.4	0.0	0.0	6.4	6.4
Intersex status	6.4	6.4	0.1	0.2	6.5	6.6
Asexual, queer, another term	6.4	6.4	0.1	0.1	6.5	6.5
Total	**31.4**	**31.4**	**0.9**	**1.3**	**32.3**	**32.7**

A.7.6. Deadweight losses

Table A.25: Productivity costs from deadweight losses due to suicides, suicide attempts and suicide bereavement, by LGBTIQ+ group

LGBTIQ+ group	Lower bound ($ millions)	Upper bound ($ millions)	% of total
Gay or lesbian	63.0	86.2	24.3
Bisexual, pansexual	140.9	193.4	54.5
Transgender, gender diverse	11.2	14.5	4.1
Intersex status	22.3	29.6	8.3
Asexual, queer, another term	23.4	31.4	8.8
Total	**260.8**	**355.1**	**100.0**

A.7.7. Suicide detailed methodology

Table A.26: Productivity costs associated with suicides

Cost component	Calculation	Sources	Assumptions
Premature mortality	Number of deaths x expected years of life remaining up to age of retirement x average weekly earnings x 52	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours, Australia, May 2018 • ABS 3303.0 - Causes of Death, Australia, 2018	• The employment of those who die by suicide matches the employment rates among the general population. • All remaining future earnings were discounted 7% per annum.

A.7.8. Anxiety detailed methodology

Table A.27: Productivity costs associated with anxiety

Cost component	Calculation	Source	Assumptions
Reduced employment	Number of people diagnosed with anxiety in employed population x proportion change in employment due to having anxiety compared to general population x average weekly earnings x 52 weeks	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours • Australia, May 2018 • National Survey of Mental Health and Wellbeing 2007	• Proportion difference between employment rate in general population and among those with mental health condition is the same for anxiety diagnosis. • A change in employment of 2.1% was assumed for those who had anxiety in the previous 12 months, based on analysis of the NSMHWB.
Absenteeism	Number of people diagnosed with anxiety in employed population x average days off work (in weeks) x average weekly earnings	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours, Australia, May 2018 • 2007 National Survey of Mental Health and Wellbeing (Lee et al., 2017)	• The number of employed individuals would be calculated using age- and gender-specific (weight average) employment rates. • 18% of people diagnosed with anxiety in employment take days off from work.
Presenteeism	Number of people diagnosed with anxiety in employed population x % reduction in productivity x average weekly earnings x 52 weeks	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours, Australia, May 2018 • Productivity Commission (2020)	• This would be applied to age- and gender-specific (weighted average for persons) employment rates and average weekly earnings data to calculate and quantify the effective reduction in productivity due to the presenteeism. • Impacts all individuals with anxiety

A.7.9. Depression detailed methodology

Table A.28: Productivity costs associated with depression

Cost component	Calculation	Source	Assumptions
Reduced employment	Number of people diagnosed with depression in employed population x proportion change in employment due to having anxiety compared to general population x average weekly earnings x 52 weeks	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours • Australia, May 2018 • National Survey of Mental Health and Wellbeing 2007	• Proportion difference between employment rate in general population and among those with mental health condition is the same for depression diagnosis. • A change in employment of 2.1% was assumed for those who had depression in the previous 12 months, based on analysis of the NSMHWB.
Absenteeism	Number of people diagnosed with depression in employed population x average days off work (in weeks) x average weekly earnings	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours, Australia, May 2018	• The number of employed individuals would be calculated using age- and gender-specific (weight average for persons) employment rates. • 40% of people diagnosed with depression in employment take days off from work.
Presenteeism	Number of people diagnosed with depression in employed population x % reduction in productivity x average weekly earnings x 52 weeks	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours, Australia, May 2018 • Productivity Commission (2020)	• This would be applied to age- and gender-specific (weighted average for persons) employment rates and average weekly earnings data to calculate and quantify the effective reduction in productivity due to the presenteeism. • Impacts all individuals with depression

A.7.10. Suicide attempts detailed methodology

Table A.29: Productivity costs associated with suicide attempts

Cost component	Calculation	Source	Assumptions
Reduced employment	Number of LGBTIQ+ suicide attempts in employed population x proportion not returning to work for 12-month period x average weekly earnings x 52 weeks	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours • Australia, May 2018 • National Survey of Mental Health and Wellbeing 2007	• No re-employment within the year. • A change in employment of 23.0% was assumed for those who attempted suicide in the previous 12 months, based on analysis of the NSMHWB. • Of those that make a suicide attempt, 0.6% are fully incapacitated following the event.
Absenteeism	Number of LGBTIQ+ suicide attempts (or bereaved people) in employed population x average days off work (in weeks) x average weekly earnings	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours, Australia, May 2018 • Kinchin et al. (2017) • Safe Work Australia (2015) • United Synergies and Griffith University (2011) • Various literature (refer to A.7.12).	• Every employed person who attempts suicide or is bereaved by suicide requires time off work to recover. • The number of employed individuals would be calculated using age- and gender-specific employment rates. Note, this cost would be calculated only for individuals that return to work.
Increased informal care	Number of suicide attempts x % who are fully incapacitated x average additional weekly hours of informal care x hourly replacement cost x 52 weeks	• Deloitte Access Economics (2020) • Kinchin et al. (2017) • Diminic et al. (2017)	• Only those who become fully incapacitated would require a primary informal carer. These individuals would have already required a non-primary carer. • Only the 0.6% of individuals fully incapacitated following their attempt would receive full-time informal care. • 36.2 hours of informal care per week would be required, while assuming that 11 hours of care per week from a non-primary carer were already required due to pre-existing mental health conditions, equating to an incremental increase of 25.2 hours per week. • The average hourly formal sector replacement cost would be $37.16, based on the rate at which this care would be purchased from formal carer services.

A.7.11. Bereaved detailed methodology

Table A.30: Productivity costs associated with people bereaved by suicide

Cost component	Calculation	Source	Assumptions
Absenteeism	Number of bereaved people in employed population x average days off work (in weeks) x average weekly earnings x 52 weeks	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours, Australia, May 2018 • Kinchin et al. (2017) • United Synergies and Griffith University (2011) • Fox et al. (2013)	• People bereaved by suicide require 16 additional days off work. • This was applied to age- and gender-specific (weighted average fpr person) employment rates and average weekly earnings data to calculate and quantify the effective reduction in productivity due to absenteeism.
Productivity - Presenteeism	Number of bereaved people in employed population x % reduction in productivity x average weekly earnings x 52 weeks	• ABS 6202.0 - Labour Force, Australia, June 2020 • ABS 6306.0 - Employee Earnings and Hours, Australia, May 2018 • United Synergies and Griffith University (2011) • Fox et al. (2013)	• The seven chosen family members and friends of each person who dies by suicide would be impacted. • People bereaved by suicide are 12.3% less productive while at work. The duration of this reduced productivity would be six months. • This would be applied to age- and gender-specific employment rates and average weekly earnings data to calculate and quantify the effective reduction in productivity due to the presenteeism.

A.7.12. Parameters used for absenteeism and informal care

Table A.31: Frequency of main suicide attempt mechanisms and distribution of outcomes

Measure	Poisoning (excl. gas)[221]	Sharp objects[222]	Hanging[223]	Other^	Average	Duration of injury (days)[224]
Proportion of attempts[225]	80.6%	13.0%	2.2%	4.2%	-	-
Outcomes by mechanism						
No impact	31%	58.9%	-	31%	33.8%	0
Minor symptoms	40%	32.6%	-	40%	38.1%	1
Moderate symptoms	26%	8.4%	83.8%	26%	24.8%	32
Partial incapacitation	4%		10.8%	4%	3.2%	225
Permanent incapacitation	-	-	5.4%	-	0.6%	365

Source: Spiller et al. (2019), Martin et al. (2005), Jeong et al. (2020), AIHW and Safe Work Australia. Note: ^Outcomes assumed to be equal to poisoning (excl. gas).

A.8. Intangible costs

A.8.1. Loss of wellbeing

Table A.32: Loss of wellbeing due to anxiety, depression, suicides, suicide attempts and suicide bereavement, by LGBTIQ+ group - lower bound

LGBTIQ+ group	YLDs (anxiety)	YLDs depression)	YLDs (suicide attempts	YLDs (suicide bereavement)	YLLs (suicides)	DALYs	DALYs ($, millions)
Gay or lesbian	6,154	13,291	19	8	488	20,392	4,251.5
Bisexual, pansexual	13,897	29,296	47	13	969	45,094	9,419.4
Transgender, gender diverse	898	1,875	3	1	50	2,874	602.0
Intersex status	2,764	2,432	12	8	162	5,534	1,145.4
Asexual, queer, another term	2,037	4,277	7	2	18	6,366	1,350.7
Total	**25,750**	**51,171**	**88**	**32**	**1,687**	**80,260**	**16,769.0**

Table A.33: Loss of wellbeing due to anxiety, depression, suicides, suicide attempts and suicide bereavement, by LGBTIQ+ group - upper bound

LGBTIQ+ group	YLDs (anxiety)	YLDs (depression)	YLDs (suicide attempts	YLDs (suicide bereavement)	YLLs (suicides)	DALYs	DALYs ($, millions)
Gay or lesbian	8,571	18,511	26	11	680	28,401	5,921.3
Bisexual, pansexual	19,355	40,802	66	18	1,350	62,805	13,118.9
Transgender, gender diverse	1,250	2,611	4	1	69	4,002	838.5
Intersex status	3,849	3,388	17	11	225	7,708	1,595.3
Asexual, queer, another term	2,837	5,956	10	3	25	8,867	1,881.2
Total	**35,863**	**71,268**	**122**	**45**	**2,350**	**111,783**	**23,355.2**

A.8.2. Anxiety methodology

Table A.34: Calculation method and data sources for loss of wellbeing due to anxiety

Cost component	Calculation	Source	Assumptions
YLDs	YLD rate per case of anxiety x number of people with diagnosed anxiety x VSLY	• IHME 2020, GBD Study 2017 Data Resources • Department of Prime Minister and Cabinet (2019). • Private Lives 3 (2020)	• YLD rate per case at the national level is equivalent to the YLD rate per case within Victoria • The distribution of mild, moderate and severe anxiety informed by Private Lives 3 Victoria report was used to calculate a weighted average disability weight. This was applied to all individuals with anxiety.

A.8.3. Depression methodology

Table A.35: Calculation method and data sources for loss of wellbeing due to depression

Cost component	Calculation	Source	Assumptions
YLDs	YLD rate per case of depression x number of people with diagnosed anxiety x VSLY	• IHME 2020, GBD Study 2017 Data Resources • Department of Prime Minister and Cabinet (2019). • Private Lives 3 (2020)	• YLD rate per case at the national level is equivalent to the YLD rate per case within Victoria • The distribution of mild, moderate and severe depression informed by Private Lives 3 Victoria report was used to calculate a weighted average disability weight. This was applied to all individuals with depression.

A.8.4. Suicide detailed methodology

Table A.36: Calculation method and data sources for loss of wellbeing due to suicide

Cost component	Calculation	Source	Assumptions
YLLs	People who die by suicide	Number of deaths x expected years of life remaining x VSLY	• ABS 3303.0 - Causes of Death, Australia, 2018. • ABS 3302.0.055.001 - Life Tables, States, Territories and Australia, 2016-18 • Department of Prime Minister and Cabinet 2019 • Age at death is the midpoint of the five-year age group within which the death occurred (e.g., 67 for the 65-69 age group).

The loss of wellbeing associated with suicides is equal to the YLLs. These were calculated by multiplying the number of deaths in each age and gender group by the expected years of life remaining at the age of death. The age at death was assumed to be the midpoint of the age group within which the death occurred. Average life expectancy data was obtained from ABS,[226] and a discount rate of 7% was applied to the calculations while no age weighting was applied to the estimated YLLs.

A.8.5. Suicide attempts detailed methodology

Table A.37: Calculation method and data sources for loss of wellbeing due to suicide attempts

Cost component	Calculation	Source	Assumptions
YLDs	YLD rate per case of self-harm x estimated suicide attempts in Victoria x VSLY	• IHME 2020, GBD Study 2017 Data Resources • Department of Prime Minister and Cabinet (2019).	• YLD rate per case at the national level is equivalent to the YLD rate per case within Victoria.

The injuries from suicide attempts would account for the attributable YLDs. YLDs represent the reduction in quality of life due to a condition or injury. They are typically measured using disability weights for conditions and injuries, where a disability weighting of zero indicates perfect health and one is equivalent to death. Disability weights for injuries associated with nonfatal suicide attempts would fall between zero and one to reflect the loss of wellbeing from that injury relative to perfect health.

The GBD Study 2017 publishes the overall DALYs, YLDs, YLLs and rates per 100,000 population for a wide range of countries, conditions and injuries. These data are available through the Institute for Health Metrics and Evaluation (IHME) for self-harm by gender and five-year age group at the national level, enabling a precise estimation of the YLDs due to self-harm (as a proxy for suicide attempts).[227] Specifically, the total YLDs due to self-harm were extracted and divided by the underlying prevalence within the GBD study to derive a YLD rate per case. This YLD rate was then be multiplied by the estimated number of suicide attempts in Victoria in 2019. An underlying assumption is that the YLD rate per case is the same within Victoria as at the national level.

A.8.6. Bereaved detailed methodology

Table A.38: Calculation method and data sources for loss of wellbeing due to suicide bereavement

Cost component	Calculation	Source	Assumptions
Loss of wellbeing - YLDs	Number of bereaved people x average difference in EQ 5D x VSLY	• IHME 2020, GBD Study 2017 Data Resources • Department of Prime Minister and Cabinet (2019). • The Science of Knowing (2011).[228] • Richardson, J. (2018).[229] • Viney et al. (2011).[230]	YLD rate per case at the national level is equivalent to the YLD rate per case within Victoria.

There is also an impact on wellbeing among those who are bereaved due to suicide. This reduced quality of life can be calculated using health utility scales such as the European Quality of Life – Five Dimensions (EQ-5D), which assesses an individual's wellbeing using a five-domain questionnaire. Scores on each domain can be transformed into a single utility score, where a utility of 0 represents death and a utility of 1 represents perfect health. Studies have found the average score on the EQ-5D generally falls in the range of 0.85 to 0.90.[231] See Appendix B.1 for detailed explanation of the EQ-5D scale.

Evidence was sought to determine the exact impact of suicide bereavement on an individual's quality of life, as measured by the EQ-5D. It was found that the average EQ 5D score among bereaved individuals can fall as low as 0.72 depending on the time elapsed since the suicide,[232] relative to a population average of approximately 0.86.[233] Based on this analysis, people bereaved by suicide were grouped into those who were a) affected for less than 6 months, b) affected for 6 to 12 months, and c) affected for up to two years. As with YLLs, YLDs associated with bereavement continuing into future years were discounted back to 2019 at a rate of 7%. Table A.39 summarises the inputs for the estimation of YLDs due to suicide bereavement.

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Table A.39: Changes in the EQ-5D by duration of bereavement

Point in time relative to suicide	Affected for less than 6 months	Affected for 6 to 12 months	Affected for up to two years
One year prior	0.8592	0.8533	0.8612
One week after	0.7912	0.7336	0.7223
Three months after	0.8550	0.8349	0.7729
Nine months after	-	0.8599	0.8020
Two years after	-	-	0.8358

Source: Richardson (2018).

Based on the literature, it was assumed that the wellbeing of 32% of people who experienced a suicide death of someone closely associated were not affected.[234] Among the remaining bereaved individuals, 22% were assumed to be affected for less than 6 months, 16% for six months to a year, and 30% for up to two years. The corresponding EQ-5D scores in Table A.39 were applied to each of the individuals in a given group for the duration of the impact. For example, for those affected for less than 6 months, a reduction of 0.068 (0.8592 minus 0.7912) was applied for three months.

The estimated reductions in quality of life were applied to the total number of people bereaved by suicide to estimate the overall quality-adjusted life years (QALYs) from suicide bereavement. The sum of these QALYs and the DALYs from suicides and suicide attempts represented the total loss of wellbeing. This was multiplied by the value of a statistical life year (VSLY) to estimate a monetary value of the lost wellbeing among the Australian population in 2020-21.[235]

A.9. Cost summary

A.9.1. Total costs

Table A.40: Total cost by cost type and LGBTIQ+ group – lower bound

Cost type	Gay or lesbian	Bisexual, pansexual	Transgender, gender diverse	Intersex status	Asexual, queer, another term	Total	% of total
Financial	94.8	181.1	36.8	51.0	49.3	413.0	2.2
Economic	441.6	999.1	71.5	146.4	159.9	1,818.4	9.6
Intangible	4,251.5	9,419.4	602.0	1,145.4	1,350.7	16,769.0	88.3
Total	**4,787.9**	**10,599.5**	**710.3**	**1,342.8**	**1,559.9**	**19,000.4**	**100.0**
% of total	**25.2**	**55.8**	**3.7**	**7.1**	**8.2**	**100.0**	**-**
Cost per person	**50,829**	**70,137**	**62,379**	**15,262**	**57,962**	**51,131**	**-**

Table A.41: Total cost by cost type and LGBTIQ+ group – upper bound

Cost type	Gay or lesbian	Bisexual, pansexual	Transgender, gender diverse	Intersex status	Asexual, queer, another term	Total	% of total
Financial	118.6	234.3	40.2	58.6	57.1	508.8	1.9
Economic	611.1	1,386.2	96.0	200.0	218.9	2,512.1	9.5
Intangible	5,921.3	13,118.9	838.5	1,595.3	1,881.2	23,355.2	88.5
Total	**6,651.0**	**14,739.4**	**974.6**	**1,853.8**	**2,157.3**	**26,376.1**	**100.0**
% of total	**25.2%**	**55.9%**	**3.7%**	**7.0%**	**8.2%**	**100.0%**	**-**
Cost per person	**50,697**	**70,026**	**61,457**	**15,128**	**57,553**	**50,963**	**-**

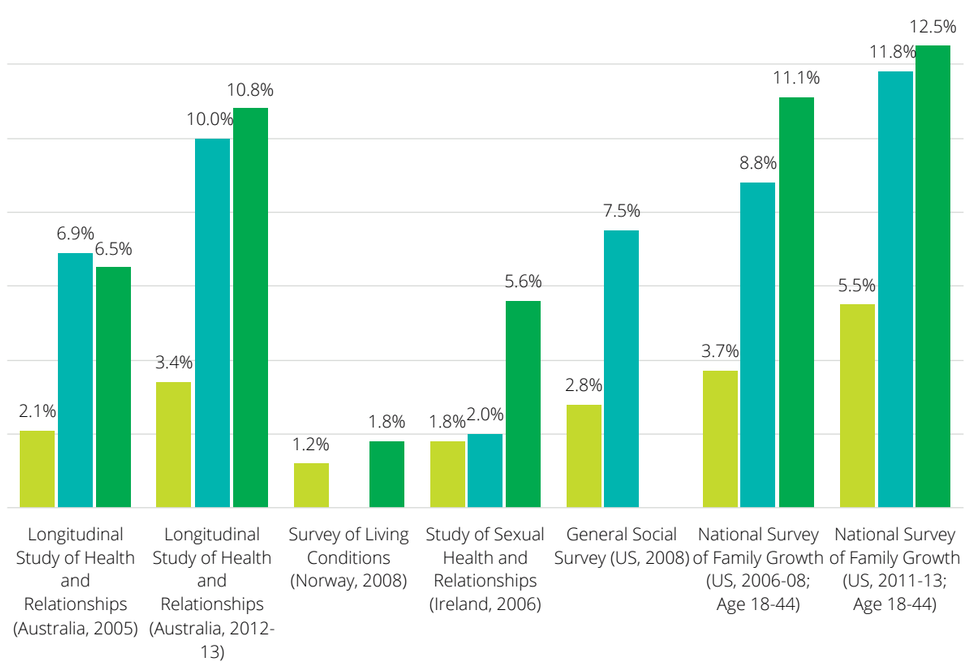
Appendix B Supplementary data and literature

B.1. LGBTI in OECD Countries: A Review (OECD, 2017)

A minority of OECD countries have included direct questions on the sexual orientation of the respondent in population-based surveys. The proportion of LGB adults, depending on whether sexual orientation is defined by reference to sexual self-identification, sexual behaviour or sexual attraction are shown in Figure B.1.

Two data points are within the Australian context, both from the Longitudinal Study of health and Relationship survey published in 2005 and 2012-13. It is clear from these two data sources, that over time the proportion of reported LGB adults has increased overtime, and this is likely to have continued to the present day. The Longitudinal Study of health and Relationships (2012-13) indicates that the proportion of LBG adults defined by sexual behaviour and sexual attraction are 10.0% and 10.8% respectively. It is acknowledged these two definitions do not represent all LGBTIQ+ adults, nor the definitions of sexual orientation, gender and intersex identify.

Figure B.1: Proportion of LGB adults, depending on whether sexual orientation is defined by reference to sexual self-identification, sexual behaviour or sexual attraction.



Source: Adapted from OECD (2017).

B.2. The EQ-5D scale

The EQ-5D scale is a standardised measure of health-related quality of life. The domains of the questionnaire cover mobility, self-care, usual activity, levels of pain and discomfort, and feelings of anxiety and depression. Each domain contains one question with three possible responses. For example, anxiety and depression contains the responses 'I am not anxious or depressed', 'I am moderately anxious or depressed', and 'I am extremely anxious or depressed'. Overall, the EQ-5D can describe 243 unique health states that can be converted to overall health utilities. In the Australian context, Viney et al. (2011) developed an algorithm to convert these 243 health states to a utility measure. This measure has a maximum value of 1 (representing perfect health) and is scaled such that a score of 0 represents death. Negative scores are possible based on the logic that some individuals will value certain health states as being worse than death.

The EQ-5D can be used in the estimation of lost wellbeing due to an illness or injury. As a metric, it is used to calculate quality-adjusted life years (QALYs). A QALY is calculated by multiplying an individual's health utility (as measured by the EQ-5D) by the duration of time they are living in that health state. For the purposes of this study, it would be assumed that individuals' state of bereavement lasts the entire year following the suicide death. As such, the total QALYs due to suicide bereavement is equal to the number of people bereaved multiplied by the difference in the EQ-5D between the general population and those experiencing suicide bereavement. Note, the EQ-5D has been criticised for lack of responsiveness to changes in some conditions. However, it is considered an appropriate measure for quality of life for the purpose of economic evaluation. Further, it was used for this study as the United Synergies and Griffith University (2011) paper used this scale to measure quality of life.

B.3. Comparing people bereaved by suicide to the general population

The key data source used for the purposes of costing suicide bereavement is a study by United Synergies and Griffith University. This study conducted an evaluation of a postvention program that supports people bereaved by suicide.[236] As part of this evaluation, they conducted a survey of people bereaved by suicide, who either receive the postvention program (the treatment group) or do not (the control group). The survey included questions on bereaved people's psychological distress, suicidality, quality of life, health service utilisation, and absenteeism or presenteeism at work. In this methodology paper, the control group's survey responses are used to understand health care utilisation and productivity among people bereaved by suicide, relative to the general population. The incremental differences between these groups are used to determine the additional costs associated with suicide bereavement.

In the control group:

- 88% were female
- the average age was 40.1
- 72% lived in metropolitan areas
- the people bereaved by suicide may have had varying relationships to the deceased, including being a close family member, partner, friend or colleague
- 47% of the sample had lost their loved one over two years ago, while 26% had lost them within the previous six months.

To compare this control group to the general population, data on health care utilisation and productivity in the general population was adjusted to reflect the sample's gender ratio.

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Limitation of our work

General use restriction

This report is prepared solely for the internal use of Thorne Harbour Health. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose of estimating the socio-economic cost of adverse mental health outcomes for LGBTIQ+ Victorian adult population. You should not refer to or use our name or the advice for any other purpose.

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Endnotes

1. Note that the research cited uses different definitions of the cohort.
2. Note that the estimated total Victorian adult (18+) population in 2019 was estimated to be 5.18m.
3. VAHI (2020). The Health and wellbeing of the LGBTIQ population in Victoria. <https://www.bettersafercare.vic.gov.au/sites/default/files/2020-09/The-health-and-wellbeing-of-the-LGBTIQ-population-in-Victoria.pdf>
4. The VAHI Victorian Population Health Survey 2017 (2020) is the primary data source for the number of LGBTQ+ adults in Victoria. This source estimates that 5.5% of Victorian adults identified themselves as LGBTQ+ in 2017. Blackless et al (2000) was used to inform the prevalence of intersex variation in the adult Victorian population. This source is considered to provide the most broadly accepted approximation of intersex variation in the population to be 1.7%. Overall, the prevalence of LGBTIQ+ in the lower bound approach is 7.2% of the population. Section 3.1.2 provides detailed overview of this methodology.
5. Valfort, M (2017). LGBTI in OECD Countries: A Review. OECD Social, Employment and Migration Working Papers, No. 198, OECD Publishing, Paris, https://doi.org/10.1787/d5d49711-en.
6. Calendar year 2019 was chosen based on data availability and the ability to compare 2019 with 2020, where 2020 has been affected by COVID-19.
7. Financial costs are actual costs incurred, while economic costs include opportunity cost involved in performing an activity relative to another.
8. Intangible costs include costs such as loss of wellbeing and years of life lost.
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10. See Section 4.6 for detailed explanation of prevention and postvention costs for both state and commonwealth funded initiatives attributable to the LGBTIQ+ community.
11. AIHW (2020). Mental Health. <https://www.aihw.gov.au/reports/australias-health/mental-health>
12. The data obtained from the National Survey of Mental Health and Wellbeing are due to be updated from 2020-21 as part of the Intergenerational health and Mental Health Study.
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17. The LGBTIQ+ acronym does not represent a homogenous group with homogenous needs, but rather works as a collective and fluid term to describe individuals who identify with one or more of the identities and/or orientations. This report acknowledges that the nature of LGBTIQ+ identity is evolving as society begins to better understand and appreciate the diversity of individuals in terms of their gender identity, intersex characteristics and sexual orientation.

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78. Note: this excludes the prevalence for intersex status/variation.

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84. Note that the lower and upper bound rates are the same, as the upper and lower bound applies to the LGBTIQ+ total population size to which this rate is applied.

85. Note that the lower and upper bound rates are the same, as the upper and lower bound applies to the LGBTIQ+ total population size to which this rate is applied. As such the chart only shows one line for rates.

86. Note that the lower and upper bound rates are the same, as the upper and lower bound applies to the LGBTIQ+ total population size to which this rate is applied.

87. Note that the lower and upper bound rates are the same, as the upper and lower bound applies to the LGBTIQ+ total population size to which this rate is applied. As such the chart only shows one line for rates.

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92. Note that the lower and upper bound rates are the same, as the upper and lower bound applies to the LGBTIQ+ total population size to which this rate is applied.

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135. Calculated by multiplying the total number of people that attempt suicide and do not become permanently incapacitated by 4% and by the unit cost of a GP visit.

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137. United Synergies and Griffith University (2011). Economic Evaluation of the StandBy Response Service. <https://www.unitedsynergies.com.au/wp-content/uploads/StandBy-Economic-Evaluation.pdf>

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153. Note, postvention programs may be available to people who have been bereaved by suicide for more than one year.

154. Assumes that 26% of nationwide programs target Victoria; all activities from 2016 onwards pro-rated to the 2019 calendar year.

155. Presenteeism was not calculated for suicide attempts due to a lack of evidence directly linking a reduction in at-work productivity to suicide attempts. Individuals who attempt suicide are expected to be working at lower productivity than the general population prior to their attempt due to pre-existing mental health conditions. As such, presenteeism observed following the suicide attempt may also be attributed to the ongoing effects of the present mental health condition rather than as a direct impact of the suicide attempt.

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