Viewing the monitoring data

Caution: Some people may find parts of this content confronting or distressing.

Please carefully consider your needs when reading the following information about suicide and self-harm. If this material raises concerns for you contact Lifeline on 13 11 14, or see other ways you can seek help.

The information included here places an emphasis on data, and as such, can appear to depersonalise the pain and loss behind the statistics. The AIHW acknowledges the individuals, families and communities affected by suicide each year in Australia.

Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

The AIHW supports the use of the Mindframe guidelines - external site opens in new window on responsible, accurate and safe suicide and self-harm reporting. Please consider these guidelines when reporting on statistics on the monitoring of suicide and self-harm.

Suicide & self-harm monitoring

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Suicide & self-harm monitoring data

Over 3,000 deaths by suicide occur each year in Australia
In 2023, there were 3,214 deaths by suicide – an average of about 9 deaths per day – with a rate of 11.8 per 100,000 population.

Suicide was the leading cause of premature death accounting for the highest number of potential years of life lost
In 2023, people who died by suicide had a median age at death of 45.5 years. Males lost an average of 35.1 years and females lost and average of 36.9 years.

Males are 3 times more likely to take their own life than females
In 2023, there were 2,419 male suicide deaths at a rate of 18.0 per 100,000; there were 795 female suicide deaths at a rate of 5.8 per 100,000. In 2023, the number of deaths by suicide was higher for males than females in all reported age groups.

Females are more likely to attempt suicide or be hospitalised for intentional self-harm than males
Rates of ambulance attendances for suicide attempt and self-injury were higher for females than males. In 2022–23 females made up two-thirds (66%) of intentional self-harm hospitalisations.

Suicide is the leading cause of death for young people
Almost one third (31.8%) of all deaths among Australians aged 15–24 years were due to suicide in 2023.

The rate of suicide among young First Nations people is three times that of young non-Indigenous Australians
In 2018–2022, the age-specific rate of suicide deaths was 3.1 times higher in First Nations people aged 0–24 years.

The highest proportion of deaths by suicide occur during mid-life
More than half of all deaths by suicide in 2023 (55.5%) occurred in people aged 30–59 (1,765 deaths).

Suicide rates are highest among middle aged and older males
Since 2008, the highest suicide rates have generally been among males aged 40–49 years and 85 years and over.

Results of a birth cohort analysis show trends in suicides have changed over time
Suicide rates for males aged in their 20s increased for those born between the mid to late 1950s through to those born in the late 1960s/early1970s, before decreasing for those born more recently (though with some continuing fluctuations).

The estimated suicide risk is higher among those with fewer years of education
Among males aged 25–54 with secondary school or no education, the cumulative suicide risk is 2.6 times higher than among males with a university degree. This gradient between highest and lowest levels of educational attainment for females was consistent with that seen for males – with a smaller ratio (1.6 times).

Suicide and Self-harm monitoring data

Suicide and Self-harm Monitoring brings together key statistical data on suicide and self-harm from multiple national sources that will be updated regularly as new data become available. Here, you can examine the data through interactive visualisations and read information on the demographics, trends, methods and risk factors of suicide and self-harm in Australia.

This website represents only one part of a comprehensive program of work on suicide and self-harm in Australia by the AIHW (for more information visit About the Suicide and Self-harm Monitoring System).

Why is it important to collect data about suicide and self-harm?

Monitoring of suicide and intentional self-harm – how many people harm themselves, when, where and how – can provide a better understanding of the nature of suicide and self-harm in Australia and help determine who may be at increased risk. Reporting of this data can raise community awareness of suicide and self-harm, further research, improve responses and support services for those that need them, and inform the design and targeting of suicide prevention activities.

Considerations when using these data

There are several considerations to keep in mind when examining suicide and self-harm data and information in Australia.

Deaths by suicide

The assembling and national reporting of deaths by suicide has up to an 18-month time lag. Deaths by suicide may be presented by year of occurrence of death or year of registration. Although reporting of deaths by suicide by year of death can provide more reliable information on trends in occurrence than reporting by year of registration, the latest data available may underestimate the number of deaths, especially those in the later months of the year, due to a lag in registration. For this reason, and unless otherwise specified, year of registration of death has been used to allow the latest year of data to be compared with previous years. In both cases, the latest years of data are coded with preliminary causes of death information and may underestimate causes of death that are usually certified by a coroner, including deaths by suicide. For more information on how deaths are registered, coded and updated, visit Technical notes.

Suspected deaths by suicide

State and Territory suicide registers can provide more timely data on suspected deaths by suicide. Recent surveillance data from suicide registers are preliminary and may change over time, typically upon completion of the coronial investigation. Suicide registers are operational in all Australian jurisdictions. The AIHW contributed to the development of suicide registers in South Australia (established in 2022), the Australian Capital Territory (established in 2021) and the Northern Territory (established in 2023).

Suicide registers in New South Wales, Victoria and Queensland publish monthly data reports on suspected or confirmed suicide deaths in their respective jurisdictions. The AIHW receives data on suspected or confirmed suicide deaths from several other jurisdictions' registers on a fortnightly or monthly basis. The data can be used to inform governments' decision making and responses to emerging issues that may influence suicide risk in the community, such as cost of living concerns. Due to the highly sensitive nature of coronial investigations, the AIHW will not publicly release jurisdictional data unless they have been published by the relevant data custodians (visit Data from suicide registers).

Hospital admissions

Hospital admissions data are collated as an annual release with a 12-month lag.

Ambulance attendances

Ambulance data are currently available for New South Wales, Victoria, Queensland, Tasmania, the Australian Capital Territory and the Northern Territory for selected months from 2018 to September 2023, with monthly data from January 2021 (visit Ambulance attendances: suicidal and self-harm behaviours). Further information on the collection of data and sources is available in the Technical notes.

Issues with small numbers and the need for caution

Deaths by suicide are statistically rare events. Small numbers can raise privacy and confidentially issues but also statistical concerns. For this report, values based on small numbers of deaths, hospitalisations for intentional self-harm or ambulance attendances have been suppressed to maintain data confidentiality, and/or avoid publishing statistics of low reliability. Visit Technical notes for further

information.

The statistics on deaths by suicide reported here fluctuate from one period to the next – mostly due to small counts (and in the case of females, very small counts) – especially in many smaller subgroups (for example, individual age groups or small geographic areas). Estimates of rates are also subject to random variability. Statistics based on small numbers of deaths by suicide should be interpreted with caution and all rates and their comparison with rates in other populations should be reported in context. For further insight into the methodological challenges and statistical issues of monitoring suicide and self-harm, visit Suicide Mortality in Australia: Estimating and Projecting Monthly Variation and Trends From 2007 to 2018 and Beyond.

How to use the interactive data visualisations

- Due to large data sets, visualisations may take time to load.
- Visualisations are compatible with Chrome, Microsoft Edge and Firefox.
- Each panel may contain more than 1 visualisation. If so, click on the tab at the top of the panel or the button in the bottom right to switch between them. You can interact with the visualisations to see the specific data you are interested in by either selecting from the filter(s) at the bottom of the chart, or in the case of maps, from the pop-up box by clicking on an area of interest.
- Hover over each data point to see the underlying data and, if available, further details.
- The Data downloads page provides the source data as Excel (.xlsx) files. The relevant source supplementary table is cited at the bottom of each visualisation.
- Each visualisation may be downloaded and exported or shared.
- A print friendly PDF of all pages of text and the default visualisations related to suicide and self-harm may also be downloaded – click on the 'Download all data pages' button. Visit Technical notes for information about data sources, data quality and methodology.

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Suicide & self-harm monitoring

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Suicide & self-harm monitoring: Deaths by suicide in Australia

If at any point you feel worried about harming yourself while viewing the information on this website – or if you think someone else may be in danger – please stop reading and seek help.

Important points to remember about deaths by suicide:

Each statistic represents a person – with a family and community grieving for their loss

Although it is a relatively rare cause of death – in 2023, 1.8% of all deaths registered were by suicide (3,214 suicide deaths of 183,131 total) – it can have devastating and long-lasting effects on those left behind.

The reasons people take their own life are complex

Suicide can affect anyone – regardless of their personal characteristics and family background – but some populations are at greater risk. There is also no single reason why a person chooses to end their life – the reasons are often complex. For information on risk factors see Behaviours and risk factors.

Deaths by suicide are preventable

Monitoring the number, trends and rates of suicide in Australia is key to understanding who is at risk and for the planning and targeting of suicide prevention activities.

It is our endeavour that by bringing together various data sources we can strengthen the evidence base to build a more coherent picture of suicide and self-harm in Australia to improve the effectiveness of suicide prevention.

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Deaths by suicide over time

Numbers and rates of deaths by suicide change over time as social, economic and environmental factors influence suicide risk. The data visualisations below provide an overview of the characteristics of people who have died by suicide in Australia since 1907, looking at trends and variations by sex and age – how many there were, how old they were when they died, and the methods used over time. This analysis may provide useful information on potentially preventable factors, such as restricting access to means of suicide and reducing the risks posed by social or economic factors. Over time, the accuracy and quality of the data collected have been influenced by a number of factors including changes in legislation, technology and a reduction in social stigma.

Numbers of deaths by suicide increased steadily over the first half of the 20th Century (from 461 in 1907 to 760 in 1950), with peaks and troughs in numbers of suicides corresponding with significant world events (see below). However, since the 1950s numbers of deaths by suicide increased more steeply over time – in part driven by population growth. Peaks in numbers of deaths by suicide occurred during the 1960s and late 1990s. Since the mid-2000s numbers of deaths by suicide in Australia have increased, reaching over 3,000 Australians dying by suicide by 2015.

Suicide deaths by sex, Australia, 1907 to 2023.

The line graph shows age-standardised rates of suicide for males, females and persons from 1907 to 2022. Users can also choose to view the number of deaths by suicide and male to female rate ratios from 1907 to 2023 and median age at death by sex from 1964 to 2023. The data can be viewed for any period between the years for which data are available.

Have suicide rates changed over time?

Between 1907 and 2023, age-standardised suicide rates in Australia ranged from 8.4 deaths per 100,000 population per year (in 1943 and 1944) to 18.4 in 1963.

- Suicide rates peaked in 1913 (18.0 deaths per 100,000 population), 1915 (18.2), 1930 (17.8), 1963 (18.4) and 1967 (17.7). These peaks tended to coincide with major social and economic events or changes, see Impact of social and economic events
- Suicide rates tended to increase from 1907 to 1915 (from 16.9 to 18.2 deaths per 100,000 population). Rates then fluctuated throughout the late 1910s and early 1920s (from 13.1 deaths per 100,000 population in 1918 to 16.2 in 1920, returning to 12.8 in 1922), before increasing to a peak of 17.8 in 1930.
- Rates then declined throughout the 1930s and early 1940s, reaching a low of 8.4 deaths per 100,000 population in 1943 and 1944 (however, suicide rates for the war years may have been underestimated, see Impact of social and economic events).
- Rates tended to increase throughout the 1950s, peaking at 18.4 deaths per 100,000 population in 1963. Rates remained high throughout the 1960s while the 1970s and early 1980s saw a decline in rates (from 15.4 deaths per 100,000 population in 1971 to 11.6 in 1984).

- Rates began to rise in 1985 and fluctuated from 14.3 in 1987 to 11.9 in 1993 with a recent peak of 14.8 in 1997. This was followed by sustained declines over the early 2000s, with a low of 10.2 per 100,000 population in 2006.
- After 2006, suicide rates began to rise, partly due to improvements in data quality and capture (see below). In 2023, the rate was 11.8 deaths per 100,000 population – down from a post-2006 high of 13.2 in 2017 and 2019. It is important to note that deaths registered in 2022 and 2023 are preliminary and as such, are subject to revision (see below).

It is important to note that deaths by suicide were underestimated in the collection of routine deaths data, particularly in the years before 2006 (AIHW: Harrison et al 2009; De Leo, 2010; AIHW: Harrison & Henley 2015). Since then, the Australian Bureau of Statistics (ABS) has introduced a revisions process to improve data quality by enabling the revision of cause of death for open coroner's cases over time. Deaths registered in 2022 and 2023 are preliminary and data for 2021 are revised and therefore, data for these years are subject to further revision by the Australian Bureau of Statistics. Data from 2006 to 2020 are final (for further information see Technical notes).

What's changed in the last decade?

Please note: small numbers can result in large yearly variation in suicide rates. Caution is advised when making year to year comparisons.

- Over the last decade, the age-standardised suicide rate for males remained consistent at 18.9 deaths per 100,000 population in 2014 and 18.0 in 2023. Female rates also remained consistent at 6.0 deaths per 100,000 population in 2014 and 5.8 in 2023.

For detailed analysis of recent trends in suicide in Australia, see Suicide Mortality in Australia: Estimating and Projecting Monthly Variation and Trends From 2007 to 2018 and Beyond.

Impact of social and economic events

While the reasons for an individual's suicide death are personal and often complex, overall peaks and troughs in rates and numbers of deaths by suicide historically coincide – more or less – with social and economic events.

Falls in the male suicide rate coincided with both World Wars 1 and 2. These falls are at least partly a statistical artefact due to the fact that deaths from all causes (including deaths by suicide) of Australian service personnel while overseas were not included in Australian death registration data, while population estimates were not adjusted to allow for the absence of these personnel (AIHW 2005; AIHW: Harrison & Henley 2014).

The highest annual age-standardised rate for males in the last century occurred in 1930 (29.8 deaths per 100,000 population), during the Great Depression – a period of high unemployment, particularly among males. The rise in both male and female suicide rates in the 1960s has been attributed, in part, to the unrestricted availability of barbiturate sedatives (Oliver & Hetzel 1972; Whitlock 1975). Subsequent falls in these rates in the late 1960s and early 1970s have in turn been attributed to the introduction of restrictions to the availability of these drugs in July 1967 (AIHW: Harrison & Henley 2014). While high rates of suicide in the late 1980s and early 1990s also coincided with a period of economic uncertainty in Australia, the social and economic disruption related to the COVID-19 pandemic has not seen an increase in the number of suspected deaths by suicide referred to coroners courts.

Males have consistently higher rates of suicide than females

Since 1907, the male age-standardised suicide rate has been consistently higher and more variable than the female rate. Variations in the overall suicide rate in Australia have been largely driven by changes in the male suicide rate.

The peak in overall suicide rates in 1930 was driven by an increase in male suicide rates, peaking at 29.8 deaths per 100,000 in 1930 – the highest rate ever recorded. Similarly, the increase in overall suicide rates in the 1990s was also mainly driven by an increase in male rates. The peak in the 1960s reflects a rise in suicide rates for both males and females.

The male suicide rate ranged from a high of 5.6 times that of females in 1930 to lows of less than twice the female rate in the 1960s and early 1970s – mainly due to the marked rise in female suicide rates at this time. Since then, the male suicide rate has fluctuated around 3 to 4 times that of the female rate.

Although males are more likely to die by suicide, females are hospitalised for intentional self-harm (with and without suicidal intent) almost twice as frequently as males (see Intentional self-harm hospitalisations). Furthermore, ambulance attendance data reporting on attendances for suicide attempts between 2018 and 2023 suggest females are more likely to attempt suicide than males (see Ambulance attendances, suicidal and self-harm behaviours).

Patterns of suicide by age have changed over time

Age-specific suicide rates for males are higher than those for females across all reported age groups for all years. Use the year slider to see how patterns of suicide in males and females have changed in Australia over time. Hover over the graph to display the tooltip to see the trend in deaths by suicide by sex over time for each age group. The age distribution of deaths by suicide is similar for males and females. The highest proportion of deaths by suicide occur during mid-life.

In 2023, the highest suicide rates for males occurred in those aged 55–59 (30.9 deaths per 100,000), followed by males aged 45–49 (27.3), 40–44 (27.2) and 50–54 (27.1). For males aged 80–84, the number of deaths by suicide was the lowest (56 deaths), whereas males aged 40–44 had the highest number of suicide deaths recorded (240). High rates of suicide were also recorded in males aged 85 and over and 25–29 (26.4 and 23.4, respectively). Males aged 40–54 accounted for one quarter (28.2%) of deaths by suicide among males. The highest suicide rate for females was in those aged 50–54 (10.7). Females aged 40–54 accounted for 27.7% of deaths by suicide among females.

Suicide deaths by age and sex, Australia, 2023.

The bar chart shows the age-specific rates of suicide for males and females by age groups (five year age bands from 15–19, 20–24, etc to 80-84 and 85 and over). Users can choose to view numbers of deaths by suicide for males and females in these age groups. Data can also be viewed by year from 1907.

For approximately the first half of the period 1907 to 2023, age-specific suicide rates in males generally increased with age; however, by the start of the 1990s this pattern had changed substantially with suicide rates highest in younger males aged 20–39 and males aged 80 and over. Since 2008, the highest suicide rates have been observed in middle-aged males (aged 40–54) and older males aged 85 and over; however, it should be noted that rates of death by suicide in males aged 85 and over have historically been based on relatively small numbers compared to other age groups and as such, the rates can be quite volatile over time and should be interpreted with caution.

Throughout 1907 to 2023, the lowest suicide rates in males were observed in those aged 15–19.

- From 1907 to 1970, suicide rates in males aged 15–19 were less than 10.0 deaths per 100,000 population. Rates then increased throughout the 1970s and 1980s peaking at 21.0 in 1988, while remaining the lowest of the reported age groups.
- In 2023, the suicide rate for males aged 15–19 was 11.1 deaths per 100,000 population.

Males aged 20–24 had the second-lowest age-specific suicide rates of all males for most of the early 20th Century; however, this changed from the late 1960s.

- From 1907 to 1966, suicide rates for males aged 20–24 were around 11 deaths per 100,000 population with peaks of 16.8 in 1914, 17.0 in 1958, and 19.1 in 1963 and a low of 1.9 in 1944.
- From the late 1960s to the late 1990s, suicide rates in this age group increased steadily, reaching a high of 43.1 deaths per 100,000 population in 1997.
- Rates then fell steadily to 16.3 deaths per 100,000 population in 2009, before rising again to 25.2 in 2020. In 2023, the rate for death by suicide for males aged 20–24 years was 18.6.
- A similar pattern was observed for those aged 25–29.

The pattern of age-specific suicide rates for middle-aged males (aged 40–59) was different to that of younger age groups, with the highest rates being observed in the first part of the 20th Century and then falling to lower levels.

- The highest age-specific suicide rate for middle-aged males was 64.9 deaths per 100,000 population in 1913 for males aged 50–54. Peaks of more than 56 were also seen in 1930 (56.6). Age-specific rates then fell to a low of 14.5 in 1944. Similar patterns were seen for 40–44, 45–49 and 55–59 age groups with the second highest age-specific rate of 63.9 deaths per 100,000 population for males aged 55–59 in 1931 and the lowest age-specific rate of 10.5 for males aged 40–44 in 1944.
- Rates tended to increase throughout the 1950s and 1960s peaking again at 42.0 deaths per 100,000 population in 1962 for males aged 55–59, before falling to 19.1 in 1983 for males aged 45–49. The greatest decline during this time period was seen for males aged 55–59 falling from 41.6 deaths per 100,000 population in 1968 to 18.4 in 1977.
- Since then, rates for these age groups have fluctuated to a high of 34.4 deaths per 100,000 population in 1987 for males aged 55–59 and a recent high of 33.8 in 2017 for males aged 45–49.
- A similar pattern was seen in males aged 60 and older.

It should be noted that the number of deaths by suicide recorded for older males historically has been low, particularly for males aged 75 and older. This causes fluctuation in the age-specific rates. Therefore, caution should be used when interpreting trends for these age groups over time.

- The age-specific suicide rate for males aged 60 and older was about 40 deaths per 100,000 population from 1907 to 1967.
- From 1968 suicide rates for males aged 60 and older generally fell. For example, suicide rates for males aged 65–69 fell to an all-time low of 12.6 per 100,000 population in 2005. In 2023, the rate of suicide for males aged 65–69 was 19.0.

Age-specific suicide rates for females showed comparatively little variation over time – except for a peak in multiple age groups during the 1960s.

- For the first half of the 20th Century, age-specific rates in females aged 40–59 was about 9 deaths per 100,000 population, with peaks of 21.5 in 1915 and 21.2 in 1953, in the 55–59 age group. The highest rate recorded for females was 29.2 deaths per 100,000 population in 1963 for the 50–54 age group and remained around 20 until peaking a second time in 1967 at 27.1 for the 65–69 age group. Rates then fell to a low of 4.1 deaths per 100,000 population in 2004 and 2005 for females aged 55–59. Age-specific suicide rates have increased in this age group to 9.7 deaths per 100,000 population in 2019 and fell to 6.0 in 2020 and rose again to 7.9 in 2023.
- Similar patterns were seen for females aged 20–39 and 60 and older, albeit with lower suicide rates.
- A different pattern has been observed in females aged 15–19. Suicide rates fluctuated from around 2 to 6 deaths per 100,000 population from 1907 to the late 1930s. The fluctuations in rates have been mainly due to small numbers of deaths by suicide in this age group. Rates then declined to around 1 to 2 deaths per 100,000 population during the 1940s and 1950s. Rates then increased in the 1960s to the late 1990s, fluctuating between 2 and 6 deaths per 100,000 population. Since then, suicide rates have increased to between 3 and 8 deaths per 100,000 population with the highest rate recorded in this age group in 2012 (8.3 deaths per 100,000 population). In 2023, the rate of death by suicide for females aged 15–19 years was 6.6 per 100,000 population.

How have methods of suicide changed over time?

Understanding the methods used for suicide can play an important role in suicide prevention. These data are provided to inform discussion around restriction of access to means as a policy intervention for the prevention of suicide.

Please consider your need to read the following information. If this material raises concerns for you or if you need immediate assistance, please contact a crisis support service, available free of charge, 24 hours a day, 7 days a week.

Please consider the Mindframe guidelines - external site opens in new window (https://mindframe.org.au/suicide/communicating-about-suicide/mindframe-guidelines) if reporting on these statistics.
The pattern of methods used for suicide has changed greatly, sometimes rapidly, over the last century as new methods have become available or as restrictions to the availability of some methods have been introduced. The methods of suicide used by males and females differed over the period 1907 to 2023; however, as males account for the majority of deaths by suicide the methods used by males have a greater influence on the overall pattern than the methods used by females.

The classification system used to code causes of deaths data, ICD-10, uses the term ‘mechanism’ to refer to the external cause of death. Throughout *Suicide & self-harm monitoring* ‘mechanism’ has been used in data visualisations, while the term ‘method’ has been used in the accompanying text.

Suicide deaths by sex and mechanism, Australia, 1907 to 2023.

The line graph shows age-standardised suicide rates by mechanism for poisons, gas, firearms, hanging and other mechanisms from 1907 to 2023. Users can also choose to view age-standardised rates and numbers of deaths by suicide, by sex and mechanism (including all mechanisms) from 1907 to 2023 and median age at death by sex and mechanism from 1964 to 2023. The data can be viewed for any period between the years for which data are available.

Hanging (ICD-10 X70) has become the most common method of suicide in Australia and use of this method increased substantially over the last 25 years. Age-standardised rates of suicide by hanging remain much higher for males than females, but have increased for both sexes.

- Rates of suicide by hanging were relatively steady from 1930 to the late 1980s. Over this period, rates of suicide by hanging ranged between 2.0 and 5.7 per 100,000 population for males and between 0.5 and 1.2 for females. Prior to 1930, rates of suicide by hanging were more volatile.
- From the late 1980s, rates of suicide by hanging increased as other methods of suicide (firearms and poisoning by gas) declined.
- Hanging became the most common method of suicide for males in 1989 and for females in 1997. Age-standardised suicide rates by hanging in males have more than doubled since then – from 5.7 per 100,000 population in 1989 to 12.6 in 2019, then falling to 11.6 in 2023. In 2023, hanging accounted for almost two-thirds (63.0%) of male deaths by suicide.
- Similarly, the rate of suicide by hanging in females increased from 1.9 deaths per 100,000 population in 1997 to 3.2 in 2023. In 2023, hanging caused around half (53.5%) of all deaths by suicide in females, having increased steadily from 30.3% of deaths by suicide in 1997.

Use of firearms (ICD-10 X72–X75) was the most common method of suicide for males from 1907 to the late-1980s.

- In males over this period, the rate of suicide by use of firearms peaked at 10.2 deaths per 100,000 population in 1914 and fell below 5 deaths per 100,000 population between 1941 and 1946.
- Rates of suicide by use of firearms declined steeply for both males and females from 1987 and continued to decline from 1996, coinciding with the introduction of gun control restrictions and reforms.

- In contrast, female rates of suicide by this method were low (maximum of 0.6 deaths per 100,000 population) between 1907 and 2023.

In the 1920s, poisoning by gas (ICD-10 X67), largely due to carbon monoxide poisoning, became a new method of suicide in Australia with the introduction of the domestic gas supply and the motor vehicle to Australia.

- Rates of poisoning by gas peaked in 1963 in females (2.1 deaths per 100,000 population) and were also high for males (4.8). Rates then declined throughout the 1970s – this has been attributed to the replacement of toxic 'town gas' by less toxic gases in most of Australia at this time (AIHW: Harrison & Henley 2014).
- Rates of poisoning by gas subsequently increased again in the 1980s and 1990s, peaking for males (5.8 deaths per 100,000 population) and for a second time in females at a much lower level (1.2 deaths per 100,000 population) in 1997 as a result of the increasing use of motor vehicle exhaust gas (AIHW: Harrison & Henley 2014).
- A decline in poisoning by gas after 1997 was likely due to the introduction of emission controls that greatly reduced the amount of carbon monoxide permitted in the exhaust gas of new motor vehicles (AIHW: Harrison & Henley 2014).

Exposure to poisonous substances excluding gas (ICD-10 X60–X66, X68–X69) was the most common method of suicide for females from 1907 until 1997.

- For most of the first half of the 20th Century, rates of poisoning by substances (excluding gas) were approximately 2 deaths per 100,000 population in females; however, during the 1960s rates increased to 4 times that – peaking at 8.4 in 1967 – before returning to previous levels in the 1980s.
- A similar peak in suicide rates by this method was seen in males, with rates more than doubling in the 1960s to a peak of 8.2 deaths per 100,000 population in 1963 before falling again in the 1970s and 1980s.
- These peaks in suicide rates due to poisonous substances (excluding gas) during the 1960s have been attributed mainly to the unrestricted availability of barbiturate sedatives (AIHW: Harrison & Henley 2014). These trends were not associated with compensatory falls in the use of other methods of suicide during this time. In July 1967, in response to concerns over misuse of these drugs, the supply of barbiturates was limited and deaths by suicide from poisoning (excluding gas) in both males and females declined soon after (AIHW: Harrison & Henley 2014).
- In 2023, poisoning by substances (excluding gas) was the second most common means of suicide among females with a rate of 1.6 deaths per 100,000 population – accounting for almost a third of female deaths by suicide each year for the last decade.

Age-standardised rates for suicides by other methods (ICD-10 X71, X76–X84, Y87.0) are only available from 1964.

- Rates for these methods were relatively stable over the period from 1964 to 2023 for both males and females.
- It is not possible to report on these different methods individually, as the numbers are too small to report for privacy or data reliability reasons.

References

AIHW (Australian Institute of Health and Welfare) 2005. Mortality over the twentieth century in Australia: trends and patterns in major causes of death. Mortality surveillance series no. 4. Cat. no. PHE 73. Canberra: AIHW.

AIHW: Harrison JE, Pointer S and Elnour AA 2009. A review of suicide statistics in Australia. Cat. no. INJCAT 121. Canberra: AIHW.

AIHW: Harrison JE & Henley G 2014. Suicide and hospitalised self-harm in Australia: trends and analysis. Injury research and statistics series no. 93. Cat. no. INJCAT 169. Canberra: AIHW.

AIHW: Harrison JE & Henley G 2015. Injury deaths data, Australia: technical report on issues associated with reporting for reference years 1999–2010. Injury research and statistics series no. 94. Cat. no. INJCAT 170. Canberra: AIHW.

Oliver R & Hetzel R 1973. An analysis of recent trends in suicide rates in Australia - external site opens in new window (https://academic.oup.com/ije/article-abstract/2/1/91/648690?redirectedFrom=fulltext). International Journal of Epidemiology 2(1):91–101.

Whitlock F 1975. Suicide in Brisbane, 1956 to 1973: the drug-death epidemic - external site opens in new window (https://pubmed.ncbi.nlm.nih.gov/239307/). Medical Journal of Australia 1(24):737–43.

Viewing the monitoring data

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Birth cohort analysis of deaths by suicide

Analysing deaths by suicide according to the period in which people were born can provide additional insights to that obtained by examining suicide rates by period of death (see Deaths by suicide over time).

A 'birth cohort' is a group of people born within the same defined period. People in a birth cohort age together over time and experience the same events and changes in technology or cultural norms at the same age.

This birth cohort analysis relates deaths by suicide to period of birth (birth cohort) and age at death. It examines how suicide rates change within birth cohorts as they age and how they vary between birth cohorts when compared at the same age.

Data sources and methods

This analysis is based on data from the AIHW National Mortality Database, which holds records for deaths in Australia from 1964.

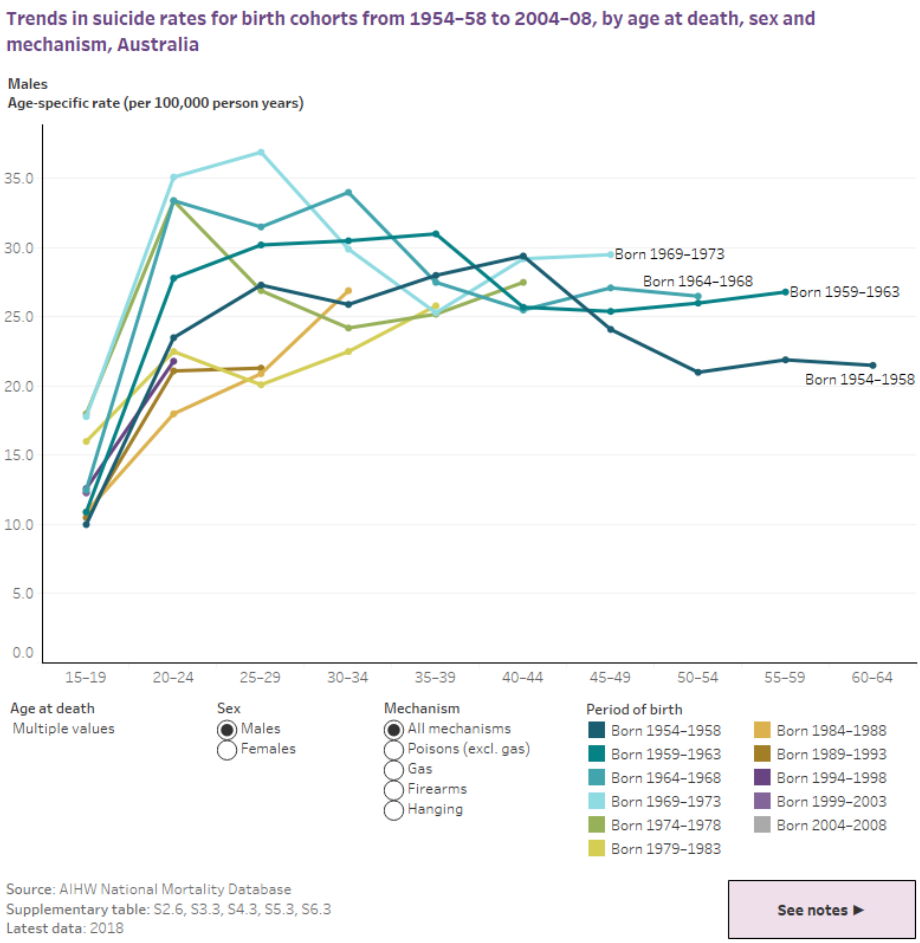
Suicide rates by age at death (5-year age groups; ages 10–14 years and older) were calculated for each birth cohort. Birth cohorts can be defined in terms of any range of birth dates for which data are available; the cohorts presented here are those born in each 5-year period from 1954–58 through to 2004–08. The earliest birth cohort, those born in 1954–58, can be followed for over 60 years. For more information on data sources and methods, see Suicide in Australia: Trends and analysis 1964 to 2018.

How do suicide rates change among birth cohorts?

The interactive data visualisation shows how suicide rates have changed as people in each birth cohort have aged—with each line representing a birth cohort. By comparing the earlier birth cohorts with those born more recently, see how the age groups most at risk change.

Trends in suicide rates for birth cohorts from 1954–1958 to 2004–2008, by age at death, sex and mechanism, Australia.

The line graph shows age-specific rates of suicide for 5-year birth cohorts from 1954–1958 to 2004–2008 by age at death from 15–19 to 60–64 for males by all mechanisms. Users can also choose to view suicide rates by sex, mechanism and age at death. The highest suicide rate was in males born 1969–1973 who died aged 25–29, followed by males in this cohort who died aged 20–24.



In the earlier male birth cohorts (born 1954–58 to 1974–78) peaks in suicide rates for each subsequent birth cohort tended to be higher and occur at successively younger ages of death—with peaks tending to coincide with deaths occurring in the 1990s (period of death). For more information, see Suicide deaths over time. Suicide rates in these cohorts then tended to decline as they aged.

For example, peak suicide rates in males born in:

- 1954–58 occurred at age 40–44 (29.4 deaths per 100,000 cohort members)
- 1959–63 occurred at age 35–39 (31.0)
- 1964–68 occurred at age 30–34 (34.0)
- 1969–73 occurred at age 25–29 (36.9)
- 1974–78 occurred at age 20–24 (33.4).

For the majority of the male cohorts born in the later years, from1974–78 onwards, suicide rates were still rising at the end of the available data; the oldest people in these cohorts were aged 42–46 years in 2018.

Suicide rates in female cohorts were much lower than those of male cohorts and for the earlier born cohorts tended to increase as they aged.

- For example, the highest suicide rates in female cohorts were in those born in 1964–68 and 1969–73—the same cohorts that had the highest rates in males. However, peaks in suicide rates for these female cohorts tended to occur at older ages (9.7 and 9.5 at age 50–54 and 45–49, respectively) than in male cohorts (which peaked in early adulthood and then declined).

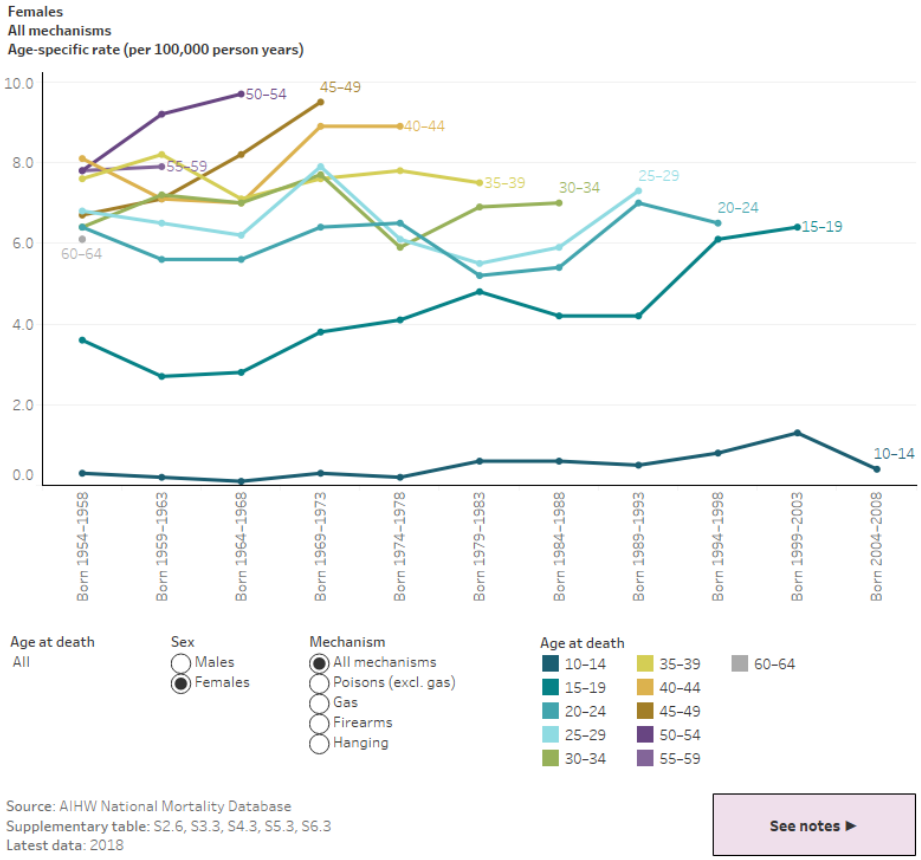
How do suicide rates vary between birth cohorts when compared at the same age?

The interactive data visualisation shows how suicide rates have changed for people of the same age, but born at different times—each line representing the same age group. By following the suicide rate of a specific age group, see how suicide rates have changed for people born between 1954 and 2008.

Trends in suicide rates at age of death across birth cohorts from 1954–1958 to 2004–2008, by sex and mechanism, Australia.

The line graph shows age-specific suicide rates for ages of death from 10–14 to 60–64, by 5-year birth cohorts from 1954–1958 to 2004–2008 by all mechanisms for females. Users can also choose to view suicide rates by sex, mechanism and for selected age-ranges at death. The rates of suicide among young females aged 15–19 at death showed the greatest change between the earliest and latest born cohorts for which data are available, almost doubling from 3.6 per 100,000 population in the 1954–1958 cohort to 6.4 in the 1999–2003 cohort, with some fluctuation in between these cohorts.

Trends in suicide rates at age of death across birth cohorts from 1954–58 to 2004–08, by sex and mechanism, Australia



Source: AIHW National Mortality Database
Supplementary table: S2.6, S3.3, S4.3, S5.3, S6.3
Latest data: 2018

See notes ▶

In females, the suicide rate at age 15–19 for those born most recently (1999–2003) was 1.8 times higher than the earliest cohort born in 1954–58. This pattern was not observed in males of the same age.

- For females born in 1999–2003, the suicide rate reached 6.4 deaths per 100,000 cohort members at age 15–19—considerably higher than females born in 1954–58 (3.6 deaths per 100,000 cohort members).

Suicide rates at age 45–49 have increased with each successive birth cohort in both males (from 24.1 in those born in 1954–58 to 29.5 deaths per 100,000 cohort members in those born in 1969–73) and females (from 6.7 to 9.5 deaths per 100,000 cohort members in the same cohorts).

Suicide rates across male cohorts compared at the same age show no clear pattern. Rates at younger ages of death (15–19 and 20–24) tended to be higher for those born prior to 1979–83 than in those born in more recent cohorts (1984–1988 onwards).

- For males born in 1984–88 the suicide rate at age 20–24 was almost half that of the cohort born in 1969–73 (18.0 deaths per 100,000 cohort members compared with 35.1).
- Rates of suicide at age 15–19 for males born in 1974–78 were 1.8 times higher than those with the lowest rate born in 1954–58 (18.0 deaths per 100,000 cohort members and 10.0, respectively). Rates at age 15–19 were 12.3 deaths per 100,000 cohort members in the most recent male birth cohort for which data are available (1999–2003).

Trends in methods of suicide by birth cohort and age at death

Understanding the methods used for suicide can play an important role in suicide prevention. These data are provided to inform discussion around restriction of access to means as a policy intervention for the prevention of suicide.

Please consider your need to read the following information. If this material raises concerns for you or if you need immediate assistance, please contact a crisis support service, available free of charge, 24 hours a day, 7 days a week.

Please consider the Mindframe guidelines - external site opens in new window (https://mindframe.org.au/suicide/communicating-about-suicide/mindframe-guidelines) if reporting on these statistics.
The classification system used to code causes of deaths data, ICD-10, uses the term 'mechanism' to refer to the external cause of death. Throughout *Suicide & self-harm monitoring* 'mechanism' has been used in data visualisations, while the term 'method' has been used in the accompanying text.

The interactive data visualisations show which methods underlie changes in suicide rates as people in each birth cohort have aged (top visualisation)—and underlie changes in suicide rates for people of the same age, but born at different times (second visualisation).

Rates of suicide by hanging (ICD-10 X70):

- tended to increase for both male and female birth cohorts as the cohort aged (top visualisation).
- tended to increase in most age groups with each successive birth cohort in females; the pattern in males was less consistent (second visualisation). For example:
  - rates of suicide by hanging at ages 15–19 increased for each successive female birth cohort from a low of 0.1 per 100,000 cohort members in those born in the earliest cohort (1954–58) to a high of 4.9 in those born in the most recent cohort (1999–2003).
  - in the 2 most recently born female cohorts for which there are data available at ages 15–19 (born in 1994–98 and 1999–2003), rates of suicide by hanging were as high or higher than, rates at almost any other age in all other female cohorts.
  - for males, rates of suicide by hanging at ages 15–19 do not show the same pattern as females; rates in male cohorts increased up until those born in 1979–1983 and have since remained at about the same level (9.5 deaths per 100,000 cohort members for the latest birth cohort, born 1999–2003).

Rates of suicide by use of firearms (ICD-10 X72–X75) for both males and females peaked at younger ages (15–19 or 20–24) in all birth cohorts and then declined as cohorts aged (top visualisation). Suicide rates by this method tended to be lower for each successive birth cohort at all ages for which there are data available.

- Each more recently born male cohort (born 1969–73 to 1989–93) had successively lower suicide rates by use of firearms at age 20–24 (7.3, 3.6, 1.5, 1.0 and 0.8 deaths per 100,000 cohort members).
- A similar pattern was seen for female cohorts; however, rates were low.

Rates of suicide due to exposure to poisons excluding gas (ICD-10 X60–X66, X68–X69) in female cohorts were similar to that of male cohorts throughout the period 1964 to 2018 (0–3.6 deaths per 100,000 cohort members compared with 0–4.3, respectively)—unlike that of other suicide methods (top visualisation). Rates of suicide by this method were still rising for most male and female cohorts at the end of the available data.

Reference

Australian Institute of Health and Welfare. Henley G & Harrison JE 2020. Suicide in Australia: Trends and analysis–1964 to 2018. Injury research and statistics series no. 132. Cat. no. INJCAT 212. Canberra: AIHW.

Viewing the monitoring data

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Deaths by suicide, by states and territories

Patterns of deaths by suicide between states and territories can reveal insights that may be masked by results for the whole of Australia. Variations in the rates of deaths by suicide across states and territories may help to highlight different risk factors and assist in better targeting of suicide prevention activities. For example, differences in the ratio of urban to regional and remote areas may explain some of the differences across states and territories given that the rates of suicide tend to be higher in regional and remote areas, see Suicide by remoteness areas.

Information based on the deceased's usual state or territory of residence is available for deaths registered after 1979. Deaths by suicide may be presented by either year of death or by year of registration. Reporting by year of death can provide more reliable information on trends in occurrence than reporting by year of registration; however, the latest data available underestimates the occurrence of recent deaths due to a lag in registration, for more information, see Technical notes. Here, data based on both year of registration of death and year of occurrence of death are presented.

Suicide deaths by states and territories, Australia, 1979 to 2023.

The line graph shows age-standardised suicide rates for each state and territory and the Australian total from 1979 to 2023. Users can choose to view age-standardised suicide rates, numbers of deaths by suicide, year-on-year change in age-standardised suicide rate and year-on-year change in numbers of deaths by suicide. Data can be viewed either by year of registration or year of death.

How do suicide rates vary across states and territories?

From 1979 to 2023, age-standardised rates of death by suicide (according to year of registration):

- tended to be lower for New South Wales, Victoria and the Australian Capital Territory compared to the overall Australian suicide rate.
- tended to be highest in the Northern Territory. However, the Northern Territory also had one of the lowest number of deaths by suicide, when comparing all jurisdictions.

In 2023:

- the age-standardised rate of death by suicide ranged from 7.7 per 100,000 population in the Australian Capital Territory to 17.0 per 100,000 in the Northern Territory.

Age-standardised suicide rates allow for comparisons between states and territories by adjusting for differences in age structures and population size. Rates fluctuate over time – particularly in the smaller jurisdictions – due to the small number of deaths by suicide that are registered each year. Differences in coronial processes, data processing or coding practices should also be taken into consideration when comparing data across jurisdictions and over time. Caution is advised when comparing state and territory data.

In 1979, the largest number of deaths by suicide (according to year of registration) was in:

- New South Wales (539 deaths), followed by Victoria (462), Queensland (296), South Australia (178) and Western Australia (116).

By 2023, the largest number of deaths by suicide was in:

- New South Wales (847), followed by Queensland (790), Victoria (761), Western Australia (417) and South Australia (230).

However, it should be noted that New South Wales and Victoria have the largest populations in Australia and the populations of both Queensland and Western Australia increased considerably (ABS 2024).

What is the effect of reporting suicide deaths by year of occurrence?

The data for age-standardised rates and number of suicide deaths are broadly similar when analysed by year of death or by year of registration. Data for the most recent years, regardless of whether by year of death or year of registration, are impacted by incomplete coronial processes. The most recent years of data by year of death, are additionally impacted by a lag between the occurrence of a death and the registration of the death. This contributes to differences seen between data reporting suicide by year of death and data reporting by year of registration.

References

ABS (Australian Bureau of Statistics) (March 2024), *National, state and territory population* - external site opens in new window (https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/latest-release), ABS Website, accessed 14 October 2024.

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Australian prevalence estimates of suicidal behaviours

If at any point you feel worried about harming yourself while viewing the information on this website – or if you think someone else may be in danger – please stop reading and seek help.
Suicidal thoughts and behaviours include suicidal ideation (thoughts about taking one's own life), making suicide plans and attempting suicide.

People who experience suicidal ideation and make suicide plans are at increased risk of suicide attempts and those who experience all forms of suicidal thoughts and behaviours are at greater risk of dying by suicide (Demesmaeker et al. 2022, Mendez-Bustos et al. 2013).

Nationally representative population surveys can collect data on the prevalence of suicidal thoughts and behaviours in Australia, the incidence of which may be underestimated in administrative datasets such as the National Hospital Morbidity Database and the National Ambulance Surveillance System (see Intentional self-harm hospitalisations and Ambulance attendances). National survey data play an important role in identifying population groups at increased risk of suicidal behaviours and informing suicide prevention activities and efforts to reduce stigma and increase help-seeking behaviour.

The National Survey of Mental Health and Wellbeing program of surveys began in the late 1990s. In 2020 the Australian Bureau of Statistics (ABS) National Study of Mental Health and Wellbeing was introduced as a component of the wider Intergenerational Health and Mental Health Study. The first of these, the 2020–22 National Study of Mental Health and Wellbeing measured the 12-month and lifetime prevalence of mental illnesses in Australia for the first time since the 2007 National Survey of Mental Health and Wellbeing. In addition to data on suicidal thoughts and behaviours, which were collected in 2007, the 2020–22 study also collected data on: health service use due to thoughts or plans to take one's own life; confiding in another person about thoughts or plans to take one's own life, being close to someone who took or attempted to take their own life; whether services were used afterwards; and self-harm behaviours (intentional self-harm without suicidal intent). The 2020–22 study was also the first ABS collection to use the Standard for Sex, Gender, Variations of Sex Characteristics and Sexual Orientation Variables (ABS 2020, 2020–22b). However, to date, only data disaggregated by sex assigned at birth (male/female) have been reported for suicide and self-harm variables.

Summary statistics for the 2020–22 National Study of Mental Health and Wellbeing were released by the ABS on 5 October 2023 (ABS 2020–22a). In this publication, the results for suicide and self-harm are disaggregated by age-group and sex assigned at birth (male/female). The results for suicidal thoughts and behaviours are not directly comparable with those from the 2007 National Survey of Mental Health and Wellbeing as different questions were used.

Results from the 2020–22 National Study of Mental Health and Wellbeing (ABS 2020–22a) indicate that:

- One in 6 (16.7% or around 3.3 million) Australians aged 16–85 had experienced serious thoughts about taking their own life at some point in their lives.

- Around 1.5 million or 7.4% of Australians aged 16–85 years had made a suicide plan and around 970,000 or 4.9% had attempted suicide during their lifetime.
- Females were more likely to be suicidal than males, with a higher prevalence of suicidal thoughts and behaviours in their lifetime (18.3% compared with 15.0%). These findings are in contrast to the data on deaths by suicide, which show that males are more likely than females to die by suicide; visit Deaths by suicide over time.
- Young people and adults aged 16–34 years reported the highest prevalence of suicidal thoughts and behaviours in the 12 months before the administration of the study (4.9% of people aged 16–34 years).
- In their lifetimes, 36.2% of Australians aged 16–85 years were close to someone who took or attempted to take their own life, while 4.7% were close to someone who took or attempted to take their own life in the 12 months prior to the study.
- The prevalence of lifetime and past 12 months self-harm (without suicidal intent) was highest in the youngest age group (16–24, 20.4% and 6.0%, respectively) and decreased with increasing age (2.2% and 0.4%, respectively for those aged 55–85).
- Self-harm prevalence was higher for females than for males. 27.9% of females aged 16-24 had self-harmed in their lifetimes, 8.7% in the past 12 months, compared with 13.6% and 3.3% of males in this age group, respectively.

For full results visit National Study of Mental Health and Wellbeing - external site opens in new window (https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/2020-2022). Please note that some of the 12-month prevalence estimates have high relative standard error (RSE) and margin of error (MOE), and thus wide confidence intervals and greater uncertainty. These results should be interpreted with caution. Refer to the ABS technical notes on interpretation of results with high RSEs & MOEs (visit National Study of Mental Health and Wellbeing methodology - external site opens in new window (https://www.abs.gov.au/methodologies/national-study-mental-health-and-wellbeing-methodology/2020-2022)). See glossary for a definition of confidence intervals.

References

ABS (Australian Bureau of Statistics) (2020) *Standard for Sex, Gender, Variations of Sex Characteristics and Sexual Orientation Variables - external site opens in new window (https://www.abs.gov.au/statistics/standards/standard-sex-gender-variations-sex-characteristics-and-sexual-orientation-variables/2020)*, ABS website, accessed 4 July 2023.

ABS (Australian Bureau of Statistics) (2020–2022a) *National Study of Mental Health and Wellbeing*, ABS website - external site opens in new window (https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/2020-2022), accessed 17 October 2023.

ABS (Australian Bureau of Statistics) (2020–22b) *National Study of Mental Health and Wellbeing methodology - external site opens in new window (https://www.abs.gov.au/methodologies/national-study-mental-health-and-wellbeing-methodology/2020-2022)*, ABS website, accessed 2 June 2023.

Demesmaeker A, Chazard E, Hoang A, Vaiva G & Amad A (2022) 'Suicide mortality after a nonfatal suicide attempt: A systematic review and meta-analysis', *The Australian and New Zealand Journal of Psychiatry*, 56(6): 603–616, https://doi.org/10.1177/00048674211043455.

Mendez-Bustos P, de Leon-Martinez V, Miret M, Baca-Garcia E, Lopez-Castroman J (2013) 'Suicide reattempters: a systematic review', *Harvard Review of Psychiatry,* 21(6): 281–295, doi: 10.1097/HRP.0000000000000001.

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Patterns of health service use in the last year of life among those who died by suicide

A significant proportion of people who die by suicide have contact with the health system in their last year of life. These contacts points provide a potential touch point for suicide prevention activities. As Clapperton et al. (2021) argue, many prevention activities focus on people who access hospitals. However, Clapperton et al. (2021) also show significant proportions of people who die by suicide (particularly men) do not attend hospitals in their last year of life. It is important to focus not just on people who use services but also on people who do not access services.

Through this project we have used the National Integrated Health Services Information Analysis Asset (NIHSI AA) version 0.5 to look at patterns of health service use in the last year of life for people who have died by suicide. The main value add of this project, compared to earlier studies, comes from fact that the NIHSI AA includes both Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Scheme (PBS) data. This is an important distinction as we show that people who die by suicide are considerably more likely to access MBS and PBS services in their last year of life than hospital services.

While this project provides the most comprehensive analysis of health service use in the last year of life for people who die by suicide it does have some important limitations. First the NIHSI AA does not include all health services. For example, it does not include community or residential mental health services. Second the emergency department (ED) data in the NIHSI AA does not identify intentional self-harm well as intentional self-harm is not identified well in ED data in most States and Territories (AIHW 2022a).

An additional limitation of this analysis relates to the fact that not all mental services under the MBS are billed as specific mental health items — some are billed under general GP items (AIHW 2022b).

The project has been established to measure and compare the patterns of health service use of Australians in their last year of life.

Specifically, in this analysis we aim to:

- measure the patterns of health service use in the last year of life
- identify key factors related to variation in the patterns of health service use in the last year of life such as age and sex.

Using linked datasets including the National Deaths Index, National Hospital Morbidity Database, National Non-admitted Patient Emergency Department Care Database, MBS and PBS, the NIHSI AA presents descriptive statistics to answer the research questions. While the MBS and PBS databases include national data, hospital data pertains to only New South Wales, Victoria (excluding Albury-Wodonga), South Australia and Tasmania public hospitals within the NIHSI AA v0.5. Admitted patient information also contains information from private hospitals in Victoria. To ensure accurate comparisons with hospitals data, only deaths registered in these jurisdictions are included in the analysis.

The analysis population was those who had died between 1 July 2010 and 31 December 2017 in the linked National Deaths Index. Only people whose age at death was between 15 to 64 years were included in the analysis. This was due to people in this age range making up the majority of those who die from suicide and to allow for better comparisons with deaths from other causes, which mostly occur in people older than 65 (AIHW 2022c). In the analysis population, people aged 15–64 years represented 82% of suicides (10,013 suicide deaths).

For further information on the dataset and methods used, visit Technical notes – Data sources.

People who died by suicide accessed fewer health services in their last year of life than those who died from other causes

Overall, 49% of 15–64 year olds who died by suicide **did not have** any contact with the hospital (emergency department (ED) presentation or hospital separation), compared to 24% who died by other causes. This is similar to results from Clapperton et al. (2021), who found that 50% of people who died by suicide in Victoria did not have any ED presentations or hospital separations in their last year of life, using data from the Victorian Suicide Register and including all age groups.

In addition to looking at overall access to hospitals it is also worth exploring access to individual services and how access to these services vary by age and sex.

- Females (59%) who died by suicide were considerably more likely than males to attend hospital for any reason in their last year of life (48%). There is also variation by age and sex with females aged 34–44 being the most likely to attend hospital (61%) and males aged 55–64 being the least likely to attend (45%).
- Females (53%) were more likely than males to attend an emergency department for any reason in their last year of life than males (44%). The highest rate was for females aged 25–34 (56%) while the lowest rate is for males aged 55–64 (39%).
- 9% of females and 6% of males who died by suicide had a mental health related ED presentation in their last year of life.
- While it is not possible to identify intentional self-harm ED presentations in the NIHSI AA it is possible to identify intentional self-harm ED presentations in Victoria. Clapperton et al. (2021) found that the vast majority of both males (92%) and females (84%) who died by suicide did not attend hospital for intentional self-harm in their last year of life as either an admitted patient or in an emergency department.
- A higher proportion of females (47%) who died by suicide were an admitted patient in hospital in their last year of life than males (32%). The highest proportion was for females aged 45–54 (49%) while the lowest proportion was for men aged 15–24 (26%).
- Only 13% of women and 6% of men who died by suicide were an admitted patient in hospital for intentional self-harm in their last year of life.
- Females (30%) who died by suicide were more likely than males (19%) to have had a mental health hospitalisation (this excludes ED presentations) in their last year of life.
- Both females (90% v 59%) and males (79% v 48%) who died by suicide were considerably more likely to have used MBS services than hospital services in their last year of life.
- Females who died by suicide (57%) were considerably more likely to have used MBS mental health services than males (37%) in their last year of life.
- Females (71%) who died by suicide were also more likely than males (50%) to have had a PBS mental health prescription in their last year of life.

The interactive data visualisation shows the proportion of health services used in the last year of life for people who died by suicide and for people who died by other causes. The service type can also be selected. It is displayed by age group from 15-64 and sex for deaths between 1 July 2010 and 31 December 2017.

Proportion of health services used by sex, age, service type cause of death and whether had a service , 2010–11 to 2017

1. Includes deaths registered to New South Wales, Victoria (excluding Albury-Wodonga), South Australia and Tasmania
2. *Did not have a service* refers to people who did not had the selected service within 12 months of death. *Did have a service* refers to people who had the selected service within 12 months of death.
3. *Did not have a service* and *Did have a service* proportions add up to 100%. The denominator is the total number of people who died by the selected cause of death.

Source: NIHSI
Supplementary Table: NIHSI S2

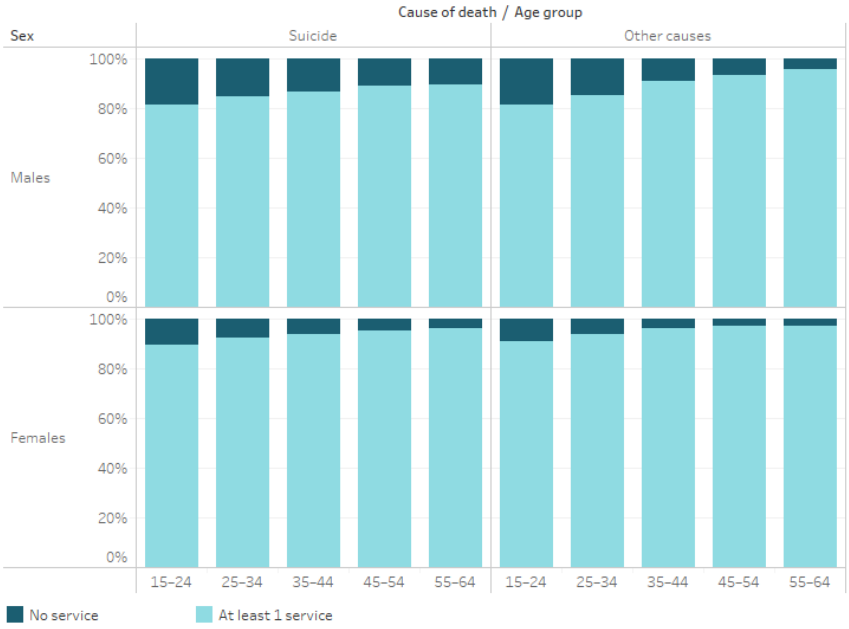
See notes ▶

Of those who died from suicide from 1 July 2010 and 31 December 2017:

- 11% did not access any of the health services analysed in their last year of life
- Over 1 in 10 males (13%) who died by suicide did not access a service in their last year of life. Males were less likely to have accessed any services than females in every age group.
- Overall, younger age groups and males had higher proportions of not accessing a service in their last year of life compared to older age groups and females.
- Males aged 15–24 who died by suicide had the highest proportion of not accessing services in their last year of life (19%), while females aged 55–64 years who died of other causes had the lowest proportion (2.6%).
- Around 10% of females aged 15–24 who died by suicide did not use any of the health services analysed in their last year of life.

The data visualisation shows the amount of health services used in the last year of life for people who died by suicide and for people who died by other causes. It is displayed by age groups between 15-64 and sex for deaths registered between 1 July 2010 and 31 December 2017. For males and females of all age groups a higher percentage of services was used when the cause of death was not suicide.

Proportion of health service usage in last year of life by sex, age, cause of death, 2010–11 to 2017



Notes: Includes deaths registered to New South Wales, Victoria (excluding Albury-Wodonga), South Australia and Tasmania
Source: NIHSI
Supplementary Table: NIHSI S1

See notes ▶

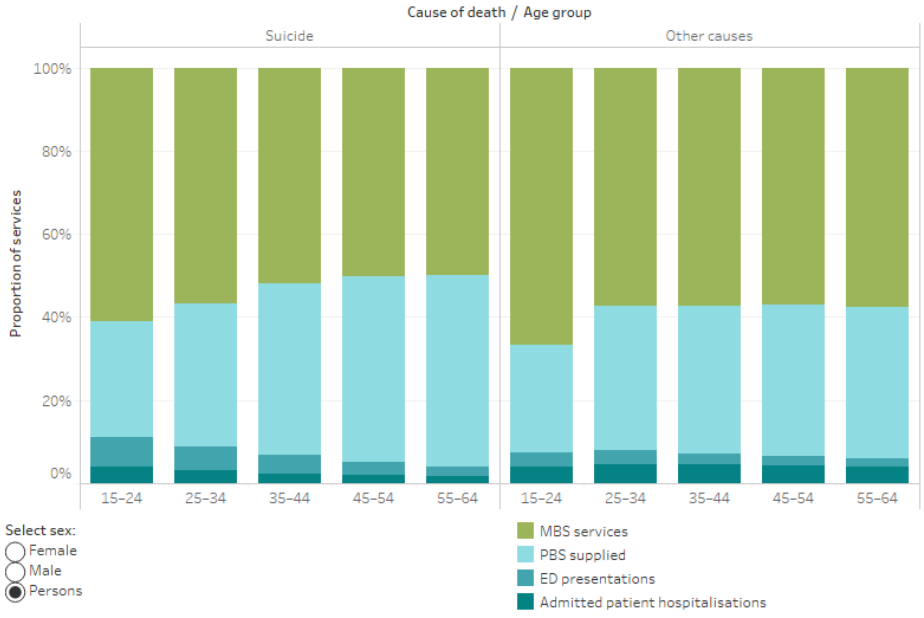
People who died by suicide had more ED presentations in their last year of life than those who died by other causes

Of those who did access a health service in their last year of life, MBS and PBS services represented the highest proportion of services among those who died by either suicide or other causes. For those who died by suicide, the next most prevalent health service after MBS and PBS was ED presentations (3.8%) then hospital separations (2.4%).

- Out of the four selected service groups, the proportion of ED presentations and hospital separations decreased in those who died by suicide with increasing age, for both males and females.
- MBS services also decreased with increasing age among those who died by suicide. For instance, the proportion of MBS services out of the four selected service groups was 64% in females aged 15–24 and 47% in females aged 55–64.

The interactive data visualisation shows the type of health services used in the last year of life. The user can display the data by female, male or persons. Data is categorised by age groups from 15-64, causes of death by suicide and other causes of death and service type used between 1 July 2010 and 31 December 2017.

Proportion of health services used in last year of life by sex, age, service type and cause of death, 2010–11 to 2017



Notes: Includes deaths registered to New South Wales, Victoria (excluding Albury-Wodonga), South Australia and Tasmania
Source: NIHSI
Supplementary Table: NIHSI S3

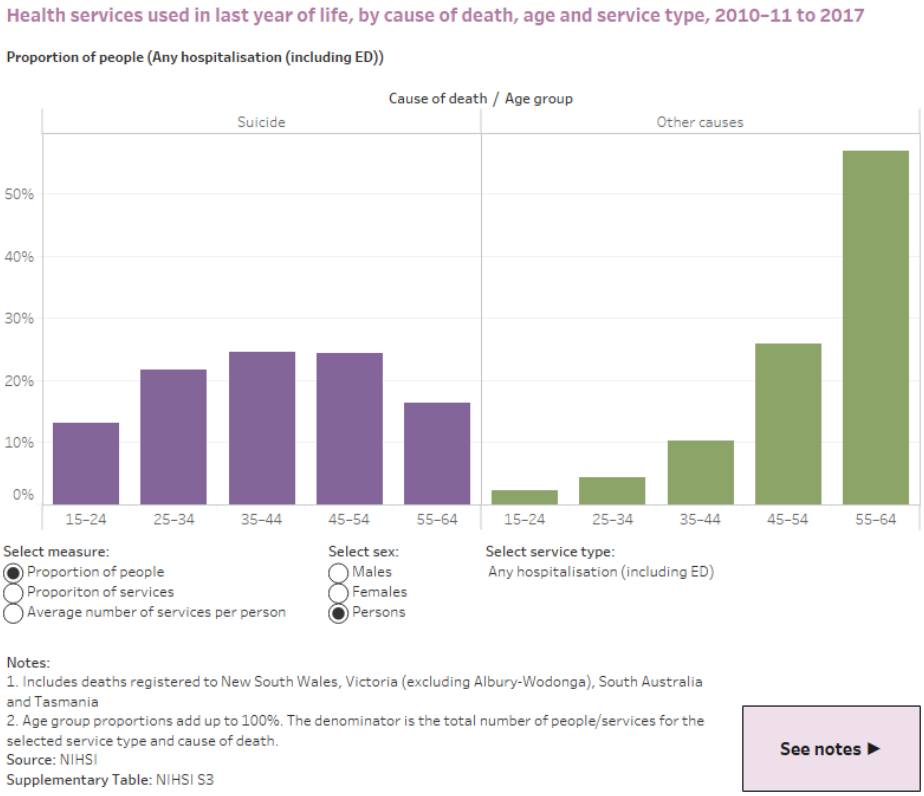
See notes ▶

Young people who died by suicide had higher health service use than those who died by other causes

Suicide is the leading cause of death among people aged 15–44, while chronic diseases feature more prominently among people aged 45 and over. In general people who die by suicide are younger than people who die by other causes (AIHW 2022c). This is reflected in these data for health service use. For example, among those who died by suicide and had any hospital contact in last year of life (including ED), 59% of those hospital contacts were in the 15–44 age group, compared to 17% of the same age who died of other causes. Most people who died by other causes and had a hospital contact were aged 45–64 (83%). Any mental health, suicidal ideation or intentional self-harm hospitalisations or ED mental health presentations also follow this pattern.

- Of those who presented to ED and died from suicide, one quarter (25%) were people aged 35–44, whereas only 11% of those who presented to ED and died from other causes were in this age group.
- Out of those who died by suicide, the average number of services per person for any mental health MBS services was higher than for those who died by other causes, across all age groups.

The interactive data visualisation shows health services used in last year of life for those that died by suicide or other causes, by age group for deaths between 1 July 2010 and 31 December 2017. The user can display the data by measure (proportion of people, proportion of services, average number of services per person), sex (males, females, persons) and service type used.



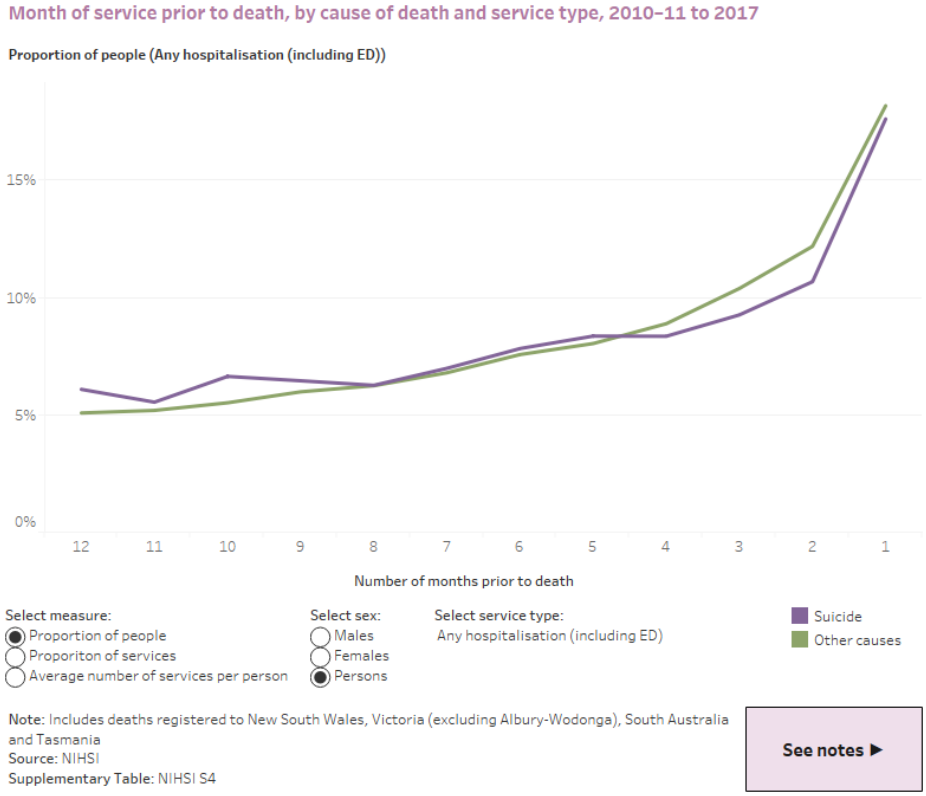
A higher proportion of health services occurred in the month prior to death

Among those who died by suicide, the highest proportion of hospital contacts (ED or hospital separation) occurred 1 month prior to death (18%), out of a 12 month period. This might indicate increased risk following the use of some services. However, the average number of services is similar across all months meaning that those who did receive a service one month prior to death did, on average, not attend more often than in previous months. Note that in this analysis, people who died in hospital or during their ED presentation were excluded to capture their service use prior to death, except for those who had an intentional self-harm diagnosis during their episode of care (see Technical notes – Data sources for an explanation on analytical method used).

Per person, of those who died by suicide:

- The average number of any MBS mental health or mental health treatment plan service is higher than those who died from other causes between 12 months and 1 month prior to death.
- The average number of any MBS service decreases sharply between 3 months prior to death and 1 month prior to death, while remaining somewhat steady in those who died from other causes.

The interactive data visualisation shows service use in the 12 months leading up to death. Users can display data by measure (proportion of people, proportion of services, average number of services per person), sex (males, females, persons) and service type. Most health services occur in the month prior to death.

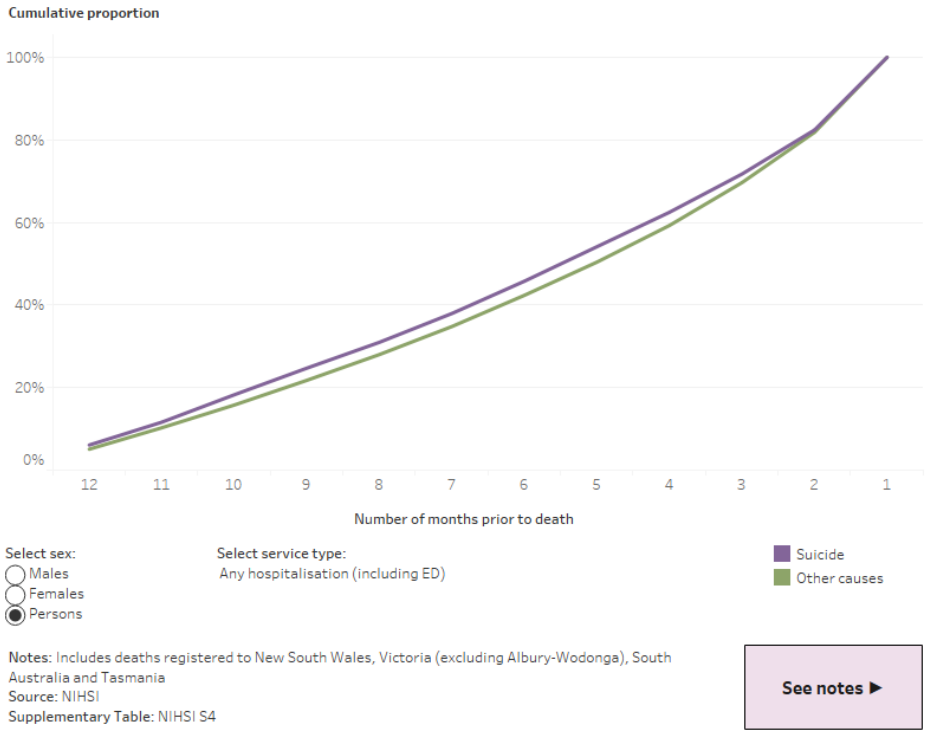


Among those who died by suicide:

- The cumulative total proportion of ED mental health presentations in the lead up to death is lower than those who died from other causes between 12 to 2 months prior to death, indicating lower service usage until 1 month prior to death.
- The cumulative total proportion of any MBS service is lower than those who died by other causes between 12 to 1 month/s prior to death.

The interactive data visualisation shows the cumulative service use by sex and cause of death in the 12 months leading up to death. Users can display data by sex and service type.

Cumulative proportion of people using health services, by sex, cause of death and months prior to death, 2010–11 to 2017



The AIHW will undertake further analysis on these data including multivariate modelling. While these data are informative more insights can be gained by looking at how the use of these various health services compares to the population in general. For example, while the majority of people who die by suicide did not have a mental health hospitalisation in their last year of life they are considerably more likely to have done so than the population in general.

References

Australian Institute of Health and Welfare (AIHW) (2021) Suicide & self-harm monitoring: Social factors and deaths by suicide, AIHW, Australian Government, accessed 01 February 2022.

AIHW (2022a) Suicide and self-harm monitoring: Intentional self-harm hospitalisations, AIHW, Australian Government, accessed 14 October 2022.

AIHW (2022b) Mental health services in Australia, AIHW, Australian Government, accessed 09 September 2022.

AIHW (2022c) Deaths in Australia, AIHW, Australian Government, accessed 13 September 2022.

Clapperton A, Dwyer J, Millar C, Tolhurst P and Berecki-Gisolf J (2021) Sociodemographic characteristics associated with hospital contact in the year prior to suicide: A data linkage cohort study in Victoria, Australia - external site opens in new window (https://doi.org/10.1371/journal.pone.0252682), *PLoS ONE,* 16(6): e0252682, doi:10.1371/journal.pone.0252682.

Viewing the monitoring data

Caution: Some people may find parts of this content confronting or distressing.

Please carefully consider your needs when reading the following information about suicide and self-harm. If this material raises concerns for you contact Lifeline on 13 11 14, or see other ways you can seek help.

The information included here places an emphasis on data, and as such, can appear to depersonalise the pain and loss behind the statistics. The AIHW acknowledges the individuals, families and communities affected by suicide each year in Australia.

Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

The AIHW supports the use of the Mindframe guidelines - external site opens in new window on responsible, accurate and safe suicide and self-harm reporting. Please consider these guidelines when reporting on statistics on the monitoring of suicide and self-harm.

Suicide & self-harm monitoring

Need help now?
Lifeline 13 11 14
More (/suicide-self-harm-monitoring/research-information/crisis-support)

Suicide registers

In Australia, the coroners court in each state and territory is responsible for investigating suspected deaths by suicide. Most Australian jurisdictions have established suicide registers to record the information provided to coroners at the time a suspected suicide death is referred for investigation. These surveillance systems provide close to real-time data and are valuable for informing responses, research, and policy in suicide prevention locally, and across national and international levels.

Prior to the COVID-19 pandemic, suicide registers existed in Queensland (established in 1990), Victoria (2012) and Tasmania (2017). New South Wales established a suicide register in October 2020. Through the Suicide and Self-harm Monitoring Project, the AIHW has worked with governments in the Australian Capital Territory, South Australia, and the Northern Territory to establish suicide registers in these jurisdictions. These registers became operational in 2021, 2022 and 2023, respectively. Visit **Data development activities** to read more.

Several jurisdictions have published reports on their suicide register data, including:

- New South Wales (monthly reports up to October 2024)
- Victoria (monthly reports up to November 2024)
- Queensland (monthly reports up to November 2024)

These reports are discussed further in the next section. It is important to note that suicide is not influenced or caused by one factor – but results from a complex interaction between multiple risk factors (Leske et al. 2022).

Data on suspected deaths by suicide are based on initial police reports and other information available at the time of referral to the coroner (Leske et al. 2022; NSW Health, 2024). Therefore, they may be subject to change throughout the coronial investigation and may differ from the final, confirmed suicide data, which are based on coronial determinations. However, the differences are generally small. For example, in the case of the Victorian Suicide Register (VSR):

> 'VSR analyses have shown that over time, there is consistently less than 5% difference between the number of suicides initially identified as suicide, and the number of deaths ultimately confirmed as suicides' (CCOV 2022).

Data from state and territory suicide registers are generally consistent with causes of death data released by the Australian Bureau of Statistics (ABS) but they are not the same. This is due to differences in case definitions and coding practices - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022#deaths-due-to-intentional-self-harm-suicide-) between the suicide registers and the ABS (Leske et al. 2023). For instance, over the 15 years from 2006 to 2020, the ABS reported 297 fewer suicide deaths by year of occurrence (3% less) in Queensland, compared with the Queensland Suicide Register and interim Queensland Suicide Register (Leske et al. 2023). Each data source has complementary strengths: suicide registers provide more timely data, while ABS data enable cross-jurisdictional comparisons (Leske et al. 2023).

Suicide registers also differ from each other in their processes and counting rules for identifying suspected suicide deaths. Therefore, caution is needed if comparing data from one register with those from another.

For more information on suicide register data custodians with published data, visit **Data sources**.

Viewing the monitoring data

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Suicide & self-harm monitoring

Need help now?
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Data from suicide registers

New South Wales

The New South Wales Suicide Monitoring System (NSW SuMS) was established in October 2020. The NSW SuMS is a collaboration between NSW Health, the Department of Communities and Justice (DCJ), the State Coroner and NSW Police. NSW Health publishes monthly reports on suspected and confirmed deaths by suicide occurring in New South Wales. Data on suspected deaths by suicide are an estimate, and numbers for the same period may differ slightly between reports as the coroners' determinations into the deaths are finalised. Caution is advised against drawing any conclusions about suicide trends in NSW based on short-term changes.

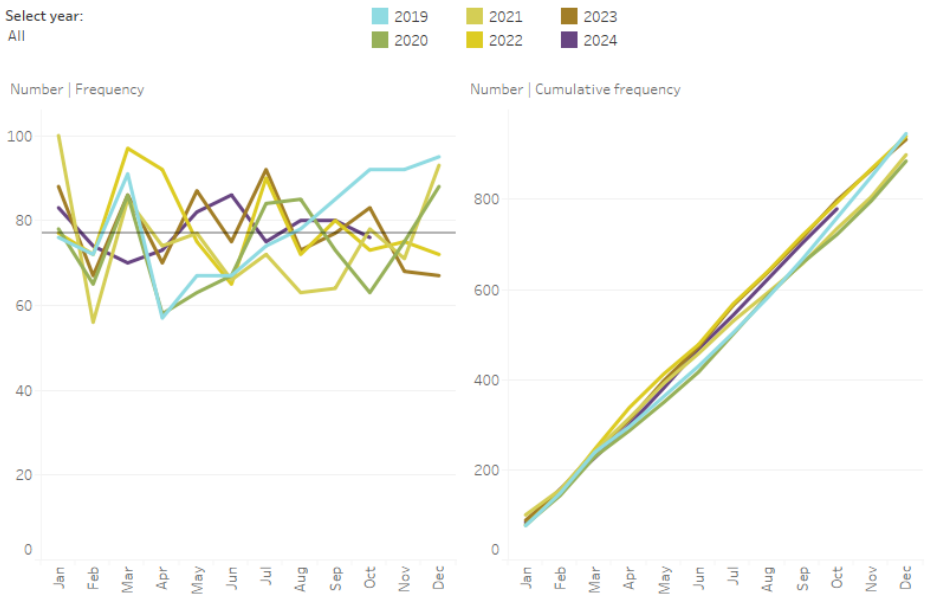
The latest NSW SuMS report for October 2024 shows that (NSW Health 2024):

- A total of 933 suspected or confirmed suicide deaths was recorded for the full year in 2023. This compares to 940 suspected or confirmed suicide deaths in 2022, 899 in 2021 and 885 in 2020.
- 779 suspected deaths by suicide were recorded between 1 January and 31 October 2024. This compares to 798 suspected or confirmed suicide deaths for the same period in 2023, 793 in 2022, 735 in 2021and 722 in 2020.

The number (frequency) of suspected or confirmed suicide deaths per month varies considerably from month to month. The 'Cumulative Frequency' section displays the year-to-date numbers of suicide deaths, which shows that the increase in suicide numbers in 2022 began from around April 2022.

Frequency and cumulative frequency of suspected and confirmed deaths by suicide in New South Wales, by month, January 2019 to October 2024

The interactive data visualisation shows the frequency and cumulative frequency of the number of suspected and confirmed deaths by suicide in New South Wales, by month. An average trendline has been included.



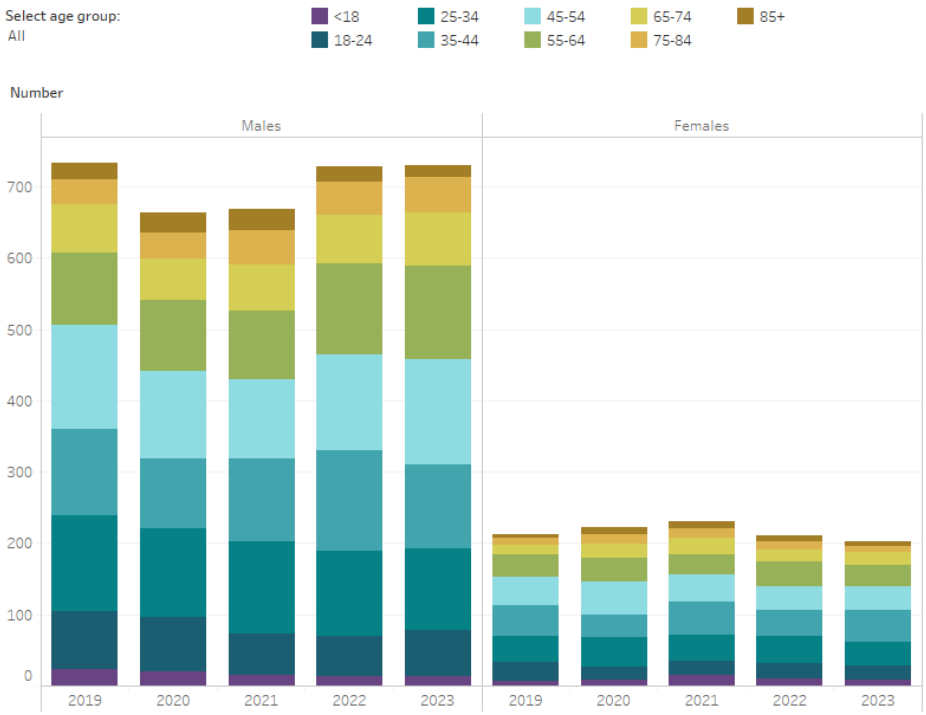
Notes: Data are subject to revision as coronial investigations progress and are finalised. Data for the same period may therefore vary between reports.
Chart: Australian Institute of Health and Welfare
Source: NSW Health (2023, 2024)

The NSW SuMS also reports on suicide deaths by gender, age group and residential location (NSW Health 2024):

- In 2023 there were 730 suspected or confirmed suicide deaths reported for males in NSW, compared with 729 in 2022, 668 in 2021 and 663 in 2020.
- For females, there were 203 suspected or confirmed suicide deaths in 2023, compared with 210 in 2022, 231 in 2021 and 222 in 2020.
- Nearly four-fifths (78%) of suspected or confirmed suicide deaths in NSW in 2023 were among males.
- For males, the age groups of 45 to 54 years (147), 55 to 64 years (131), 35 to 44 years (119), and 25 to 34 years (114) recorded the largest number of suspected or confirmed suicide deaths, accounting for 20%, 18%, 16% and 16% of all male suicide deaths, respectively.
- Similarly, for females, the age groups of 35 to 44 years (45), 45 to 54 years (33), 25 to 34 years (33), and 55 to 64 years (29) experienced the greatest number of suspected or confirmed deaths by suicide, accounting for 22%, 16%, 16% and 14% of all female suicide deaths, respectively.
- In each year from 2019 to 2023, around half of suicide deaths in NSW occurred among residents of Greater Sydney, with the remainder comprising residents of the Rest of NSW and a small number of interstate/overseas residents.

Frequency of suspected and confirmed deaths by suicide in New South Wales, by age group and sex, and location, 2019 to 2023

The interactive data visualisation shows the number of suspected and confirmed deaths by suicide in New South Wales. The population group is divided by age groups, ranging from people under the age of 18 years to 85 years and over, and sex (males, females). Viewing by location of usual residence can also be selected.



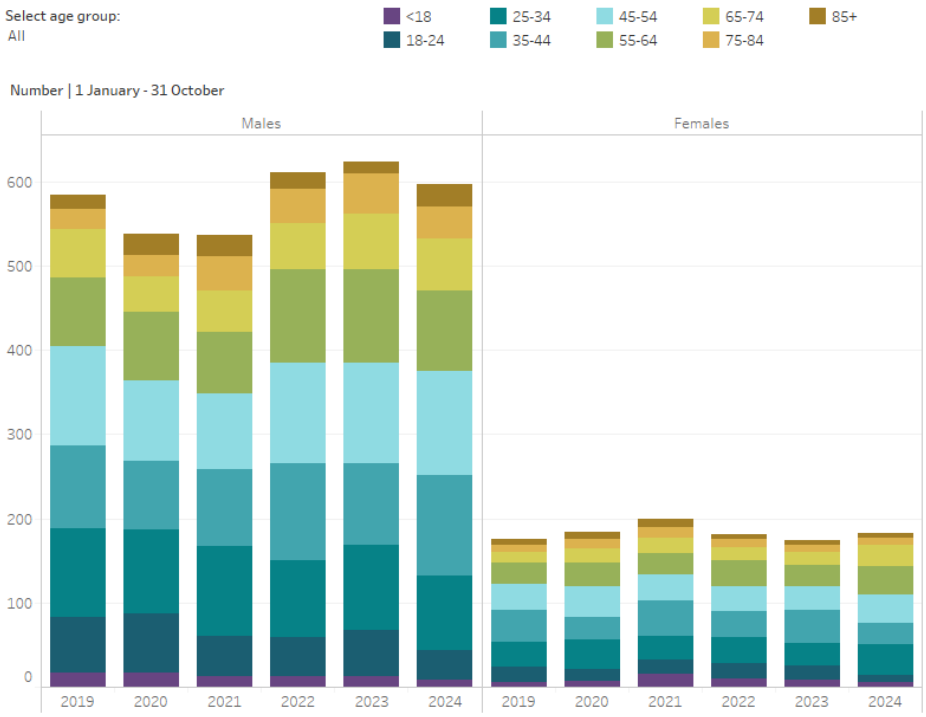
Notes: Data are subject to revision as coronial investigations progress and are finalised. Data for the same period may therefore vary between reports.
Chart: Australian Institute of Health and Welfare
Source: NSW Health (2023, 2024)

Year-to-date data to 31 October 2024 from the SuMS show:

- Males recorded 597 suspected deaths by suicide, compared to 624 for the same period in 2023, 611 in 2022, 536 in 2021, and 538 in 2020.
- Females recorded 182 suspected deaths by suicide, compared with 174 for the same period in 2023, 181 in 2022, 199 in 2021 and 184 in 2020.

Frequency of suspected and confirmed deaths by suicide in New South Wales, by age group and sex, and location, 1 January to 31 October 2019 to 2024

The interactive data visualisation shows the number of suspected deaths by suicide in New South Wales. The population group is divided by age group, ranging from people under the age of 18 years to over 85, and sex (males, females). Viewing by location of usual residence can also be selected.



Notes: Data are subject to revision as coronial investigations progress and are finalised. Data for the same period may therefore vary between reports.
Chart: Australian Institute of Health and Welfare
Source: NSW Health (2023, 2024)

Victoria

The Coroners Court of Victoria (CCOV) established the Victorian Suicide Register (VSR) in 2012 and publishes monthly data reports on suspected and confirmed deaths by suicide. VSR data are regularly reviewed, where deaths may be added or removed from the register as coronial investigations progress and are finalised. VSR data may therefore change over time.

The latest *Monthly Suicide Data Report* shows (CCOV 2024d):

- There was a total of 795 suspected or confirmed suicide deaths in 2023. This was higher than the number of suspected or confirmed suicide deaths in 2022 (769), 2021 (677), and 2020 (668).

The CCOV stated that there was an increase in the number of suicides in 2022 and 2023 compared to the period from 2019 to 2021, which was relatively stable (CCOV 2024c).

Year-to-date data to November 2024 from *Monthly Suicide Data Report* shows (CCOV 2024d):

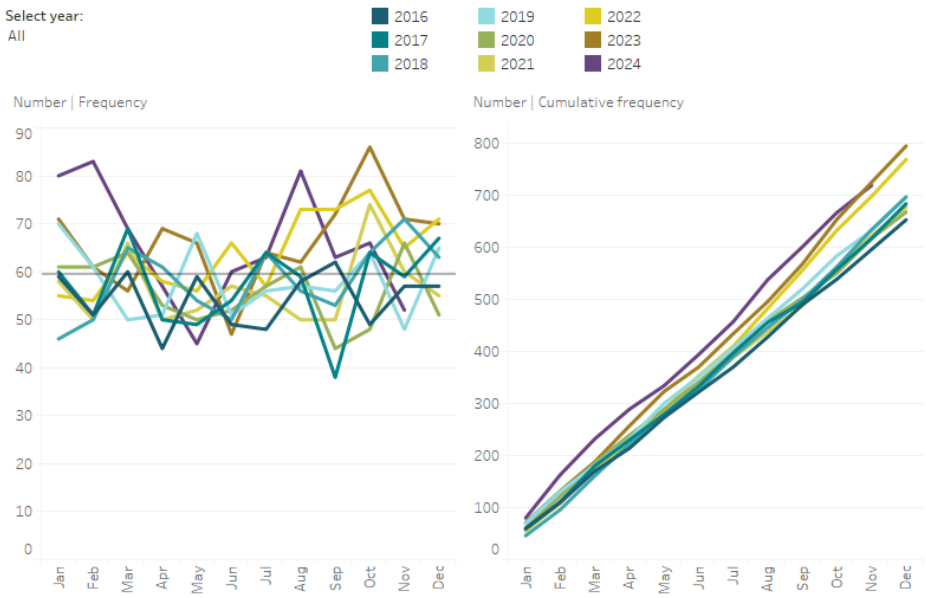
- Between 1 January and 30 November 2024, 719 suspected deaths by suicide were reported in Victoria. This compared to 725 in 2023, 698 in 2022, 622 in 2021 and 617 in 2020 in the same period.

As illustrated below, the monthly frequency data show considerable variation which, according to the CCOV, usually results from random factors rather than underlying systemic issues or emerging clusters (CCOV 2022). The data therefore should be interpreted cautiously, with great care taken in drawing conclusions about any apparent short-term increase or decrease that is observed.

The 'Cumulative Frequency' section in the visualisation below shows that the increase in 2022 began in the second half of the year and 'is in contrast to the preceding four years, in which Victoria had seen a plateau in suicide numbers' (CCOV 2023a). The number of suspected or confirmed suicides between January and July 2022 was consistent with previous years, with a monthly average of 59 deaths. However, between August and December 2022, the average monthly frequency increased to 72 deaths, which 'might signal an emerging trend' (CCOV 2023a). This increase in suspected or confirmed suicide deaths appears to have continued in 2023 and the first 11 months of 2024, with monthly averages of 66 in 2023 and 65 to November 2024, higher than previous years.

Frequency of suspected and confirmed deaths by suicide in Victoria, by month, January 2016 to November 2024

The interactive data visualisation shows the frequency and cumulative frequency of the number of suspected deaths by suicide in Victoria, by month. An average trendline has been included.



Notes: Data are subject to revision as coronial investigations progress and are finalised. Data for the same period may therefore vary between reports. Data for 2016 , 2017, 2018, and 2019 are correct as of January 2021, January 2022, February 2023, and February 2024 respectively, as the Coroners Court of Victoria (CCOV) has not published more recent data for these years. Any revisions to 2020 data and onwards will continue to be updated as published by the CCOV.
Chart: Australian Institute of Health and Welfare
Source: CCOV (2021, 2022, 2023c, 2023d, 2024c)

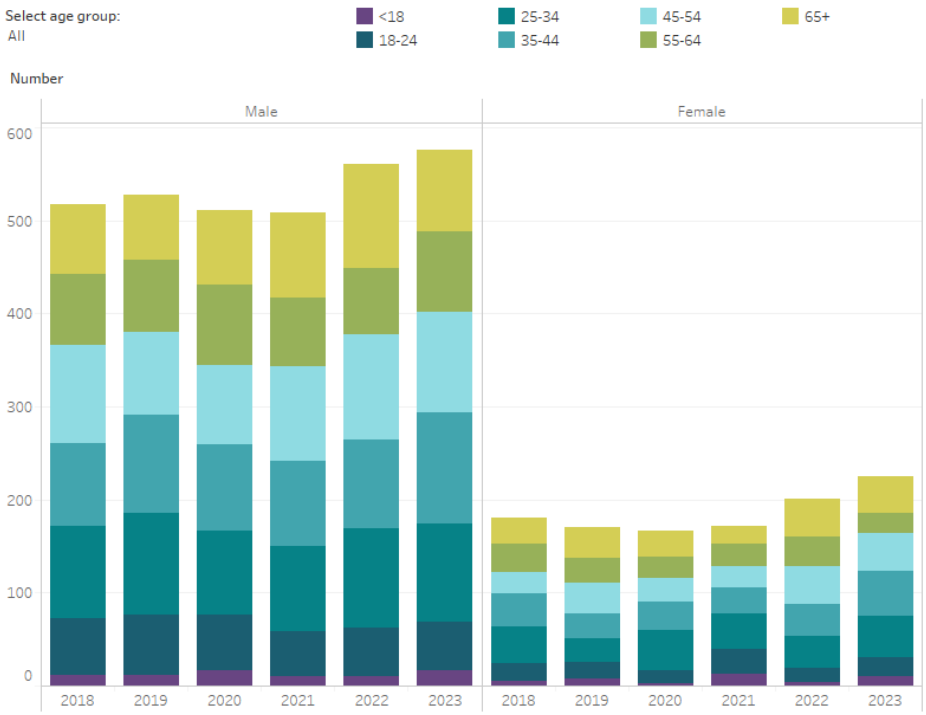
The CCOV also reports on suicide deaths by age group and sex, and incident location (CCOV 2024a, 2024c). For 2023:

- Males accounted for 72% of suspected or confirmed suicide deaths. However, the increase in deaths in 2023 was more pronounced for females than males. In 2023, the total number of suspected or confirmed suicide deaths among females increased by 24 from 2022 (12% increase from 2022). For males, the increase from 2022 to 2023 was 16 (2.9% increase from 2022).
- Among males, the age groups of 35 to 44 years (120), 45 to 54 years (108) and 25 to 34 years (105) recorded the largest number of suicide deaths, accounting for 21%, 19% and 18% of all male suicide deaths, respectively.
- Similarly, for females, the age groups of 35 to 44 years (48), 25 to 34 years (45), and 45 to 54 years (41) experienced the greatest number of deaths, accounting for 21%, 20% and 18% of all female suicide deaths, respectively.
- The highest increase was seen in people aged 35 to 44 years, with 168 suspected or confirmed suicide deaths compared to 129 in 2022.
- The largest percentage increase was seen in those under 18 years, with an 86% increase in 2023 from 2022 (26 deaths in 2023 compared with 14 in 2022). In April 2023, the CCOV investigated the increase in suicide deaths among under 18s and released a statement noting that the deaths 'occurred in diverse circumstances across communities in both Metropolitan Melbourne and Regional Victoria, with no clear links established to date between any of the deaths' (CCOV 2023b).
- Consistent with previous years, the proportion of suicide deaths remained higher in Metropolitan Melbourne (65%) compared to Regional Victoria (35%).

For a detailed breakdowns of full-year frequencies of suspected and confirmed suicide deaths in Victoria by sex and age group, and incident location can be viewed on the visualisation below.

Frequency of suspected and confirmed deaths by suicide in Victoria, by age group and sex, and location, 2018 to 2023

The interactive data visualisation shows the number of suspected and confirmed deaths by suicide in Victoria, starting from 2018. The population group is divided by age groups, ranging from people under the age of 18 years to 65 years and over, and sex (males and females). Viewing by incident location can also be selected.



Notes: Data are subject to revision as coronial investigations progress and are finalised. Data for the same period may therefore vary between reports.
Chart: Australian Institute of Health and Welfare
Source: CCOV (2024a)

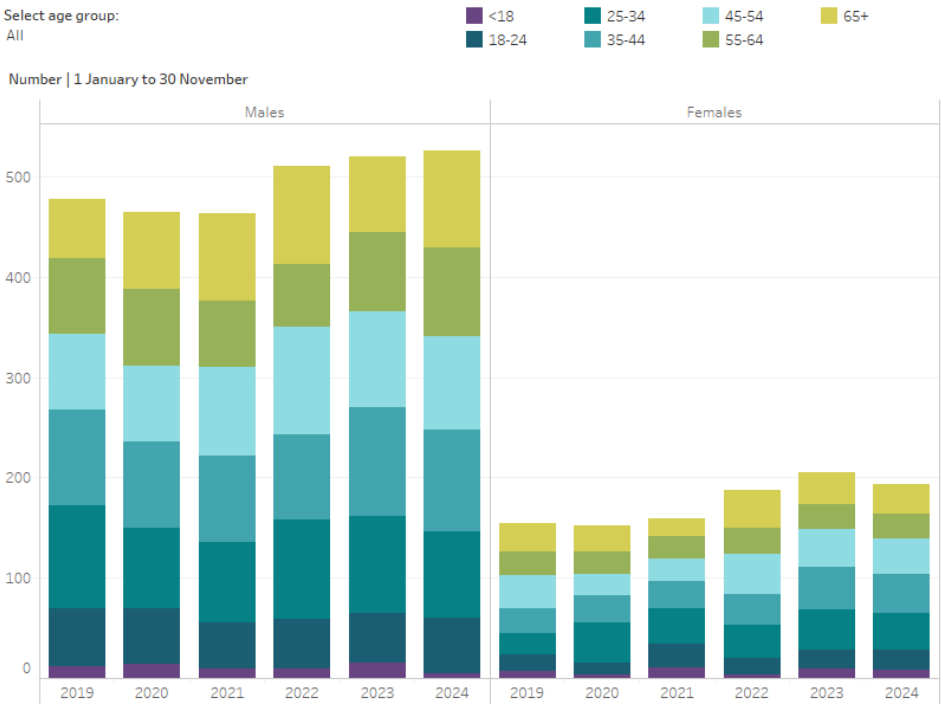
Year-to-date data to November 2024 for age group and sex, and incident location show (CCOV 2024d):

- Males recorded 526 suspected deaths by suicide, compared to 520 for the same period in 2023, 510 in 2022, 463 in 2021 and 465 in 2020.
- Females recorded 193 suspected deaths by suicide, compared to 205 for the same period in 2023, 188 in 2022, 159 in 2021 and 152 in 2020.

Detailed breakdowns of the year-to-date frequency of suspected and confirmed suicide deaths in Victoria by age group, sex, and incident location can be viewed on the visualisation below.

Year-to-date frequency of suspected and confirmed deaths by suicide in Victoria, by age group and sex, and location, 1 January to 30 November 2019 to 2024

The interactive data visualisation shows the number of suspected and confirmed deaths by suicide in Victoria, starting from 2018. The population group is divided by age groups, ranging from people under the age of 18 years to 65 years and over, and sex (males and females). Viewing by incident location can also be selected.



Notes: Data are subject to revision as coronial investigations progress and are finalised. Data for the same period may therefore vary between reports. Data for 2019 are correct as December 2023, as the Coroners Court of Victoria (CCOV) has not published more recent data for this year. Any revisions to 2020 data and onwards will continue to be updated as published by the CCOV.
Chart: Australian Institute of Health and Welfare
Source: CCOV (2024a,c)

First Nations people

The CCOV has also published data on suicides of Aboriginal and Torres Strait Islander (First Nations) people. The number of suspected deaths by suicide in 2023 for First Nations people in Victoria was 28, compared to 18 in 2022, 34 in 2021, 21 in 2020, 19 in 2019, and 14 in 2018. Of those 28 people who were suspected to have died by suicide in 2023, 22 were male. This compares to 13 in 2022, 25 in 2021, 14 in 2020, 12 in 2019 and 10 in 2018. There were 6 female suspected deaths by suicide in 2023, compared to 5 in 2022, 9 in 2021, 7 in both 2020 and 2019, and 4 in 2018 (CCOV 2024e).

Between 2018 to 2023, First Nations people made up an average of 3.1% of people who were suspected or confirmed to have died by suicide in Victoria. In Victoria, the average annual crude rate of death by suicide (suspected or confirmed) was more than twice as high among First Nations people compared with non-indigenous people (28.4 and 10.8 per 100,000 population, respectively) (CCOV 2024e).

Suicide deaths among First Nations people tended to occur at a younger age compared to non-Indigenous people, with 54% of all suicides among First Nations people occurring in those under 35 years of age, compared to 32% for non-Indigenous people (CCOV 2024e).

Gambling

Data from the VSR have been used in a recent study investigating the prevalence and characteristics of gambling-related suicides. The findings show that in Victoria between 2009 and 2016 (Rintoul et al 2023):

- 4.2% of suicides were linked to gambling, with 184 cases directly involving gambling and 17 involving individuals affected by others' gambling.
- The majority (83%) of gambling related suicides were among males.
- Gambling-related suicides were more likely to occur among those most disadvantaged. The highest rate of gambling-related suicide was observed in the most disadvantaged quintile, as per the SEIFA Index of Relative Socioeconomic Disadvantage (Quintile 1) at 4.32 deaths per 100,000, followed by 4.28 in Quintile 2, 3.73 in Quintile 3, 1.76 in Quintile 4, and 2.85 in Quintile 5, the least disadvantaged.
- Since gambling issues are often concealed and not routinely investigated by coroners, the actual number of gambling-related suicides may be higher than reported (Rintoul et al 2023).

Family violence

The CCOV also published a report on the experience of family violence among people who died by suicide in Victoria from 2009 to 2016. The report found that (CCOV 2024b):

- 24.5% (1,172 of 4,790 cases) of individuals, who died of suicide, had experienced family violence.

- 65.1% of males, who had experienced family violence, were categorised as perpetrators only.
- 62.1% of females, who had experienced family violence, were classified as victims only.
- Among the 131 males who were both victims and perpetrators of family violence:
  - 70.2% experienced violence from family members.
  - 80.9% perpetrated violence against partners.

VSR noted that anecdotal evidence suggests that some males in this group experienced family violence as children and later perpetrated it as adults, highlighting the potential intergenerational transmission of family violence and its link to suicidality (CCOV 2024b).

Queensland

In Queensland there are two systems that are used to monitor suicide deaths, the Queensland Suicide Register (QSR), which includes suicide data since 1990 and is used to monitor longer-term trends, and the interim Queensland Suicide Register (iQSR), which was established in 2011 to provide real-time information on suicide deaths. The QSR contains information on suicide deaths in Queensland for which the coroners' investigations have been finalised, whereas the iQSR records interim data on deaths suspected to be from suicide, shortly after the death occurs. Data on suspected suicide deaths are based on initial police reports and other information that is available to police at the time they refer the death to the coroner (Leske 2022).

Management of the QSR and iQSR was transferred from the Australian Institute for Suicide Research and Prevention (AISRAP) at Griffith University to the Queensland Mental Health Commission (QMHC) in September 2023. Previously, AISRAP published annual reports on suicide in Queensland from the QSR and iQSR. In January 2024, the QMHC commenced publishing monthly data reports from the iQSR. The first report to be published was for October 2023, with data dating back to January 2016.

The latest iQSR Monthly Suicide Data Report for November 2024 shows (QMHC 2024b):

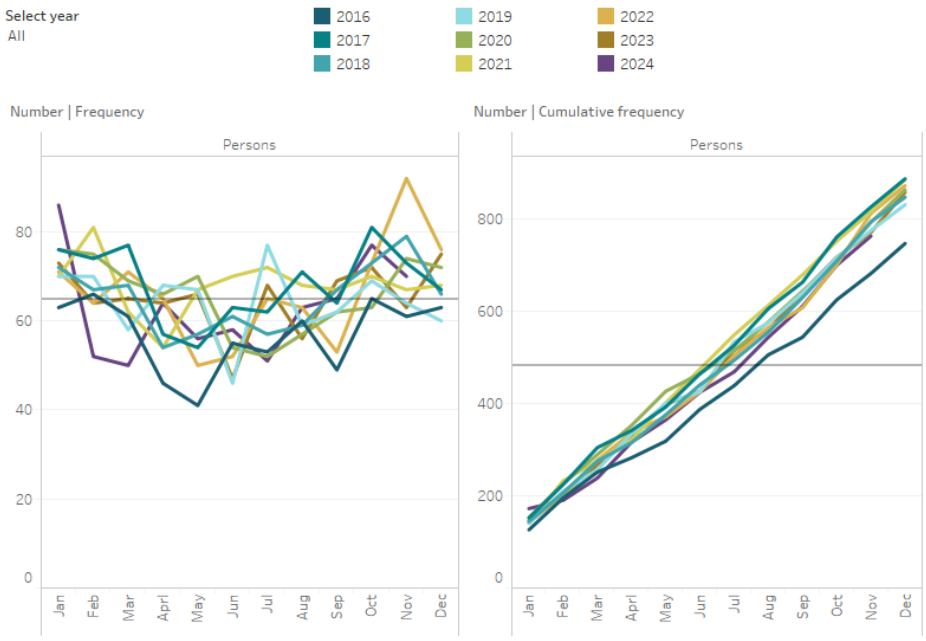
- There were 782 suspected suicide deaths in 2023. This was less than the number of suspected suicide deaths recorded in 2022 (795), 2021 (816) and 2020 (790).
- 692 suspected deaths by suicide were recorded between 1 January and 30 November 2024. This compares to 707 for the same period in 2023, 719 in 2022, 748 in 2021 and 718 in 2020.

In the visualisation below:

- The number (frequency) of suspected suicide deaths per month varies considerably from month to month. The number of suspected male suicide deaths appears to be higher in the summer months compared to the winter months. When females are selected this pattern is less evident (See male and female).
- The 'Cumulative Frequency' section shows the year-to-date numbers of suspected suicide deaths for each month. For persons, males and females, suspected suicide deaths in 2016 are lower than all other years.

Frequency of suspected deaths by suicide in Queensland, by persons, male and female, January 2016 to November 2024

The interactive data visualisation shows frequency and cumulative frequency of the number of suspected deaths by suicide in Queensland, by month. An average trendline has been included.



Notes: The interim Queensland Suicide Register (iQSR) provides data on suspected suicides.The final coronial determinations have yet to be made. Suspected suicides by interstate or international visitors are not included in the totals.Data for 2016 , 2017, 2018, and 2019 are correct as of 13 February 2024. Any revisions to 2020 data and onwards will continue to be updated as published by the iQSR
Chart:Australian Institute of Health and Welfare
Source: iQSR (2024a,b)

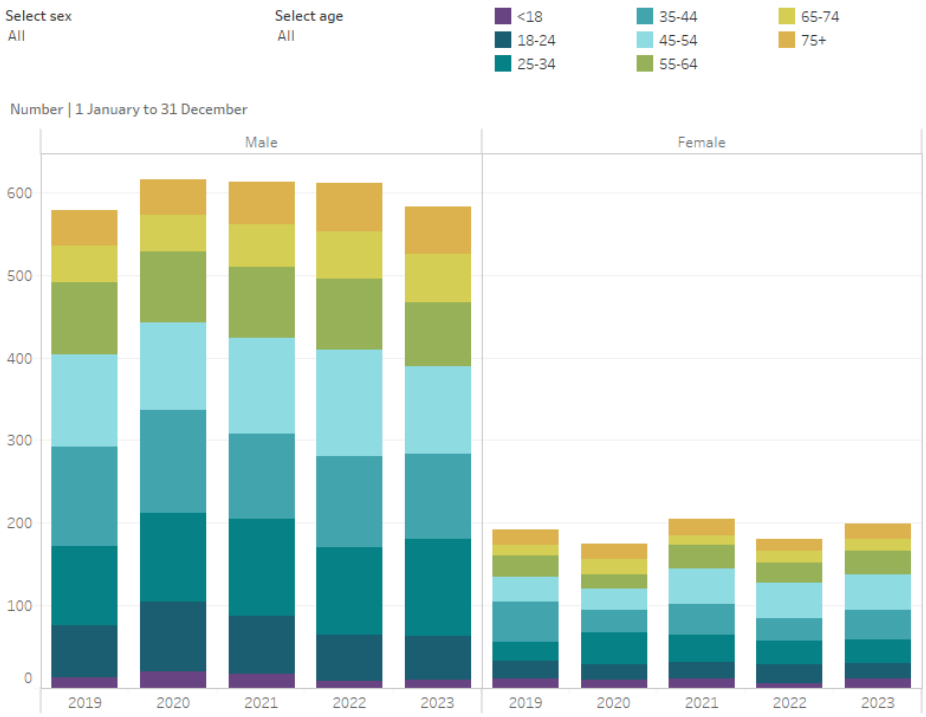
The iQSR reports on suspected suicide deaths by age group and residential location (QMHC 2024b):

- In 2023, three-quarters of suspected suicide deaths in Queensland were among males. However, while the number of suspected suicide deaths among males decreased from 611 in 2022 to 583 in 2023, the number of suspect suicide deaths among females increased from 184 in 2022 to 199 in 2023.
- In 2023 the highest number of suspected suicide deaths by age group was for people aged 45 to 54 years (149), 25 to 34 years (146), and 35 to 44 years (139) accounting for 19%, 19% and 18% of all suspected suicide deaths respectively. People aged 17 years and under had the fewest deaths (21, 2.7%).
- In 2023 there were 13 fewer suspected suicide deaths than in 2022. The largest decrease in suspected suicide deaths between 2022 and 2023 was in people aged 45 to 54 years with 22 fewer deaths. The largest increase between 2022 and 2023 was for those aged 25 to 34 years with 10 more deaths. For all other age groups, the differences in suspected suicide deaths between 2022 and 2023 was 6 or less.
- In each year from 2020 to 2023 over half of the suspected suicide deaths were among people who resided in major cities, around 40% from inner or outer regional areas, and less than 5% from remote or very remote areas.

The visualisation below contains three different views. The first shows the frequency of suspected deaths by suicide in Queensland by age group and sex from 2020 to 2023. The second shows the data presented by age group (persons only) for years 2016 to 2023, while the third display the data by residential location for years 2016 to 2023.

Frequency of suspected deaths by suicide in Queensland by age group, sex, and location 2016 to 2023

The interactive data visualisation shows the number of suspected deaths by suicide in Queensland, starting from 2016. The population group is divided by age groups, ranging from people under the age of 18 years to 65 or 75 years and over, and sex (males and females). Viewing by incident residential location can also be selected.



Notes: The interim Queensland Suicide Register (iQSR) provides data on suspected suicides.The final coronial determinations have yet to be made. Missing age data not included. Suspected suicides by interstate or international visitors also not included.
Chart: Australian Institute of Health and Welfare
Source: iQSR (2024b)

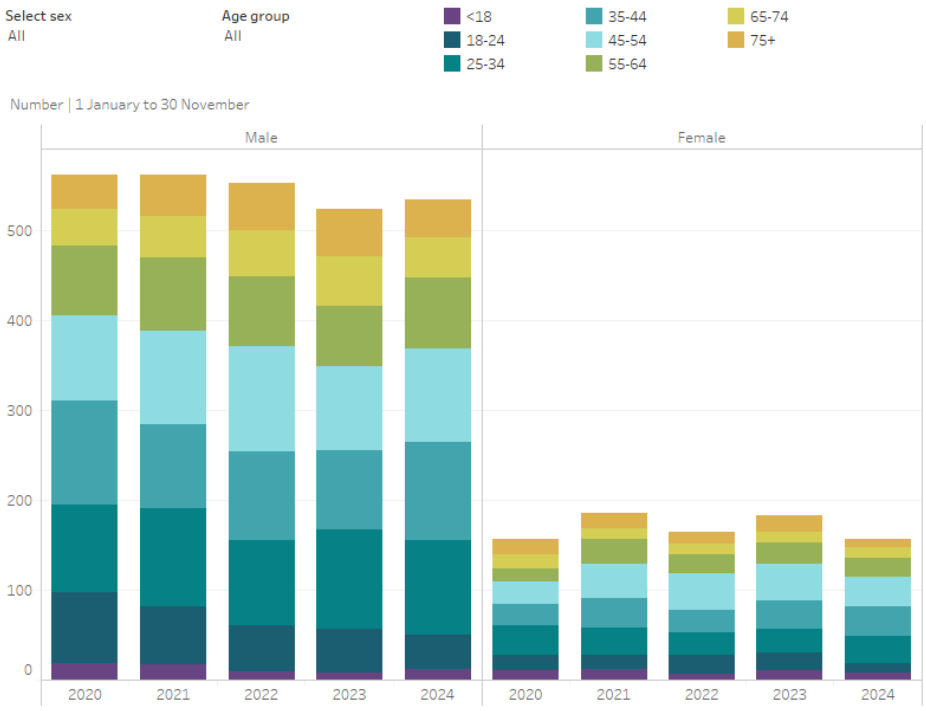
The year-to-date iQSR reports (to 30 November 2024) on suspected suicide deaths by age group, sex and residential location show (QMHC 2024b):

- Males recorded 535 suspected deaths by suicide, compared with 524 for the same period in 2023, 553 in 2022, 562 in 2021 and 562 in 2020.
- Females recorded 157 suspected deaths by suicide, compared with 183 for the same period in 2023, 166 in 2022, 186 in 2021 and 156 in 2020.

The visualisation below shows the frequency of suspected deaths by suicide in Queensland by age group, sex and residential location for the period from 1 January to 30 November 2020 to 2024.

Frequency of suspected deaths by suicide in Queensland by age group, sex, and location, 1 January to 30 November 2020 to 2024

The interactive data visualisation shows the number of suspected deaths by suicide in Queensland, starting from 2016. The population group is divided by age groups, ranging from people under the age of 18 years to 65 or 75 years and over, and sex (males and females). Viewing by incident residential location can also be selected.



Notes: The interim Queensland Suicide Register (iQSR) provides data on suspected suicides.The final coronial determinations have yet to be made. Missing age data not included. Suspected suicides by interstate or international visitors also not included.
Chart: Australian Institute of Health and Welfare
Source: iQSR (2024b)

References

Coroners Court of Victoria (CCOV) (2021) *Monthly Suicide Data Report, December 2020 update* - external site opens in new window (https://www.coronerscourt.vic.gov.au/sites/default/files/2021-01/Coroners%20Court%20Monthly%20Suicide%20Data%20Report%20-%20December%202020.pdf), 18 January 2021.

CCOV (2022) *Monthly Suicide Data Report, December 2021 update* - external site opens in new window (https://www.coronerscourt.vic.gov.au/sites/default/files/2021-01/Coroners%20Court%20Monthly%20Suicide%20Data%20Report%20-%20December%202020.pdf), 20 January 2022.

CCOV (2023a) *Coroners Court report shows concerning increase in suicides in 2022*, - external site opens in new window (https://www.coronerscourt.vic.gov.au/coroners-court-report-shows-concerning-increase-suicides-2022) 6 February 2023.

CCOV (2023b) *Increase in youth suicide observed in first three months of 2023* - external site opens in new window (https://www.coronerscourt.vic.gov.au/increase-youth-suicide-observed-first-three-months-2023#:~:text=Troubling%20figures%20released%20today%20by,youth%20suicides%20in%20the%20state.), 26 April 2023.

CCOV (2023c) *Monthly Suicide Data Report, December 2022 update* - external site opens in new window (https://www.coronerscourt.vic.gov.au/sites/default/files/2023-02/Coroners%20Court%20Suicide%20Data%20Report%20December%202022.pdf), 6 February 2023.

CCOV (2024a) *Coroners Court 2023 Annual Suicide Data Report* - external site opens in new window (https://www.coronerscourt.vic.gov.au/sites/default/files/2024-02/Coroners%20Court%202023%20Annual%20Suicide%20Data%20Report%20-%20December%202023.pdf), 16 February 2024.

CCOV (2024b) *Experience of family violence among people who suicided, Victoria 2009-2016* - external site opens in new window (https://www.coronerscourt.vic.gov.au/sites/default/files/2024-09/Coroners%20Court%20of%20Victoria%20Experience%20of%20family%20violence%20among%20people%20who%20suicided%202009-20016.pdf), 30 July 2024.

CCOV (2024c) *Media Release* - external site opens in new window (https://www.coronerscourt.vic.gov.au/sites/default/files/2024-02/New%20report%20shows%20suicides%20continued%20to%20rise%20in%20Victoria%20in%202023.pdf), 16 February 2024.

CCOV (2024d) *Monthly Suicide Data Report, November 2024 update* - external site opens in new window (https://www.coronerscourt.vic.gov.au/sites/default/files/2024-12/Coroners%20Court%20Monthly%20Suicide%20Data%20Report%20-%20November%202024%20update_0.pdf), 23 December 2024.

CCOV (2024e), *Suicides of Aboriginal and Torres Strait Islander people* - external site opens in new window (https://www.coronerscourt.vic.gov.au/sites/default/files/2024-03/Suicides%20of%20Aboriginal%20and%20Torres%20Strait%20Islander%20people%20in%20Victoria%2C%202018%E2%80%932023.pdf), 7 March 2024.

Leske S, Adam G, Catakovic A, Weir B, & Kôlves K (2022) *Suicide in Queensland: Annual Report 2022* - external site opens in new window (https://www.griffith.edu.au/__data/assets/pdf_file/0033/1639473/AISRAP-Annual-Report-2022.pdf), Australian Institute for Suicide Research and Prevention, School of Applied Psychology, Griffith University, September 2022.

Leske S, Garrett A & Dwyer J (2022). 'It Is Official, They Are Different – Discrepancies Between National Statistical Agency and Register-Based State Suicide Mortality Statistics in Australia' - external site opens in new window (https://psycnet.apa.org/record/2023-24885-001), *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, 44(5), 389–397.

NSW Health (2024) *NSW Suicide Monitoring System. Report - Data to October 2024,* - external site opens in new window (https://www.health.nsw.gov.au/mentalhealth/resources/Publications/sums-report-oct-2024.pdf) 20 December 2024.

Queensland Mental Health Commission (QMHC) (2024a) *Queensland Suicide data - Monthly Report – December 2023* - external site opens in new window (https://6232990.fs1.hubspotusercontent-na1.net/hubfs/6232990/Monthly%20reporting%20template%20as%20at%20December%202023.pdf), 13 February 2024.

QMHC (2024b) *Queensland Suicide data - Monthly Report – November 2024* - external site opens in new window (https://6232990.fs1.hubspotusercontent-na1.net/hubfs/6232990/Queensland%20Suicide%20Data_iQSR%20Monthly%20Reports/Queensland%20Suicide%20Data_iQSR%20Monthly%20report_November%202024.pdf), January 2025.

Rintoul A, Dwyer J, Millar C, Bugeja L, and Nguyen H (2023) Gambling-related suicide in Victoria, Australia: a population based cross-sectional study - external site opens in new window (https://www.thelancet.com/journals/lanwpc/article/PIIS2666-6065(23)00221-3/fulltext)The *Lancet Regional Health - Western Pacific* 2023;41: 100903

Viewing the monitoring data

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The information included here places an emphasis on data, and as such, can appear to depersonalise the pain and loss behind the statistics. The AIHW acknowledges the individuals, families and communities affected by suicide each year in Australia.

Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

The AIHW supports the use of the Mindframe guidelines - external site opens in new window on responsible, accurate and safe suicide and self-harm reporting. Please consider these guidelines when reporting on statistics on the monitoring of suicide and self-harm.

Suicide & self-harm monitoring

Need help now?
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More (/suicide-self-harm-monitoring/research-information/crisis-support)

Ambulance attendances: suicidal and self-harm behaviours

The National Ambulance Surveillance System (NASS) is a unique, world-first public health monitoring system that provides comprehensive data on ambulance attendances in Australia. The NASS is a partnership between Turning Point at Monash University and state and territory ambulance services in New South Wales (NSW), Victoria (Vic), Queensland (Qld), Tasmania (Tas), the Australian Capital Territory (ACT) and the Northern Territory (NT). The NASS uses ambulance electronic patient care records (ePCR) to code data on attendances relating to alcohol and other drugs (AOD), mental health, and suicide and self-harm for participating states and territories.

The NASS provides valuable information on the extent and nature of suicidal behaviour and self-harm in the community, which complements other national datasets. The NASS data are coded specifically for AOD, mental health, and suicide and self-harm, and capture more detail than the ICD-10-AM coding system used in the National Hospital Morbidity Database and National Mortality Database. The NASS also includes data on incident location and on people who may be missing or underrepresented in national surveys, such as people who are homeless.

While they do not capture all incidents of suicidal and self-harming behaviour in the community, these clinical data from the NASS have the potential to help broaden understanding of these behaviours in Australia and identify opportunities for improved intervention or postvention.

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Ambulance attendances: Suicidal ideation, and suicidal and self-harm behaviours

The Australian Institute of Health and Welfare (AIHW) holds monthly ambulance attendance data for NSW, Vic, Qld, Tas, ACT and NT, dating from January 2021 to September 2023. Prior to 2021, the data comprises one-month per quarter snapshots for the months of March, June, September and December for NSW, Vic, Tas, and ACT from March 2018 to December 2020, Qld from March 2020 to December 2020, and NT from March 2018 to December 2018.

See Data development activities to learn more about the ongoing developments relating to ambulance attendance data funded through this project.

In the NASS self-harm related ambulance attendances are defined as attendances where self-harm occurred in the preceding 24 hours or during the ambulance attendance. The NASS groups these attendances into 4 categories, which are defined and coded as:

- self-injury (non-fatal intentional injury without suicidal intent)
- suicidal ideation (thinking about taking one's own life without acting on the thoughts)
- suicide attempt (non-fatal intentional injury with suicidal intent, regardless of likelihood of lethality)
- suicide (fatal intentional injury with suicidal intent).

Suicide, suicide attempt and suicidal ideation are coded as mutually exclusive in NASS data; however, self-injury could be simultaneously coded with any other self-harm case category (Lubman et al. 2020).

Instances of suicide, suicide attempt, suicidal ideation and self-injury in the community are under-represented as ambulances do not attend all attempts, injuries, or deaths. Furthermore, when they do attend there may be insufficient information to determine suicidal intent at the scene. Rates of death by suicide have not been calculated because of small numbers, which may affect the reliability of the estimates.

For more information, see Data sources - National Ambulance Surveillance System (NASS).

Data considerations

The following factors should be considered when interpreting data and visualisations presented on this page:

- Industrial action occurred in NSW in April 2022, which could have resulted in lower numbers.
- A decrease in the number of NSW ambulance attendances was observed in July and August 2022 due to technical issues.
- Industrial action in NSW during early February 2023, which could have resulted in lower numbers.
- A computer-aided dispatch outage in Qld on 10 March 2023 resulted in no cases being recorded for that date.

How do rates of ambulance attendances for suicidal ideation, suicide attempt and self-injury differ across states and territories?

Comparing ambulance attendance rates across states and territories requires careful interpretation due to varying factors such as the availability of ambulance services, cost coverage differences, and access to 24-hour health centres. Additionally, inconsistencies in paramedic patient records across jurisdictions can affect the data, making it challenging to fully understand the reasons behind the differences in attendance rates. For further information on comparing state and territory data please refer to the Technical Notes.

The visualisation below displays the average monthly rate (per 100,000 population) of ambulance attendances for suicidal ideation, suicide attempt, and self-injury by state or territory for 2021, 2022 and January to September 2023. In the first nine months of 2023:

- Qld and NT had the highest average monthly rate of ambulance attendances for suicidal ideation (34 per 100,000 population), followed by NSW (24), Tas (19), ACT (17) and Vic (13).
- Qld had the highest average monthly rate of ambulance attendances for suicide attempt (17), followed by Tas (16), NT (13), Vic (11), ACT (10) and NSW (8.3).
- NT had highest average monthly rate of ambulance attendances for self-injury (16), notably higher than all other states and territories in the NASS, with rates of 10 in Qld, 9.6 in ACT, 8.7 in Tas, 7.9 in NSW and 5.0 in Vic.

Average monthly rate of ambulance attendances for suicidal ideation, suicide attempt and self-injury by state or territory, January 2021 to September 2023

The interactive data visualisation shows the average monthly rate of ambulance attendances for suicidal ideation, suicide attempt and self-injury categorised by state and territory. Year and attendance type can be selected.

Ambulance attendances for suicidal thoughts and behaviours, and self-harm over time

Trends in suicidal and self-harm behaviours are a matter of public and policy interest. However, interpretation of trends and changes in rates is complicated by large variations due, in part, to small numbers which produce large confidence intervals.

The following time series visualisations contain monthly data from January 2021 until September 2023 for NSW, Vic, Qld, Tas, ACT, and NT. Data prior to 2021 are based on 1-month per quarter snapshots between March 2018 and December 2020 from NSW, Vic, Tas and ACT, between March 2020 and December 2020 for Qld, and between March 2018 and December 2018 for NT.

Caution is advised when making month to month comparisons, particularly for the 1-month per quarter snapshot data (pre-2021 data). It is advised to compare the same months over a few years to allow for any seasonal effects and variations at different times of the year. When comparing changes to estimates over time it is advised to 'Show error bars' on the visualisation. These show the 95% confidence interval for the crude rate which can vary widely in the case of small populations. Confidence intervals indicate the precision of estimates, with narrower intervals indicating less uncertainty.

The visualisation below shows the monthly crude rates (per 100,000 population) and number of ambulance attendances for suicidal ideation, suicide attempt and self-injury from March 2018 to September 2023.

- Across the period for NSW, Vic and Qld, the highest rates of ambulance attendances were for suicidal ideation, followed by suicide attempt and then self-injury.
  - In NSW, attendance rates at each time point were at least twice as high for suicidal ideation (range from 14 to 28 per 100,000 population) compared with suicide attempt (range from 6.2 to 12) and self-injury (3.8 to 9.3).
- For NSW and Vic, rates of ambulance attendances for suicidal ideation, attempt and self-injury appeared to increase to a peak in around late 2019 or during 2020. Since 2020, attendance rates for suicidal ideation and attempt in these jurisdictions appear to be trending downward.
  - In Vic, rates of attendance for suicidal ideation increased from 19 per 100,000 population in March 2018 to a peak of 26 in September 2020 and declined to 14 in September 2023.
  - In NSW, among the lowest rates of attendances for suicidal ideation in the state were observed from April to July 2022. However, this may have been influenced by the data supply issues for NSW noted above.
- While it appears there may be some similar patterns for Tas, ACT and NT, the differences between attendance types over time are less clear, due to wide confidence intervals resulting from small numbers.

Ambulance attendances for suicidal ideation, suicide attempt and self-injury, March 2018 to September 2023

The interactive time series visualisation shows ambulance attendances for suicidal ideation, suicide attempt and self-injury to show patterns over time. Crude rate or number of attendances, state or territory, and an option to show or hide error bars can be chosen.

How do attendance rates differ by gender over time?

On this webpage, gender is reported as a binary variable with values 'male' and 'female'. In the initial documentation of ambulance attendances, paramedics use a dropdown box to select male or female. While notes can be added to indicate if a patient is trans, transitioning or non-binary, this is likely to be underreported.

There are distinct differences between males and females when examining deaths by suicide and intentional self-harm hospitalisations; higher rates of deaths by suicide are seen in males compared with females (see Deaths by suicide over time) while females have higher rates of hospitalisations for intentional self-harm (see Intentional self-harm hospitalisations). Ambulance attendances provide further context to these gender differences.

The visualisation below shows the monthly crude rates (per 100,000 population) and number of ambulance attendances for suicidal ideation, suicide attempt, and self-injury by gender from March 2018 to September 2023.

- For NSW, Vic and Qld, rates of ambulance attendances for suicide attempt and self-injury were higher among females than males across the period (except for self-injury in Vic in December 2020, where there was no difference by gender). For instance, in September 2023, the rates of ambulance attendances (per 100,000 population) for suicide attempt were:
  - around 1.4 times as high in females compared with males in NSW (8.8 and 6.5, respectively)
  - twice as high among females compared with males in Vic (13 and 6.5, respectively)
  - around 1.8 times as high in females compared with males in Qld (22 and 12, respectively).
- Rates of ambulance attendances for suicidal ideation in NSW, Vic and Qld, however, were similar for males and females across the same period.
- The apparent post-2020 downward trend in attendance rates for suicidal ideation and attempt in NSW and Vic seems to have occurred among both males and females.
- For Tas, ACT, and NT, due to small numbers and large margins of error, there were few differences observed by gender for rates of attendance for suicidal ideation, suicide attempt or self-injury.

Ambulance attendances for suicidal ideation, suicide attempt, and self-injury by gender, March 2018 to September 2023

The interactive timeseries visualisation shows ambulance attendances for suicidal ideation, suicide attempt and self-injury categorised by gender (females and males) to show patterns over time. Crude rate or number of attendances can be chosen, with an option to show or hide error bars. Selection for different state or territories and type of attendance are also available to view.

How do attendance rates differ by age and gender over time?

The visualisation below shows the monthly crude rates (per 100,000 population) and number of ambulance attendances for suicidal ideation, suicide attempt, and self-injury by age and gender from January 2021 to September 2023.

For females, there was a clear gradient in the attendance rates for suicidal ideation, suicide attempt and self-injury by age-group. Across the period, the highest female rates for suicidal ideation, suicide attempt and self-injury were seen in those aged under 25 years. Rates decreased with increasing age-group, except for suicidal ideation, where rates were similar over time for females aged under 25 and 25 to 44 years.

- For suicidal ideation attendances the highest rates were among females aged under 25 years and those aged 25 to 44 years (ranges from 23 to 39 and 22 to 35 per 100,000 population, respectively), followed by females aged 45 to 54 years (14 to 23). The lowest rates were among females aged 65 years and over (4.4 to 7.8).
- For suicide attempt attendances, the rates decreased by age with the highest rates among those aged under 25 years (range from 19 to 30), followed by those aged 25 to 44 years (13 to 19), 45 to 64 years (9.0 to 13) and 65 years and older (2.8 to 4.5).
- Rates of attendances for self-injury were also highest among those aged under 25 years (range from 14 to 25), followed by 25 to 44 years (6.9 to 12), and those aged 45 years and older (1.6 to 2.6).

For males, different patterns were observed by age group over the period.

- For suicidal ideation, the highest male rates were seen in those aged 25 to 44 years, with the rate for this age group in January 2021 (40 per 100,000 population) being the highest among any age-gender group over the period, including females under 25 years (maximum rate 39).
- For suicide attempt attendances:
  - The highest rates were among males aged 25 to 44 (range from 9.7 to 16 per 100,000 population).
  - Males aged under 25 and between 45 and 64 years had the same or similar rates over the period (ranges from 5.9 to 11 and 6.4 to 9.9, respectively).
  - Males aged 65 years and over had the lowest rates (range from 2.7 to 4.6).

- Attendance rates for self-injury were the same or similar among males aged under 25 and 25 to 44 years. Attendance rates for self-injury among males aged 45 years and over were generally lower across the period.

Ambulance attendances for suicidal ideation, suicide attempt, and self-injury by age and gender, January 2021 to September 2023

The interactive timeseries visualisation shows ambulance attendances for suicidal ideation, suicide attempt and self-injury categorised by age (0 to over 65 for suicidal ideation and suicide attempt attendances and 0 to over 45 for self-injury attendances) and gender (females and males) to show patterns over time. Crude rate or number of attendances can be chosen, with an option to show or hide error bars. Selection for the type of attendance is also available to view.

Age and gender variations

The visualisation below explores ambulance attendances by age groups in greater detail with annual crude rates for 5-year age intervals from 10 to 85 years and over for the most recent full-year data (2022). Full-year data for 2022 for NSW, Vic, Qld, Tas, ACT and NT were combined to produce annual crude rates (per 100,000 population) and numbers of ambulance attendances for suicidal ideation, suicide attempt, and self-injury. Consistent with the findings over time, young females appear to be particularly at risk for suicidal ideation, suicide attempt and self-injury.

In 2022:

- Females aged 15 to 19 years had the highest rates of ambulance attendances for suicide attempt among all age and gender groups (700 per 100,000 population). Followed by females aged 20 to 24 years (420). Similar patterns were observed for suicidal ideation and self-injury.
- Females aged 10 to 29 years exhibited higher rates of ambulance attendances for suicide attempt, compared with males in the same age range. For example, the rate for females aged 15 to 19 (700) was more than 3 times that of males in the same age group (214) and the rate for females aged 20 to 24 years (420) was more than twice that of males in the same age group (200). Similar patterns were observed for suicidal ideation and self-injury, although the magnitude of difference between females and males for suicidal ideation was less.

Ambulance attendances for suicidal ideation, suicide attempt, and self-injury by age and gender, 2022

The interactive data visualisation shows the distribution of ambulance attendances for suicidal ideation, suicide attempt and self-injury for 2022. The data are divided according to age (5-year age groups) and gender (male and female) to highlight variations. Crude rate (per 100,000) or number of attendances and attendance type can be selected, with an option to show or hide error bars.

Ambulance attendances for suicide death and suicide attempts, by modality

Monitoring the modality used in a person's suicide attempts or death by suicide can play an important role in prevention of similar events in the future. These data are provided to inform discussion around restriction of access to means of self-injury as a policy intervention for the prevention of suicide and self-harm.

Please consider your need to read the following information. If this material raises concerns for you or if you need immediate assistance, please contact a crisis support service, available free of charge, 24 hours a day, 7 days a week.

Please consider the Mindframe guidelines - external site opens in new window (https://mindframe.org.au/suicide/communicating-about-suicide/mindframe-guidelines) if reporting on these statistics.
The visualisation presented below illustrates the proportion of ambulance attendances related to suicide attempts and suicide deaths categorised by modality, spanning from January 2021 to September 2023 in the combined jurisdictions of NSW, Vic, Qld, Tas, ACT, and NT. The modality types include alcohol and other drugs, hanging, and other. The category of 'other' encompasses wound/laceration/penetrating injury, inhalation, firearm, drowning, jumping from height, vehicular impact, poison, burning, asphyxia, as well as instances classified as other or unknown. Differences between modality types are highlighted below:

- Ambulance attendances for suicide attempts are predominantly associated with alcohol and other drugs, followed by other, then hanging (62%, 43% and 3.9% respectively for September 2023).
- Ambulance attendances for suicide deaths are most frequently attributed to hanging, followed by other, and then alcohol and other drugs (64%, 26%, and 13% respectively for September 2023).

The proportion of ambulance attendances for suicide attempt exhibits minimal variation over time. In contrast, the proportion for suicide death shows larger fluctuations due to the smaller number of ambulance attendances, leading to larger month-to-month variations.

Ambulance attendances for suicide attempt and suicide death by modality, January 2021 to September 2023

The timeseries visualisation shows the proportion of ambulance attendances for suicide attempt and suicide death from 2021, categorised by modality.

References

Lubman DI, Heilbronn C, Ogeil RP, Killian JJ, Matthews S, Smith K, Bosley E, Carney RMcLaughlin K, Wilson A, Eastham M, Shipp C, Witt K, Lloyd B, and Scott D (2020) '*National ambulance surveillance system: A novel method using coded Australian ambulance clinical records to monitor self-harm and mental health-related morbidity - external site opens in new window (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0236344)*'. PLoS ONE, 15:e0236344, doi:10.1371/journal.pone.0236344.

Viewing the monitoring data

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Suicide & self-harm monitoring: Intentional self-harm hospitalisations

If at any point you feel worried about harming yourself while viewing this information – or if you think someone else may be in danger – please stop reading and seek help.

What is intentional self-harm?

Intentional self-harm is often defined as deliberately injuring or hurting oneself, with or without the intention of dying. Intentional self-harm comes in many forms, and affects people from different backgrounds, ages and lifestyles. The reasons for self-harm are different for each person and are often complex.

The term 'intentional self-harm' in the National Hospital Morbidity Database (NHMD) provides information on patients admitted to hospital for self-poisoning or self-injury, with or without suicidal intent – and therefore includes both suicide attempts and non-suicidal self-harming behaviours.
Most people who self-harm do not go on to end their lives – but previous self-harm is a strong risk factor for suicide. Therefore, monitoring of intentional self-harm is key to suicide prevention.

What are the sources of data on intentional self-harm?

Understanding the scale of the problem of intentional self-harm in Australia is difficult because many cases of self-harm are unreported unless medical treatment is required.

- Only those patients admitted to hospital for intentional self-harm are currently routinely reported in national data sets.
- Presentations to hospital emergency departments relating to suicide attempts or intentional self-harm cannot be easily identified in the current national emergency department data collection.
- Data collections from general practitioners or mental health services do not routinely capture patients treated for intentional self-harm.
- Data are available from ambulance attendance records and national population surveys (see below).

Improving self-harm data

The NHMD is the national source of hospitalisation data in Australia. Data on the patient's diagnosis, interventions and 'external cause' (including intentional self-harm) are reported to the NHMD by all states and territories using the International statistical classification of diseases and related health problems, 10th revision, Australian modification (ICD-10-AM) and the Australian Classification of Health Interventions (ACHI). The World Health Organization's Eleventh revision of the International Classification of Diseases (ICD-11) – yet to be adopted in Australia – has the capability to classify the intent of the external cause of an injury.

In recognition of the need for better data around suicide and self-harm, the AIHW is currently working with key stakeholders, including the Mental Health and Suicide Prevention Data Governance Forum and Emergency Department data custodians to develop a nationally consistent method to identify and collect data on suicide-related ED presentations.

National survey data

A range of national surveys are conducted to provide information on intentional self-harm. These include, but are not limited to:

- The 2020–21 and 2021–22 National Study of Mental Health and Wellbeing provides lifetime prevalence estimates of mental disorders for Australians aged 16–85. The study collects information on suicidal thoughts and behaviours and self-harm (without suicidal intent).
- The Australian Child and Adolescent Survey of Mental Health and Wellbeing - external site opens in new window (https://www.health.gov.au/resources/publications/the-mental-health-of-children-and-adolescents) collects data on suicidal thoughts and behaviours and self-harm (without suicidal intent) for adolescents aged 12–17.

Viewing the monitoring data

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Intentional self-harm hospitalisations by states & territories

Hospitalisations data for patients with intentional self–harm injuries includes those with and without suicidal intent. For further information see Technical notes.

How do intentional self-harm hospitalisations vary across states and territories?

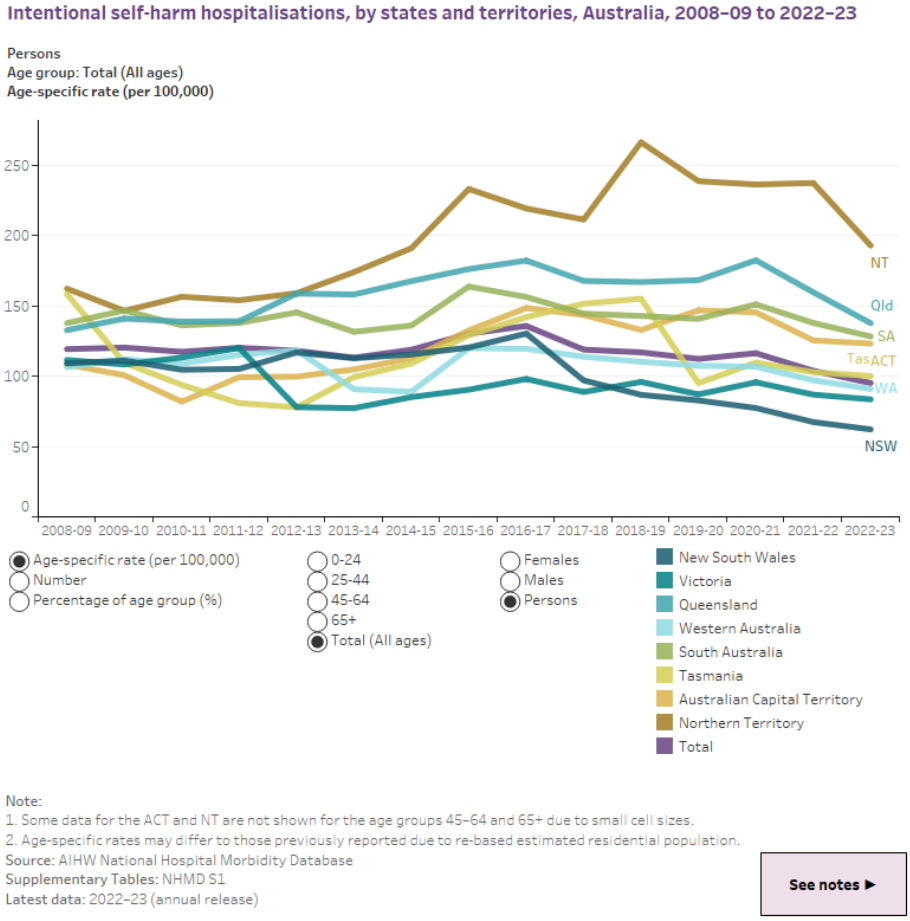
In 2022–23:

- there were close to 24,800 hospitalisations due to intentional self-harm in Australia, with the highest proportion in Queensland (30%)
- the rate of intentional self-harm hospitalisations varied between states and territories in 2022–23, with the Northern Territory reporting the highest rate (193 hospitalisations per 100,000 population), which is around double the national rate (95 hospitalisations per 100,000 population)
- the lowest rate was recorded in New South Wales (62 hospitalisations per 100,000 population).

Reporting is based on a patient's usual residence, not where they received treatment.

Intentional self-harm hospitalisations, by states and territories, Australia, 2008–09 to 2022–23.

The line graph shows rates of intentional self-harm hospitalisations from 2008–09 to 2022–23 for each state and territory and the total for Australia. Users can also choose to view age-specific rates, numbers and proportions of hospitalisations for intentional self-harm by states and territories by sex and specific age groups.



How have rates of intentional self-harm hospitalisations changed over time by state and territory?

Between 2008–09 to 2022–23, rates of intentional self-harm hospitalisations in Queensland, South Australia and the Northern Territory were consistently higher than the national rate.

- Over this period, the highest rates of hospitalisations due to intentional self-harm in Australia were generally in the Northern Territory. The highest rate was 267 per 100,000 population in 2018–19 and lowest was 147 per 100,000 population in 2009–10.
- The largest decrease was seen in females aged 25–44 New South Wales (203 per 100,000 population in 2008–09 to 80 in 2022–23) and Tasmania (313 in 2008–09 to 117 in 2022–23).

The most notable changes between 2008-09 and 2022-23 were seen in young females.

- The rate of intentional self-harm hospitalisations for Northern Territory females in the 0–24 age group more than tripled (from 98 hospitalisations per 100,000 population in 2008–09 to 309 in 2022–23).
- In the Australian Capital Territory, the rate has more than doubled for females in this age group (132 per 100,000 population in 2008–09 to 267 in 2022–23).

For males aged 24 and below, the rates of intentional self-harm hospitalisations:

- increased from 90 hospitalisations per 100,000 population in 2008–09 to 143 in 2022–23 in the Northern Territory
- increased from 68 in 2008–09 and peaked at 128 in 2020–21 then decreased to 82 in 2022–23 in Queensland, while other jurisdictions remained relatively stable.

Though the highest increase in rates of intentional self-harm hospitalisation for males was in the Northern Territory aged 0–24 years (from 68 in 2008–09 to 143 to 143 in 2022–23), some of the largest increases were among male residents aged 65 years and over from:

- Queensland (38 in 2008–09 to 53 in 2022–23)
- South Australia (38 in 2008–09 to 47 in 2022–23)
- Western Australia (26 in 2008–09 to 34 in 2022–23).

Variation in hospital admission policy and practices between states and territories may have contributed to differences in the reporting of hospitalisation data, for further information see the data quality statement - external site opens in new window (https://meteor.aihw.gov.au/content/index.phtml/itemId/724188).

Between 2008–09 and 2022–23:

- New South Wales reported an increase in the rate of hospitalisations due to intentional self-harm from 109 per 100,000 in 2008–09 to 130 in 2016–17, before decreasing steadily to 62 in 2022–23.
- Queensland reported an increase in the rate of intentional self-harm hospitalisations between 2008–09 and 2016–17 (133 and 182 per 100,000 hospitalisations), which then peaked again in 2021–22 (183) before decreasing in 2022–23 (138).
- Between 2011–12 and 2012–13, Victoria reported a substantial decrease in the rate of hospitalisations due to intentional self-harm from 120 to 78 hospitalisations per 100,000. This may reflect a change in Victoria's emergency department admission policy, for further information see the data quality statement - external site opens in new window (https://meteor.aihw.gov.au/content/index.phtml/itemId/724188).

Viewing the monitoring data

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Intentional self-harm hospitalisations by age groups

Hospitalisations data for patients with intentional self-harm injuries includes those with and without suicidal intent. For further information see Technical notes.

Rates of hospitalisations for intentional self-harm are higher for females

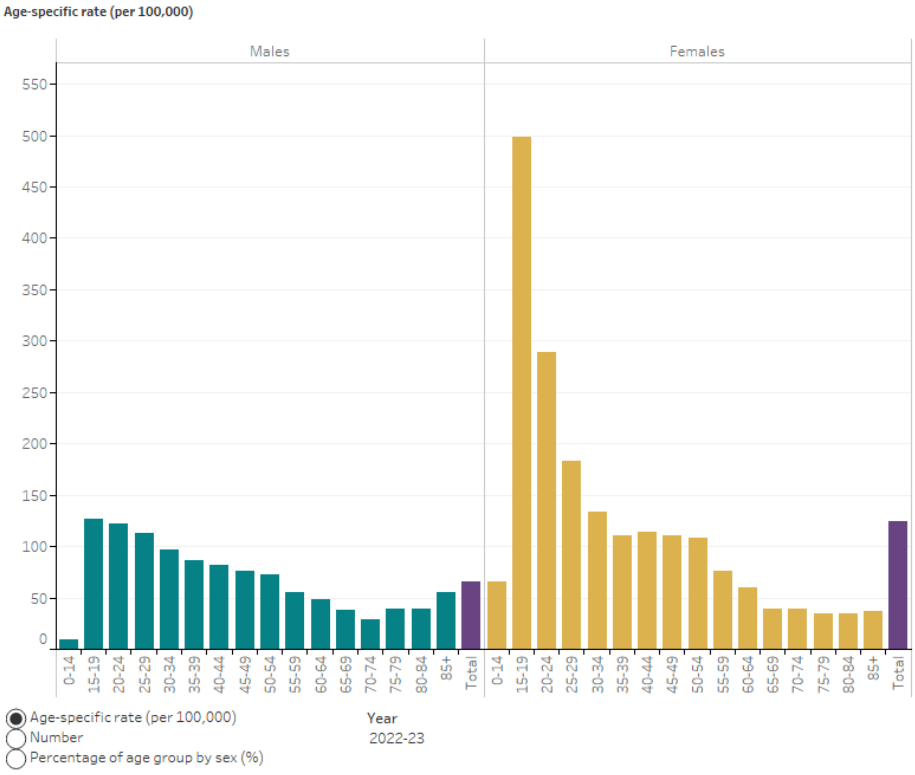
In 2022–23:

- two thirds of people hospitalised for intentional self-harm injuries were female (66%, or 16,251 hospitalisations)
- the rate of intentional self-harm hospitalisations was higher for females than males (124 compared with 66 per 100,000 population)
- the rate for females aged 0–14 years increased from 41 in 2019–20 to 72 per 100,000 population in 2021–22 and decreased to 66 per 100,000 population in 2022–23
- the rate for males aged under 14 years has increased from 4.8 in 2008–09 to 8.9 per 100,000 population in 2022–23. However, out of all intentional self-harm hospitalisations among under 14-year-olds (males and females), the proportion for males has decreased from 21% to 12%.

A higher rate of intentional self-harm among females is the opposite of what is seen in deaths by suicide, where rates are higher for males than for females (see Deaths by suicide over time). This may, in part, be due to differences between methods used by males and females – with males tending to use more lethal methods than females. In addition, females generally access more health services than males. See Patterns of health service use in the last year of life among those who died by suicide for more details.

The bar chart shows the age-specific rates of intentional self-harm hospitalisations for males and females for specific age groups and all ages combined by year. Users can also view age-specific rates, numbers and the proportions of hospitalisations for intentional self-harm by sex for each age group and year from 2008–09 to 2022–23.

Intentional self-harm hospitalisations, by age and sex, Australia, 2008–09 to 2022–23



Source: AIHW National Hospital Morbidity Database
Supplementary table: NHMD S2
Latest data: 2022–23 (annual)

See notes ▶

Rates of hospitalisations for intentional self-harm are higher for young people

Between 2008–09 and 2022–23, the rates of intentional self-harm hospitalisations were consistently high for young people. The highest rates in 2022–23 were recorded for:

- females aged 15–19 years (499 per 100,000 population), followed by females aged 20–24 years (289 per 100,000 population).

The highest rates for males also occurred in these younger age groups but rates were at least 2-fold lower than those of females. For example, in 2022–23:

- the highest rate of self-harm hospitalisations was 127 per 100,000 population for males aged 15–19 years, while males aged 20–24 years was 122 per 100,000 population.

During 2008–09 to 2020–21, there was a steady increase in the rates for both males and females aged 15–19, while rates since 2020–21 have declined (see Intentional self-harm hospitalisations among young people).

Viewing the monitoring data

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Intentional self-harm hospitalisations by method

Understanding the methods used for intentional self-harm can play an important role in its prevention. These data are provided to inform discussion around restriction of access to means as a policy intervention for the prevention of suicide and self-harm.

Please consider your need to read the following information. If this material raises concerns for you or if you need immediate assistance, please contact a crisis support service, available free of charge, 24 hours a day, 7 days a week.

Please consider the Mindframe guidelines - external site opens in new window (https://mindframe.org.au/suicide/communicating-about-suicide/mindframe-guidelines) if reporting on these statistics.

The classification system used to code hospital admissions data, ICD-10-AM, uses the term 'mechanism' to refer to the external cause of a self-inflicted injury. Throughout *Suicide & self-harm monitoring* 'mechanism' has been used in data visualisations, while the term 'method' has been used in the accompanying text.

Hospitalisations data for patients with intentional self-harm injuries includes those with and without suicidal intent. For further information see Technical notes.

The line graph shows the age-specific rates of intentional self-harm hospitalisations for persons of all ages from 2008–09 to 2022–23 by method of self-harm. Users can also choose to view age-specific rates, numbers, and proportions of hospitalisations for intentional self-harm by sex for each age group.

Most intentional self-harm hospitalisations are due to poisoning by pharmaceutical drugs

Between 2008–09 and 2022–23, the 2 most common methods of self-harm resulting in hospitalisation were intentional self-poisoning by anti-epileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified (benzodiazepines are included in this category) (X61) and intentional self-poisoning by nonopioid analgesics, antipyretics and antirheumatics (X60):

- *intentional self-poisoning by anti-epileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified* (X61), was responsible for 37% of intentional self-harm hospitalisations in 2022–23.
  - In 2022–23, 6,243 females were hospitalised as a result of this method of self-harm, compared to 2,891 males. This is more than 2 times as many hospitalisations among females compared to males in 2022–23.

- *intentional self-poisoning by nonopioid analgesics, antipyretics and antirheumatics* (X60), which was responsible for 22% of intentional self-harm hospitalisations in 2022–23.
  - This category includes anti-inflammatory drugs, such as ibuprofen, antipyretics (for example, aspirin and paracetamol) and anti-rheumatics (some of which are used to treat arthritis).
  - More than 3 times as many hospitalisations were among females due to this method of self-harm in 2022–23 compared to male hospitalisations (4,291 and 1,112 hospitalisations, respectively).

Contact with sharp objects (X78) was another common method of self-harm resulting in hospitalisation.

- This method of self-inflicted injury accounted for 13% of all intentional self-harm hospitalisations in 2022–23, with more hospitalisations among females than males (1,864 and 1,402 hospitalisations, respectively).

Hanging (X70), *Gas* (X67) and *Other cause* (X71–X77, X79, X80-X84, Y87.0) were the only methods of intentional self-harm that resulted in more male than female hospitalisations overall in 2022–23 (448 and 278 hospitalisations due to hanging, 114 and 38 hospitalisations due to gas, and 581 and 467 hospitalisation due to other cause, respectively).

Viewing the monitoring data

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Suicide & self-harm monitoring: Populations & age groups

Suicide and self-harm can affect people of all ages (except very young children), races, ethnicities, sexual orientations and occupations. However, a number of subgroups are particularly important to examine in depth because their risk of suicide or self-harm is higher than that of other populations, the impact on the community is different or they have specific requirements for culturally appropriate suicide prevention or postvention services.

- Although deaths by suicide occur more often in older age groups, it is the leading cause of death in Australian children and adolescents. Deaths by suicide at any age have profound effects on the families, friends and communities of those that die, but arguably, these effects are even greater when the person is young (see Suicide among young people).
- Similarly to employment in general, serving in the Australian Defence Force (ADF) seems to be protective against suicide as rates in both serving and reserve men are lower than that of all Australian men. However, for ex-servicemen suicide rates are higher than the general population (see Australian Defence Force suicide monitoring).
- The suicide rate in Aboriginal and Torres Strait Islander peoples is twice that of the non-Indigenous population (see Suicide & Indigenous Australians)—although rates vary by community, age group and sex. The high rates experienced by Indigenous Australians are due to multiple, complex and interrelated social, cultural and historical influences, including colonisation, relocation of people to missions and reserves, transgenerational grief and trauma resulting from the removal of children, racism and continued socioeconomic disadvantage. However, it is important to acknowledge that Indigenous Australians may never experience suicidal behaviours or thoughts and aspects unique to their culture can be important protective factors against suicidal or self-harming behaviours.

Understanding differences in numbers and rates of suicide, intentional self-harm and suicidal behaviours in these populations is essential for more effective suicide prevention.

Other population groups identified as priority populations for suicide prevention in Australia include lesbian, gay, bisexual, transgender or intersex (LGBTI) populations and culturally and linguistically diverse (CALD) communities. It is currently not possible to discern these groups in the available suicide and intentional self-harm data sets; however, through the National Suicide and Self-harm Monitoring Project the AIHW is looking to expand data collection on these, and other population groups (see About for information on the project).

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Deaths by suicide among young people

Suicide is the leading cause of death among Australians aged 15–24 years (See Deaths in Australia, Leading causes of death). The proportion of all deaths that are deaths by suicide is relatively high among children and young people. This is because people in these age groups do not tend to die from other causes. Data are presented by year of registration, which is not necessarily the same as the year the death occurred. For more information, see Technical notes.

In 2023:

- 298 Australian young people (aged 18–24 years) took their own lives.
- 94 deaths by suicide occurred among children and adolescents (aged 17 and below) with the majority occurring in those aged 15–17 (71.3%).
- Deaths by suicide represented 31.8% of all deaths in young people aged 15–17 years and 33.1% of all deaths in those aged 18–24 years – up from 16.5% and 23.9% respectively of all deaths in these age groups in 2001.
- In children aged 14 and below, the proportion of all deaths that are deaths by suicide is low compared with the two older age groups. In 2023 deaths by suicide represented 2.0% of all deaths in children aged 14 and below.

Suicide deaths of children and young people, Australia, 2001 to 2023

The line graph shows the age-specific rates of suicide for children and young people aged 14 and below, 15–17 and 18–24 from 2001 to 2023. Users can also choose to view the number of deaths by suicide and deaths by suicide as a proportion of all causes of death for each age group over the period.

Throughout 2001 to 2023:

- Rates of death by suicide were highest among young adults aged 18–24 years (12.6 per 100,000 population in 2023) compared to both adolescents aged 15–17 years (6.9 in 2023), and children aged 14 years and below (0.6 in 2023).
- Rates of death by suicide among 18–24-year-olds decreased between 2001 and 2009 (15.9 per 100,000 population to 10.3). Then, overall, suicide rates for this age group increased until 2020 (16.6). After which, there was a decrease to 2023 (12.6). However, it is important to note that 2022 and 2023 data are preliminary and subject to change through the ABS revisions process.
- Rates of death by suicide among 15–17-year-olds ranged between a low of 3.2 per 100,000 population in 2004 and a high of 9.2 in 2018.

Viewing the monitoring data

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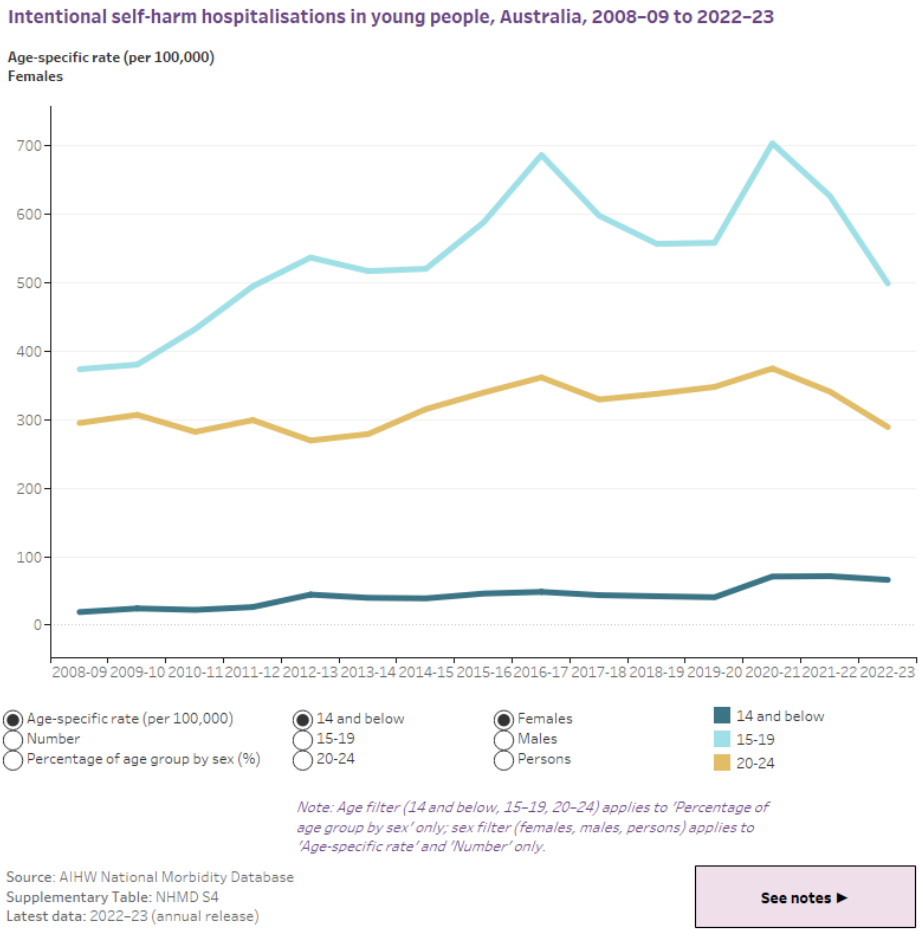
Intentional self-harm hospitalisations among young people

Hospitalisations data for patients with intentional self-harm injuries includes those with and without suicidal intent. For further information see the Technical notes.
The data presented here are for children and young people aged below 24 years, grouped into 3 age ranges: 14 years and below, 15–19 years and 20–24 years. For children, especially those aged under 10 years, it is difficult to determine whether a self-inflicted injury was done with intent to self-harm.

The line graph shows age-specific rates of intentional self-harm hospitalisations for young people aged 14 and below, 15–19 and 20–24 from 2008–09 to 2022–23. Users can also choose to view age-specific rates, numbers and proportions of hospitalisations for intentional self-harm by sex for each age group.



Young people have the highest rates of hospitalisation for intentional self-harm

In 2022–23:

- the rate for young people aged 15–19 years was 308 hospitalisations per 100,000 population, the highest of all age groups (including older age groups not in this visualisation)
- the age-specific hospitalisation rate due to intentional self-harm was lower among people aged 20–24 years (204 per 100,000), and the lowest was for children aged 14 years and below (37 per 100,000 population)
- the age-specific rate was highest for females aged 15–19 years (499 hospitalisations per 100,000 population), followed by females aged 20–24 years (289 per 100,000 population)
- rates for young males were generally lower compared to females within age groups. The lowest rate was for males under 14 years (8.9 hospitalisations per 100,000 population), followed by males aged 20–24 years (122). Similar to females, those aged 15–19 years had the highest rate among young males (127 hospitalisations per 100,000 population).

Rates of intentional self-harm hospitalisations for young females remain high compared to males of same age

From 2008–09 to 2022–23:

- while the rates of intentional self-harm hospitalisations in females remain high compared to males of the same age, there has been a decline in the last couple of years, most notably in young females aged 15–19.
- There appears to be an age effect for females aged 15–19 that is not observed in males. Unlike males of the same age, the rate of female intentional self-harm hospitalisations in this age group differs considerably from those aged 20–24.
- Male rates for the age group 15–24 years have largely remained flat over time, with less variability compared to females of the same age.

Analysis of intentional self-harm hospitalisations by age and sex shows the following:

- **females aged 14 years and below**: There has been a greater than 3-fold increase in the rate of intentional self-harm hospitalisations (from 19 hospitalisations per 100,000 population to 66).
- **Females aged 15–19 years**: The rate rose from 374 hospitalisations per 100,000 population in 2008–09 to 703 in 2020–21, and then lowered to 499 in 2022–23.

- **Females aged 20–24 years**: The rate was lower in 2022–23 than in 2008–09 (295 and 289 per 100,000 population, respectively). The rate increased to its highest in 2020–21 (375 per 100,000 population). Both females and males aged 20–24 years are the only age group with an overall decrease since 2008–09.
- **Males aged 15–19 years**: An increase was observed from 124 hospitalisations per 100,000 population to a peak of 174 in 2020–21, before decreasing to 127 in 2022–23.
- **Males aged 20–24 years**: There was an overall decrease from 149 in 2008–09 to 122 per 100,000 population in 2022–23, after peaking at 185 in 2016–17.

Viewing the monitoring data

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Deaths by suicide among First Nations people

If at any point you feel worried about harming yourself while viewing the information on this website – or if you think someone else may be in danger – please stop reading and seek help.

Please note: Work is underway to update this page with data from *2023 Causes of death, Australia* (latest release). The data below are from *2022 Causes of death, Australia*, released in 2023.

For further information about the wellbeing, mental health and suicide prevention of Aboriginal and Torres Strait Islander (First Nations) people, see the First Nations Mental Health & Suicide Prevention Clearinghouse - external site opens in new window (https://www.indigenousmhspc.gov.au/)managed by the AIHW. This website was developed in consultation with experts in First Nations mental health and suicide prevention, practitioners and policy makers. It brings together key research to improve the evidence base on Indigenous mental health and suicide prevention.
Since 2001, age-standardised suicide rates among First Nations people have been higher than those of non-Indigenous Australians. Preliminary 2022 data from the Australian Bureau of Statistics (ABS) Causes of Death (CoD) indicate that the rate of suicide deaths is approximately two and a half times as high among First Nations people compared with non-Indigenous Australians. Reducing deaths by suicide and suicidal behaviour among First Nations people is an issue of major concern for many First Nations communities and a public health priority for all Australian governments. By understanding the factors involved in suicide deaths among First Nations people, and how they may be different to non-Indigenous Australians, prevention strategies can be better targeted to reduce suicide deaths.

Deaths by suicide are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. Data for Victoria, Tasmania and the Australian Capital Territory have been excluded (see Technical notes for further information). All totals on this page, are the sum of these selected jurisdictions only (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory). No national totals are reported for deaths among First Nations people or non-Indigenous Australians, on this page.

Suicide rates among First Nations people

In 2022:

- suicide accounted for 4.6% of all deaths among First Nations people, with males experiencing a greater proportion of suicide deaths out of all causes of deaths compared with females (6.5% and 2.5% respectively).
- almost one quarter (24.5%) of all deaths by suicide among First Nations people were of females, while males accounted for just over three-quarters (75.5%) of all deaths by suicide among First Nations people.

- First Nations males experienced 3.3 times the rate of suicide deaths compared with First Nations females (46.3 and 14.0 suicide deaths per 100,000 population, respectively).
- both First Nations males and females experienced suicide deaths at a higher rate than their non-Indigenous counterparts. The rate of death by suicide for First Nations males was 2.6 times that of non-Indigenous males. The suicide rate for First Nations females was 2.5 times that of non-Indigenous females.

The line graph shows the age-standardised rates of suicide for First Nations people and non-Indigenous people from 2001 to 2022. Users can also choose to view age-standardised rates, numbers of deaths by suicide and deaths by suicide as a proportion of all causes of death for Indigenous and non-Indigenous people by sex.

Over the last decade, between 2013 and 2022, age standardised rates of suicide among First Nations people ranged between 22.4 and 29.9 deaths per 100,000 population. Understanding the complexity and interrelationship between protective and risk factors for suicide among First Nations communities is important in designing culturally appropriate and relevant suicide prevention programs and policies. This is because concepts of wellbeing among First Nations people are shaped by factors such as historical events, community values and cultural beliefs, all of which interact and protect from or increase the risk of suicide. See Protective and risk factors for suicide among Indigenous Australians - external site opens in new window (https://www.indigenousmhspc.gov.au/publications/protective-and-risk-factors) for more information.

Caution should be exercised when analysing trends in deaths by suicide for First Nations people due to data quality issues, including the under-identification of First Nations people in deaths data and the uncertainties in estimating and projecting the size and structure of the First Nations population over time. The data may also be impacted by the willingness of an individual to identify as Aboriginal and/or Torres Strait Islander and how this willingness may change over time due to a variety of factors. For information about these data quality issues see: Investigating enhancements of Indigenous data in suicide-relevant data sets - external site opens in new window (https://www.indigenousmhspc.gov.au/publications/enhancements). It is also important to remember that age-standardised rates based on only a small number of deaths by suicide will exhibit a large amount of variation and that increases in numbers of deaths by suicide and rates should be treated with caution as improvements in identifying Indigenous status among deaths data may (at least in part) account for the rise in case numbers and rates. Caution is also advised when making comparisons to 2022 data due to an improvement in methodology for deriving Indigenous status for deaths registered in New South Wales. The use of a secondary source for determining Indigenous status of the deceased has introduced a break in time series of data related to deaths and First Nations people (for further information please visit here - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022#technical-note-the-impact-of-using-two-sources-for-deriving-the-indigenous-status-of-deaths-in-nsw-in-2022)).

Death by suicide across age groups among First Nations people

Suicide contributes to premature mortality in First Nations people, especially in younger age groups. Data from the National Mortality Database and the ABS CoD from 2018–2022 showed:

- The percentage of all deaths, among First Nations people, that were deaths by suicide was highest for younger age groups. For those aged 0–24 years, almost a quarter of all deaths (22.0%) were by suicide. For those aged 25–44 years, 19.2% of all deaths were by suicide. For 45–64 year olds, it was 2.3% and for those aged 65 years and older, 0.2% of deaths were by suicide.
- The rate of suicide deaths per 100,000 population among First Nations people was highest among 25–44 year olds (50.0 deaths per 100,000 population). This was followed by 45–64-year-olds (23.4), 0–24 year olds (16.0) and those aged 65 and over (9.9).
- Among First Nations people aged 0–24 and 25–44, suicide rates were more than 3 times as high (3.1 each) compared to non-Indigenous Australians.
- Non-Indigenous Australians aged 65 years and over experienced a higher suicide rate compared to First Nations people of the same age (13.2 and 9.9 deaths per 100,000 population, respectively).

The proportion of all deaths that were deaths by suicide was higher among First Nations people aged 0–24 years compared to non-Indigenous Australians aged 0–24 years (22.0% and 16.8% respectively). However, non-Indigenous Australians experienced higher proportions of deaths by suicide within every other age-group compared with First Nations people.

Suicide deaths by Indigenous status and age groups, selected states and territories, 2018-2022.

This bar chart shows the death by suicide crude rates (per 100,000), number and per cent of all cause of deaths for Indigenous and non-Indigenous, by age group, from 2018–2022. Users can also choose to view by 5-year aggregates from 2001–2005 to 2018–2022.

Death by suicide across age groups and selected states and territories among First Nations people

Between 2018–2022, the highest suicide rate among First Nations people was in Western Australia for those aged 25–34 (87.0 suicide deaths per 100,000 population). Within the Northern Territory, the highest rate of death by suicide was also for those aged 25–34 years (46.9). Compared to other age groups, New South Wales, Queensland and South Australia had their highest rates among 35–44-

year-olds (48.6, 54.9 and 43.2 respectively). The lowest suicide rate was in those aged 0–24 in New South Wales (8.5). This was similarly observed in Western Australia (17.9) and South Australia (15.0), while those aged 45 and over had the lowest rates in Queensland (16.2) and Northern Territory (22.3).

Deaths from suicide, by Indigenous status and age, selected states and territories, 2018–2022.

This bar chart shows the age-specific rates (per 100,000) for deaths from suicide, for First Nations people and non-Indigenous people by age group, from 2018–2022. Users can choose to view by 5-year aggregates from 2001–2005 to 2018–2022. Users can also choose to view by New South Wales, Queensland, Western Australia, South Australia, Northern Territory and the total of these states and territories.

Death by suicide across sex and selected states and territories among First Nations people

Across selected states and territories between 2018–2022, First Nations people experienced the highest age–standardised rate (per 100,000 population) in Western Australia (38.1 suicide deaths per 100,000), followed by the Northern Territory (31.6) and Queensland (28.1). These were all greater than the rate summed across selected states and territories, for First Nations people (27.6 deaths per 100,000 population). A similar pattern was seen among First Nations males and females with Western Australia having the highest rate (56.3 and 20.0 respectively). Summed across selected states and territories, First Nations male suicide rates were almost three times higher (2.9) than First Nations females.

Summed across selected states and territories, the rate of death by suicide between 2018–2022, was 2.3 times greater for First Nations people compared to non-Indigenous Australians. The difference, in rates of suicide death among First Nations people and non-Indigenous Australians, was particularly stark in Western Australia. In Western Australia, the rate of death by suicide among First Nations males was 2.9 times greater than among non-Indigenous males, and First Nations females was 3.0 times that non-Indigenous females.

Please note, First Nations suicide rates in Western Australia vary between different regions. To guide government, non-government organisations and communities in preventing suicide in Western Australia, the Western Australia Mental Health Commission developed the Western Australian Suicide Prevention Framework 2021–2025 - external site opens in new window (https://www.mhc.wa.gov.au/media/2718/draft-suicide-prevention-action-plan-2021_2025.pdf) (Government of Western Australia Mental Health Commission 2020).

Deaths from suicide, by Indigenous status, sex and selected states and territories, 2018-2022.

This bar chart shows the age-specific rates (per 100,000) for death by suicide among First Nations people and non-Indigenous people, by selected states and territories, from 2018–2022. Users can choose to view by 5-year aggregates from 2001–2005 to 2018–20288. Users can also choose to view by NSW, Qld, WA, SA, NT and the total of these selected states and territories.

References

Australian Institute of Health and Welfare (2022) *Protective and risk factors for suicide among Indigenous Australians - external site opens in new window (https://www.indigenousmhspc.gov.au/getattachment/2a25cdd8-d8a7-4373-938f-2aa51a0b4128/aihw-2022-protective-and-risk-factors.pdf?v=1260).* Catalogue number IMH 11, AIHW, Australian Government.

Government of Western Australia Mental Health Commission 2020. Western Australian Suicide Prevention Framework 2021–2025 - external site opens in new window (https://www.mhc.wa.gov.au/media/2718/draft-suicide-prevention-action-plan-2021_2025.pdf). Perth: Mental Health Commission

Viewing the monitoring data

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Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

The AIHW supports the use of the Mindframe guidelines - external site opens in new window on responsible, accurate and safe suicide and self-harm reporting. Please consider these guidelines when reporting on statistics on the monitoring of suicide and self-harm.

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Intentional self-harm hospitalisations among First Nations people

The AIHW uses 'First Nations people' to refer to Aboriginal and/or Torres Strait Islander people in this report.

Hospitalisations data for patients with intentional self-harm injuries includes those with and without suicidal intent. For further information see the Technical notes.
The quality of the hospital data provided for First Nations status varies between states and territories. For further information, see the data quality statement - external site opens in new window (https://meteor.aihw.gov.au/content/index.phtml/itemId/724188) and the Technical notes.

The line graph shows age-specific rates of hospitalisations for intentional self-harm by age, sex and Indigenous status. Users can also choose to view 'number' and 'percentage of age group' intentional self-harm hospitalisations by age group, sex and Indigenous status.

Hospitalisations for intentional self-harm among First Nations people

In 2022–23, the rate of intentional self-harm hospitalisations for First Nations people (295 hospitalisations per 100,000 population) was over 3 times that of non-Indigenous Australians (87 per 100,000 population).

During 2022–23:

- the highest rate of hospitalised intentional self-harm among First Nations people was in the 15–19 years age group (560 hospitalisations per 100,000 population). The highest rate of hospitalised intentional self-harm among non-Indigenous Australians was also recorded in the 15–19 years age group (291 hospitalisations per 100,000 population), which was almost half the rate of First Nations Australians aged 15–19 years.
- First Nations females aged 15–19 years recorded the highest rate of intentional self-harm hospitalisations (885 hospitalisations per 100,000 population), followed by First Nations females aged 25–29 years (608 hospitalisations per 100,000 population).
- The highest rate of hospitalised intentional self-harm among First Nations males was in the 35–39 year old age group (502 hospitalisations per 100,000 population), followed by First Nations males aged 25–29 years (467 per 100,000 population) and 30–34 years (422 per 100,000 population).

How have rates of intentional self-harm hospitalisations changed for First Nations people?

From 2008–09 to 2022–23:

- the overall rate of hospitalised intentional self-harm for First Nations people rose steadily (from 203 to 295 hospitalisations per 100,000 population)

- the rate of intentional self-harm hospitalisations for non-Indigenous Australians slightly increased from 114 hospitalisations per 100,00 population in 2008–09 to 127 hospitalisations per 100,00 population in 2016–17, before falling to 87 in 2022–23.

Over a similar period (2008–2022), the rate of death by suicide among First Nations people also increased (see, Suicide among First Nations people).

Rates of hospitalisation for intentional self-harm increased from 2008–09 to 2022–23 for First Nations females and males.

From 2008–09 to 2022–23:

- rates of intentional self-harm hospitalisations among First Nations females increased from 235 to 360 hospitalisations per 100,000 population.
- Rates for First Nations males increased from 170 to 228 hospitalisations per 100,000 population.
- The largest increase in rates of intentional self-harm hospitalisations was among First Nations females aged 15–19 years. For this group, the rate of hospitalisations almost doubled, from 455 to 885 hospitalisations per 100,000 population.
- Rates of intentional self-harm hospitalisations increased markedly among First Nations females aged 25–29 years (381 to 608 hospitalisations per 100,000 population) and First Nations females aged 20–24 years (425 to 592 hospitalisations per 100,000 population).
- Rates of intentional self-harm hospitalisations more than doubled among First Nations males aged 50 years and over (78 to 189 hospitalisations per 100,000 population) and aged under 14 years (8 to 18 hospitalisations per 100,000).

Viewing the monitoring data

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Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

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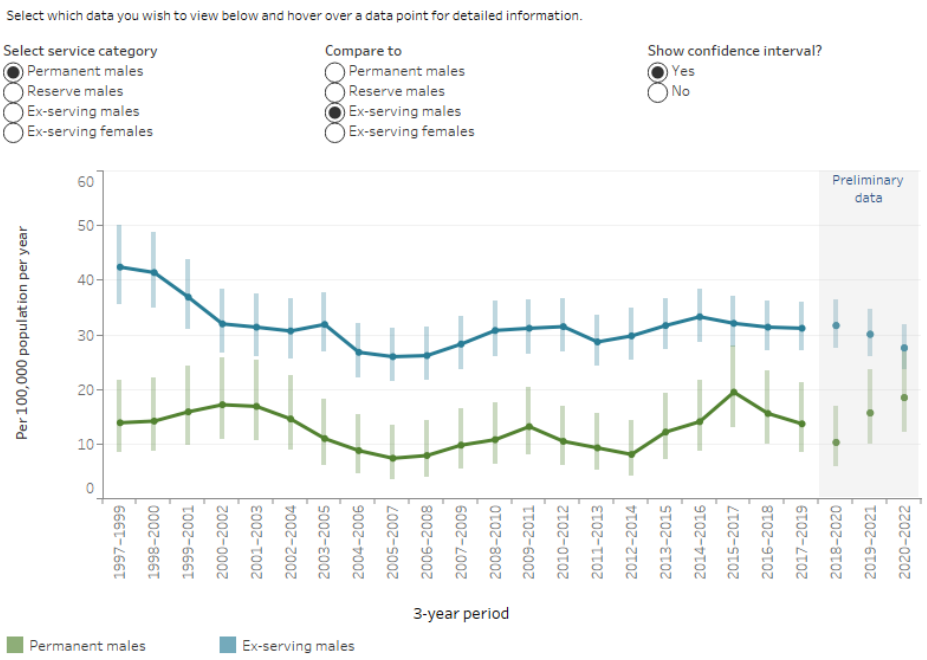
Australian Defence Force suicide monitoring

Data in this section is drawn from the *Serving and ex-serving Australian Defence Force members who have served since 1985: suicide monitoring 1997 to 2022*.
Suicide rates remain a concern in the Australian community and a priority for the Australian Government. Historically, ex-serving ADF members have faced an increased risk of suicide.

To increase understanding on the complex issue of suicide in serving and ex-serving ADF members, the AIHW provides annual updates to monitor the incidence of suicide in permanent, reserve and ex-serving ADF members (see Box 1). This work has been commissioned by the Department of Veterans' Affairs.

Rate of suicide by service status and sex, 1997–1999 to 2020–2022

The line graph compares rates of suicide per 100,000 population in three-year periods beginning with 1997–1999 and ending with 2020–2022. Rates compared are permanent males, reserve males, ex-serving males and ex-serving females.



Source: AIHW analysis of linked Defence historical personnel data–PMKeyS–NDI data 1985–2022.
http://www.aihw.gov.au

Tool tip shows suicide rate per 100,000 population per year, confidence interval and significant difference for each 3-year period when the mouse is hovered over a data point.

Key findings

Serving permanent males and reserve males were less likely to die by suicide than the general Australian population. However, ex-serving males and females were more likely to die by suicide than the general Australian population.

Compared with the Australian population, suicide rates (after adjusting for age) between 1997 and 2022 were: 47% lower for male permanent ADF members; 45% lower for reserve ADF males; 26% higher for ex-serving ADF males; and 100% (or 2 times) higher for ex-serving ADF females. The rate of suicide for ex-serving ADF females was lower than the rate for ex-serving ADF males.

Between 1997 and 2022:

- For both ex-serving and Australian males under 30, suicide wasthe leading cause of death accounting for 42% and 29% of deaths respectively. This was similar for ex-serving and Australian females under 30 where suicide accounted for 44% and 22% of deaths, respectively.
- Ex-serving males under 50 were more likely to die by suicide than those aged 50 years and over (36.7 and 20.3 per 100,000 population per year, respectively).
- The suicide rate was 22.0 per 100,000 population per year for males who separated voluntarily, which is similar to the Australian male population. However, the rate of suicide for males who separated for involuntary medical reasons was almost 3 times as high at 62.7.
- The suicide rate of ex-serving males who had served for 20 or more years was 15.5 suicides per 100,000 population per year. This was lower compared to those who had served for <1 year, 1 to <5 years, 5 to <10 years or 10 to <20 years.
- The suicide rate for ex-serving males who separated as officers was about half the rate of those who separated at other ranks (17.1 and 32.9 per 100,000 population per year respectively).
- Ex-serving males who served at least one day in the permanent forces had higher rates of suicide compared to those who served solely in the reserve forces (34.6 and 25.4 per 100,000 population per year, respectively).

For more information see Serving and ex-serving Australian Defence Force members who have served since 1985: suicide monitoring 1997 to 2022. Further information is presented by service status, age, sex, service, rank, length of service, time since separation and reason for separation. This year, the monitoring report includes:

- the reporting of the leading causes of death among ADF members
- analysis of the involuntary separation reason of *Retention not in service interest*
- analysis of the additional variables year of hire, year of separation, and basic training completion status
- multi-factor survival modelling analysis.

Box 1: Who is included in this report?

Permanent: ADF members serving in a full-time capacity in the Royal Australian Navy (Navy), Australian Army (Army) or the Royal Australian Air Force (Air Force) on or after 1 January 1985, and serving in a permanent capacity on 31 December 2022 or on the date they died.

Reserve: ADF members who were in the reserve forces for the Navy, Army, or the Air Force on or after 1 January 1985, and were in the reserve forces on 31 December 2025 or when they died. Many members leaving full-time service transition to the reserves for a minimum of 5 years. The service status 'reserve' includes members with a wide range of relationships to the ADF. It includes personnel who have transitioned from full time service as well as both those who joined and have served solely in reserve capacity. Some reserve members may serve with enduring regular employment (active reserves), while others may not render service in any capacity (standby reserves).

Ex-serving: ADF members who were in the permanent or reserve services between 1 January 1985 and 31 December 2022, who subsequently transitioned from Defence.

Data sources

In addition to the National Mortality Database (NMD), the Australian Defence Force (ADF) suicide monitoring analysis used the following data sources:

National Death Index (NDI)

The NDI is managed by the AIHW and contains person-level records of all deaths in Australia since 1980 obtained from the Registrars of Births, Deaths and Marriage in each state and territory. Its use is confined to data linkage studies approved by the AIHW Ethics Committee for health and medical research. NDI records are supplemented with cause of death information from the NMD. In this study, the NDI is linked with Defence payroll data to create the linked Defence payroll–NDI data set used in analysis of suicide in the ADF population.

Department of Defence personnel system data

The Department of Defence compiled a file of current and historical Defence personnel systems covering ADF members who have served since 1 January 1985. This combines PMKeyS, Core HR system, D1, CENRESPAY (for reservists), ADFPAY (for permanent members) and other historical payment systems. The Department of Defence and AIHW assessed the resulting file for completeness and duplicates. Comparisons were made with records from Department of Defence annual reports and other sources to validate the list. Data from the National Archives was also investigated for its suitability in validation, however as the majority of records are electronic files based on photos of paper records, this was not usable.

For further information see Technical Notes of Serving and ex-serving Australian Defence Force members who have served since 1985: suicide monitoring 1997 to 2022.

Viewing the monitoring data

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Intentional self-harm hospitalisations among ex-serving Australian Defence Force members

Data presented in this section are drawn from the partnership between the Department of Veterans' Affairs and Department of Defence to establish a new data asset to provide greater insight into the health service needs of ex-serving Australian Defence Force (ADF) members. For more information on the data asset see *Technical notes - Characteristics of ex-serving Australian Defence Force members hospitalised for suicidality and intentional self-harm*.

Hospitalisations data for patients with intentional self-harm injuries includes those with and without suicidal intent. For further information see the Technical notes.

Admitted patient care for intentional self-harm

In 2019-20, 7,776 males and 11,126 femalesaged 17 years and over were admitted for intentional self-harm in public hospitals. Ex-serving ADF members were more likely to have been admitted for intentional self-harm compared with the total Australian population every year between 2010 and 2020.

Of all patients admitted to hospital in 2019–20:

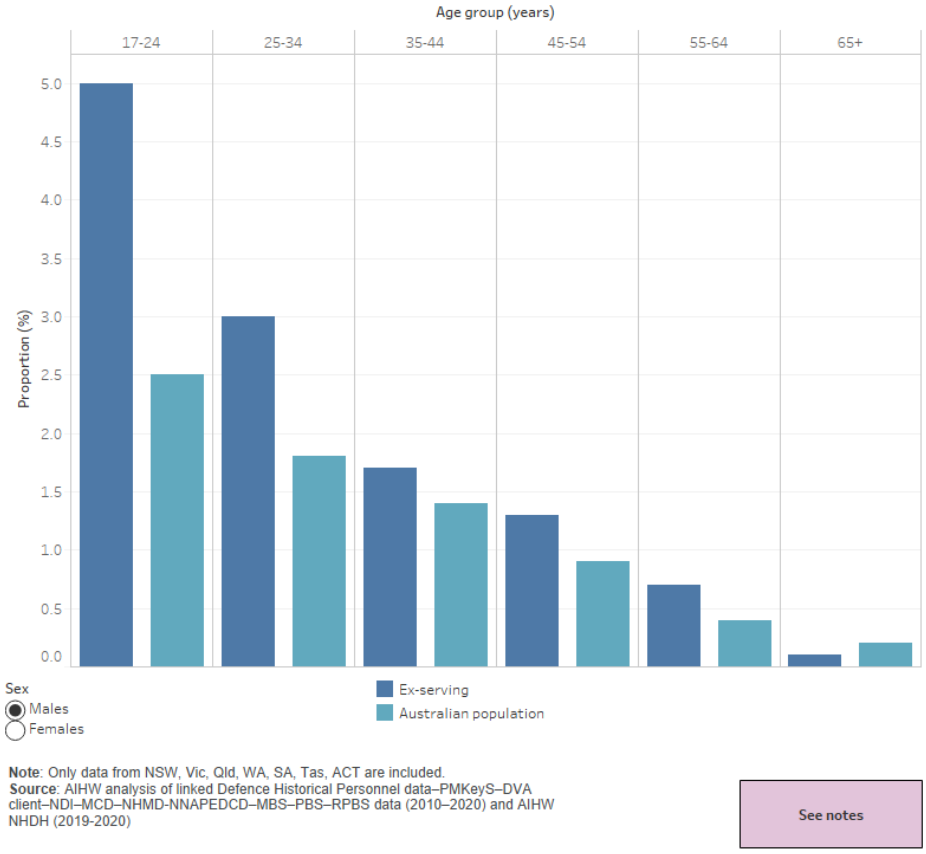
- A higher proportion of ex-serving males were admitted for intentional self-harm compared with all Australian males (1.1% and 0.8% respectively)
- A higher proportion of ex-serving females were admitted for intentional self-harm compared with all Australian females (1.9% and 0.9% respectively).

The proportion of ex-serving ADF members admitted for intentional self-harm, compared with all Australians by age group were significantly higher for:

- ex-serving males aged 25-34 years (3.0% and1.8% respectively)
- ex-serving females aged 35-44 years (2.6% and 0.9% respectively).

Proportion of all admissions for any intentional self-harm for ex-serving ADF members and all Australians aged 17 and over to a public hospital, FY2019-20

The bar chart shows the proportions of hospital admissions for any intentional self-harm among people aged 17 and over. It compares the proportions among the ex-serving population with the Australian population. Data can be viewed by males and females.



Associated service characteristics

Some factors associated with a higher likelihood of hospital admission for intentional self-harm among ex-serving ADF members included:

- Service in the Army or Navy
- Shorter service duration (for males)
- Lower military ranks (for males)
- Involuntarily discharge from the ADF.

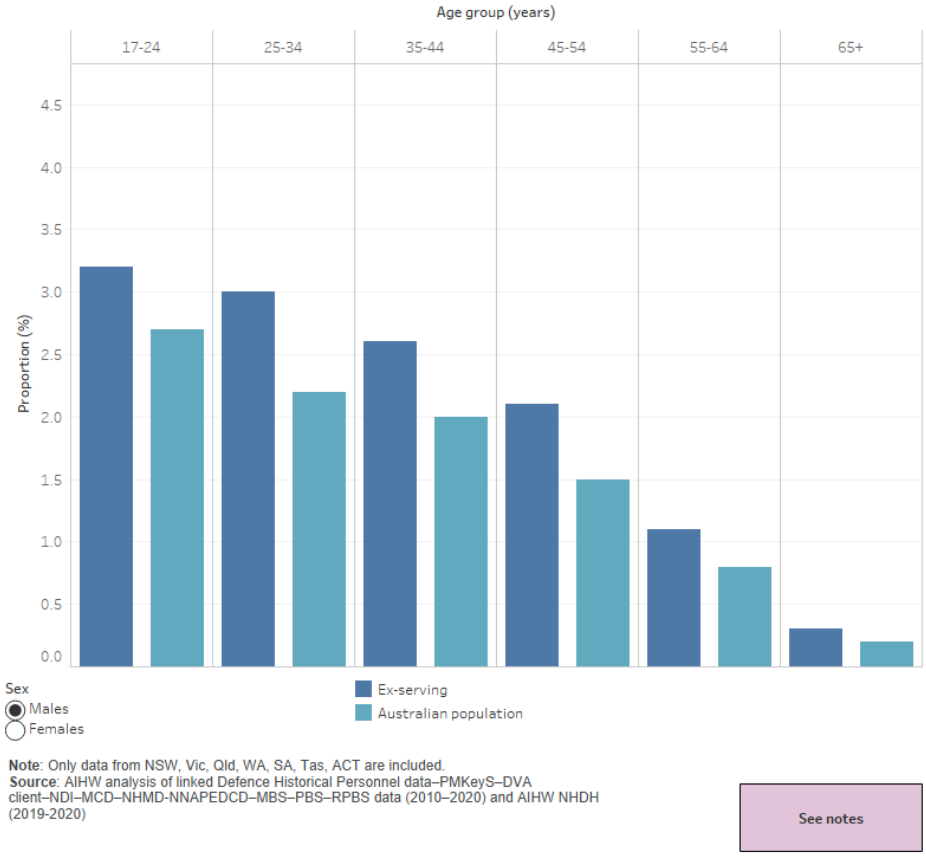
Emergency department presentations for intentional self-harm

Presentations relating to intentional self-harm and/or suicidal ideation cannot be easily identified in the current national emergency department (ED) data collection. The challenges to identification include limitations in ED presentation diagnosis coding systems, variability between diagnosis coders, and variability between coding sets available in ED systems across jurisdictions. These data below are from bespoke analysis conducted for the Characteristics of ex-serving Australian Defence Force members hospitalised for suicidality and intentional self-harm report. See Technical notes for more information.
Between 2013 and 2020 about 4,400 ex-serving ADF members presented to an ED for self-harm or suicidal behaviour, representing 3.7% of all ED presentations among ex-serving ADF members, compared with 2.8% for all Australians.

Among ex-serving males, 3.7% of ED presentations were for self-harm or suicidal behaviour. Presentations to ED by ex-serving ADF males of all age groups were 1.2 to 1.6 times more likely related to self-harm or suicidal behaviour compared with all Australian males of the same age group. This was similarly observed for the female ex-serving ADF population except for those aged 65+ years.

Proportion of ED presentations for self-harm or suicidal behaviour for ex-serving ADF members and all Australians, by age group, 2013–2020

The bar chart shows the proportions of Emergency Department presentations for any intentional self-harm or suicidal behaviour among people aged 17 and over. It compares the proportions among the ex-serving population with the Australian population. Data can be viewed by males and females.



For more information see *Characteristics of ex-serving Australian Defence Force members hospitalised for suicidality and intentional self-harm*.

The information in this report is based on several data sources. For more information, please see Data Sources, Characteristics of ex-serving Australian Defence Force members hospitalised for suicidality and intentional self-harm.

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Deaths by suicide among people who used disability services

Deaths by suicide among people who used disability services and the general population data (who were not disability service users) are sourced from the AIHW report: *Mortality patterns among people using disability support services: 1 July 2013 to 30 June 2*018. These data include details about deaths for people who accessed disability specific support services, funded under the National Disability Agreement (NDA), from 1 July 2013 to 30 June 2018, herein referred to as 'people who used disability services'. Deaths reported are those that occurred between 1 July 2013 to 30 June 2018. It should, therefore, be noted that the data below are not representative of all deaths of people with disability, but rather those who had access to and were successful in applying for NDA funded support services over the 5-year study period. In this reporting, the general population is the Australian population aged under 65 years, less people who used disability services. For further information on the methods of this study please see the *Technical Report (https://www.aihw.gov.au/reports/disability-services/mortality-patterns-of-people-using-disability-serv/contents/technical-report)*. The National Disability Insurance Scheme (NDIS) has largely replaced the disability services currently provided by states and territories to people with disability under the NDA.

People living with disability are one of the Australian government's priority populations for suicide prevention due to the high rates of suicide and self-harm among those with disability (Cth of Australia, 2022). As such, analysis and visualisation of data from the above report has been incorporated into the National Suicide and Self-harm Monitoring System.

Further, we acknowledge those who have died by suicide and those who are bereaved and affected by suicide and self-harm. Suicide and self-harm are preventable. If you, or you believe somebody you know, is experiencing suicidality, please seek *help (https://www.aihw.gov.au/suicide-self-harm-monitoring/research-information/crisis-support)*.

Deaths by suicide among people who used disability services and the general population

People aged under 65 years, who used disability services between 1 July 2013 to 30 June 2018, died by suicide at a rate three times greater than the general population of the same age (34 and 11 per 100,000 population respectively). See notes in the visualisation below for more information on age groups.

Deaths by suicide, by sex

The rate of death by suicide for all males who used disability services (38 per 100,000 population) was 1.4 times greater than females who used disability services (27 per 100,000 population). The difference in rate of death by suicide between males and females is substantially smaller among those who used disability services when compared to the general population. Among the general population, the rate of death by suicide for males (17 per 100,000 population) was 2.8 times greater than females (6 per 100,000 population).

The data visualisation compares rates of deaths by suicide between the general population and disability support service users from 2013 to 2018. It is categorised by sex (females, males, persons).

Deaths by suicide, by sex and age group

For both males and females, and across each of the age groups, those who used disability services had higher rates of death by suicide compared to the general population.

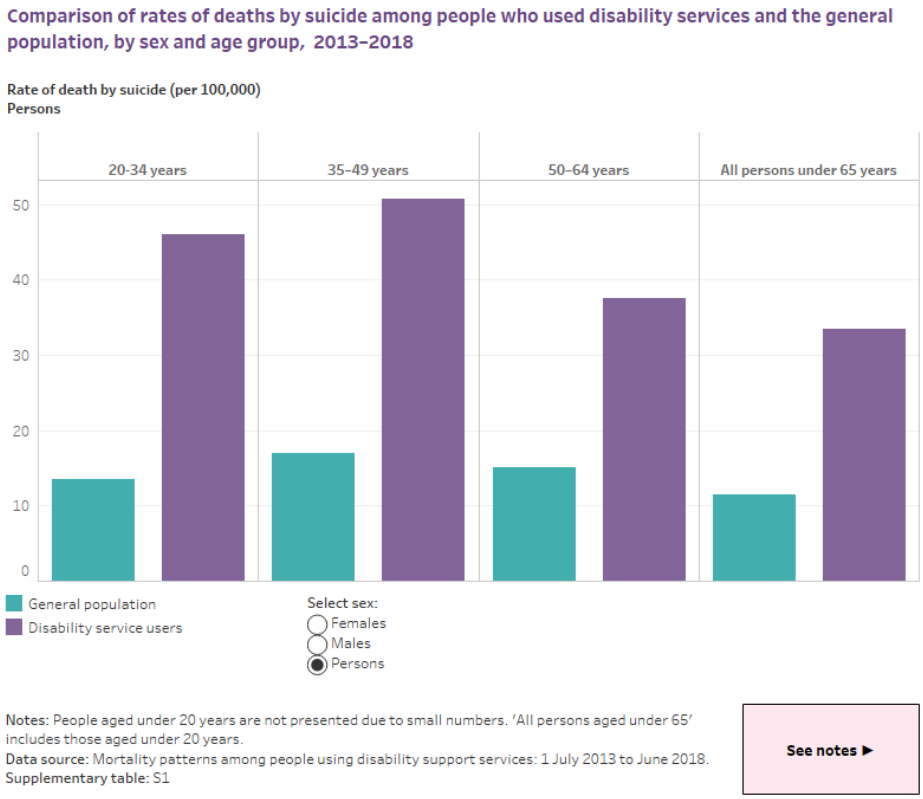
The rate of deaths by suicide for females aged 20–34 years who used disability services (35 per 100,000 population) was over five times greater than the rate among females aged 20–34 in the general population (6.0 per 100,000 population). Among males aged 20–34 years, the rate of suicide (53 per 100,000) was more than double the rate among in the general population of the same age (21 per 100,000 population).

For females who used disability services, the highest rates of suicide were within the 35–49 years age group (38 per 100,000 population respectively). The rate of death by suicide among females who used disability services within the 35-49 years age group was almost five times greater than for females in the general population of the same age (8.0 per 100,000 population).

The highest rate of death by suicide, across all gender and age groups, was among men who used disability services aged 35–49 years (62 per 100,000 population). For men in the general population, the highest rate of death by suicide was also among those aged 35–49 years of age (26 per 100,000 population).

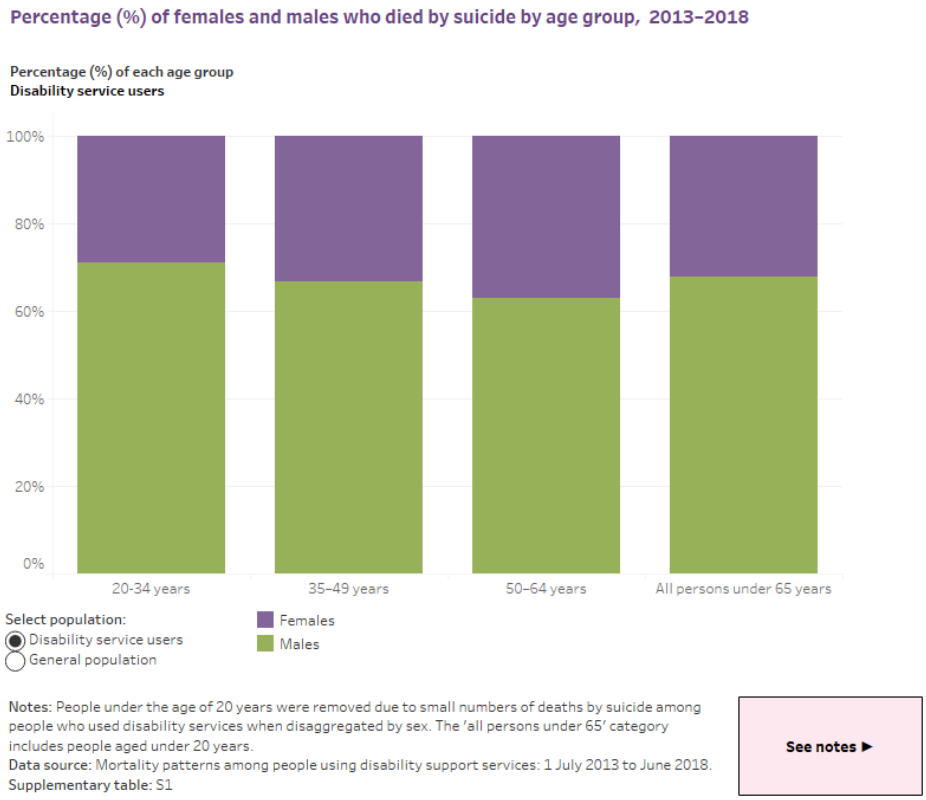
For woman aged 50-64 years of age, the rate of death by suicide among those who used disability services (28 per 100,000 population) was almost four times greater than among the general population (7.5 per 100,000 population). For men aged 50-64 years of age, the rate of death by suicide among those who used disability services (47 per 100,000 population) was approximately two times greater than among the general population (23 per 100,000 population).

The interactive data visualisation compares rates of deaths by suicide amongst the general population and those who used a disability support service from 2013 to 2018. The two population groups are divided according to age group from persons aged 20 to over 65 years of age. Sex can be selected (females, males, persons).



Among both disability service users and the general population, and across each of the age groups, males comprise a substantially higher percentage of all deaths by suicide compared females. However, across each of the age groups, the percentage of all deaths by suicide that are female is higher among those who used disability services compared to the general population. For example, 37% of deaths by suicide among disability service users aged 50-64 years were female. Whereas 25% of deaths by suicide among the general population aged 50-64 years were female.

The data visualisation shows the percentage of males and females who died by suicide, from 2013 to 2018. It is divided by age groups and range from people aged 20 to all persons under 65. Viewing for the general population or those who used a disability support service can be selected.



Deaths by suicide as a percentage of deaths by all causes

Death by suicide (for all persons under 65 years) accounted for 5.2% of deaths by all causes among disability service users, making it the fourth leading cause of death for this population. Among the general population, death by suicide accounted for 8.9% of deaths by all causes and was the number one leading cause of death.

Particularly among the younger age groups, deaths by suicide accounted for a larger percentage of all deaths occurring within the general population as compared to those occurring within those who used disability services. Among the 20-34 years age group, deaths by suicide accounted for 31% of all deaths occurring within the general population and 15% of all deaths occurring within those who used disability services. Even so, death by suicide was the number one leading cause of death for the 20-34 years age group among both the general population and those who used disability services.

Deaths by suicide as a percentage of deaths by all causes can be viewed by hovering the mouse over the data points included within 'Comparison of rates of deaths by suicide among people who used disability services and the general population, by sex and age group, 2013–2018' and 'Comparison of rates of suicide (per 100,000) among people who used disability services and the general population, by sex, 2013–2018' visualisations above.

Deaths by suicide by primary disability

In this reporting the concept of 'primary disability' is that the type of disability which most clearly reflects the person's experience of disability and causes them the most difficulty in everyday life. Primary disability groups reported here are those used by the *Mortality patterns among people using disability support services: 1 July 2013 to June 2018* (https://www.aihw.gov.au/getmedia/de0fc029-4574-4e7b-899c-9818fa482966/aihw-dis-76-summary.pdf.aspx?inline=true) report. It is important to note that people who live with disability can experience multiple types of disability at any point in time. The people whose data are reported here may have experienced different types of disability.

People using disability services whose primary disability was 'psychosocial disability' had substantially higher rates of death by suicide (101 per 100,000 population) compared to disability service users with all other primary disabilities and compared to the general population. The rate of death by suicide for disability service users with 'psychosocial disability' was approximately nine times greater than for the general population (11 per 100,000 population).

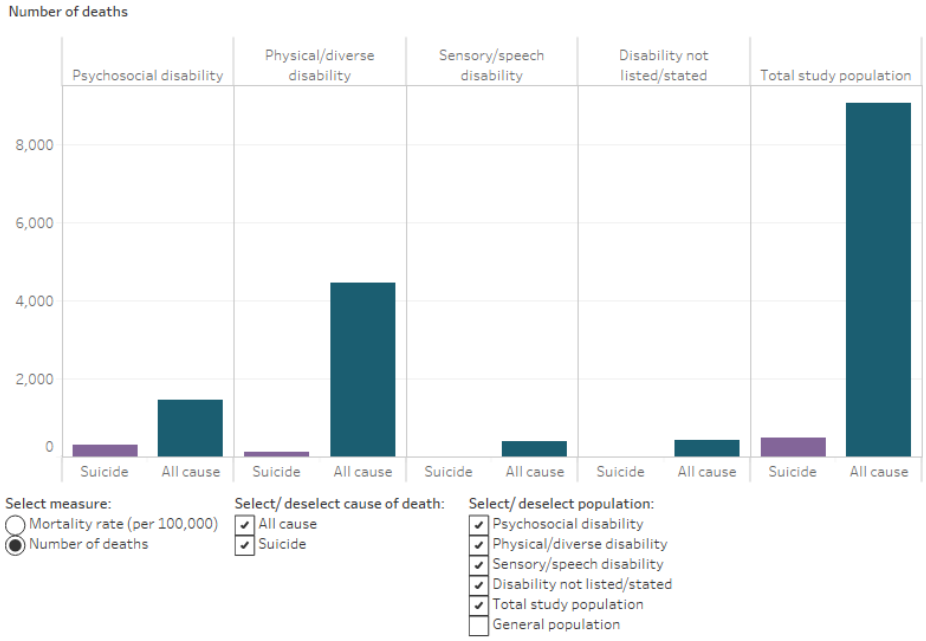
The rate of death by suicide for disability service users (for people aged under 65) with 'psychosocial disability' was 1.7 times greater than among those with 'acquired brain injury' (56 per 100,000 population) as a primary disability. The rate of death by suicide for those with 'psychosocial disability' was four times greater than among those with a 'physical disability' (25 per 100,00 population) as their primary disabilities. Among those with a primary 'psychosocial disability' the rate of death by suicide was more than six times greater than for those with hearing disability, more than nine time greater than for those with learning specific/ADD disability, and more than 25 times greater than for those with autism as their primary disability.

The data visualisation shows rates of death by suicide for those who used a disability support service, by primary disability, from 2013 to 2018. Primary disability is categorised into 6 types (Autism, specific learning/ADD, hearing disability, physical disability, acquired brain injury, psychosocial disability) and data includes people aged under 20.

For those using disability services whose primary disability was 'psychosocial disability', suicide deaths accounted for 20.7% of all deaths occurring within this group during the study period. Suicide deaths accounted for the highest percentage of all cause deaths for those with psychosocial disability compared to all other primary disabilities. The percentage of all deaths accounted for by suicide was second highest among those with a primary disability of autism. Suicide deaths accounted for 6.0% of all deaths among those with a primary disability of autism. The percentage of all deaths accounted for by suicide among people with psychosocial disability was around four times greater than those with autism.

The interactive data visualisation shows deaths by primary disability, population and cause of death for all persons aged under 65 between 2013 to 2018. Selection for mortality rate or number of deaths, cause of death (all cause or suicide) and population type are all selectable features.

Deaths by primary disability, population and cause of death, all persons under 65, 2013–2018



Notes: Data presented above includes people aged under 20.
Data source: Mortality patterns among people using disability support services: 1 July 2013 to June 2018.
Supplementary table: S1

See notes ►

The rate of death by suicide among people whose primary disability was psychosocial disability was highest for those aged 20–34 years (118 per 100,000 population). However, among all people who used disability services the highest rate of death by suicide was for those aged 35-49 years (51 per 100,000 population).

The data visualisation shows rates of death by suicide from 2013 to 2018, for the general population, disability service users and disability service users with a psychosocial disability. These categories are subdivided by age group, ranging from 20 to all persons under 65 years of age.

Among those whose primary disability was psychosocial disability, rates of death by suicide were highest for the 20-34 year age group (118 per 100 000 population) and lowest for the 50-64 years age group (86 per 100 000 population). Even so, the rate of death by suicide among those with psychosocial disability aged 50–64 years, was considerably higher than the peak rates of death by suicide for all disability service users (51 per 100,000 population among those aged 35–49 years) and the general population (17 per 100,000 population among those aged 35–49 years).

Rates of suicide by all those who used disability services was curved across age groups, peaking in the 35-49 year age group.

References

The Commonwealth of Australia (Cth of Australia) (2022) *National Mental Health and Suicide Prevention Agreement* - external site opens in new window (https://federalfinancialrelations.gov.au/agreements/mental-health-suicide-prevention-agreement), The Federal Financial Relations website, accessed 3 March 2023.

Viewing the monitoring data

Caution: Some people may find parts of this content confronting or distressing.

Please carefully consider your needs when reading the following information about suicide and self-harm. If this material raises concerns for you contact Lifeline on 13 11 14, or see other ways you can seek help.

The information included here places an emphasis on data, and as such, can appear to depersonalise the pain and loss behind the statistics. The AIHW acknowledges the individuals, families and communities affected by suicide each year in Australia.

Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

The AIHW supports the use of the Mindframe guidelines - external site opens in new window on responsible, accurate and safe suicide and self-harm reporting. Please consider these guidelines when reporting on statistics on the monitoring of suicide and self-harm.

Suicide & self-harm monitoring

Need help now?
Lifeline 13 11 14
More (/suicide-self-harm-monitoring/research-information/crisis-support)

LGBTIQ+ Australians: suicidal thoughts and behaviours and self-harm

If at any point you feel worried about harming yourself while viewing this information—or if you think someone else may be in danger—please stop reading and seek help. You can access LGBTIQ+ resources online - external site opens in new window (https://qlife.org.au/resources), and Qlife (trained LGBTIQ+ peer support): Telephone 1800 184 527 (3:00pm - midnight everyday 7 days a week) or by webchat - external site opens in new window (https://qlife.org.au/resources/chat).

The acronym LGBTIQ+ is used here as an umbrella term to refer to lesbian, gay, bisexual, trans/transgender, intersex, queer and other sexuality, gender and bodily diverse people and communities.

The data presented on these webpages are from the 2019 Private Lives 3 (PL3) and Writing Themselves In 4 (WTI4) surveys. Whilst these surveys included participants with an intersex variation/s, the data are not able to be disaggregated by this category and, therefore, the acronyms LGBTQ+ or LGBTQA+ are used when referring to the PL3 and WTI4 results. LGBTIQ+ is used when referring to communities more generally and different acronyms may be used throughout these pages, depending on how communities are represented within the different data sources discussed.

For more information on terminology relating to LGBTIQ+ people and communities, see the Australian Institute of Family Studies' (AIFS) LGBTIQA+ glossary of common terms (AIFS 2022) - external site opens in new window (https://aifs.gov.au/resources/resource-sheets/lgbtiqa-glossary-common-terms).

LGBTIQ+ communities have been identified as priority populations under *The National Mental Health and Suicide Prevention Agreement* (Cth of Australia, 2022) and for data development as part of the National Suicide and Self-harm Monitoring System. Under the agreement, governments have a responsibility to support priority populations, who may be at higher risk of mental ill health and suicide due to vulnerability caused by social, economic, and environmental circumstances.

Data on suicide and self-harm among LGBTQ+ people from the Private Lives 3 and Writing Themselves In 4 surveys

The Australian Research Centre in Sex, Health and Society (ARCSHS) at La Trobe University runs Australia's two largest targeted surveys of LGBTQ+ adults and LGBTQA+ young people, the Private Lives and Writing Themselves In surveys, respectively (Hill et al. 2020, 2021). The most recent iterations of these surveys, Private Lives 3 (PL3) and Writing Themselves In 4 (WTI4) were undertaken in 2019. The PL3 and WTI4 datasets are the largest and most comprehensive available for the LGBTQ+ population in Australia and include a diverse sample of participants from all states and territories and demographic groups (Hill et al. 2020, 2021).

ARCSHS has provided the AIHW with existing data on suicide and self-harm from PL3 and WTI4, aggregated by state/territory, age-group, gender and sexual orientation. In addition, the AIHW has engaged ARCSHS to undertake secondary analysis of the data from PL3 and WTI4, including:

- Types of gender affirmation accessed by trans and gender diverse adults and association with health and wellbeing outcomes (PL3).
- Types of gender affirmation accessed by trans and gender diverse young people and association with mental health outcomes and suicidality (WTI4).
- The role of relationship status and gender of relationship partner in shaping health and wellbeing outcomes among multigender attracted (bisexual+) adults (PL3).

Data on suicidal thoughts and suicide attempt among LGBTQ+ adults from the PL3 survey and LGBTQA+ young people from the WTI4 survey are presented in the following sections. This is the second tranche of data from PL3 and WTI4 to be published on the AIHW Suicide and self-harm monitoring website. The results of the secondary analysis of PL3 and WTI4 will be published in 2024.

The findings of PL3 and WTI4 are consistent with evidence from Australia and overseas, which indicate that LGBTIQ+ communities experience higher levels of mental ill health, suicidality and self-harm, compared with the general population (Hill et al. 2020, 2021, Marchi et al. 2022, Swannell et al. 2016, Zwickl et al. 2021). Within the LGBTQ+ research, trans and gender diverse participants appear to experience a greater risk of suicidal thoughts and behaviours, compared with cis-gendered participants. For instance, among PL3 participants:

- The lifetime prevalence of suicidal thoughts ranged from 64% among cisgender men to 90% among non-binary participants and 91% among trans men.
- More than half of trans men reported having attempted suicide in their lifetimes (53%), in contrast to around one-fifth of cisgender men (22%).

Other Australian studies of trans people have found that a large proportion of participants (ranging from 43 to 48%) have attempted to take their own lives at some point (Zwickl et al. 2021, Bretherton et al. 2021, Strauss et al. 2017).

A limitation of PL3, WTI4 and other targeted, community surveys of LGBTQ+ people is that they tend not to be based on probability sampling and, as a result, it is not possible to conclude that they provide representative data for the LGBTQ+ population. However, these surveys do provide important information about the survey respondents, which can inform the work of LGBTQ+ researchers and advocates, and policy makers.

What other national suicide and self-harm data are available for LGBTIQ+ communities in Australia?

There are currently no reliable national data on rates of suicide and self-harm among LGBTIQ+ communities in Australia. The two key administrative datasets used by the AIHW to report on rates of suicide and hospitalised self-harm, the National Mortality Database (NMD) and the National Hospital Morbidity Database (NHMD) do not include information on LGBTIQ+ status. LGBTIQ+ status is not available in any national linked administrative datasets and has not been enumerated in the Census of Population and Housing. Data gaps could be improved by the broader inclusion of the Standard for Sex, Gender, Variations of Sex Characteristics and Sexual Orientation Variables, 2020 - external site opens in new window (https://www.abs.gov.au/statistics/standards/standard-sex-gender-variations-sex-characteristics-and-sexual-orientation-variables/2020) (ABS 2020) in national collections.

State and territory suicide registers include variables on sexual orientation and gender, however, LGBTIQ+ status tends to be underreported in these surveillance systems (CCOV 2022, Leske et al. 2022). To date, the Victorian Suicide Register (VSR) and the Queensland Suicide Register (QSR) are the only state suicide registers to publish data on suicide deaths among LGBTIQ+ people. In each state, the numbers are too small to disaggregate by gender and sexual orientation (CCOV 2022, Leske et al. 2022).

The population representative, National Study of Mental Health and Wellbeing (2020–22), conducted by the Australian Bureau of Statistics (ABS) collected information on suicidality and self-harm and was the first ABS collection to use the Standard for Sex, Gender, Variations of Sex Characteristics and Sexual Orientation Variables, 2020 - external site opens in new window (https://www.abs.gov.au/statistics/standards/standard-sex-gender-variations-sex-characteristics-and-sexual-orientation-variables/2020) (ABS 2020, 2020–22b). The summary statistics for the study were published by the ABS on 5 October 2023 and include results for lived experience of suicide and self-harm by sex at birth (male/female) (ABS 2020–22a), see Australian prevalence estimates of suicidal behaviour. On 27 February 2024, the ABS published selected measures of mental health for LGBTQ+ populations - external site opens in new window (https://www.abs.gov.au/articles/mental-health-findings-lgbtq-australians#:~:text=In%20general%2C%20LGB%2B%20people%20were,80.1%25%20of%20bisexual%20people) collected in the study (ABS, 2024). The publication includes data on lifetime suicidal ideation and self-harm by sexual orientation ('Gay or lesbian', 'Bisexual', 'Total LGB+' and 'Heterosexual') and gender ('Non-binary', 'Men', Women', 'Trans' and 'Cis'). Results show that:

- 79.6% of non-binary people had experienced suicidal thoughts in their lifetimes, compared with 14.9% of men and 18.0% of women.
- 28.5% of trans Australians had experienced suicidal thoughts in their lifetimes, compared with 16.5% of cis Australians.

In the National Study of Mental Health and Wellbeing, suicidal thoughts are defined as 'serious thoughts about taking one's life' (ABS 2020–22b).

Prevalence of suicidal behaviour and thoughts among LGBTQ+ adults – data from the 2019 Private Lives 3 (PL3) survey

We acknowledge those from the LGBTIQ+ community who have died by suicide and those bereaved by suicide. You can access LGBTIQ+ resources online - external site opens in new window (https://qlife.org.au/resources), and Qlife (trained LGBTIQ+ peer support): Telephone 1800 184 527 (3:00pm - midnight everyday 7 days a week) or by webchat - external site opens in new window (https://qlife.org.au/resources/chat).

PL3 is the third iteration of national surveys investigating the health and wellbeing of lesbian, gay, bisexual, trans and gender diverse and queer (LGBTQ) adults in Australia. The PL3 survey is managed by the Australian Research Centre in Sex, Health and Society (ARCSHS) at La Trobe University in Melbourne and was developed by ARCSHS in consultation with an Expert Advisory Group comprising representatives from the states and territories and LGBTIQ+ groups. The sample was recruited via paid advertising on social media and promotion through relevant professional networks and LGBTIQ+ organisations. The survey was open to people aged 18 years and over, from 24 July 2019 until 1 October 2019 and could be completed online or in paper form if requested. A sample of 6,835 participants was achieved, whose ages ranged from 18–88 years. The PL3 survey included questions on suicide attempt and suicidal thoughts in the past 12 months and lifetime. For more information, view the PL3 national report - external site opens in new window (https://www.latrobe.edu.au/arcshs/work/private-lives-3).

People with an intersex variation/s were specifically targeted for participation in PL3 but the sample achieved (n=47) was too small to provide statistically meaningful comparisons. Therefore, data for participants with an intersex variation/s are not reported as a separate group and the acronym 'LGBTQ+' is used when discussing the PL3 results below. The data for PL3 participants who reported having intersex variation/s are included in the other categories presented, according to their responses to gender and sexual orientation questions. View the PL3 national report - external site opens in new window (https://www.latrobe.edu.au/arcshs/work/private-lives-3)for more information about participants with an intersex variation/s.

The PL3 results relating to suicide attempt and suicidal thoughts are depicted in the visualisations below. As PL3 uses a non-probability convenience sample, the results may not be representative of the Australian LGBTQ+ population and cannot be generalised to this population group. However, they provide valuable insights into the experiences of close to 7000 people from this population group and highlight where further work is needed to obtain better data and improve outcomes for at-risk communities. Importantly, the PL3 sample allows for disaggregation of data by gender and sexual orientation, which illustrates the wide variations in experiences of suicidal thoughts and behaviours between the different gender and sexual orientation groups in the sample. These results are consistent with other studies that show considerable variation in the prevalence of suicidal thoughts and behaviours between sub-groups under the LGBTQ+ umbrella (e.g. Kirakosian et al. 2023, Marchi et al. 2022, Stinchcombe & Hammond 2021, Swannell et al. 2016).

The results of PL3 are not directly comparable with those for the general population from national population surveys, such as the ABS National Study of Mental Health and Wellbeing (2020–21) and the ABS National Survey of Mental Health and Wellbeing (2007). The ABS surveys used probability sample designs as well as different recruitment methods, instruments, and modes of administration (see ABS 2020–21b for information on methodology). Both types of survey designs have limitations regarding sampling LGBTQ+ communities. Targeted surveys, such as PL3, may be biased towards people with stronger attachment to the LGBTQ+ community, while population surveys may underrepresent LGBTIQ+ people (Hottes et al. 2016) and obtain insufficient samples to report results by gender and sexual orientation. A meta-analysis of lifetime prevalence of suicide attempt among lesbian, gay and bisexual (LGB) people by Hottes et al. (2016) found that targeted community surveys reported higher prevalence of lifetime suicide attempt among LGB people, compared with results for LGB people from population surveys. Even so, LGB people reported higher prevalence of lifetime suicide attempt compared with heterosexual people, regardless of the survey type (Hottes et al. 2016).

In relation to the PL3 data, the term 'suicidal thoughts' is being used rather than 'suicidal ideation'. This is because suicidal ideation is defined in national population data as 'serious thoughts about taking one's own life', whereas the PL3 data item is 'thoughts about suicide, wanting to die, or about ending your life'.

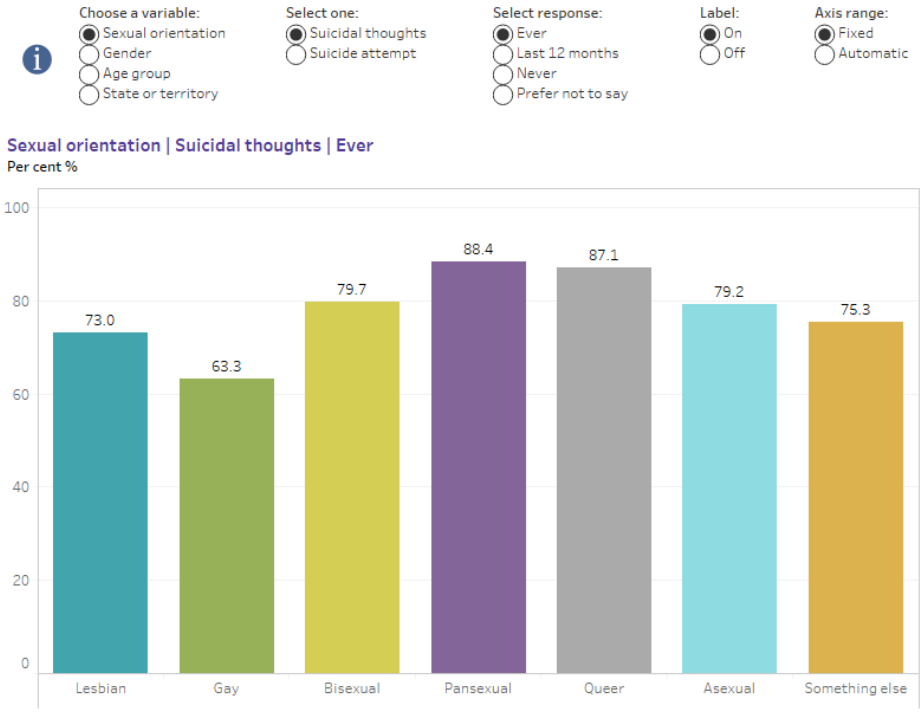
As the PL3 was a voluntary online survey, participants could leave questions blank if they wished. In these cases, the PL3 results reported below are the proportions (percentages) of those who answered the relevant question.

Suicide attempts and suicidal thoughts among PL3 participants

The visualisation includes PL3 data for suicidal thoughts and attempts broken down by sexual orientation, gender, state and territory of residence, or age group.

Suicidal thoughts and attempts among LGBTQA+ PL3 (2019) participants by personal characteristics

The visualisation includes PL3 data for suicidal thoughts and attempts broken down by sexual orientation, gender, state and territory of residence, or age group.



Notes: Results for Northern Territory (NT) should be interpreted with caution due to small numbers of respondents (n=37). n.p. - not presented
Source: Private Lives 3 (PL3)
Supplementary table: S1, S2, S3, S4

Nationally, around three-quarters (75%) of PL3 participants had experienced suicidal thoughts and around one third (30%) reported attempting suicide in their lifetimes.

Results by sexual orientation

The PL3 survey asks participants to select which terms best describe their sexual orientation and then asks them to select the term they would use if they had to choose only one. The options provided were developed in consultation with the PL3 Expert Advisory Group and include: 'lesbian', 'gay', 'homosexual', 'bisexual', 'pansexual', 'heterosexual', 'queer', 'asexual', 'prefer not to have a label', 'prefer not to answer', 'don't know' and 'something different' (with free text option to describe). In the analysis, participants who selected 'homosexual' (due to low numbers), 'prefer not to have a label' and 'something different' as well as trans and gender diverse participants and those with an intersex variation/s who selected 'heterosexual' were combined into the category 'something else'. For more information on sexual orientation in PL3, please see the PL3 published report by La Trobe University - external site opens in new window (https://www.latrobe.edu.au/__data/assets/pdf_file/0009/1185885/Private-Lives-3.pdf).

The results for sexual orientation differed across response categories, apart from gay respondents, who were least likely to have experienced suicidal thoughts or attempt, recent (last 12 months) or in their lifetimes.

- Pansexual and queer participants reported the highest prevalence of lifetime suicidal thoughts (88% and 87%, respectively), followed by bisexual and asexual participants (88.4% and 87.1%, respectively), followed by bisexual and asexual participants (79.7% and 79.2% respectively), participants categorised as "something else" (75.3%), lesbian participants (73.0%) and gay participants (63.3%).
- A similar pattern was seen for recent suicidal thoughts, reported by 54.7% of queer participants, 54.6% of pansexual participants, 49.1% of bisexual participants, 44.9% of respondents categorised as "something else", 43.4% of asexual participants, 36.8% of lesbian participants and 30.7% of gay participants.
- Nearly half (46.7%) of pansexual participants reported having attempted suicide in their lifetimes, followed by queer participants (37.1%), "something else" (34.3%), bisexual (31.5%), lesbian (30.1%), asexual (27.0%) and gay (20.5%) participants.
- Participants in the "something else" sexual orientation category were most likely to report recent suicide attempt (9.6% of this group), followed by pansexual (7.8%), bisexual (6.0%), queer (5.1%), asexual and lesbian (4.1%) and gay (3.3%) participants.

There is limited research that includes the sexual orientations "pansexual", "queer" and "asexual" as specific groups with which to compare these results. Studies that have included lesbian, gay and bisexual people as separate groups have generally reported higher levels of suicidal thoughts and behaviour among bisexual and multi-gender attracted people, compared with gay and lesbian people (e.g. Stinchcombe & Hammond 2020, Marchi et al. 2022).

Results by gender

When disaggregated by gender, the results show that trans (trans man and trans woman) and non-binary participants were more likely to have experienced recent (last 12 months) and lifetime suicidal thoughts and suicide attempts, compared with cisgendered participants (cisgender man and cisgender woman).

- Lifetime prevalence of suicidal thoughts among PL3 participants ranged from 64.2% of cisgender men to 89.9% of non-binary participants and 90.6% of trans men.
- More than half of trans men reported having attempted suicide in their lifetimes (52.9%), compared with around one fifth of cisgender men (22.3%).

The high levels of suicidal thoughts and behaviour among trans participants are consistent with other studies of trans people in Australia. A 2017–2018 survey of Australian trans adults found that 43% of participants had attempted suicide in their lifetimes (Zwickl et al. 2021, Bretherton et al. 2021). The 2016 *Trans Pathways* survey of Australian trans young people aged 14–25 years reported that 48.1% of participants had ever attempted suicide (Strauss et al. 2017).

Results by age group

The results for age group show a clear gradient by age, with younger age groups more likely to report lifetime and recent (last 12 months) experience of suicidal thoughts and lifetime suicide attempt.

- Lifetime experience of suicidal thoughts ranged from around half of people aged 65 years and over (50.7%) to 79.6% of people in the 18–24 and 25–34-year age groups.
- Lifetime suicide attempt ranged from 17.5% of people aged 65 years and over to 34.0% of 18–24-year-olds.
- Recent suicide attempt was most likely among participants aged 18–24 years (9.8%), followed by participants aged 35–44 years (4.5%), then those aged 25–34 (3.1%), 45–54 years (2.0%), 55–64 years (1.2%) and over 65 years (0%).

The decline in recent suicidal thoughts and attempts with increasing age is consistent with other studies with trans participants (Zwickl et al 2023). This pattern is also observed with the general population results from the ABS National Study of Mental Health and Wellbeing (2020–22), which show prevalence of lifetime and recent suicidal ideation and suicide attempt is highest among the youngest age group (16–34 years) and decreases with increasing age (ABS 2020–22a). Ambulance data from the National Ambulance Surveillance System (NASS) also show higher rates of attendances for suicidal ideation and attempt among younger age groups.

The PL3 results for younger people may be influenced by the greater proportions of younger people categorised as trans, gender diverse, bisexual, pansexual and queer, relative to those in the older age groups (Hill et al. 2020). Participants in each of these categories are more likely to experience poor mental health outcomes, as well as discrimination and stigma, when compared with cisgendered, gay and lesbian participants (Hill et al. 2020).

Results by state and territory

The prevalence of suicidal thoughts and attempt among PL3 participants was similar across states and territories.

- Lifetime prevalence of suicidal thoughts ranged from 67.6% in the Northern Territory (NT) to 80.6% in the Australian Capital Territory (ACT).
- Recent (last 12 months) prevalence of suicidal thoughts ranged from 35.1% in the NT to 47.3% in Tasmania (Tas).
- Participants from Tas and Queensland (Qld) were most likely to report having attempted suicide in their lifetimes (35.5% and 34.7%, respectively), followed by those in South Australia (SA) (33.1%), Western Australia (WA) (32.3%), ACT (30.7%), Vic (28.1%), New South Wales (NSW) (28.0%) and the NT (21.4%).
- Recent suicide attempt was also more likely to be reported by participants from Tas (7.8%) and Qld (7.1%), followed by WA (6.2%) and ACT (5.7%), Vic (4.5%), SA (4.2%) and NSW (4.1%).
- Recent suicide attempt is not reported for participants from the NT due to the small number of NT participants in the survey.

Caution should be used in interpreting the results by state and territory, as they may be affected by sampling and recruitment bias, in particular for the NT, where the sample size was only 37. Relative to the general population, PL3 oversampled people from Vic and the ACT, and under-sampled people from NSW and Qld (Hill et al. 2020). There may also be confounding due to differences in the age, gender, and sexual orientation distributions of LGBTQ+ people by state and territory.

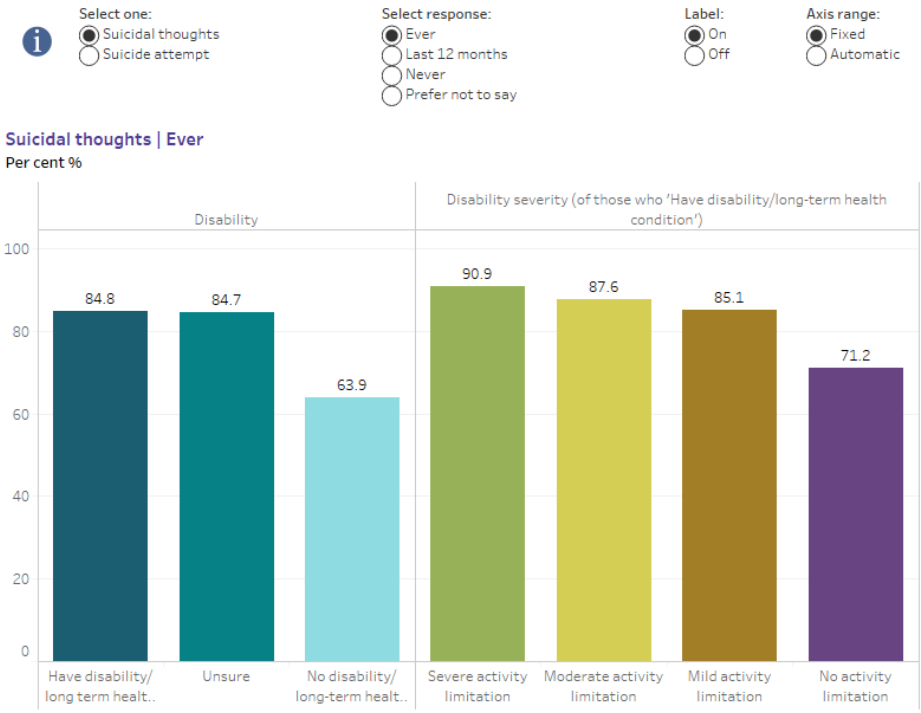
Suicide attempt, suicidal thoughts and disability or long-term health conditions in PL3

The PL3 survey asks participants whether they have a disability or long-term health condition (defined as one that has lasted or is expected to last 6 months or longer). If participants answer “yes” to this question, they are then asked a series of questions taken from the AIHW’s Standardised Disability Flag Module (SDFM). The SDFM identifies people who may be living with disability and/or long-term health conditions and the impact these conditions have on their day-to-day living (none, mild, moderate, and severe). For further information about how the SDFM was used and the limitations it may have on the data presented please see the PL3 national report - external site opens in new window (http://www.latrobe.edu.au/__data/assets/pdf_file/0009/1185885/Private-Lives-3.pdf).

The visualisation below includes two charts related to disability or long-term health condition. The left-hand chart shows the prevalence of suicidal thoughts and attempts among PL3 participants according to their disability or long-term health condition. The right-hand chart shows suicidal thoughts and attempts among PL3 participants who reported having a disability or long-term health condition, according to the impact on their day to day living (disability severity).

Suicidal thoughts and attempts among LGBTQA+ PL3 (2019) participants by disability and/or long-term health condition status.

The visualisation includes two charts related to disability or long-term health condition. The left-hand chart shows the prevalence of suicidal thoughts and attempts among PL3 participants according to their disability or long-term health condition. The right-hand chart shows suicidal thoughts and attempts among PL3 participants who reported having a disability or long-term health condition, according to the impact on their day to day living (disability severity).



Notes: Disability and long-term health conditions were indentified through the use of the Australian Institute of Health and Welfare's Standardised Disability Flag Module. For an overview of how this may be affected the data, please see the original PL3 report.
Source: Private Lives 3 (PL3)
Supplementary table: S5, S6

Results by disability or long-term health condition status

PL3 participants who reported they have a disability or were unsure whether they have a disability (84.8%) or were unsure whether they have a disability (84.7%) were most likely to have experienced suicidal thoughts in their lifetimes, compared with PL3 participants who did not have a disability (63.9%).

PL3 participants who reported having a disability or being unsure about having a disability also reported the highest prevalence of recent (last 12 months) suicidal thoughts (54.2% and 53.0%, respectively), compared with those without a disability (28.6%).

Suicide attempt was more common among PL3 participants who reported having a disability, with 40.4% having attempted suicide in their lifetimes. This is twice the proportion of PL3 participants without a disability (19.6%) who reported lifetime suicide attempt.

Results by disability or long-term health condition impact on day-to-day activities

The results for lifetime and recent (last 12 months) suicidal ideation and suicide attempt show a clear gradient by the severity of activity limitation.

- Among PL3 participants with a disability or long-term health condition who reported severe limitations, 90.9% reported having suicidal thoughts in their lifetimes and 50.1% reported attempting suicide in their lifetimes. More than two thirds (68.0%) of these participants reported recent suicidal thoughts.
- For PL3 participants with a disability or long-term health condition who had no activity limitation, 71.2% reported lifetime suicidal thoughts and 26.4% reported lifetime suicide attempt.

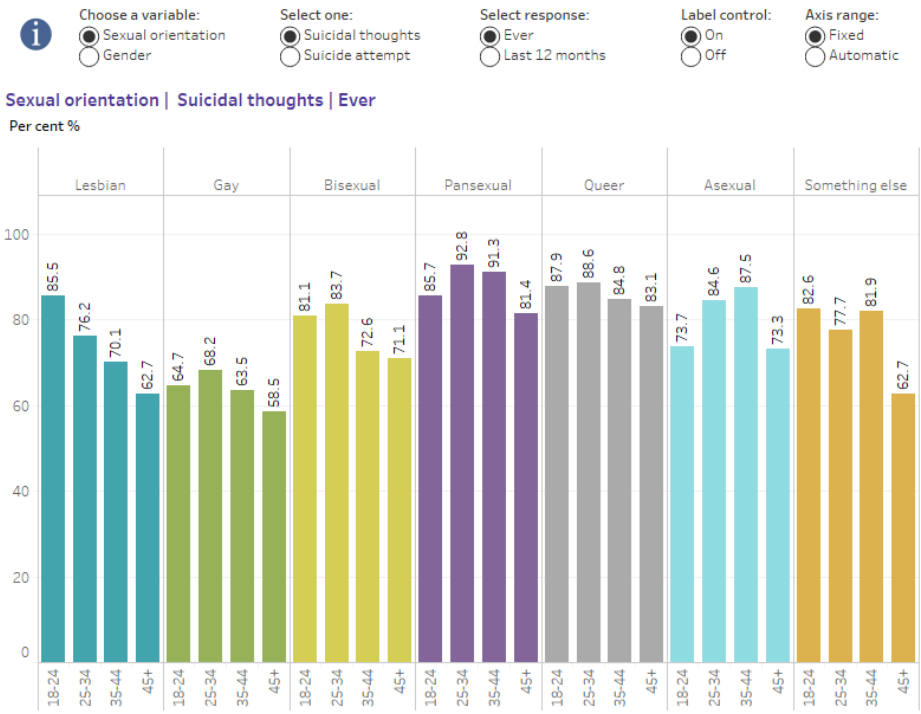
- Lifetime and recent suicidal thoughts and attempt for PL3 participants with a disability or long-term health condition who had no activity limitation were similar to those without or unsure of whether they have a disability or long-term health condition. This suggests that activity limitation due to disability/long-term health conditions are associated with greater risk of suicidal thoughts and attempts.

Suicide attempt, suicidal thoughts by age, sexual orientation, and gender in PL3

The visualisation below illustrates the percentage of PL3 participants, who reported experiencing suicidal thoughts and attempting suicide, categorised by age, sexual orientation, and gender, throughout their lifetime and over the last 12 months.

Suicidal thoughts and attempts among LGBTQA+ PL3 (2019) participants by age, sexual orientation, and gender.

This visualisation illustrates the percentages of PL3 participants, who reported experiencing suicidal thoughts and attempting suicide, categorised by age, sexual orientation, and gender, throughout their lifetime and over the last 12 months.



Notes: Caution should be exercised when interpreting the results of asexual or trans woman participants 45 years and over, due to low numbers in the PL3 survey.
Source: Private Lives 3 (PL3)
Supplementary table:

Results by sexual orientation and age

While the results for lifetime suicide thoughts and suicide attempts are mixed, recent (last 12 months) suicidal thoughts were found to decrease with age.

- Lesbian participants reported a decrease in the likelihood of lifetime suicidal thoughts with age from 85.5% for 18–24-year-olds to 62.7% for those aged 45 years and over. For all other sexual orientations there was no obvious trend.
- Lesbian participants reported a decrease in the likelihood of lifetime suicide attempt with age (41.5% of 18–24-year-olds, 22.0% of those aged 45 years and over). Gay and queer participants also show an overall decrease with age.
- Participants of all sexual orientations, except those who are asexual, showed a decrease in recent suicidal thoughts with age. While a similar relationship may exist for suicide attempts it is difficult to determine due to small numbers.

Results by gender and age

- Cisgender woman participants reported that lifetime suicidal thoughts (80.1% for 18–24-year-olds, 64.1% of those aged 45 years and over) and suicide attempt (31.0% of18–24-year-olds, 19.6% of those aged 45 years and over) decreased with age. Cisgender man and non-binary participants may also demonstrate a decrease in lifetime suicidal thoughts and suicide attempt with age.
- Cisgender man, cisgender woman and non-binary participants reported that recent suicidal thoughts decreased with age. Trans man and trans woman participants also show that recent suicidal thoughts trend downwards with age. It is difficult to analyse recent (last 12 months) suicide attempt due to low small numbers.

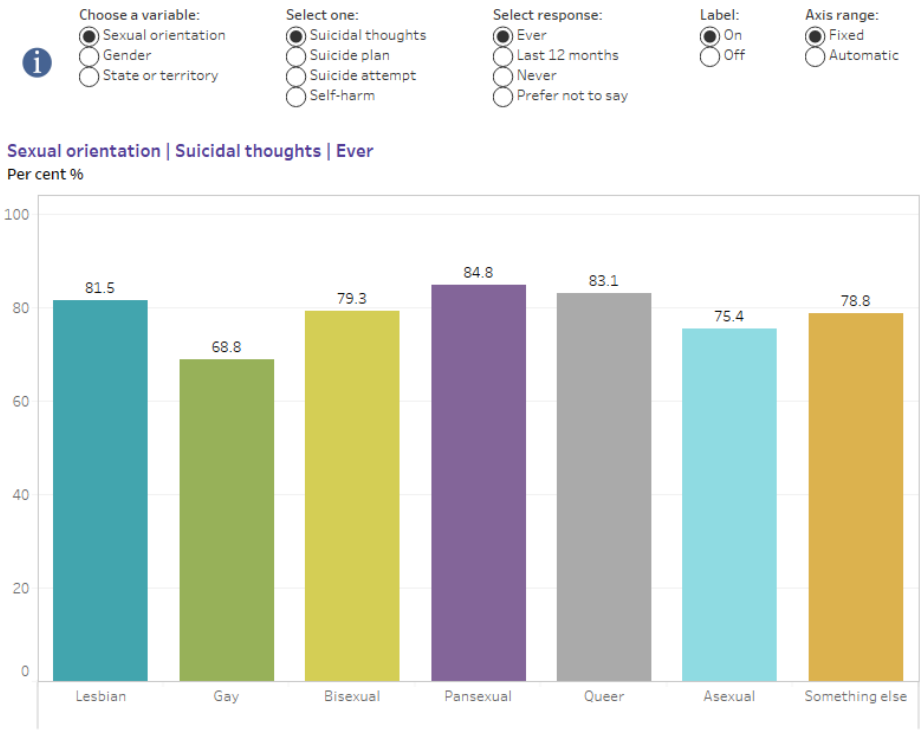
Prevalence of suicidal behaviour and thoughts and self-harm among LGBTQA+ young people – data from the 2019 Writing Themselves In 4 (WTI4) survey

WTI4 is the fourth iteration of national surveys investigating the health and wellbeing of lesbian, gay, bisexual, trans and gender diverse, queer and Asexual (LGBTQA) young people, aged 14 to 21 years, in Australia. The WTI4 was conducted by the Australian Research Centre in Sex, Health and Society (ARCSHS) at La Trobe University in Melbourne in 2019. The sample was recruited via paid advertising on social media and promotion through relevant professional networks and LGBTIQA+ organisations and achieved a sample of 6,418 participants. The WTI4 survey included questions on suicidal thoughts, suicide plans and attempts and self-harm in the past 12 months and lifetime. For more information, view the WTI4 report - external site opens in new window (https://www.latrobe.edu.au/__data/assets/pdf_file/0010/1198945/Writing-Themselves-In-4-National-report.pdf). As with PL3, the results of WTI4 may not be representative of young LGBTQA+ Australians and cannot be compared with the results for young people in the general population from national population surveys.

The visualisation below illustrates WTI4 participants who have experienced suicidal thoughts, suicide plan, suicide attempt, or engaged in self-harm, throughout their lifetime and over the last 12 months, categorised by sexual orientation, gender and state or territory of residence.

Suicidal thoughts, attempts, plan, and self-harm among LGBTQA+ WTI4 (2019) participants by personal characteristics.

The visualisation illustrates WTI4 participants who have experienced suicidal thoughts, suicide plan, suicide attempt, or engaged in self-harm, throughout their lifetime and over the last 12 months, categorised by sexual orientation, gender and state or territory.



Notes: Caution should be exercised when interpreting the results of trans woman participants due to low numbers in the WTI4 survey; n.p. - not published.
Source: Writing Themselves In 4 (WTI4)..

Results by sexual orientation

The results for sexual orientation for suicidal thoughts, suicide plan, suicide attempt, and self-harm in the lifetime and last 12 months, show little difference between different sexual orientations except for gay participants who consistently had the lowest prevalences of these behaviours. Pansexual, queer, and lesbian participants often had the highest percentages of suicidal and self-harming behaviour, however the differences between sexual orientation categories were often small.

- Pansexual, queer, lesbian and bisexual participants and those classified as ‘something else’ reported the highest percentages of lifetime suicidal thoughts. 84.8% of pansexual participants, 83.1% of queer participants, 81.5% of lesbian participants, 79.3% of bisexual participants and 78.8% of participants classified as 'something else' reported having thoughts about suicide, wanting to die, or ending their own life at some point in their lifetimes, followed by asexual and gay participants (75.4% and 68.8%, respectively).

- A similar pattern was seen with recent (last 12 months) suicidal thoughts, which were most likely to be reported by pansexual participants (67.4%) and least likely among gay participants (47.3%).
- A similar pattern of responses was evident for lifetime and recent (last 12 months) suicide plan with the highest proportions among pansexual participants (57.2% and 31.2% respectively) and the lowest among gay participants (37.6% and 17.8% respectively)
- The results for lifetime suicide attempt were similar to suicidal thoughts and suicide plans, from highest to lowest prevalence: pansexual (35.1%), lesbian (30.0%), queer (30.0%), something else (25.6%), bisexual (23.5%), asexual (21.1%), and gay (19.3%) participants.
- For recent suicide attempt, lesbian participants reported the highest percentage (14.1%) followed by pansexual (13.4%) and queer (11.6%) participants, with gay participants the lowest (7.8%)
- Lifetime and recent self-harm followed similar pattern to suicidal thoughts and suicide plan.

Comparing the differences in the order of sexual orientation between the WTI4 and PL3 surveys for suicidal thoughts and suicide attempt, lesbian participants rank in the highest three in WTI4 survey results but second lowest in the PL3 survey results. This indicates that younger WTI4 lesbian participants may be more at risk of suicidal thoughts and suicide attempts than older PL3 lesbian participants.

Results by gender

Trans man, trans woman, and non-binary participants more likely to have experienced lifetime and recent (last 12 months) suicidal thoughts, suicide plan, suicide attempt, and self-harm than cisgender (man and woman) participants.

- Trans man participants were more likely to experience lifetime suicidal thoughts (92.1%) and suicide attempt (46.9%) than trans woman (90.7% and 40.0% respectively).
- However, trans woman participants were more likely to have experienced recent suicidal thoughts (77.3%) and suicide attempt (20.0%) than trans man participants (73.1% and 16.7% respectively).

Results by state and territory

The visualisation below illustrates WTI4 participants who have experienced suicidal thoughts, suicide plan, suicide attempt, or engaged in self-harm, throughout their lifetime and over the last 12 months, categorised by sexual orientation, gender and state or territory.

There was little difference in terms of likelihood of suicide thoughts, suicide plan, suicide attempt, and self-harm over the lifetime or in the last 12 months by state/territory of participant. However, Tasmania and the Northern Territory (NT) often had the highest percentages compared to the other states and territories.

- Participants from Tasmania and NT were more likely to experience lifetime suicidal thoughts (86% and 83.7%, respectively). Other states ranged from 76.2% in the Australian Capital Territory to 79.6% in New South Wales.
- Lifetime suicide plan ranged from 45.3% for Victoria to 54.0% for Tasmania. Tasmania was also the highest for recent (last 12 months) suicide plan (30.2%). Other states ranged from 22.9% in Western Australia (WA) to 28.6% in the NT for recent suicide plan.
- Lifetime suicide attempts ranged from 22.5% of NT participants to 30.4% of Tasmanian participants. However, NT participants had the highest proportion of recent (last 12 months) suicide attempt at 15.0% (in other states recent suicide attempt ranged 9.4% for Victoria to 11.0% for Queensland).

In the PL3 survey Tasmania was consistently the highest or among the highest states or territories, in terms of likelihood of suicidal thoughts and suicide attempt. It was difficult to assess comparisons with NT due to low NT participant numbers in the PL3 survey.

Results by age

The visualisation below compares the likelihood of suicidal thoughts, attempts and self-harm among WTI4 participants aged 14 to 17 and 18 to 21 years, throughout their lifetime and over the last 12 months.

Suicidal thoughts, plan, attempts and self-harm among LGBTQA+ WTI4 (2019) participants by age.

The visualisation compares the likelihood of suicidal thoughts, attempts and self-harm among WTI4 participants aged 14 to 17 and 18 to 21 years, throughout their lifetime and over the last 12 months

Source: Writing Themselves In 4 (WTI4)
Supplementary table: S2

There was little difference between 14 to 17-year-olds and 18 to 21-year-olds in terms of likelihood of suicidal thoughts, suicide plan, suicide attempt, and self-harm over the lifetime. However, over the last 12 months, 14 to 17-year-olds were more likely than 18 to 21-year-olds to experience suicidal thoughts (60.3% compared with 55.3%), suicide plan (27.3% compared with 20.2%) suicide attempt (12.0% compared with 7.4%) and self-harm (44.7% compared with 33.5%).

Results by disability

The visualisation below illustrates disability and disability type of WTI4 participants who have experienced suicidal thoughts, suicide plan, suicide attempt, or engaged in self-harm, throughout their lifetime and over the last 12 months.

Suicide and self-harm support access among LGBTQA+ WTI4 (2019) participants by disability status and type.

The visualisation illustrates disability and disability type of WTI4 participants who have experienced suicidal thoughts, suicide plan, suicide attempt, or engaged in self-harm, throughout their lifetime and over the last 12 months.

Participants with disability compared to those without were more likely to experience lifetime suicidal thoughts (89.3% compared with 69.4%), suicide plan (64.9% compared with 33.9%), suicide attempt (39.4% compared with 15.7%) and self-harm (78.1% compared with 48.6%). This is also reflected in recent suicidal thoughts (70.5% compared with 47.9%), suicide plan (34.5% compared with 16.6%), suicide attempt (15.7% compared with 6.0%) and self-harm (53.6% compared with 28.1%).

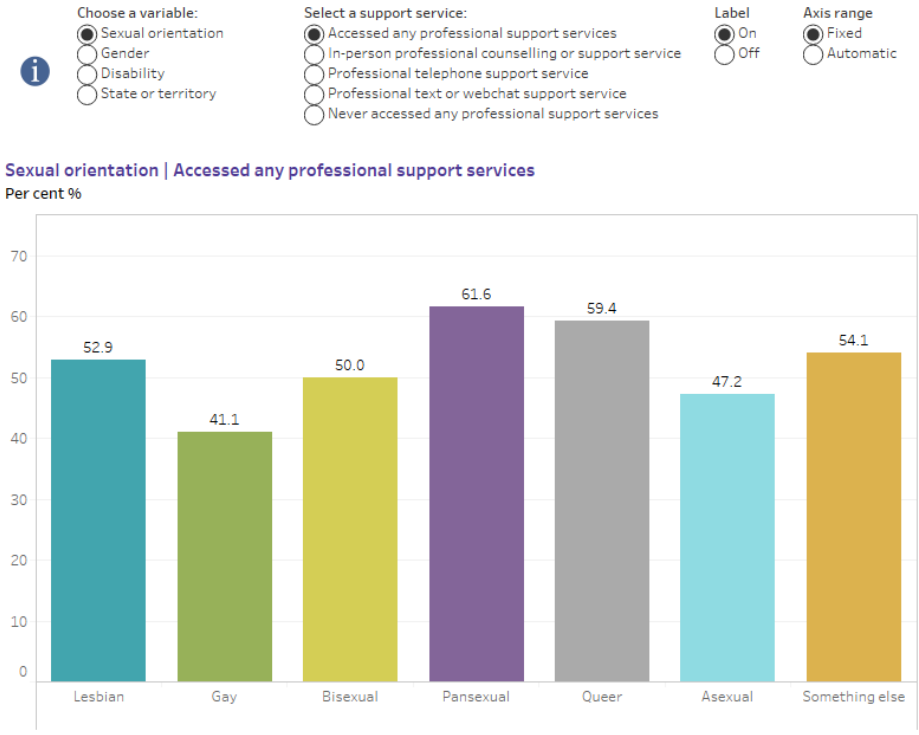
There was little difference between disability types in terms of likelihood of lifetime and recent (last 12 months) suicidal thoughts, suicide plan, suicide attempt and self-harm. Intellectual disability showed the highest likelihood of lifetime and recent (last 12 months) suicide plan and suicide attempt, however the differences from the other disability types were small.

Results by support service use

The visualisation below illustrates the proportions of WTI4 participants who had accessed professional support services in relation to suicide or self-harm, including type of service, by sexual orientation, gender, disability and state or territory.

Suicide and self-harm support access among LGBTQA+ WTI4 (2019) participants by personal characteristics.

The visualisation illustrates the proportions of WTI4 participants who had accessed professional support services in relation to suicide or self-harm, including type of service, by sexual orientation, gender, disability and state or territory.



Notes: Caution should be exercised when interpreting the results of trans woman participants due to low numbers in the WTI4 survey.
Source: Writing Themselves In 4 (WTI4)
Supplementary table: S7, S9, S10, S11

Accessing support services in relation to suicide or self-harm, was related to likelihood of lifetime suicide thoughts, suicide attempt, and self-harm and accessibility of the services themselves.

Support service use and sexual orientation

- Pansexual and queer participants and those classified as 'something else' were most likely to access professional support services in relation to suicide or self-harm (61.6%, 59.4% and 54.1%, respectively), followed by lesbian, bisexual, asexual and gay participants (52.9%, 50.0%, 47.2% and 41.1%, respectively). This order generally reflects the likelihood of lifetime suicidal thoughts, suicide attempt, and self-harm.
- Support services that were not in-person were most likely to be accessed by queer participants - 12.6% of queer participants reported accessing professional telephone support services and 17.1% reported accessing professional text or webchat support services. After queer participants, pansexual and lesbian participants were next most likely to access professional telephone support services (11.8% and 10.5%, respectively), while lesbian and pansexual participants were next most likely to access professional text or webchat support service (15.1% and 14.4%, respectively).

Support service use and gender

- The results for accessing professional support services in relation to concerns about suicide or self-harm by gender also reflect the likelihood of lifetime suicidal thoughts, suicide attempt, and self-harm. Trans man, trans woman, non-binary, and cisgender woman participants were more likely to report having accessed professional support services (71.1%, 63.8%, 56.7% and 50.8%, respectively), followed by cisgender man participants (38.6%).

Support service use and disability

- Participants with a disability were more likely to access professional support service in relation to suicide or self-harm, than participants without a disability (68.5%, compared with 38.9%).

Support service use and state or territory

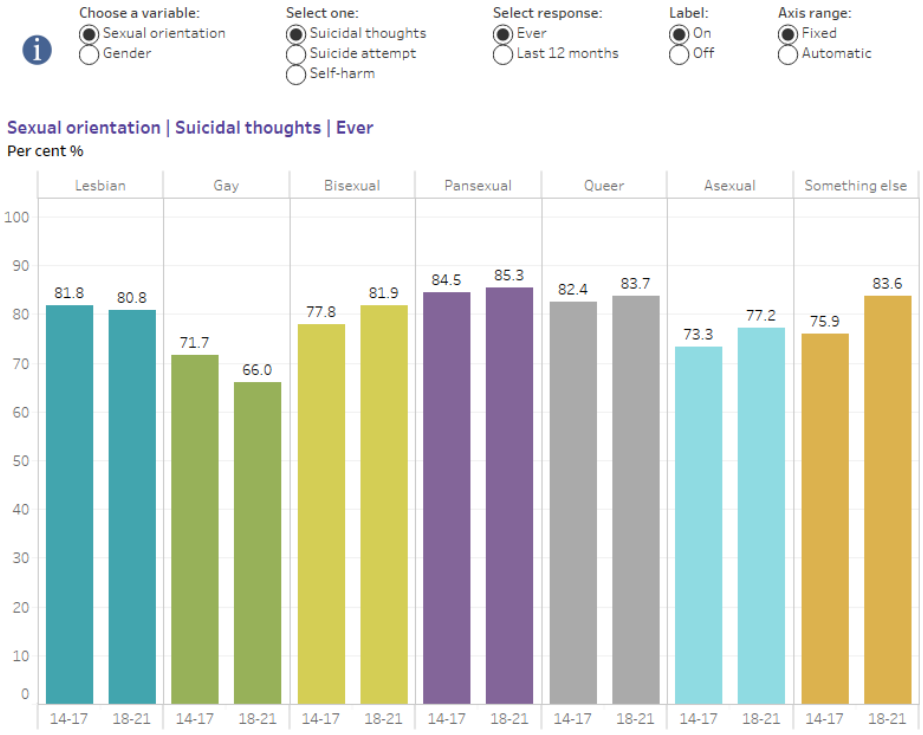
- Participants in the Australian Capital Territory (ACT) were more likely to access professional support services in relation to suicide or self-harm, with participants from the Northern Territory (NT) the least likely (65.0% of ACT participants compared with 41.7% of those from the NT).
- Access to professional telephone support services was highest in the NT (16.7%). Telephone services may be used more in the NT due to greater challenges in accessing other forms of support. Other states and territories ranged from 8.5% for Queensland to 14.6% for the ACT.

Suicide attempt, suicidal thoughts by age, sexual orientation, and gender in WTI4

The visualisation below illustrates the percentages of WTI4 participants aged 14 to 17 and 18 to 21 years, who have experienced suicidal thoughts, attempted suicide, or engaged in self-harm, categorised by sexual orientation and gender, throughout their lifetime and over the last 12 months.

Suicidal thoughts and attempts among LGBTQA+ WTI4 (2019) participants by age, sexual orientation, and gender.

This visualisation illustrates the percentages of WTI4 participants aged 14 to 17 and 18 to 21 years, who have experienced suicidal thoughts, attempted suicide, or engaged in self-harm, categorised by sexual orientation and gender, throughout their lifetime and over the last 12 months.



Notes: Caution should be exercised when interpreting the results of trans woman participants due to low numbers in the WTI4 survey.
Source: Writing Themselves in 4 (WTI4)

Results by sexual orientation by age group

Among sexual orientation classifications there was little difference between participants aged 14 to 17 years and 18 to 21 years in the likelihood of lifetime suicidal thoughts, suicide attempt, and self-harm. However, participants aged 14 to 17 years reported an increased likelihood of recent (last 12 months) suicidal thoughts, suicide attempt, and self-harm compared to participants aged 18 to 21 years.

- Participants of all sexual orientations, except bisexual, reported higher likelihood of recent suicidal thoughts in 14 to 17 years age-group compared to the 18 to 21 years age-group, although the differences were small.
- Participants of all sexual orientations, except asexual, reported higher likelihood of recent suicide attempt and self-harm in the 14 to 17 years age-group compared with the 18 to 21 years age group. Compared with suicidal thoughts, the relative differences for suicide attempt and self-harm were larger between the two age groups.

Results by gender by age group

- Among gender classifications there was little difference between participants aged 14 to 17 years and 18 to 21 years in reported lifetime suicidal thoughts, suicide attempt, and self-harm except for trans woman.
- Trans women participants aged 14 to 17 years were about half as likely as those aged 18 to 21 years to experience lifetime suicide attempt (27.3% to 50.0% respectively) and lifetime self-harm (48.5% to 83.3% respectively).
- All genders, except trans woman, reported higher likelihood of recent (last 12 months) suicidal thoughts, suicide attempt and self-harm in the 14 to 17 years age-group, compared to the 18 to 21 years age-group. As per sexual orientation, the relative differences were larger between the two age groups for suicidal attempt and self-harm than suicidal thoughts.
- Trans women participants aged 14 to 17 years were less likely than those aged 18 to 21 years to experience recent suicide attempt (15.2% to 23.8% respectively) and about half as likely to experience recent self-harm (33.3% to 59.5% respectively).

- Caution should be exercised when interpreting the results for trans woman participants due to low numbers in the WTI4 survey, with 33 participants aged 14 to 17 years and 42 aged 18 to 21 years.

References

ABS (Australian Bureau of Statistics) (2020) *Standard for Sex, Gender, Variations of Sex Characteristics and Sexual Orientation Variables* - external site opens in new window (https://www.abs.gov.au/statistics/standards/standard-sex-gender-variations-sex-characteristics-and-sexual-orientation-variables/2020), ABS website, accessed 4 July 2023.

ABS (2020-22a) *National Study of Mental Health and Wellbeing* - external site opens in new window (https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/2020-2022#key-statistics), ABS Website, accessed 25 October 2023.

ABS (2020–22b) *National Study of Mental Health and Wellbeing methodology* - external site opens in new window (https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/2020-2022#methodology), ABS website, accessed 25 October 2023.

ABS (2024) *Mental health findings for LGBTQ+ Australians - external site opens in new window (https://www.abs.gov.au/articles/mental-health-findings-lgbtq-australians#:~:text=In%20general%2C%20LGB%2B%20people%20were,80.1%25%20of%20bisexual%20people),* ABS website, accessed 16 April 2024.

AIFS (Australian Institute of Family Studies) (2022) *LGBTIQA+ glossary of common terms - external site opens in new window (https://aifs.gov.au/resources/resource-sheets/lgbtiqa-glossary-common-terms),* AIFS website, accessed 4 July 2023.

Bretherton I, Thrower E, Zwickl S, Wong A, Chetcuti D, Grossmann M, Zajac JD, Cheung AS 2021, The Health and Well-Being of Transgender Australians: A National Community Survey - external site opens in new window (https://www.liebertpub.com/doi/10.1089/lgbt.2020.0178), *LGBT Health*, 8(1):42–49, doi:10.1089/lgbt.2020.0178.

CCOV (Coroners Court of Victoria) (2022) Suicide among LGBTIQ+ people, CCOV website, accessed 2 June 2023.

Hill AO, Bourne A, McNair R, Carman M & Lyons A (2020) *Private Lives 3: The health and wellbeing of LGBTIQ people in Australia* - external site opens in new window (https://www.latrobe.edu.au/__data/assets/pdf_file/0009/1185885/Private-Lives-3.pdf), ARCSHS Monograph Series No. 122. Melbourne, Australia: Australian Research Centre in Sex, Health and Society, La Trobe University.

Hill AO, Lyons A, Jones J, McGowan I, Carman M, Parsons M, Power J, Bourne A (2021) *Writing Themselves In 4: The health and wellbeing of LGBTQA+ young people in Australia. National report* - external site opens in new window (https://www.latrobe.edu.au/__data/assets/pdf_file/0010/1198945/Writing-Themselves-In-4-National-report.pdf), ARCSHS monograph series number 124. Melbourne: Australian Research Centre in Sex, Health and Society, La Trobe University.

Hottes TS, Bogaert L, Rhodes AE, Brennan DJ & Gesink D (2016) Lifetime Prevalence of Suicide Attempts Among Sexual Minority Adults by Study Sampling Strategies: A Systematic Review and Meta-Analysis - external site opens in new window (https://doi.org/10.2105/AJPH.2016.303088), *American journal of public health*, 106(5), e1–e12, doi:org/10.2105/AJPH.2016.303088.

Kirakosian N, Stanton AM, McKetchnie SM, King D, Dolotina B, O'Cleirigh C, Grasso C, Potter J, Mayer KH, Batchelder AW (2023) Suicidal Ideation Disparities Among Transgender and Gender Diverse Compared to Cisgender Community Health Patients - external site opens in new window (https://doi.org/10.1007/s11606-022-07996-2). J Journal of General Internal Medicine, 38(6):1357–1365, doi.org/10.1007/s11606-022-07996-2.

Leske S, Adam G, Catakovic A, Weir B & Kõlves K (2022) *Suicide in Queensland: Annual Report 2022* - external site opens in new window (https://www.griffith.edu.au/__data/assets/pdf_file/0033/1639473/AISRAP-Annual-Report-2022.pdf), Australian Institute for Suicide Research and Prevention, World Health Organization Collaborating Centre for Research and Training in Suicide Prevention, School of Applied Psychology, Griffith University, Brisbane, Queensland, Australia.

LGBTIQ+ Health Australia 2021, *Snapshot of Mental Health and Suicide Prevention Statistics for LGBTIQ+ People* - external site opens in new window (https://assets.nationbuilder.com/lgbtihealth/pages/549/attachments/original/1648014801/24.10.21_Snapshot_of_MHSP_Statistics_for_LGBTIQ__People_-_Revised.pdf?1648014801), LGBTIQ+ Health Australia website, accessed 2 June 2023.

Stinchcombe A & Hammond NG (2021) Sexual orientation as a social determinant of suicidal ideation: A study of the adult life span - external site opens in new window (https://doi.org/10.1111/sltb.12754), *Suicide and Life-Threatening Behavior*, 51(5):864–871, doi.org/10.1111/sltb.12754.

The Commonwealth of Australia (Cth of Australia) (2022) *National Mental Health and Suicide Prevention Agreement* - external site opens in new window (https://federalfinancialrelations.gov.au/agreements/mental-health-suicide-prevention-agreement), The Federal Financial Relations website, accessed 15 June 2023.

Marchi M, Arcolin E, Fiore G, Travascio A, Uberti D, Amaddeo F, Converti M, Fiorillo A, Mirandola M, Pinna F, Ventriglio A, Galeazzi, GM & Italian Working Group on LGBTIQ Mental Health (2022) Self-harm and suicidality among LGBTIQ people: a systematic review and meta-analysis - external site opens in new window (https://doi.org/10.1080/09540261.2022.2053070), *International Review of Psychiatry*, 34:3-4, 240-256, doi.org/10.1080/09540261.2022.2053070.

Strauss P, Cook A, Winter S, Watson V, Wright Toussaint D, Lin A (2017) *Trans Pathways: the mental health experiences and care pathways of trans young people. Summary of results* - external site opens in new window (https://www.telethonkids.org.au/globalassets/media/documents/brain--behaviour/trans-pathwayreport-web.pdf). Telethon Kids Institute, Perth, Australia.

Swannell S, Martin G, Page A 2016 Suicidal ideation, suicide attempts and non-suicidal self-injury among lesbian, gay, bisexual and heterosexual adults: Findings from an Australian national study - external site opens in new window (https://doi.org/10.1177/0004867415615949), *Australian & New Zealand Journal of Psychiatry*, 50(2):145-53, doi.org/10.1177/0004867415615949.

Zwickl S, Wong AFQ, Dowers E, Leemaqz YN, Bretherton I, Cook T, Zajac JD, Yip PSF & Cheung AS (2021) Factors associated with suicide attempts among Australian transgender adults - external site opens in new window (https://pubmed.ncbi.nlm.nih.gov/33557793/), *BMC Psychiatry* 21:81 doi.org/10.1186/s12888-021-03084-7.

Zwickl S et al. (2023) Depression, self-harm, and suicidality in the Australian trans community during the COVID-19 Pandemic. [Manuscript in preparation].

Viewing the monitoring data

Caution: Some people may find parts of this content confronting or distressing.

Please carefully consider your needs when reading the following information about suicide and self-harm. If this material raises concerns for you contact Lifeline on 13 11 14, or see other ways you can seek help.

The information included here places an emphasis on data, and as such, can appear to depersonalise the pain and loss behind the statistics. The AIHW acknowledges the individuals, families and communities affected by suicide each year in Australia.

Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

The AIHW supports the use of the Mindframe guidelines - external site opens in new window on responsible, accurate and safe suicide and self-harm reporting. Please consider these guidelines when reporting on statistics on the monitoring of suicide and self-harm.

Suicide & self-harm monitoring

Need help now?
Lifeline 13 11 14
More (/suicide-self-harm-monitoring/research-information/crisis-support)

Culturally and Linguistically Diverse Australians: Suicide among refugee and humanitarian entrants and other permanent migrants

'Culturally and linguistically diverse' (CALD) is a broad term describing the cultural and linguistic diversity of multicultural populations living in Australia (ABS 1999). Refugee and humanitarian entrants, and other permanent migrant Australians are part of the larger CALD communities within Australia.

In 1999, The Australian Bureau of Statistics (ABS) introduced the 'Standards for Statistics on Cultural and Language Diversity' (the Standards). The Standards were designed to replace the use of 'non-English speaking background' as the sole indicator of cultural and linguistic diversity. They provide a more holistic, accurate, and consistent measurement of cultural and linguistic diversity in Australia. While the ABS has not revised the Standards since the initial publication, text and formatting were refreshed in 2022 (ABS 2022a).

The Standards comprise indicators related to country of birth (of an individual and their parents), year of arrival in Australia, language(s) spoken, ancestry, religious affiliation, and First Nations status. The AIHW uses 'First Nations people' to refer to Aboriginal and/or Torres Strait Islander people in this publication. While CALD terminology as outlined by the Standards is widely adopted within Australia, there is no universally accepted definition of CALD (Pham et al. 2021).

CALD communities and refugees are identified as priority populations under the *National Mental Health and Suicide Prevention Agreement* (the Agreement) (Cth of Australia 2022). Under the Agreement, Commonwealth and State and Territory governments have a shared responsibility to support priority populations who may be at higher risk of mental ill health and suicide due to vulnerability caused by social, economic, and environmental circumstances. While CALD communities have varied experiences, they may also have some shared experiences that contribute to suicide risk factors. These include difficulties adjusting to a new culture, experiences of stigma, and changes in social and family networks a result of migration (Bowden et al. 2020). CALD Australians who are refugees or humanitarian entrants may experience additional or more pronounced challenges due to past experiences of persecution or human rights abuses within their country of origin, or trauma associated with war or their refugee journey (FASSTT 2017).

Although First Nations people are diverse in language and culture, their experiences as First Nations people are unique. Furthermore, the *National Mental Health and Suicide Prevention Agreement* (Cth of Australia 2022) identifies 'Aboriginal and Torres Strait Islander peoples' as priority populations separate to the identification of 'culturally and linguistically diverse communities and refugee' priority populations. As such, First Nations people are considered distinct from CALD terminology used throughout this report. Though it is acknowledged that a person may both identity as a First Nations person and as a person of Cultural and Linguistic Diversity.

Data on suicide among refugee and humanitarian entrants and other permanent migrants

Data presented in this report are drawn from a larger project investigating the health and welfare of Australia's refugee and humanitarian entrant populations (AIHW 2023a). This larger project was funded by the Department of Home Affairs and involved linking the Settlement Database (Department of Home Affairs 2019) with other datasets available in the Person-level Integrated Data Asset (PLIDA); formally known as the Multi Agency Data Integration Project (MADIP) (ABS n.d.). Linking the Settlement Database to the PLIDA enabled the identification and analysis of migrant status for deidentified individuals appearing within other PLIDA datasets.

The key datasets used in the analysis presented in this publication are the Settlement Database (Department of Home Affairs 2019) and the Causes of Death (ABS 2023) dataset. For full details see technical notes for the 'Health of refugees and humanitarian entrants in Australia' report, which was undertaken as part of the larger Department of Home Affairs funded project for details.

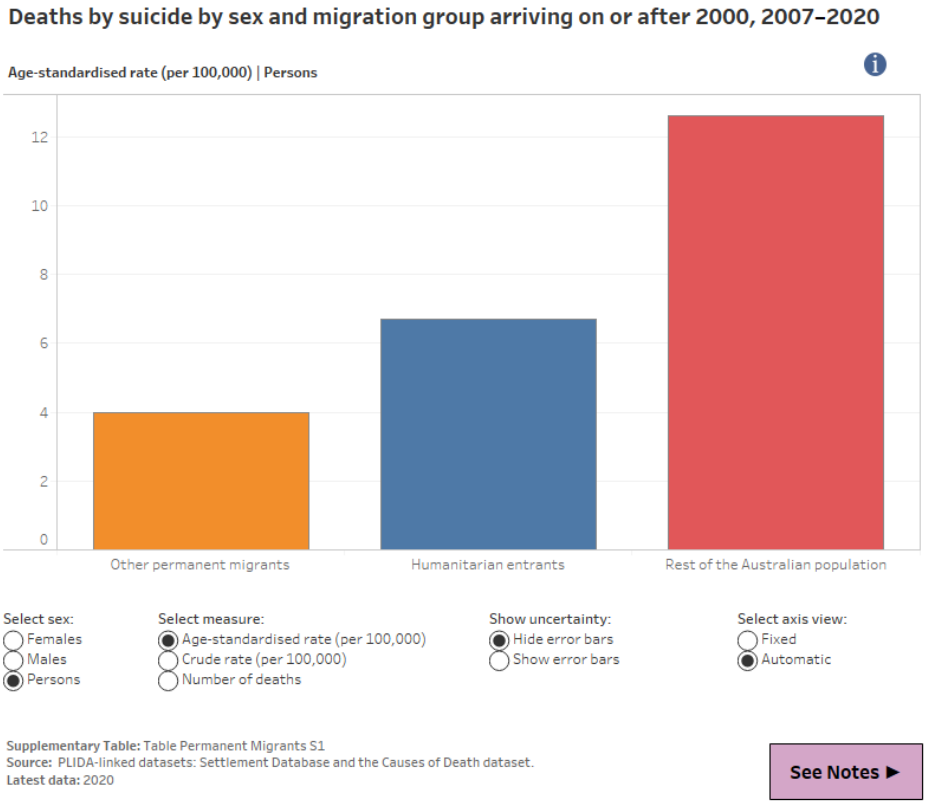
Information derived from analysis of linked Settlement Database and Causes of Death dataset data, is limited to the experience of people who have moved to Australia from another country (first-generation migrant Australians). Refugee and humanitarian, and other permanent migrants are part of the broader CALD communities within Australia. Migration status and year of arrival capture a limited number of indicators within ABS 'Standards for Statistics on Cultural and Language Diversity'. Therefore, data presented should not be considered representative of broader CALD communities within Australia. Instead, this analysis provides robust information about deaths by suicide among first-generation permanent migrant Australians: refugee and humanitarian entrants, and other permanent migrants.

First generation 'Humanitarian entrants' and 'Other permanent migrants' experienced lower rates of suicide compared to the 'Rest of the Australian population'.

The interactive data visualisation below displays deaths by suicide between 2007–2020, by sex and migration group. The age-standardised rates show that:

- Both 'Humanitarian entrants' and 'Other permanent migrants' each experienced lower rates of suicide when compared to the 'Rest of the Australian population'.
- 'Humanitarian entrants' experienced 1.7 times the rate of suicide compared to 'Other permanent migrants'.
- Deaths by suicide were higher for males than females across all three cohorts, with the largest difference in the 'Humanitarian entrants' cohort. Among the 'Humanitarian entrants' cohort, the age-standardised suicide rate for males (11 per 100,000 population) was more than 3.5 times higher than for females (3.0 per 100,000 population). Among the 'Rest of the Australian population' cohort, the age-standardised suicide rate for males (18.8 per 100,000 population) was approximately three times higher than for females (6.1 per 100,000 population).

This bar chart shows the age-standardised suicide rate (per 100,000), crude suicide rate (per 100,000 population) and number of deaths by suicide among by sex and migration group (other permanent migrants and humanitarian entrants), over the years 2007–2020. Migration groups are compared to the rest of the Australian population.



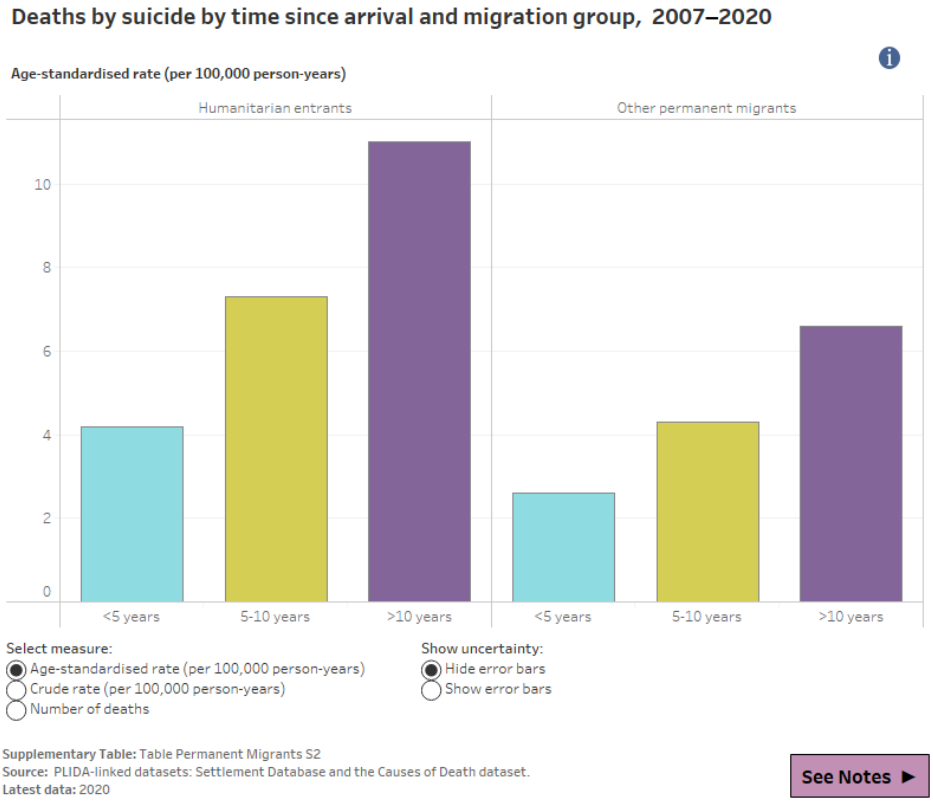
Rates of death by suicide for first generation 'Humanitarian entrants' and 'Other permanent migrants' increased with time since arriving in Australia

The interactive data visualisation below displays deaths by suicide between 2007 and 2020, disaggregated by time since arrival in Australia and migration group. Rates were calculated using person years, which account for the different lengths of time individuals have been living in Australia (and at risk of death by suicide). This enables examination of how these migrant groups are affected by suicide at different times after their arrival in Australia.

The age-standardised rates show that:

- Deaths by suicide were higher for 'Humanitarian entrants' compared to 'Other permanent migrants' at each period since arrival in Australia. Although, particularly with error bars displayed, the differences between these groups are small.
- Deaths by suicide increased for both 'Humanitarian entrants' and 'Other permanent migrants' as time since arrival in Australia increased.

This bar chart shows the age-standardised suicide rate (per 100,000), crude suicide rate (per 100,000 population) and number of deaths by suicide among by migration group (other permanent migrants and humanitarian entrants) and age group, over the years 2007–2020. The age group includes '<5 years', '5-10 years' and '>10 years'.



What other national suicide and self-harm data available for CALD and refugee communities in Australia?

The AIHW uses the National Mortality Database (AIHW 2023b) and the National Hospital Morbidity Database (AIHW 2023c) to report on key suicide and self-harm statistics in Australia. Information relevant to CALD communities within these databases is limited to country of birth.

The most recent ABS Causes of Death publication (ABS 2023) - external site opens in new window (https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia/latest-release#intentional-self-harm-deaths-suicide-in-australia), which presents National Mortality Database data, includes information about suicide by country of birth. This publication found that, between 2018–2022, those born in Croatia, New Zealand and Scotland had a higher age-standardised suicide rate than those born in Australia (ABS 2023). There is no information specific to refugee status within with the National Mortality Database or the National Hospital Morbidity Database.

Linking datasets that contain more comprehensive information about members of CALD communities and/or refugee status and administrative datasets, can provide insight into suicide and self-harm among these communities. For example, while not focused on suicide and self-harm, the AIHW (2022) report "Reporting on the health of culturally and linguistically diverse populations in Australia: An exploratory paper", investigates the use of PLIDA linked data to report on the health of CALD populations. Linking the Settlement Database to the PLIDA, made the analysis presented within this release possible. Migration status and time since arrival in Australia indicators drawn from the Settlement Database provide additional information regarding the experience of first-generation permanent migrant Australians: refugee and humanitarian entrants, and other permanent migrants.

The National Study of Mental Health and Wellbeing (ABS 2022b) collects information both about cultural and linguistic diversity, and about participants' lived experience of suicide and self-harm. The ABS conducts this nationally representative survey on an irregular basis, most recently during 2020–2022. Analysis of this survey data may be informative for future work.

References

ABS (Australian Bureau of Statistics) (n.d.) *Multi-agency data integration project (MADIP)* - external site opens in new window (https://www.abs.gov.au/about/data-services/data-integration/integrated-data/person-level-integrated-data-asset-plida), ABS website, accessed 1 August 2023.

ABS (1999). *1289.0 - Standards for statistics on cultural and language diversity* - external site opens in new window (https://www.abs.gov.au/ausstats/abs@.nsf/mf/1289.0), ABS website, accessed 23 October 2023.

ABS (2022a). *Standards for statistics on cultural and language diversity*. Australian Bureau of Statistics - external site opens in new window (https://www.abs.gov.au/statistics/standards/standards-statistics-cultural-and-language-diversity/latest-release), ABS website, accessed 23 October 2023.

ABS (2022b). *National study of mental health and wellbeing methodology*. Australian Bureau of Statistics - external site opens in new window (https://www.abs.gov.au/methodologies/national-study-mental-health-and-wellbeing-methodology/2020-21), ABS website, accessed 23 October 2023.

ABS (2023). *Causes of death, Australia, 2022* - external site opens in new window (https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia/latest-release), ABS website, accessed 23 October 2023.

AIHW (Australian Institute of Health and Welfare) (2022) *Reporting on the health of culturally and linguistically diverse populations in Australia: An exploratory paper*, AIHW, Australian Government, accessed 23 October 2023.

AIHW (2023a) *Culturally and linguistically diverse Australians. Refugee and humanitarian entrant health*, AIHW, Australian Government, accessed 3 November 2023.

AIHW (2023b) National Mortality Database (NMD), AIHW, accessed 25 October 2023.

AIHW (2023c) National Hospitals Data Collection, AIHW, accessed 25 October 2023.

Bowden M, McCoy A, and Reavley N (2020) 'Suicidality and suicide prevention in culturally and linguistically diverse (CALD) communities: A systematic review', *International Journal of Mental Health*, 49(4):293–320, doi: 10.1080/00207411.2019.1694204 - external site opens in new window (https://doi.org/10.1080/00207411.2019.1694204)

Cth of Australia (The Commonwealth of Australia) (2022). *National mental health and suicide prevention agreement* - external site opens in new window (https://federalfinancialrelations.gov.au/agreements/mental-health-suicide-prevention-agreement), Federal Financial Relations, accessed 23 October 2023.

Department of Home Affairs (2019). *Settlement reports* - external site opens in new window (https://immi.homeaffairs.gov.au/settling-in-australia/settlement-reports). Australian Department of Home Affairs, Immigration and Citizenship, accessed 23 October 2023.

FASSTT (The Forum of Australian Services for Survivors of Torture and Trauma) (2017), *Never turning away Australia's world-leading program of assistance to survivors of torture and trauma (PASTT)* - external site opens in new window (https://www.fasstt.org.au/publications/), FASSTT, accessed 23 October 2023.

Pham TTL, Berecki-Gisolf J, Clapperton A, O'Brien KS, Liu S and Gibson K (2021) 'Definitions of culturally and linguistically diverse (CALD): A Literature review of epidemiological research in Australia' *International Journal of Environmental Research and Public Health*, 18(2):737, doi: 10.3390/ijerph18020737 - external site opens in new window (http://dx.doi.org/10.3390/ijerph18020737)

Viewing the monitoring data

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Suicide & self-harm monitoring

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Supporting people who experience socioeconomic disadvantage: Deaths by suicide among Centrelink income support recipients

Socioeconomic disadvantage may be broadly defined in terms of people's access to material and social resources and their ability to participate in society (ABS 2023b). Socioeconomic disadvantage experienced by individuals is complex and challenging to capture completely. The Australian Bureau of Statistics (ABS) Index of Relative Socio-Economic Disadvantage estimates the level of socioeconomic disadvantage for a geographic area, rather than for individuals. This index shows a strong association between the socioeconomic status of geographic areas and deaths by suicide. Previous person level analysis undertaken by the Australian Institute of Health and Welfare (AIHW) used a range of indicators of socioeconomic disadvantage such as income, education, and employment status. The results of this analysis show that lower income, lower levels of educational attainment, and being unemployed or not participating in the labour force, are each associated with a higher risk of death by suicide.

'People experiencing socioeconomic disadvantage' are identified as a priority population under the National Mental Health and Suicide Prevention Agreement - external site opens in new window (https://federalfinancialrelations.gov.au/agreements/mental-health-suicide-prevention-agreement) (the Agreement) (Commonwealth of Australia 2022). Under the Agreement, Commonwealth and State and Territory governments have a shared responsibility to support priority populations who may be at higher risk of mental health concerns and suicide due to vulnerability caused by social, economic, and environmental circumstances.

Receipt of Centrelink income support payments, while not a comprehensive measure, can be an indicator of socioeconomic disadvantage. Eligibility requirements mean that people receiving these payments need financial support. It is important, though, to acknowledge the diversity of experiences and circumstances among people who receive income support payments. Not all people experiencing socioeconomic disadvantage receive the Centrelink income support payments included within this release.

This release provides national counts and rates of deaths by suicide among people who received selected Centrelink income support payments. This information can improve understanding of suicide among people receiving these payments, highlight where further investigation and evidence are needed, and provide insights into how these deaths may be prevented. The analysis undertaken for this release does not investigate and nor does it provide evidence of a causal relationship between receiving an income support payment and suicide.

Selected Centrelink income support payments

Centrelink is a Services Australia program that delivers social security payments and services to Australians.

This release includes data for people who received the following income support payments:

- **Age Pension** - for eligible older Australians.
- **Disability Support Pension** - for people who have a physical, intellectual or psychiatric condition that is likely to persist for more than 2 years and stop them from working.

- **Carer Payment** - for carers who give constant care to someone with disability or a medical condition, or an adult who is frail aged.
- **Parenting payments** - Parenting Payment Single and Parenting Payment Partnered are the main income support payments for people who are the main carer of a young child.
- **Student payments** - Youth Allowance for students and apprentices, Austudy, and ABSTUDY. Youth Allowance is for full-time students and apprentices, 15 to 24 years of age. Austudy is for full-time students and apprentices 25 years and older. ABSTUDY is for First Nations students or apprentices, 16 to 24 years of age.
- **Unemployment payments** - Youth Allowance for job seekers and JobSeeker (formally NewStart). These payments are for people who are looking for work (or are sick or injured and cannot do their usual work or study). Youth Allowance for job seekers is for people aged 21 and younger. JobSeeker is for people aged between 22 years and the Age Pension age.

Youth Allowance for job seekers and JobSeeker (formally NewStart) payments are collectively referred to as 'unemployment payments' (for brevity). Note that some people receiving these payments (retirees, people working insufficient hours or exempt from the mutual obligation to be looking for work) would not be defined as unemployed according to the ABS Labour Force Survey definition; see Employment and unemployment.

To be eligible, for each of these income support payments, people need to meet income and assets tests.

Further information about these payments can be found on the Services Australia Centrelink - external site opens in new window (https://www.servicesaustralia.gov.au/centrelink?context=1) website.

Data on suicide among Centrelink income support recipients

Data presented in this release are drawn from an analysis of datasets available in the Person-Level Integrated Data Asset (PLIDA) (ABS n.d.). The key PLIDA datasets analysed for this release are the Causes of Death (ABS 2023a) dataset and the Data On Multiple Individual Occurrences (DOMINO) (DSS 2023) dataset. DOMINO is a longitudinal dataset of income support payments. Using the ABS person level linkage spine to link the PLIDA Causes of Death and DOMINO datasets enabled an investigation of deaths by suicide among people who received income support payments at any time between 2011 and 2021. More information about the PLIDA is available on the ABS website - external site opens in new window (https://www.abs.gov.au/about/data-services/data-integration/integrated-data/person-level-integrated-data-asset-plida).

For more information about analysis of datasets for this release see Methods.

Suicide among people who received an income support payment between 2011 and 2021

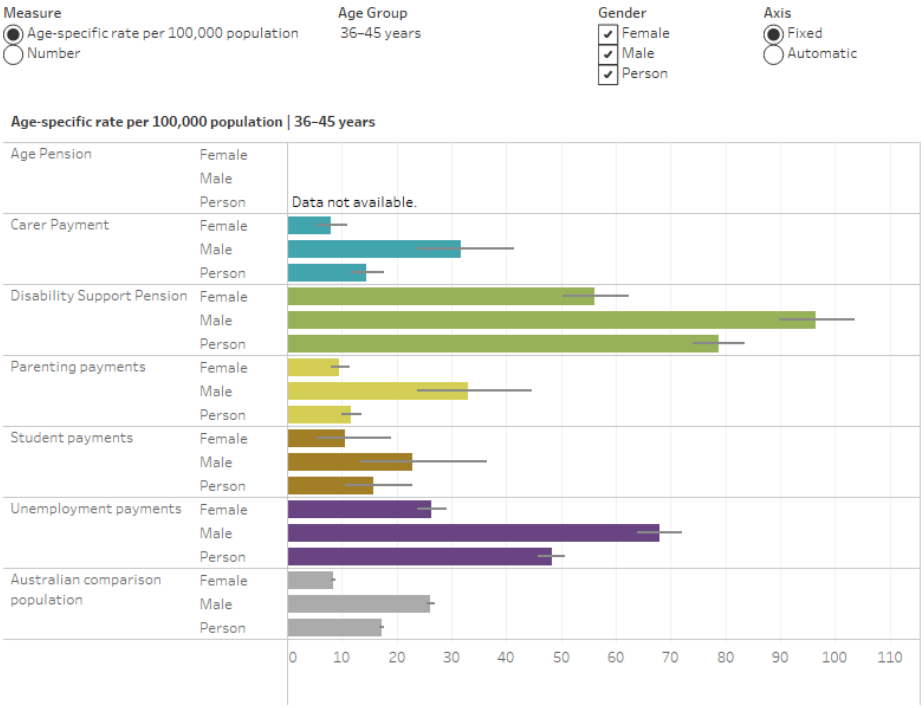
The interactive data visualisation below displays deaths by suicide, between 2011 and 2021, among those who received a selected income support payment. Individuals were identified as dying by suicide while receiving an income support payment, if they died in the same calendar year that they received the payment (first method).

Comparing across income support payments, the data show:

- For all age groups between 16 and 65 years, rates of death by suicide are highest among those who received the Disability Support Pension.
- For all age groups between 16 and 45 years, the number of suicide deaths is highest among people who received unemployment payments. However, for those aged between 46 and 65 years, the highest number of deaths is among people who received the Disability Support Pension.

Age-specific rates and numbers of suicide among those who received income support payments between 2011 and 2021

The visualisation illustrates suicide among those who received income support. Individuals were identified as dying by suicide while receiving an income support payment, if they died in the same calendar year that they received the payment. Data from 2011 to 2021 are used and can shown as numbers or age-specific rates by age group and gender.



*Where data are not available, this is due to confidentiality concerns related to smaller numbers or because the age-range is not relevant for the payment type.

Please note: Error bars indicate the precision of an age-specific rate. The narrower the error bars, the more precise our estimate of the age-specific rate.

The next interactive data visualisation displays death by suicide for each year between 2011 and 2021, among those who received a selected income support payment. Individuals were identified as dying by suicide while receiving an income support payment, if they died in the same calendar year that they received the payment (first method). Deaths by suicide among the whole Australian population are provided as the comparison. Data shown for deaths registered in 2021 is preliminary and subject to revision. Historically, data for deaths by suicide are revised upwards as more information from coronial processes becomes available.

Looking across time and comparing income support recipients and the whole Australian comparison populations, the data show:

- Among those who received the Age Pension, Carer Payment, parenting payments, and student payments, age-standardised rates of death by suicide have remained relatively stable. Overall, the age-standardised suicide rates for these groups are not substantially different to those of their Australian comparison populations.
- Overall, age-standardised rates of death by suicide among those who received the Disability Support Pension have remained stable, though higher than rates among their Australian comparison population.
- During 2019, the most recent pre COVID-19 pandemic year, the age-standardised suicide rate among Disability Support Pension recipients was 3.6 times that of their Australian comparison population. During the same year, Disability Support Pension recipients accounted for 14.5% of all suicide deaths among Australians of the same age range (16–75 years).
- Age-standardised suicide rates among males who received unemployment payments, appear to have increased over the study period and was higher in 2017 than in 2013.
- Age-standardised suicide rates among males and females who received unemployment payments are higher than rates among their Australian comparison populations.
- During 2019, the most recent pre COVID-19 pandemic year, the age-standardised suicide rate among males who received unemployment payments was 2.8 times that of the male Australian population comparison. For females, the 2019 age-standardised suicide rate among those who received unemployment payments was 3.3 times that of the Australian female comparison population. During the same year, unemployment recipients accounted for approximately 20% of all suicide deaths among Australian males and females (across the same age range 15–66 years).
- Age-standardised suicide rates among males and females who received unemployment payments declined markedly between 2019 and 2020. Among persons receiving unemployment payments, the age-standardised suicide rate reduced by 37.4% between 2019 and 2020.

The reasons for this reduction in rate of death by suicide among those receiving unemployment payments cannot be determined from the analysis undertaken. However, the COVID-19 pandemic and Australian Governments' responses to the pandemic resulted in substantially more people receiving unemployment payments, many of whom would not have received unemployment payments if not for the pandemic (Klapdor 2020). Previous AIHW analysis undertaken found that receiving unemployment payments for longer periods of time is associated with increased risk of death by suicide. Those who received income support payments for a relatively short period during the Australian Government's response to the pandemic may be less vulnerable compared to longer-term unemployment payment recipients. The dollar amount paid to unemployment payment recipients was also substantially increased.

Annual numbers, crude rates, and age-standardised rates of suicide among those who received income support payments between 2011 and 2021

The visualisation illustrates suicide among those who received income support. Individuals were identified as dying by suicide while receiving an income support payment, if they died in the same calendar year that they received the payment. Annual numbers, crude rates, and age-standardised rates of data from 2011 to 2021 can be shown by payment type and by gender.

The number and rate of suicide deaths among the Australian comparison population presented in this release differ from those published on the Deaths by suicide over time webpage. This is because the AIHW sourced Australian comparison population suicide data for this release from the PLIDA. A small number of suicide deaths could not be linked between the PLIDA datasets.

Suicide among people who received an unemployment payment at any time in the preceding 12 months

The final interactive data visualisation below displays annual numbers and rates of deaths by suicide, between 2012 and 2021, among people who received an unemployment payment at any time in the preceding 12 months. (second method).

For example, the numerator for the annual 2012 rate in the visualisation below includes all people who died by suicide during 2012 and received an unemployment payment within 12 months of their death. The denominator includes all people who received an unemployment payment within 12 months of any day during 2012. These rates are provided per 100,000 person years. Person years account for the length of time each person was alive during the year of interest (2012 in the example directly above), and within 12 months of having received an unemployment payment, including those who died from another cause or did not die

The comparison suicide rates are for an age and gender matched sample of the Australian population who died by suicide and did not receive an unemployment payment in the preceding 12 months. Data shown for deaths registered in 2021 are preliminary and subject to revision.

Looking across time and comparing those who did and did not receive an unemployment payment in the preceding 12 months, the data show:

- People who received an unemployment payment in the preceding 12 months have higher rates of suicide compared to those who did not receive an unemployment payment in the preceding 12 months.

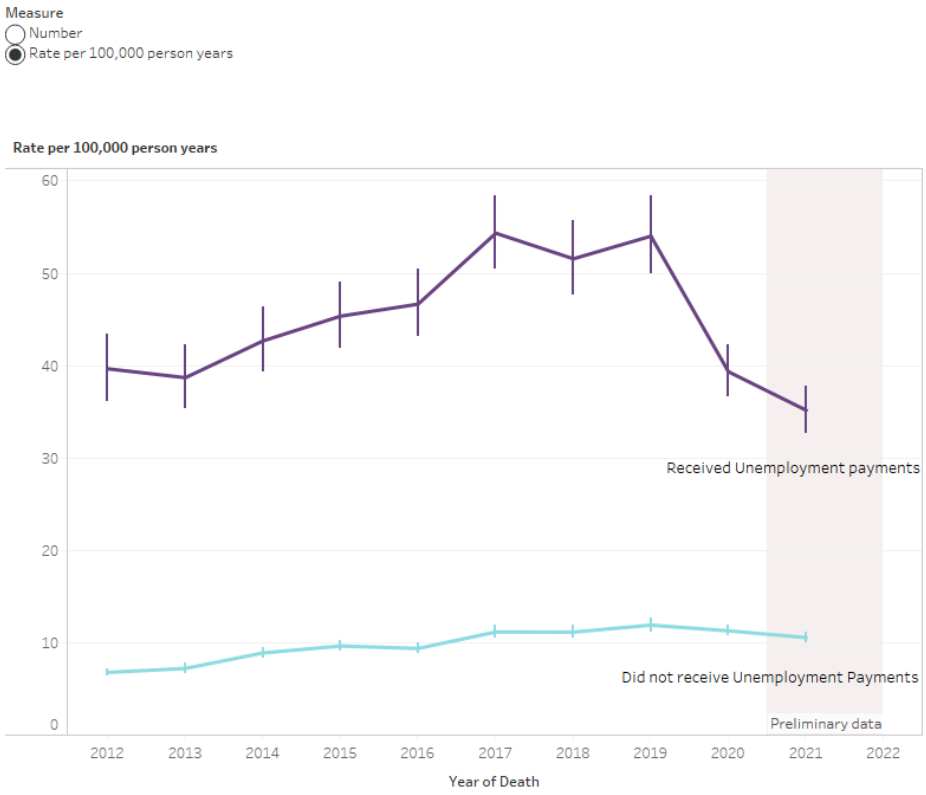
  During 2019, the most recent pre COVID-19 pandemic year, the suicide rate for those who received an unemployment payment was 4.5 times that of those who did not receive an unemployment payment in the preceding 12 months.

- Suicide rates among those who received an unemployment payment in the preceding 12 months, appears to have increased across the study period and was higher in 2017 than in 2013.
- The suicide rate among those who received an unemployment payment, in the preceding 12 months, declined markedly between 2019 and 2020. Even so, the number of suicide deaths for this group increased between 2019 and 2020 (from 651 to 752 deaths). As previously noted, the reasons for this reduction cannot be determined from the analysis undertaken. However, the COVID-19 pandemic and Australian Governments' responses to the pandemic are likely factors.

Overall, patterns in the data for suicide rates among people who received an unemployment payment at any time within the calendar year is similar to those seen for rates of suicide among those who received an unemployment payment at any time during the preceding 12 months.

Age and gender matched rates of death by suicide among those who received and did not receive an unemployment payment (between 2011 and 2021) at any time in the preceding 12 months

The visualisation illustrates death by suicide among those who received and did not receive an unemployment payment at any time in the preceding 12 months. It shows the age and gender matched rates for data 2011 to 2021.



Limitations and important data interpretation considerations

This release provides counts and rates of death by suicide among those who received selected income support payments at any time between 2011 and 2021. Receipt of income support payments is an indicator of socioeconomic disadvantage, but it is not a comprehensive measure of socioeconomic disadvantage. The study does not investigate and nor does it provide evidence of a causal relationship between receiving an income support payment and death by suicide.

Methods

Data sources in more detail

The Causes of Deaths data analysed was preliminary for 2021, revised for 2020 and finalised for 2011 to 2019 registered data. Throughout this release data are presented by year of death occurrence. More information about the registrations and reviews processes for the causes of deaths data is provided within the Australian Bureau of Statistics Causes of Death, Australian methodology publication - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022). ICD codes used to identify a suicide death were X60-X84, Y87.0.

DOMINO was used to identify individuals who had received the selected income support payments. Specially, the DOMINO DET_BEN table was used for this analysis. The DET_BEN table includes both current and suspended payment periods. During a suspended payment period, an individual does not receive payment because their eligibility is pending. This could be for a range of reasons including, not submitting necessary documentation in a timely manner, not meeting a mutual obligation, and exceeding the income test. Data for both current and suspended payment periods was included in the analysis. The Age Pension eligibility age varies from 64 years of age to 66 years and 6 months of age, across the study period (2011–2021).

For those who died during the study period (2011-2021), dates of birth and death were obtained from the Causes of Deaths data. The PLIDA combined demographics dataset was used to identify dates of birth for those who were alive during the whole of the study period (2011–2021). The combined demographics dataset was also used to define gender. Due to data quality and privacy concerns relating to small numbers, gender is included in the analysis as a binary variable with values male and female. As such, we are only able to report results for people represented in the data as only male or only female, and not for transgender or gender diverse people.

Identifying suicide deaths among income support recipients

Suicide deaths among people who received income support payments were identified using two different methods.

First method:

For the first method, individuals were identified if they died by suicide and received a selected income support payment at any time within the calendar.

- Where individuals received more than one of the selected income support payments in their calendar year of death, these individuals appear against each of these income support payment types. 2.9% of people who died by suicide and were in receipt of income support payments in their calendar year of death received more than one type of income support payment in their calendar year of death.
- Counts, age-specific rates, and directly age-standardised rates (and associated crude rates) of suicide are provided using this method.

Age-specific rates:

- For the age-specific rates, the same ten-year age groups are applied to all payment types resulting in some small counts. Cell sizes of less than 10 cannot be outputted from the ABS Datalab environment that holds the PLIDA. These deaths and sequentially suppressed deaths are not reported.
- Whole of population comparison rates were calculated, using mid-year Estimate Resident Populations as the denominators.
- Exact Poisson 95% confidence intervals were calculated.

Age-standardised rates:

- Income support payments are designed for different life stages and ages. Consequently, different segments of the Australian Age-standard were used to directly age-standardise suicide rates among recipients of the different selected payment types.
- Comparison rates provided are for the whole Australian population in the same age range as the income support recipients for each payment type. Separate comparison rates were calculated for each type of income support. The age ranges chosen for each payment type were data driven. Five-year age-groups were used where possible and 10-year age groups were used where necessary when undertaking age-standardisation. To ensure the robustness of rates produced, cell sizes of zero deaths within an age group were not included and a minimum of 20 deaths across all age groups was required. Subsequently, a small number of deaths (falling outside of the stated age range included within the standardisation) were not included within the age-standardised rates calculated. Data for deaths among income support recipients and their matched whole Australian population comparison were treated identically.
- Whole of population comparison rates were calculated, using mid-year Estimate Resident Populations as the denominators.
- Due to smaller cell sizes, age-standardised rates are not provided by gender for some payment types.
- 95% confidence intervals based on the gamma distribution were calculated using the STATA DISTRATE package. No confidence intervals are provided for associated crude rates.

Second method:

For the second method, individuals were identified if they died by suicide and received an unemployment payment at any time within the preceding 365 days (or approximately 12 months).

- For the calculation of annual rates, individuals counted within numerators and denominators were identified daily. Individuals were included in the daily study population rate numerator if they died by suicide on the day and received an unemployment payment at any time within the preceding 365 days. Individuals were included in the daily study population denominator if they were alive or died on the day and received an unemployment payment at any time within the preceding 365 days. Individuals included in daily study population numerators and denominators were then summed across each calendar year to produce annual rates. Rates are provided per 100,000 person years because the number of days each person was included within the denominator was considered. For example, one individual may have been included within the denominator for every day of the calendar year, while another person was included within the study population denominator only some of the days within the year. People were not included in the denominator every day across the calendar year if they died during the year or if the time between the day of interest and their most recent receipt of unemployment payments became greater than 365 days.
- Age and gender matched comparison rates were calculated based on a sample of the whole comparison population, drawn using random stratified sampling. Six individuals from the whole comparison population (those who did not receive income support payments) were matched with each individual of the same age and gender in the study population (those who received unemployment payments). Matched sampling was conducted separately for each year of the study period. For the purposes of sampling, the study population was defined as those who were alive for at least one day during the year and received an unemployment payment in the preceding 365 days. The comparison population was defined as all people within the PLIDA combined demographics file, excluding those included in the study population on every day of the year.
- Exact Poisson 95% confidence intervals were calculated.

For both methods, no minimum duration of income support payment receipt was required. For both methods age at mid-year (regardless of death status) was used.

References

ABS (Australian Bureau of Statistics) (2023a) *Causes of death, Australia* - external site opens in new window (https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia/latest-release), ABS, accessed 20 November 2023.

ABS (2023b) *Socio-Economic Indexes for Areas (SEIFA): Technical Paper* - external site opens in new window (https://www.abs.gov.au/statistics/detailed-methodology-information/concepts-sources-methods/socio-economic-indexes-areas-seifa-technical-paper/latest-release), ABS, accessed 18 April 2024.

ABS (n.d.) *Person Level Integrated Data Asset (PLIDA)* - external site opens in new window (https://www.abs.gov.au/about/data-services/data-integration/integrated-data/person-level-integrated-data-asset-plida), ABS, accessed 16 April 2024.

The Commonwealth of Australia (2022) *The National Mental Health and Suicide Prevention Agreement* - external site opens in new window (https://federalfinancialrelations.gov.au/agreements/mental-health-suicide-prevention-agreement), The Federal Financial Relations, accessed 20 November 2023.

The Department of Social Services (DSS) (2023) *DSS Metadata* - external site opens in new window (https://www.dss.gov.au/dss-metadata), DSS, accessed 18 April 2024.

Klapdor, M (2020) *Changes to the COVID-19 social security measures: a brief assessment* - external site opens in new window (https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp2021/ChangesCOVID-19SocialSecurity#:~:text=%5B1%5D%20This%20Research%20Paper%20examines,to%20some%20temporary%20eligibility%20changes.), Parliament of Australia, accessed 20 November 2023.

Viewing the monitoring data

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Suicide & self-harm monitoring

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Suicide and self-harm among older Australians

On this page:

Older Australians are identified as a priority population under the National Mental Health and Suicide Prevention Agreement - external site opens in new window (https://federalfinancialrelations.gov.au/agreements/mental-health-suicide-prevention-agreement) (the Agreement) (Commonwealth of Australia 2022). Under the Agreement, Commonwealth and state and territory governments have a shared responsibility to support priority populations who are at higher risk of mental health concerns and suicide due to vulnerabilities caused by social, economic, and environmental circumstances.

Older Australians are a diverse group, with different cultural and socioeconomic backgrounds, life experiences, and lifestyles. They generally include those aged 65 years and over, unless otherwise specified (AIHW 2023). Older people also make up a considerable proportion of Australia's population – on 30 June 2023, almost 1 in 6 people (17%) were aged 65 years and over (ABS 2024). Due to small numbers, this report does not disaggregate by First Nations status but may be included in future updates where possible.

As people get older, they may become more vulnerable to certain risk factors for suicide and self-harm. For instance, suicidality is associated with loneliness, social isolation, and perceived burdensomeness in older people (Klein et al. 2023). In contrast, strong social support, community engagement and maintaining physical health are protective factors against suicide and self-harm (Klein et al. 2023).

This article provides monitoring data on suicide, intentional self-harm hospitalisations and ambulance attendances for suicidal behaviours among older Australians. For more information on the health and welfare of older Australians, see the GEN Aged Care - external site opens in new window (https://www.gen-agedcaredata.gov.au/) or the Aged Care - external site opens in new window webpages. For more information about the mental health needs of individuals at the time of assessment for aged care services and about deaths due to suicide while accessing aged care, see the Mental health in aged care report.

Measuring suicide and intentional-self harm over time

Monitoring data on this page use both age-standardised and age-specific rates to measure suicide and intentional self-harm over time.

Age-standardised rates adjust for age differences across populations, allowing for comparisons over time. This ensures that observed differences in suicide rates over time are not due to varying age structures but reflect true differences in rates.

Age-specific rates refer to the rate of an event within a specific age group. This is useful for providing information about a particular age group at a given time.

Presenting both age-standardised and age-specific rates provides a comprehensive overview of monitoring data. Age-specific rates identify which age groups are most affected, while age-standardised rates allow for fair comparisons and a broader understanding of trends.

For more definitions please see the Glossary.

Death by suicide among older Australians

The data visualisation below provides an overview of suicide trends among older Australians over time, highlights variations by sex, and compares these trends to younger people and people of all ages.

The interactive timeseries visualisation shows deaths by suicide from 1921 to 2023, by those aged '65 years and over', 'under 65 years' and 'all ages'. Age-standardised rates (per 100,000), age specific rates (per 100,000) and number can be chosen. Data may also be viewed by females, males and persons.

Older Australians suicide rate has decreased over time

After adjusting for differences in age structures over the years, the overall suicide rate among older Australians (aged 65 year and over) has declined.

- **1920s to 1960s:** Generally, older Australians had higher aged-standardised rates of suicide deaths compared to those aged under 65 years (15–64). These peaks often coincided with major social and economic events, see Impact of social and economic events.
- **1970 to early 1990s:** The age-standardised suicide rate among older Australians fell to similar rates, albeit slightly higher overall, of those aged under 65 years.
- **Early 1990s onwards:** Suicide rates among older Australians continued to fall and remained lower than those of people aged under 65 years. In 2023, the age-standardised suicide rate for those aged 65 and over was 12.3 per 100,000 people, compared to 15.2 for those aged under 65 years.
- Until around the 1990s, males over the age of 65 years had higher rates of suicide compared to those under 65. Since then, the suicide rate of males over 65 years have been slightly lower than those for younger males, with some variation.
- While the age-standardised and age-specific rate of suicide among older Australians has decreased over time, the total number of suicides has steadily increased, reflecting the overall increase in the Australian population.

Intentional self-harm hospitalisations among older Australians

The data visualisation below provides an overview of intentional self-harm hospitalisations among older Australians, from 2008–09 to 2022–23. Note 'intentional self-harm' includes both suicide attempts and non-suicidal self-harming behaviours. For more information on intentional self-harm hospitalisations data, see Suicide & self-harm monitoring: Intentional self-harm hospitalisations and Data sources.

The interactive timeseries visualisation shows intentional self-harm hospitalisations from 2008–2009 to 2022–2023, by those aged '65 years and over', 'under 65 years' and 'all ages'. Age-standardised rates (per 100,000), age specific rates (per 100,000) and number can be chosen. Data may also be viewed by females, males and persons.

Intentional self-harm hospitalisations among older Australians is lower than younger Australians

Between 2008–09 and 2022–23:

- the age-standardised rate of intentional self-harm hospitalisations among older Australians has remained steady, ranging from 36.1 per 100,000 people in 2008–09 to 37.4 in 2022–23, reaching a peak of 44.0 in 2016–17.
- On average, the age-standardised rate of intentional self-harm hospitalisations was 3.5 times higher among those aged under 65 years compared to older Australians aged 65 and over, reflecting the overall higher rates among younger age groups (AIHW, 2024).
- The age-standardised rate of intentional self-harm hospitalisations among older Australians was similar for males and females, yet on average the rate was almost twice as high (1.9 times) among younger females compared to younger males.

Ambulance attendances for suicidal ideation, and suicidal and self-harm behaviours among older Australians

The data visualisations below provide an overview of ambulance attendances for suicidal ideation, suicide attempts, and self-injury among older Australians, in states and territories where data are available. This includes people who needed an ambulance and self-harmed during the ambulance attendance or in the preceding 24 hours. For more information on definitions and inclusions, see Ambulance attendances: Suicidal ideation, and suicidal and self-harm behaviours and Data sources - National Ambulance Surveillance System (NASS).

The following time series visualisation contain monthly data from January 2021 until December 2022 among the selected jurisdictions. Data prior to 2021 are based on 1-month per quarter snapshots between March 2018 and December 2020.

Caution is advised when making month to month comparisons, particularly for the 1-month per quarter snapshot data (pre-2021 data). It is advised to compare the same months over a few years to allow for any seasonal effects and variations at different times of year. When comparing changes to estimates over time it is advised to 'Show error bars' on the visualisation. These show the 95% confidence interval for the age-specific rate which can vary widely in the case of small populations. This means that we are confident that the true number would fall within the interval range 95% of the time.

In addition, the following factors should be considered when interpreting ambulance data:

- Industrial action occurred in New South Wales (NSW) in April 2022, with a minimal impact on ambulance services and demand.
- A small decrease in the number of NSW ambulance attendances was observed in July and August 2022 due to technical issues.
- Industrial action in NSW during early February 2023, which could have resulted in lower numbers.
- A computer-aided dispatch outage in Queensland on 10 March 2023 resulted in no cases being recorded for that date.

The interactive timeseries visualisation shows ambulance attendances, from January 2018 to June 2023. Prior to January 2021, data are quarterly monthly snapshots, with data series breaks in between snapshot months. From January 2021, data are shown as monthly snapshots with no data breaks. Data are show by those aged '65 years and over', 'under 65 years' and 'all ages'. Age-specific rates (per 100,000) and number can be chosen. Data may also be viewed by females, males and persons. The user may also view data with 95% confidence interval error bars, by selecting 'show error bars'.

Ambulance attendances for self-harm are lower among older Australians compared to younger Australians

Between March 2018 and June 2023 in New South Wales (NSW), Victoria (Vic), Tasmania (Tas) and the Australian Capital Territory (ACT) combined:

- the age-specific rate of ambulance attendances for suicidal ideation, suicide attempts and self-injury was lower among older Australians compared to those under 65 years. This is similar to trends in intentional self-harm hospitalisations among these two populations (see Intentional self-harm hospitalisations for older people compared to those under 65 years and all ages, Australia, 2008–09 to 2022–23, above).
- The age-specific rates among older Australians remained steady over time for suicidal ideation, suicide attempts and self-injury ambulance attendances.
- Among older Australians, the age-specific rates for ambulance attendances for suicide attempts and self-injury were similar for males and females. However, among those aged under 65, the rates were almost twice as high (1.8 times higher) on average for females compared to males.
- On average, suicidal ideation was around 1.4 times higher among males aged 65 years and over compared to females of the same age.

State and territory variations in self-harm ambulance attendances among older Australians

Comparing ambulance data between states and territories

Comparing ambulance attendance rates across states and territories requires careful interpretation due to varying factors such as the availability of ambulance services, cost coverage differences, and access to 24-hour health centres. Additionally, inconsistencies in paramedic patient records across jurisdictions can affect the data, making it challenging to fully understand the reasons behind the differences in attendance rates. For further information on comparing state and territory data please refer to the technical notes.

The interactive bar chart visualisation shows ambulance attendances aggregated by year for 2021 and 2022. Data are shown by 10-year age groups over 65 years (65–75, 75–84 and 85+) and total age groups ('65 years and over', 'under 65 years' and 'all ages'). Age-specific rates (per 100,000) and number can be chosen. Data may also be viewed by females, males and persons. The user may also view data by attendance type.

In 2022:

- across selected states and territories, older Australians had lower age-specific rates of ambulance attendances for suicidal ideation, suicide attempt and self-injury compared to those under 65 years.
- In NSW, the rate of ambulance attendances for suicide attempts was significantly higher among males aged 85+ (77.6 per 100,000; 95% confidence interval (CI): 58.6–100.7), compared to those aged 65–74 years (32.6; 95% CI: 27.0–38.9) and 75–84 years (37.8; 95% CI: 30.1–46.9). This rate was almost as high as the NSW rate for people aged under 65 years (83.8; 95% CI: 80.8–86.9). The higher rates among males aged 85 years and over were also observed in Qld and Vic, although the overlapping 95% CIs among the younger age groups suggest the differences may not be significant (see *Methods* for more information on uncertainty). The number of attendances among males aged 85 years and over was too small to present rates for NT, Tas and the ACT.
- The rate of ambulance attendances for suicidal ideation tended to decrease with increasing age among older Australians, in NSW, Vic, Qld, and Tas. In the ACT however, attendances were highest among those aged 85 years and over (96.0 per 100,000; 95% CI: 38.6–197.7), though the 95% CI overlaps with people in the 65–74 years (66.6; 95% CI: 42.2–99.9) and 74–84 years (64.2; 95% CI: 34.2–109.8) age groups.
- The rate of attendances for self-injury was significantly lower among older Australians compared to those aged under 65 years across all states and territories. The number of attendances for self-injury among those aged over 65 years was too small to draw meaningful comparisons.

Further information

- GEN Aged Care - external site opens in new window (https://www.gen-agedcaredata.gov.au/)
- Aged care
- Mental health in aged care
- Deaths by suicide in Australia
- Intentional self-harm hospitalisations
- Ambulance attendances

References

Australian Bureau of Statistics (ABS) (September 2024), *Population by age and sex - national - external site opens in new window (https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/latest-release)*, ABS Website, accessed 23 October 2024.

Australian Institute of Health and Welfare (AIHW) (2023) *Older Australians - external site opens in new window*, AIHW, Australian Government, accessed 30 May 2024.

AIHW (2024) *Suicide & self-harm monitoring: Intentional self-harm hospitalisations by age groups*, AIHW, Australian Government, accessed 20 July 2024.

Klein B, Shandley K, McLaren S, Clinnick L and Nguyen HV (2023) 'Suicidality among older Australian adults' - external site opens in new window (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9870623/), *Front Public Health*, 9(10):992884. doi: 10.3389/fpubh.2022.992884.

The Commonwealth of Australia (2022) *The National Mental Health and Suicide Prevention Agreement* - external site opens in new window (https://federalfinancialrelations.gov.au/agreements/mental-health-suicide-prevention-agreement), The Federal Financial Relations, accessed 30 May 2024.

Viewing the monitoring data

Caution: Some people may find parts of this

Please carefully consider your needs when r and self-harm. If this material raises concerns for you contact Lifeline on 13 11 1

The information included here places an em ersonalise the pain and loss behind the statistics. The AIHW acknowledges the indiv cide each year in Australia.

Aboriginal and Torres Strait Islander reader nous suicide and self-harm is included.

The AIHW supports the use of the Mindfram w on responsible, accurate and safe suicide and self-harm reporting. Please consider th e monitoring of suicide and self-harm.

Suicide & self-harm mo

Need help now?

Lifeline 13 11 14

More (/suicide-self-harm-monitoring/rese

Suicide and self-harm among people in contact with the justice system

On this page

People in custody have high rates of mental distress, suicidal behaviours and other risk factors for suicide (AIHW 2022a, 2023a; Marzano et al. 2016; Rose et al 2019). The National Mental Health and Suicide Prevention Agreement (the Agreement) identified suicide prevention priority populations (Australian Government 2022). One of these priority populations is 'people who are (or have been previously) in contact with the criminal justice system.' This release provides an overview of suicide and self-harm among people in contact with the criminal justice system.

How do people in contact with the criminal justice system differ from the general population?

Around 40,000 people are held in custody each year. The number of people in custody has been increasing since the 1990s (ABS 2022). In 2023, more than half of all people in custody were awaiting trial (on remand) or sentencing (ABS 2023).

- When compared to the general population: Aboriginal and Torres Strait Islander (First Nations) people are overrepresented among people in custody. First Nations people make up 3.8% of the general population and 32% of people in custody (ABS 2024; ABS 2023).
- People in prisons are disproportionately – over 90% – male (ABS 2023). It is unknown how many people in custody are transgender or nonbinary as this information is not routinely collected. However, transgender and nonbinary people may be held in custody at higher rates than cis-gendered Australians (Mitchell et al. 2022; Van Hout et al. 2020).
- In 2022, 2 in 5 (39%) people surveyed entering prisons had a long-term health condition or disability (AIHW 2023a). In the general Australian population fewer than 1 in 5 (18%) people had a health condition or disability (AIHW 2022b).
- 4 in 10 (43%) people entering custody experienced homelessness in the 4 weeks prior to custody (AIHW 2023a). Yet less than 1% of the general population experience homelessness (ABS 2021a, 2021b).

First Nations people, transgender and nonbinary people, people with long-term health conditions and disabilities, and people experiencing homelessness, who are overrepresented among people in custody, are also priority populations for suicide research and prevention. This highlights how priority populations within the Agreement are not always distinct groups but may intersect. Therefore, broadening understanding of one priority population can increase understanding of others.

This release brings together two separate data sources to explore suicide and self-harm among people in contact with the criminal justice system:

- Deaths by suicide among adults in custody: Data from the National Deaths in Custody Program

- Self-harm among adults in prisons: Data … on 2022

In addition, the below page explores contac… …sarily for criminal reasons. For example, people who were involved in litigation or ch… …ple who had been to prison:

- Risk factors for suicide among people wi… …Mortality Database

Deaths by suicide among adults i… …eaths in Custody Program

This release presents data from the Nationa… …by the Australian Institute of Criminology (AIC). The National Deaths in Custody Progr… …ustody, police custody and custody-related operations since 1979.

In this release, 'deaths by suicide' includes d… …ed to be intentionally self-inflicted. This includes deaths in prison custody, police cu… …rmination of the manner of death is made by a coroner through a coronial finding. Dea… …onal or unknown intent are included in 'other deaths.' See 'What is a death in custo… …criteria.

What is a death in custody?

According to the National Deaths in Custody…

- a death, wherever occurring, of a person… …th detention
- a death, wherever occurring, of a person… …umatic injuries sustained, or by lack of proper care, while in such custody or de…
- a death, wherever occurring, of a person who dies, or is fatally injured, in the process of police or prison officers attempting to detain that person
- a death, wherever occurring, of a person attempting to escape from prison, police custody or youth detention (AIC n.d.).

The National Deaths in Custody Program also divides deaths in custody, by custody type. For instance, 'deaths in prison custody' are defined as:

- deaths which occur in correctional facilities or youth detention centres
- deaths which occurred while the person was in custody during transfer to or from correctional or youth detention centres, medical transfers from correctional and youth detention centres, or in medical facilities following transfer from correctional or youth detention centres.

'Deaths in police custody' are defined as:

- deaths which occurred in institutional police settings, for example, in police stations, lock-ups, police vehicles, and transfers between corrections centres as well as health settings such as hospitals
- deaths which occurred in police operations where officers were in close contact with the deceased, for example, police shootings
- deaths in custody related police operations, for example if the person died while police were pursuing them; and most sieges.

For more information on how the AIC define a death in custody, please see the AIC explanatory notes - external site opens in new window (https://www.aic.gov.au/publications/sr/sr44).

Suicide among adults who died in custody 1989–90 to 2021–22

Caution needs to be taken when interpreting the results and visualisations below. Due to the small numbers of deaths by suicide in custody, the results can change considerably between years. Some data are also aggregated to 5-year groupings due to small numbers and to maintain confidentiality. The number and proportion of suicide deaths in recent years may be subject to more revisions. The revisions are subject to coronial processes, which can have some delays.

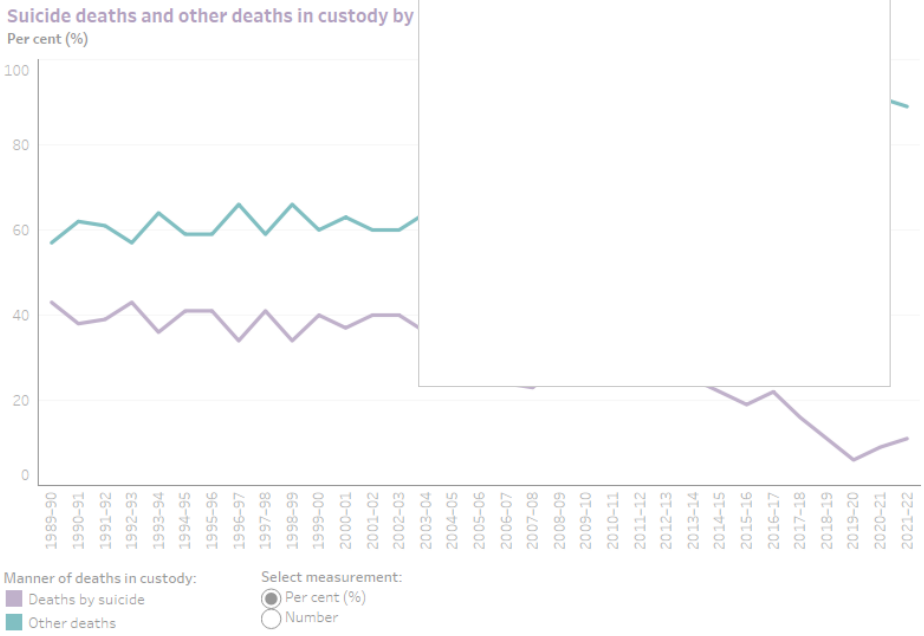
This release does not present rates of death in police custody due to the lack of a reliable data source for the number of individuals placed into police custody each year or those who come into contact with police during custody-related operations (McAlister & Bricknell, 2023).

For more information on National Deaths in Custody Program methods, please see Deaths in custody in Australia 2022–23. - external site opens in new window (https://www.aic.gov.au/publications/sr/sr44)

The total number of deaths in custody has increased over time, rising from as low as 53 in 2005–06 and 59 and 61 in 1990–91 and 1991–92, to highs of 112 and 111 in 2018–19 and 2019–2020. This increase may be attributed to the growing incarcerated population since 1989–90 (ABS 2022a).

In parallel, the number of suicide deaths in ear from 1989–90 and 2004–05. After this period, there was a slight decrease, with sui wer, ranging from 7 to 23 each year. This downward trend is reflected in the proporti ody since 1989–90. The data visualisation below illustrates this steady decrease, parti icide deaths accounting for less than 30% (ranging from 7 to 28 deaths) of all deaths i

The interactive timeseries visualisation sho y year from 1989 to 2022. Percent (%) and number (n) can be chosen.



Notes: 'Deaths in custody' includes deaths that occurred in prison and police custody and custody related operations, for more details see notes. 'Other deaths' includes all deaths where manner of death was known and not categorised as self-inflicted, intention known. Excludes 38 cases where manner of death was unknown and 16 cases in youth justice or 'other' custodial authority. Years are financial years.
Source: AIC NDICP 1989–90 to 2021–22
Supplementary table: NDICP 1

See notes ▶

Suicide among adults who died in custody 1992–97 to 2017–22

Patterns of suicide deaths in custody by age have changed over time

During 1992–97, the proportion of deaths in custody that were due to suicide was highest for adults aged 18–24 years (48%). Since 1997–2002, the highest proportion of suicide deaths have been among people in custody aged 25–39 years (ranging from 12%–46%,14–100 deaths), except in 2017–22, when the highest proportion (16%, 6 deaths) was among people aged 18–24 years.

The number and proportion of deaths in custody from suicide have generally decreased across age groups. Note that the 2017–22 percentages are subject to revision and may change. They should be interpreted with caution.

The interactive bar chart visualisation shows suicide deaths and other deaths in custody by age groups aggregated by 5-year time periods from 1992 to 2022. Data are shown by the following age groups; '18-24 years', '25-39 years', '20-54 years', '55 years and over', and 'All age groups'. 'Deaths by suicide in custody' and 'Other deaths in custody' can be viewed as a percent (%) or a number (n). 'All deaths in custody' can be viewed as a number.

Note: 'Deaths in custody' includes deaths that occurred in prison and police custody and custody related operations, for more details see notes. 'n.p' refers to not presented due to small numbers of cases (fewer than 5). 'Other deaths' includes all deaths where manner of death was known and not categorised as self-inflicted, intention known. Excludes cases where manner of death was unknown and cases in youth justice or 'other' custodial authority and one case where age category was unknown. Years are financial years.
Source: AIC NDICP 1992–93 to 2021–22
Supplementary table: NDICP 2

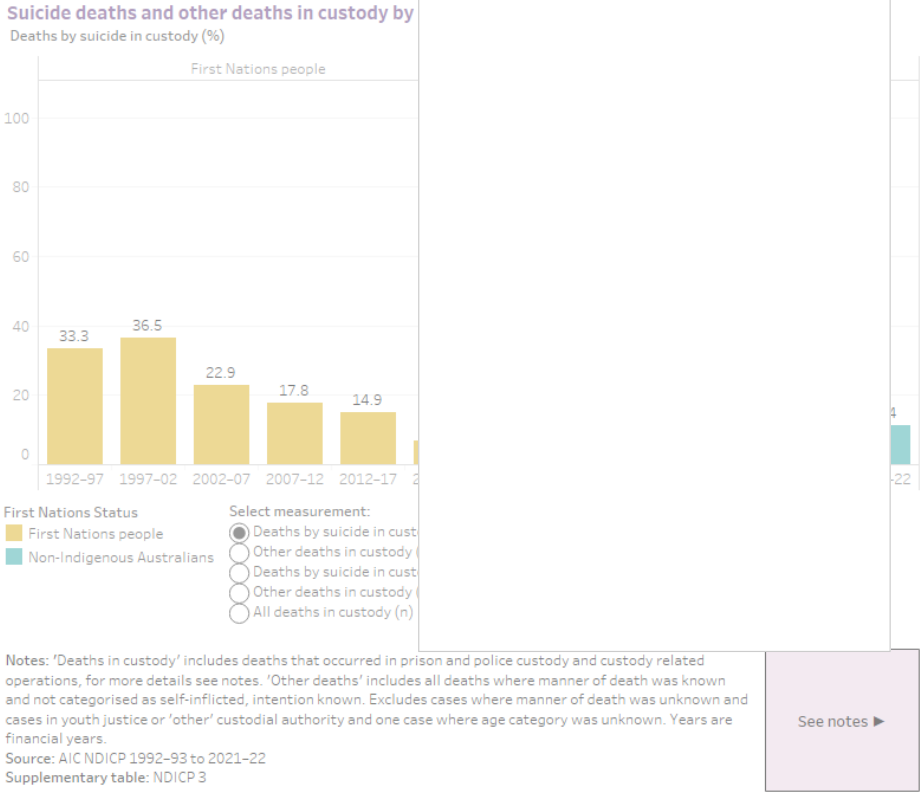
See notes ▶

The proportion of suicide among First Nations adults who died in custody decreased over time

From 1992–97 until 1997–2002 around a third (33% and 37% in 1992–97 and 1997–2002, 25 and 31 deaths respectively) of deaths in custody among First Nations people were by suicide. In comparison, the proportion of deaths by suicide among non-Indigenous Australians in custody was slightly higher, with around 2 out of every 5 deaths of non-Indigenous Australians (ranging from 39% to 40%, or 152 and 142 deaths, respectively) being from suicide over the same period.

From 2002–07, the proportions of deaths by suicide among all deaths in custody decreased for both First Nations people (23% to 6.8%, or 19 to 6 deaths) and non-Indigenous Australians (37% to 11%, or 103 to 44). From 2012–17, the proportion of deaths by suicide among First Nations people (15%, 13 deaths) more than halved compared with 1992-97 (33%, 25 deaths), before declining further to 6.8% (6 deaths) in 2017–2022. Overall, the numbers of all deaths in custody, including non-suicide deaths, increased over time, which may be due to the increased numbers of people in custody.

The interactive bar chart visualisation shows suicide deaths and other deaths in custody by Indigenous status aggregated by 5-year time periods from 1992 to 2022. 'Deaths by suicide in custody' and 'Other deaths in custody' can be viewed as a percent (%) or a number (n). 'All deaths in custody' can be viewed as a number.



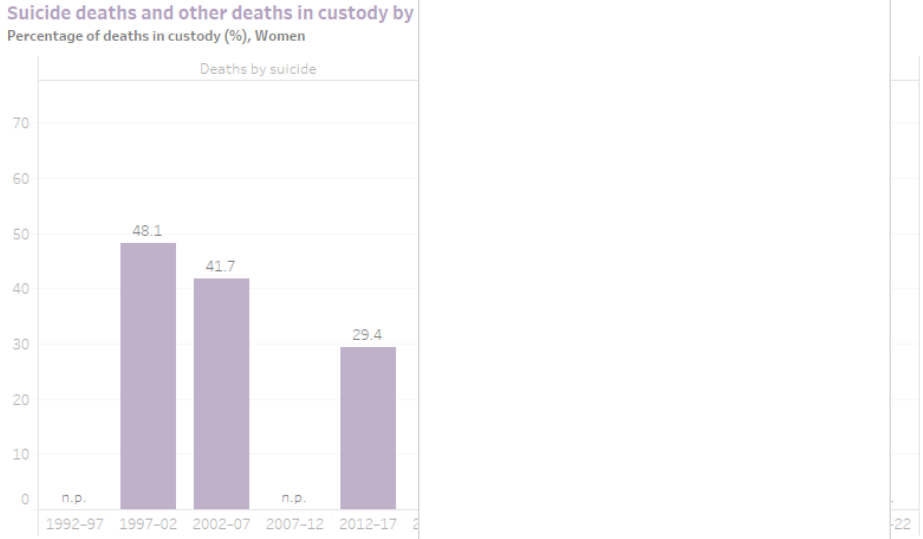
Suicide deaths in custody declined in men over time

Around 1 in 5 (22%, 86) men who died in custody died by suicide in 2012–17, a decrease of almost half since 1997–2002 (38%, 170 deaths). Please note that data for the most recent years, 2017–22, are not presented ('n.p.') due to the small number of reported deaths by gender.

It is important to approach the findings regarding suicide among women who died in custody with caution. Due to small numbers (ranging between below 5 and 13), the proportion of suicide deaths among women who died in custody can vary significantly over time and cannot be directly compared to those among men who died in custody.

During 2012–17, less than one-third of women (29%, 5 deaths) who died in custody died by suicide. The numbers of women who died by suicide in custody are too small to identify any meaningful trends over time.

The interactive bar chart visualisation shows suicide deaths and other deaths in custody by sex aggregated by 5-year time periods from 1992 to 2022. 'Percentage of deaths in custody (%)' and 'Number of deaths in custody (n)' can be selected. 'Sex' ('Women', 'Men', 'Persons') can also be selected.



Notes: 'Deaths in custody' includes deaths that occurred in prison and police custody and custody related operations, for more details see notes. 'n.p' refers to not presented due to small numbers of cases (fewer than 5). 'Other deaths' includes all deaths where manner of death was known and not categorised as self-inflicted, intention known. Excludes cases where manner of death was unknown and cases in youth justice or 'other' custodial authority. Years are financial years
Source: AIC NDICP 1992–93 to 2021–22
Supplementary table: NDICP 4

See notes ▶

Suicide among adults who died in prison custody 1982–87 to 2017–22

Note that the previous section on suicide deaths in custody included data from 1992–97 to 2017–22 on prison and police custody. The section below includes data about sentencing and people in prison custody, which are analysed from 1982–87.

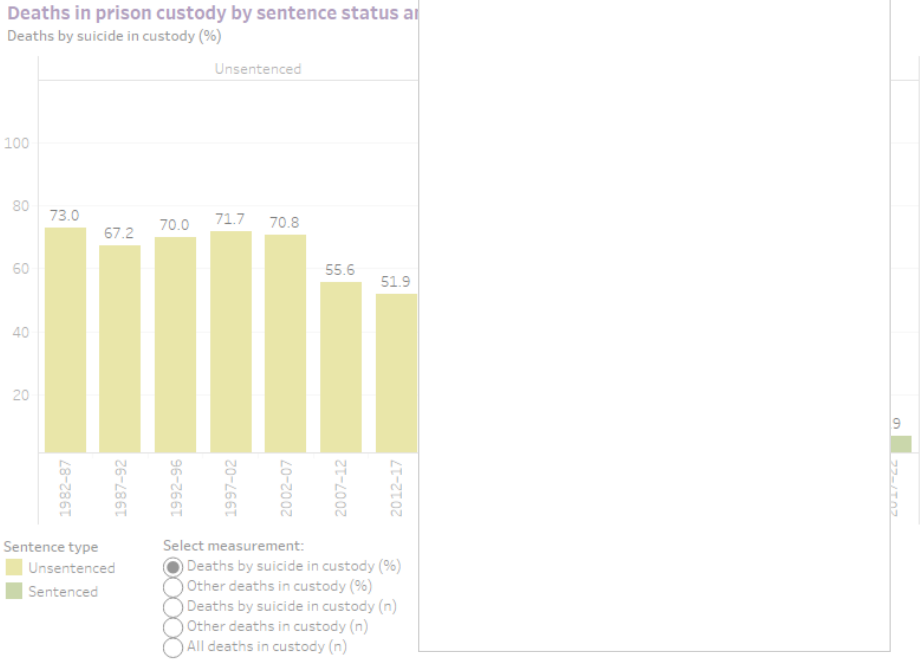
For further information on data availability, please see Deaths in custody in Australia - external site opens in new window (https://www.aic.gov.au/statistics/deaths-custody-australia) from the Australian Institute of Criminology.

Suicide remained higher among those who were unsentenced and died in prison custody since 1982–87, compared with those who were sentenced

Being unsentenced or 'on remand' means awaiting trial or sentencing and is associated with high rates of suicide and suicidality (Zhong et al. 2021). Remand can be an emotionally tumultuous experience for many people (Sarre et al. 2016).

For the period 2017–22, around 1 in 5 (22%, 25 deaths) deaths among people who were unsentenced and died in prison custody were due to suicide. In comparison, during the same period, the proportion of deaths by suicide among people who were sentenced and died in prison custody was considerably lower (6.9%, 18 deaths).

The interactive bar chart visualisation shows suicide deaths and other deaths in prison custody by sentence status and manner of death aggregated by 5-year time periods from 1982 to 2022. 'Deaths by suicide in custody' and 'Other deaths in custody' can be viewed as a percent (%) or a number (n). 'All deaths in custody' can be viewed as a number.



Notes: 'Deaths in custody' includes deaths that occurred in prison custody and custody related operations, for more details see notes. Excludes 29 cases where manner of death was unknown, 22 cases in youth justice or 'other' custodial authority and 15 cases where remand status was not stated. Years are financial years.
Source: AIC NDICP 1982–83 to 2021–22
Supplementary table: NDICP 5

See notes ▶

History of self-harm among adults in prisons: Data from the National Prisoner Health Data Collection 2022

This section reports on history of self-harm among people in prison using data from the 2022 6th National Prisoner Health Data Collection (NPHDC). The numbers may underestimate the true prevalence of self-harm among people in prison due to the reliance on self-reporting from people surveyed. Yet these data can provide insight into the wellbeing of people in contact with the justice system.

National Prisoner Health Data Collection: Data from the NPHDC were collected over 2 weeks and 4 surveys in 2022. Of these surveys, 2 included data on self-harm. The first was among people entering prison across Australia ('entrants forms'). The entrants form surveyed around 370 people. The second surveyed people leaving prison ('dischargees forms'). Dischargees were those leaving prison during the survey period or within 4 weeks after the survey period. The dischargees form surveyed around 430 people.

Eligible people in prison aged 18 years and over were invited to participate in the voluntary survey. All states and territories were included, except for Victoria which did not participate. Both people who were sentenced and unsentenced were eligible for the surveys. For more information on the survey sampling and methods please see The health of people in Australia's prisons 2022 report.

For the purpose of this section, self-harm refers to a person who intentionally inflicted physical harm or injury to their own body with or without suicidal intent (AIHW 2023b).

History of self-harm among adults entering prison was highest among women and young adults

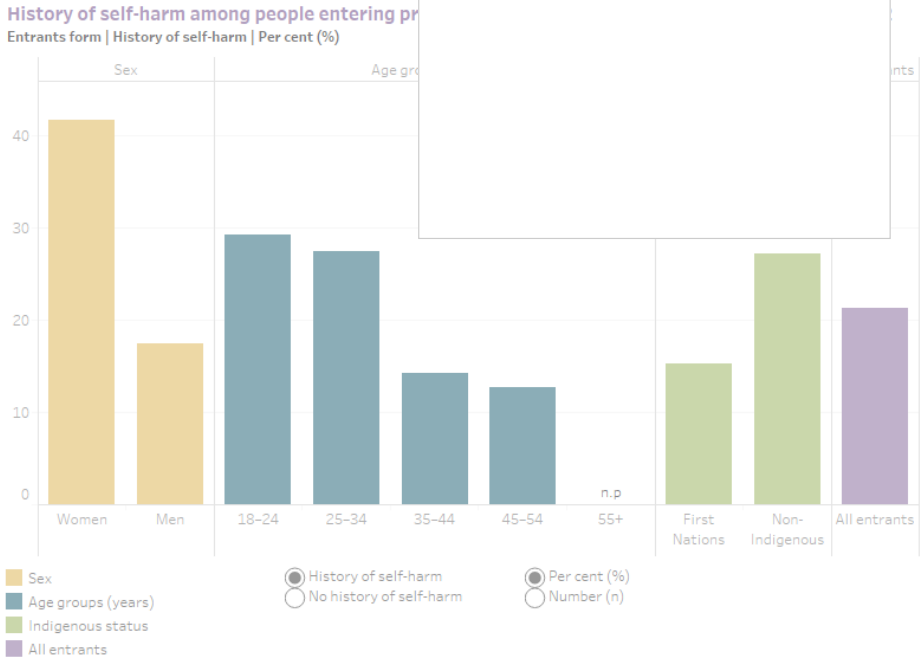
Around 2 in 5 (42%, 25) women and 1 in 6 (17%, 54) men surveyed entering prison reported a history of self-harm.

Generally, a history of self-harm decreased by age among those entering prison. More than one-quarter (29%, 12) of people entering prison aged 18–24 years reported a history of self-harm. People entering prison aged 25–34 years had a similar percentage (28%, 39). However, 14% (15) of people aged 35–44 years and 13% (8) of people aged 45–54 years had a history of self-harm. History of self-harm for people aged 55 years and over cannot be reported on due to low numbers (fewer than 5).

More than 1 in 7 (15%, 28) First Nations people entering prison reported a history of self-harm. More than one-quarter (27%, 50) of non-Indigenous Australians entering prison reported a history of self-harm.

These proportions are lower than those fou or example, a survey of adults on remand and sentenced in prison from the Australiar (31%) of people held in ACT prisons had attempted suicide (Butler et al. 2018). Furth mand and sentenced in Victoria found more than half (55%) had a history of attempted s examples are specific to suicide attempts, we would expect that self-harm (which inclu al intent) would be higher due to the broader inclusion criteria. The smaller prop in survey designs, for example the questions used. However, the sampling met criteria beyond voluntary participation in the surveys and being held in prison. For m of People in Australia's Prisons 2022 report.

The interactive bar chart visualisation show reported by people in prisons by sex, age group, First Nations status and all entrants. t (%) or a number (n).



Notes: Totals may vary due to exclusions of unknowns, see supplementary file for totals. Excludes Victoria which did not provide data for this item. Percentages based on small numbers and should be interpreted with caution. Numbers represent numbers in this data collection only and not the entire prison population. Data were self-reported. 'n.p' is not presented due to small numbers (fewer than 5).
Data source: Entrants form, 2022 NPHDC
Supplementary data: NPHDC 1

See notes ▶

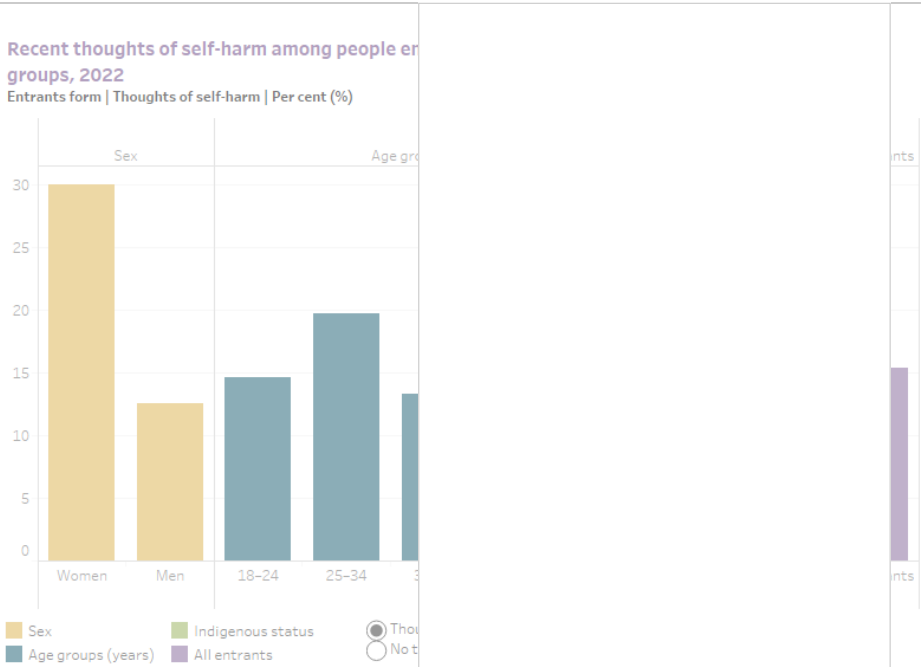
Recent thoughts of self-harm among adults entering prison are highest among women

More than 1 in 10 (15%, 57) people entering prison indicated they had thoughts of self-harm in the 12 months before the survey. Around 1 in 3 (30%, 18) women and 1 in 10 (13%, 39) men entering prison reported recent thoughts (in the past 12 months) of self-harm.

Almost 1 in 6 (17%, 32) non-Indigenous Australians entering prison indicated they had recent thoughts of self-harm. About 1 in 8 (13%, 24) First Nations people entering prison reported recent thoughts of self-harm.

Among age groups, people surveyed aged 25–34 years entering prison had the highest proportion (20%, 28) of recent thoughts of self-harm. Recent thoughts of self-harm among other age groups ranged between 10% (6) in people aged 45–54, and 15% (16) in people aged 18–24.

The interactive bar chart visualisation shows 12-month history of thoughts self-harm and no thoughts of self-harm reported by people in prisons by sex, age group, First Nations status and all entrants. 'Thoughts of self-harm' can be viewed as a percent (%) or a number (n).



Notes: 'Self-harm' refers to self-inflicted injuries with and without suicidal intent. Total entrants excludes unknowns. Percentages do not equal 100% due to some respondents not answering these questions. Percentages based on small numbers and should be interpreted with caution. Excludes Vic, which did not provide data for this item. Numbers represent numbers in this data collection only, and not the entire prison population. Data were self-reported. Recent thoughts refer to thoughts in the previous 12 months. 'n.p' is not presented (n = <5)
Data source: Entrants form, 2022 NPHDC
Supplementary data: NPHDC 2

See notes ▶

Over one-quarter of women entering prison were identified as at risk of self-harm or suicide

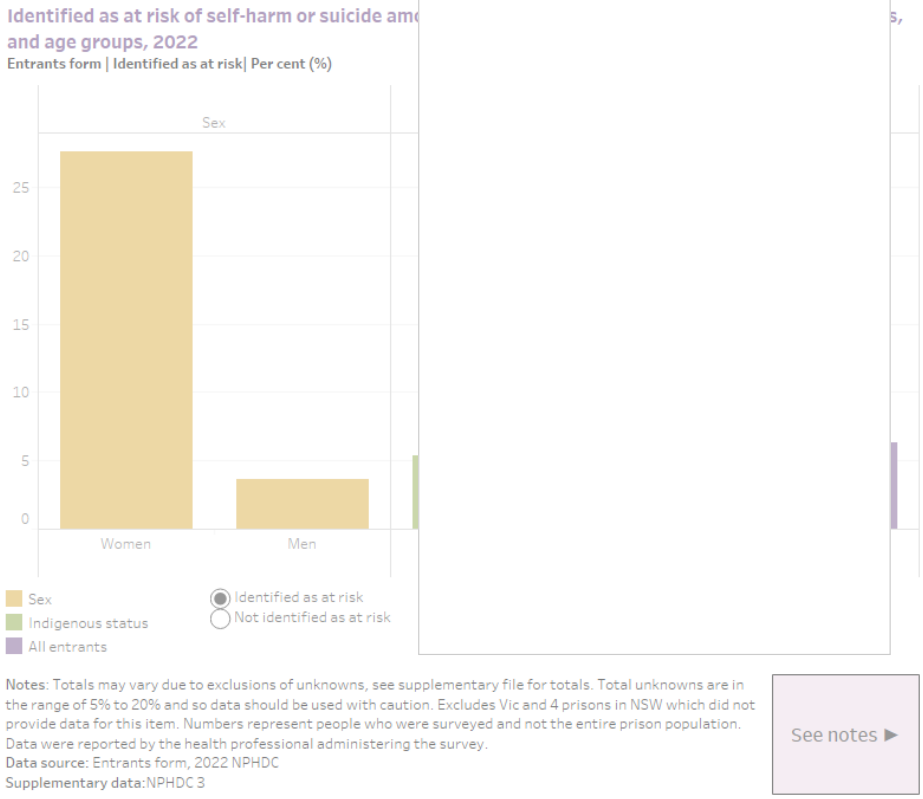
Following the entrants survey, researchers asked prison staff whether the participant was identified as currently at risk of suicide or self-harm (excluding at 4 prisons in New South Wales where researchers administered surveys).

Fewer than 1 in 15 (6.3%, 16) people entering prison were identified by prison staff as at risk of self-harm or suicide. Over one-quarter (28%, 8) of women entering prison were identified by staff as at risk of self-harm or suicide. Among men surveyed entering prison, 3.6% (8) were identified by staff as at risk of self-harm or suicide.

The proportion of First Nations people entering prison identified at risk of self-harm or suicide by staff was 5.4% (8). Among non-Indigenous Australians entering prison, 6.8% (7) were identified at risk for self-harm or suicide by staff.

Age groups are not presented due to small numbers in each category.

The interactive bar chart visualisation shows identified as at risk of self-harm and not identified as at risk of self-harm reported by people in prisons by sex, First Nations status and all entrants. 'Identified at risk' can be viewed as a percent (%) or a number (n).



Notes: Totals may vary due to exclusions of unknowns, see supplementary file for totals. Total unknowns are in the range of 5% to 20% and so data should be used with caution. Excludes Vic and 4 prisons in NSW which did not provide data for this item. Numbers represent people who were surveyed and not the entire prison population. Data were reported by the health professional administering the survey.
Data source: Entrants form, 2022 NPHDC
Supplementary data:NPHDC 3

See notes ▶

Suicide among people with legal system contact and associated risk factors: Data from the National Mortality Database

As part of the National Suicide and Self-harm Monitoring Project, the AIHW commissioned the Australian Bureau of Statistics (ABS) to code psychosocial risk factors ('Z-codes') among cases of suicide. Data coding began in 2017 and is available for all deaths by suicide since 2017. For this analysis, specific Z-codes were used to flag in the National Mortality Database (NMD) whether a person who died by suicide had contact with the legal system. Note that this includes people who had contact with the legal system for both criminal (e.g. imprisonment) and non-criminal reasons (e.g. child custody or support proceedings). Please see the technical notes for further details.

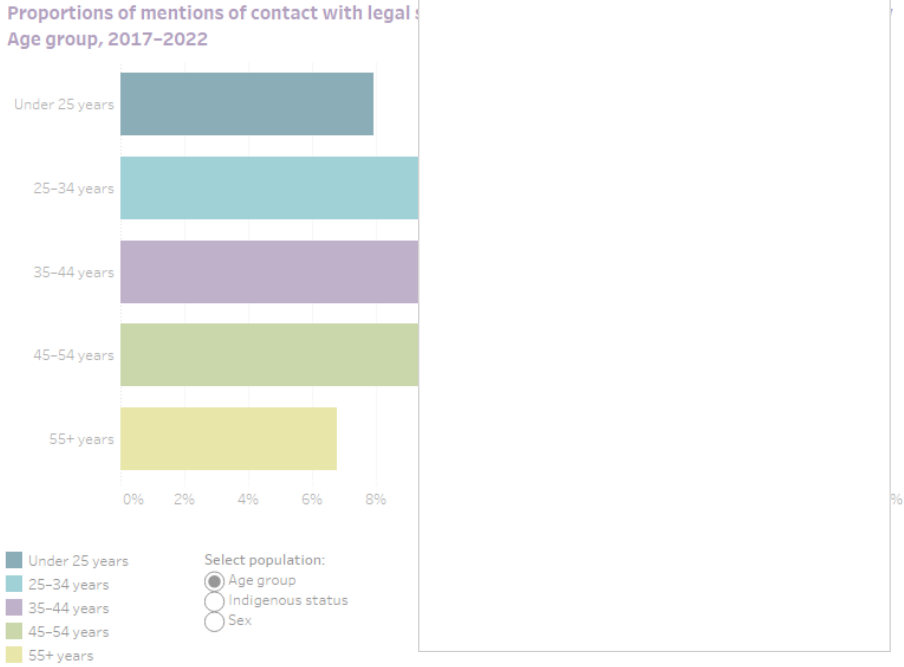
1 in 10 suicide deaths had legal system contact

The data visualisation below shows the proportion of people who died by suicide and had contact with the legal system.

Between 2017 and 2022:

- Overall, 1 in 10 (10%, 2,015) people who died by suicide had any contact with the legal system.
- More than 1 in 6 (17%, 210) First Nations people who died by suicide had any contact with the legal system.
- Over 1 in 6 (15%, 521) people aged 35–44 years who died by suicide had previous contact with the legal system. This was the highest proportion among all age groups.
- The proportion of men who died by suicide and had contact with the legal system was 12% (1,798), compared with 4.7% (226) of women.

The interactive bar chart visualisation shows mentions of contact with the legal system among people who died by suicide by age group, First Nations status, and sex. "Contact with the legal system" can be viewed as a percent (%).



Notes: Psychosocial risk factors ICD-10 codes Z65.0–Z65.3 were used to identify 'contact with legal system'. 'All cases' included 248 people whose Indigenous status was unknown and 1 person whose age was unknown. See notes for more information.
Source: AIHW National Mortality Database
Supplementary table: NMD 1

See notes ▶

Psychosocial risk factors among those who had legal system contact and died by suicide

The National Suicide and Self-harm Monitoring Project continues to work with the ABS to identify and code psychosocial, mental and behavioural risk factors mentioned in cases of deaths referred to a coroner, including deaths by suicide. To explore the most prevalent psychosocial risk factors among people who died by suicide in the general population, please visit Psychosocial Risk Factors and Deaths by Suicide. For an overview of inclusion and exclusion criteria for psychosocial risk factors in the NMD, please refer to Table 1 in the technical notes.

What is a psychosocial risk factor?

Psychosocial risk factors encompass a range of 'life events' and stressful experiences that can impact an individual's physical and mental well-being (WHO 2019). In the context of suicide prevention among people who have interacted with the legal system (both for criminal and non-criminal reasons), understanding psychosocial risk factors is important for not only identifying the individuals, timing and circumstances of their legal system involvement before their suicide, but also for recognising common experiences among them. Identifying these risk factors can inform targeted intervention strategies and suicide prevention policy to reduce deaths by suicide. Please visit Psychosocial Risk Factors and Deaths by Suicide for more information.

It is important to note that for this release, people aged under 25 years includes those aged under 18 years. People under 18 years are legally considered children, and children's experiences of the legal system may be different to adults. There were too few cases among those aged under 18 who had contact with the legal system to meaningfully analyse by psychosocial risk factors or mental and behavioural disorders.

'Problems related to legal circumstances', and 'personal history of self-harm' were the most common psychosocial risk factors among most age groups

Among those who had contact with the legal system, 'Problems related to legal circumstances' was the leading psychosocial risk factor for suicide between 2017 and 2022, being mentioned in approximately 80% (1,609) of these cases. The most common non-legal risk factor was a 'personal history of self-harm,' mentioned in 24% (473) of the suicide cases involving individuals with legal system contact.

The ranks and prevalence of the most frequently mentioned psychosocial risk factors by age group are presented below.

Among people who died by suicide and had contact with the legal system:

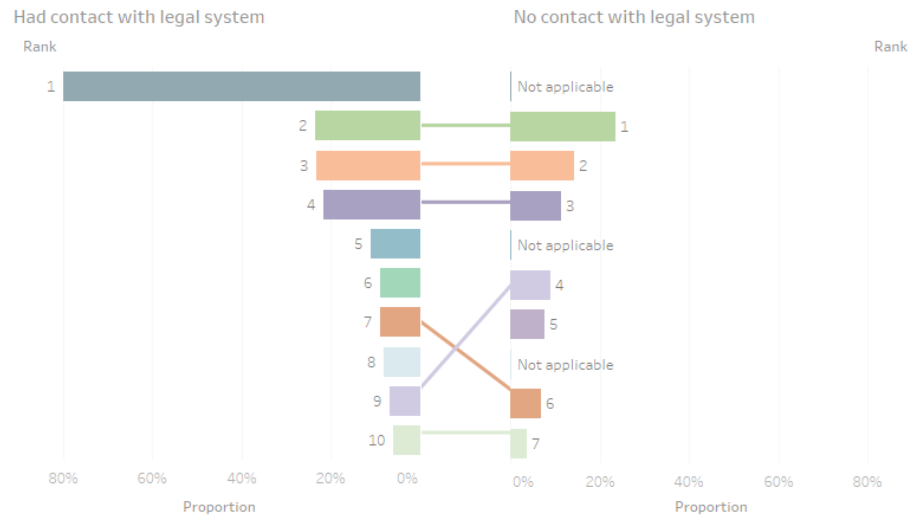
- Generally, the proportions of psychosoc e without legal system contact across all age groups. For instance, 25% (113) of 2 sruption of family by separation and divorce' mentioned in their file, making i actor for that age group. In contrast, 'Disruption of family by separation and c of cases for 25–34-year-olds among those without legal system contact.
- 'Problems related to other legal circumst ups, ranging from 77% (352) among 25–34-year-olds up to 82% (334) among people
- 'Personal history of self-harm' was the se ot those aged 35–44 years. For this age group, 'Personal history of self-harm' wa), following 'Disruption to family by separation or divorce (ranked second, 2 se or partner' (ranked third, 25%, 129).

Among those who died by suicide with no le

- The most common risk factor across age ept for those aged 55 years and over. Among people aged 55 years, 'Limitation nmon psychosocial risk factor mentioned (20%, 1,103) followed by 'Personal histor isappearance and death of family member' (ranked third, 11%, 638).
- 'Limitations of activities due to disability' d 55 years. In contrast, it was the tenth most common psychosocial risk factor f , mentioned in 2.9% (12) of cases when 'legal system contact psychosocial risk fa

The interactive bar chart visualisation show ed by suicide who had contact with the legal system compared to people who did n factors" can be viewed as a percent (%).

Rank and proportions of most commonly mentioned psychosocial risk factors among people who died by suicide, by those who had or did not have legal system contact and age group, 2017–2022



Risk Factor (select to highlight):
- Personal history of self-harm
- Absence of family member
- Disappearance and death of family member
- Disruption of family by separation and divorce
- Other problems related to housing and economic circumstances
- Other specified problems related to primary support group
- Problems in relationship with spouse or partner
- Conviction in civil and criminal proceedings without imprisonment
- Limitation of activities due to disability
- Problems related to other legal circumstances
- Problems related to release from prison

Select view:
- (•) Include legal system contact psychosocial risk factors
- ( ) Exclude legal system contact psychosocial risk factors

Select age group:
- (•) All ages
- ( ) Under 25 years
- ( ) 25 to 34 years
- ( ) 35 to 44 years
- ( ) 45 to 54 years
- ( ) 55+ years

Note: No line indicates selected risk factor does not appear within the top 10 risk factors in in the 'no contact' population. Risk factors Z65.0–Z65.3 were flags for 'had contact with the legal system' population and do not appear in 'no contact with legal system' population. "All ages" includes 1 person whose age was unknown. Risk factors are not mutually exclusive; some cases had multiple psychosocial risk factors.
Source: AIHW National Mortality Database
Supplementary table: NMD 3

See notes ▶

Psychosocial risk factors for suici nd sex

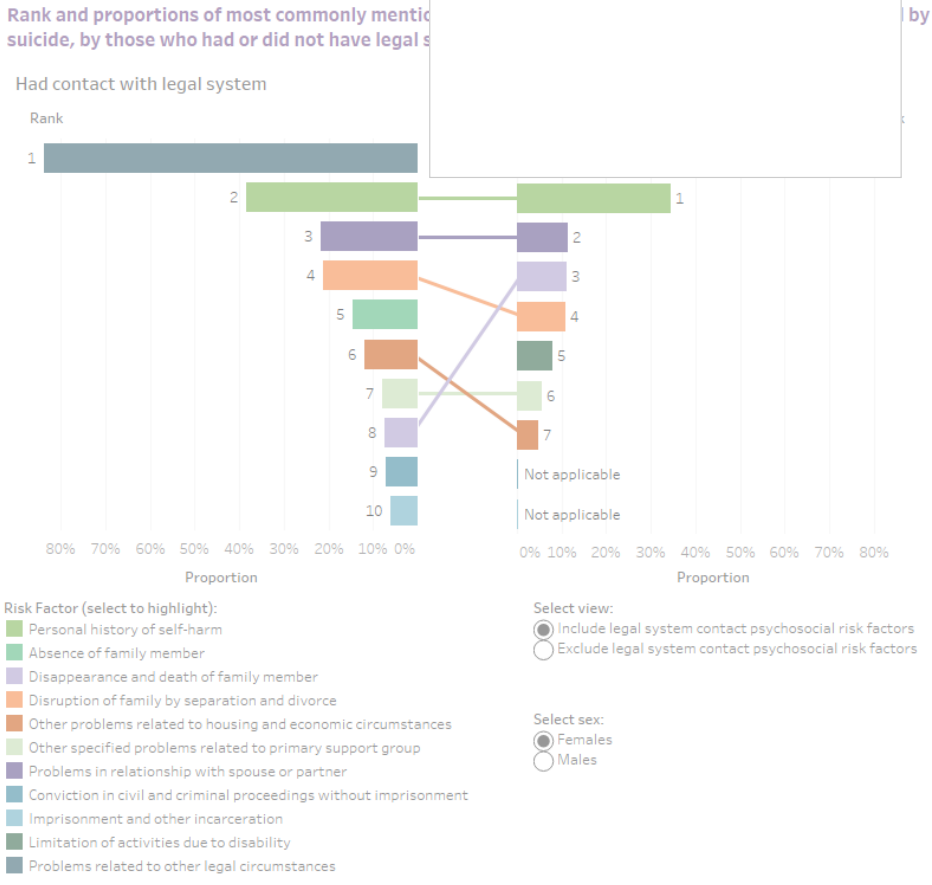
Among people who died by suicide and had

- Both men and women had 'Problems rel frequently mentioned psychosocial risk factor. Women had a slightly higher prev).

Among those who died by suicide with no le

- 'Limitation of activities due to disability' ctor among men (7.4%, 955) and the fifth among women (8.0%, 367) without legal e top 10 psychosocial risk factors for men or women with legal system contact.
- 'Disappearance and death of a family me 1%, 508) among women but was the third most common (7.5%, 17) among women

The interactive bar chart visualisation shows ed by suicide who had contact with the legal system compared to people who did n s" can be viewed as a percent (%).



Note: No line indicates selected risk factor does not appear within the top 10 risk factors in in the 'no contact' population. Risk factors Z65.0–Z65.3 were flags for 'had contact with the legal system' population, and do not appear in 'no contact with legal system' population. Risk factors are not mutually exclusive; some cases had multiple psychosocial risk factors.
Source: AIHW National Mortality Database
Supplementary table: NMD 4

See notes ▶

Psychosocial risk factors by Indigenous status

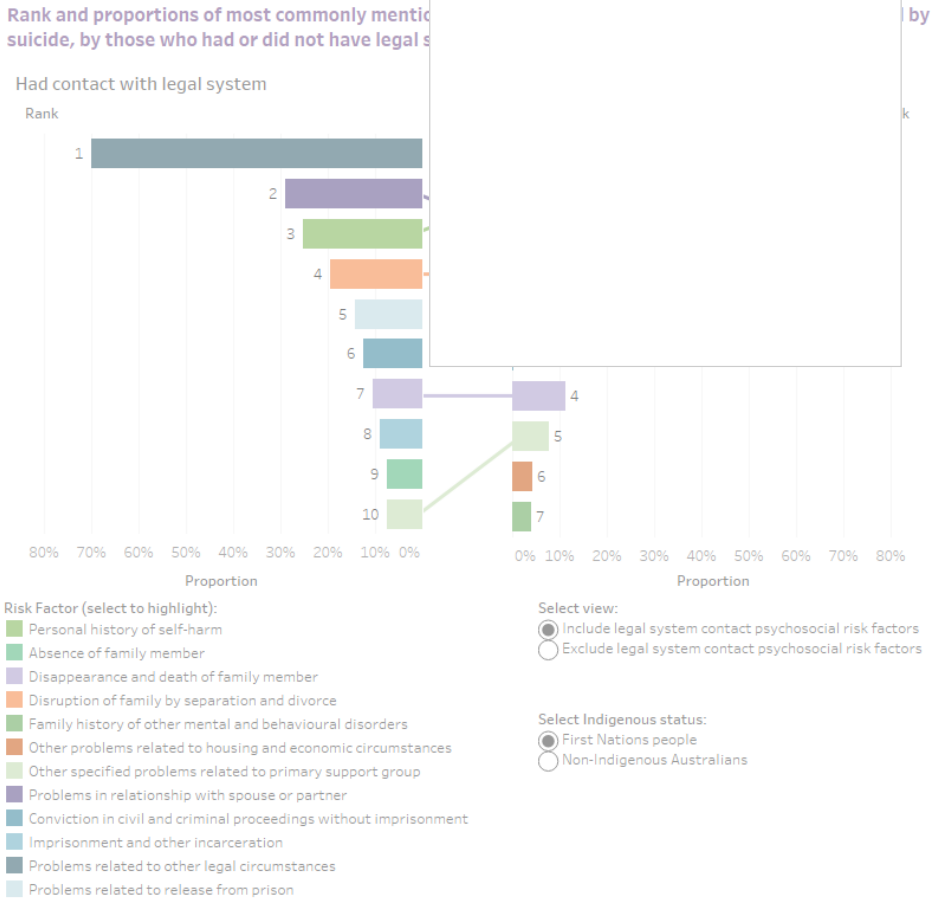
Among First Nations people who died by suicide:

- 'Personal history of self-harm' was the third most common psychosocial risk factor among those with legal system contact (25%, 53), but it was the most common among those with no such contact (26%, 269).

Among non-Indigenous Australians who died by suicide:

- The most frequently mentioned psychos contact was 'Problems related to other legal circumstances' (81%, 1,445), followed by (24%, 422), and 'Personal history of self-harm' (23%, 416).
- 'Disappearance and death of a family me among those who had legal system contact (6.4%, 114) and the fourth most commo

The interactive bar chart visualisation show ed by suicide who had contact with the legal system compared to people who did n social risk factors" can be viewed as a percent (%).



Note: No line indicates selected risk factor does not appear within the top 10 risk factors in in the 'no contact' population. Risk factors Z65.0–Z65.3 were flags for 'had contact with the legal system' population and do not appear in 'no contact with legal system' population. Risk factors are not mutually exclusive; some cases had multiple psychosocial risk factors.
Source: AIHW National Mortality Database
Supplementary table: NMD 2

See notes ▶

Mental and behavioural disorders among those who had legal system contact and died by suicide

What are mental and behavioural disorders?

Mental and behavioural disorders have biological and environmental causes (ABS 2019). They are sometimes reported alongside psychosocial risk factors in cases of suicide and are counted as underlying causes of death (ABS 2019). See Table 2 in the technical notes for how mental and behavioural disorders are defined for this release.

Substance-related mental and behavioural disorders were more common among those with legal system contact

Among those who died by suicide, 'Mood [affective] disorders' were the leading mental and behavioural disorders recorded between 2017 and 2022. 'Mood [affective] disorders' were mentioned in 38% (757) of cases that had legal system contact, and 44% (7,643) of cases without such contact. This was followed by 'Alcohol disorders' (25%, 511) in those with contact and 'Anxiety disorders' (20%, 3,480) among those without contact.

Ranks and prevalence of most frequently m ge group are presented below. People aged over 55 years generally had the lowest rs mentioned in their cases among both people who did and did not have contact wi

Among people who had contact with the leg

- ‘Mood [affective] disorders’ were consist al disorder across all age groups, ranging from range 35% (74) among people aged 41), to 41% (187) among those aged 25–34 years.

Comparisons with those with no legal syste

- Substance-related mental and behaviou entioned more frequently among those who had contact with the legal system a

The interactive bar chart visualisation show ple who died by suicide who had contact with the legal system compared to people w and behavioural disorders” can be viewed as a percent (%).

Mental disorders in women and s re common among those with legal system contact than those w

Among people who died by suicide and had

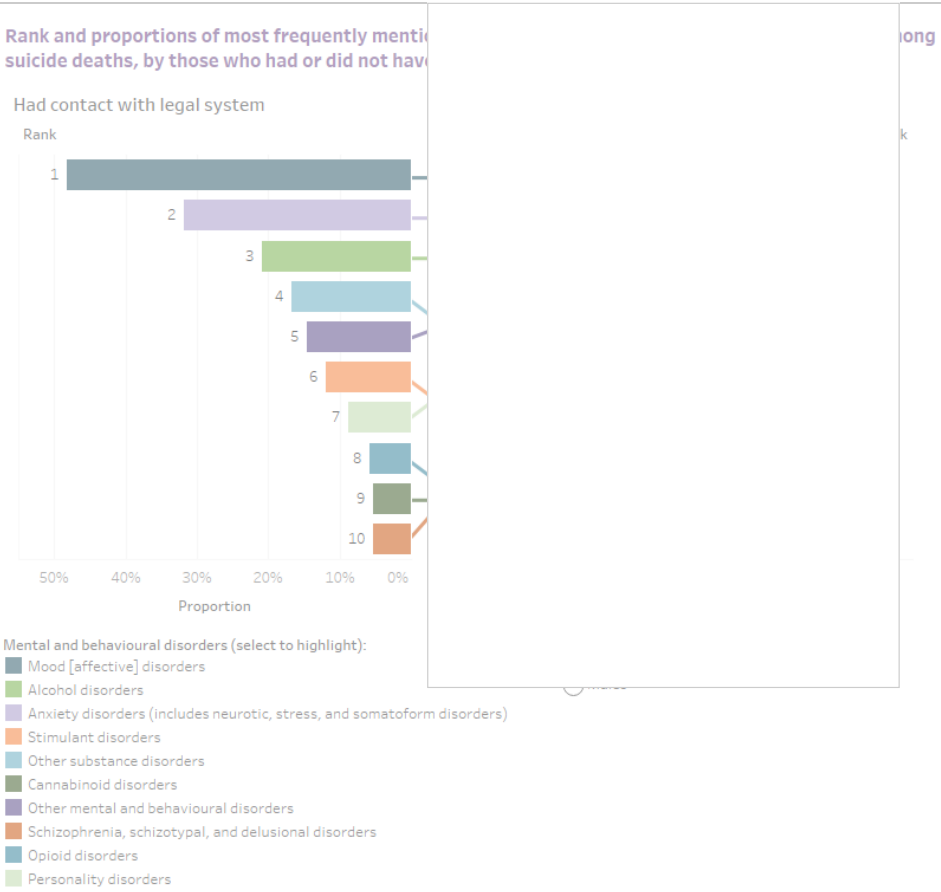
- Proportions of mental and behavioural disorders tended to be higher among women, particularly for non-substance-related disorders. For example, ‘Mood [affective] disorders’ were ranked first among both men and women with the legal system contact, but the proportion was higher among women (48%,108) compared to men (36%, 648).
- Women had higher proportions of ‘Anxiety disorders’ (32%, 79), ‘Other substance disorders’ (17%, 38), ‘Other mental and behavioural disorders’ (15%, 33), ‘Personality disorders’ (8.8%, 7), and ‘Opioid disorders’ (5.8%, 13), compared to women with no contact. The prevalence of 'Mood [affective] disorders' was similar for women with and without legal system contact (48%, 109 vs. 49%, 2,257). Men had a similar pattern in these risk factors, though the proportions were lower than for women.
- Men had higher proportions of 'Alcohol disorders' (26%, 464 compared to 21%, 47 of women), 'Stimulant disorders' (14%, 251 compared to 12%, 27 of women), which ranked fourth among men and sixth among women, and 'Cannabinoid disorders' which ranked sixth among men (10%, 175) and ninth among women (5.3%, 12). However, women had higher proportions of 'Other substance disorders' (17%, 38 compared to 13%, 233 of men), which ranked fourth among women and fifth among men, and 'Opioid disorders' (5.8%, 13 compared to 4.0%, 71 of men), which ranked eighth among women and ninth among men.

Among those who died by suicide with no legal system contact:

- 'Mood [affective] disorders', 'Alcohol disorders', and 'Anxiety disorders' remained the top three risk factors in men for both those with and without legal system contact. While the proportion of 'Anxiety disorders' was the same among men with and without contact (17%, 301 and 2,220, respectively), the proportions of other mental and behavioural risk factors varied between the two groups. For instance, 36% (648) of men with contact had 'Mood [affective] disorders' mentioned compared to 42% (5,386) of men without contact. Around a quarter (26%, 464) of men with contact had 'Alcohol disorders' compared to 20% (2,633) of men without contact.

Substance-related mental and behavioural disorders tended to be higher in both ranks and proportions among men and women with legal system contact compared to those without. For example, the proportions of 'Stimulant disorders' among men and women with legal system contact were more than double those of men and women without contact (14%, 251 of men and 12%, 27 of women with contact compared to 6.0%, 773 of men and 4.4%, 200 of women without contact).

The interactive bar chart visualisation shows mental and behavioural disorders among people who died by suicide who had contact with the legal system compared to people who did not have contact by sex. “Mental and behavioural disorders” can be viewed as a percent (%).



Note: No line indicates selected risk factor does not appear within the top 10 mental and behavioural disorders for 'no contact with legal system'. Mental and behavioural disorders are not mutually exclusive, some cases may have multiple mental and behavioural
Source: AIHW National Mortality Database
Supplementary table: NMD 4

See notes ▶

Mental and behavioural disorder prevalence varies by legal system contact among First Nations people

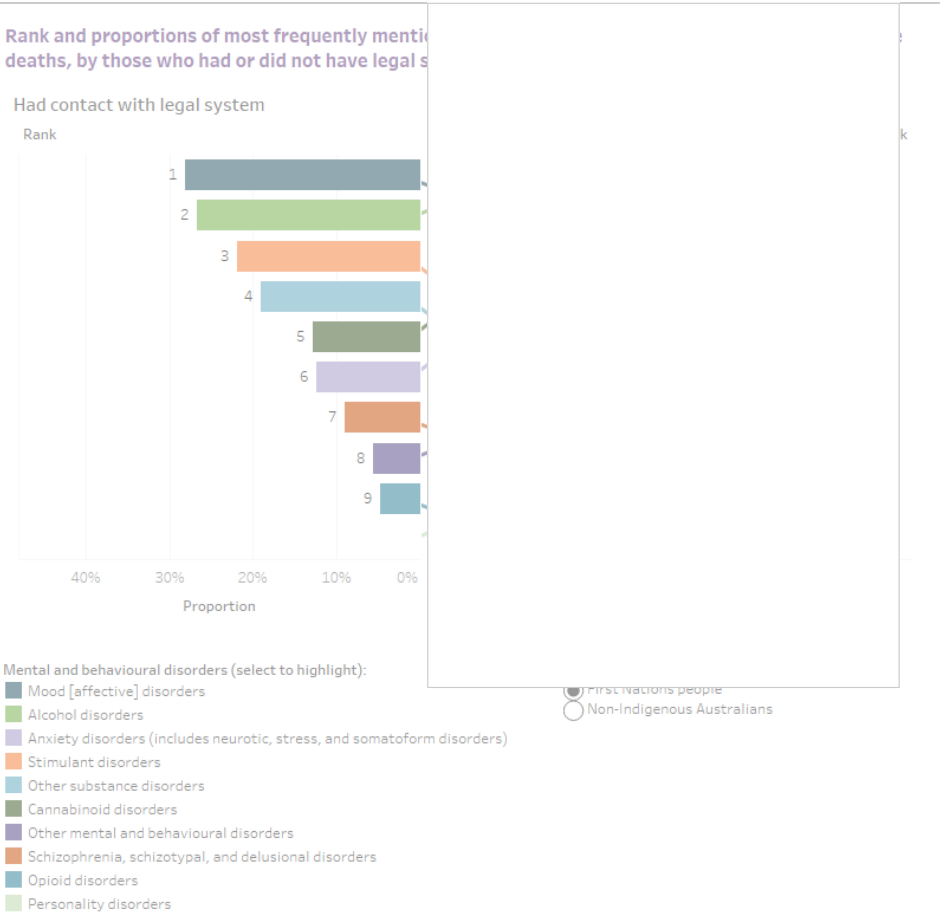
Among First Nations people who died by suicide:

- The three most common mental and behavioural disorders among those with legal system contact were 'Mood [affective] disorders' (28%, 59), 'Alcohol disorders' (27%, 56), and 'Stimulant disorders' (22%, 46). Among those without legal system contact, the three most common disorders were 'Alcohol disorders' (32%, 337), 'Mood [affective] disorders' (29%, 307), and 'Cannabinoid disorders' (15%, 153).

Among non-Indigenous Australians who died by suicide:

- All substance-related mental and behavioural disorders among those with legal system contact dropped in rank among those without contact, while all other mental and behavioural disorders either increased in rank or stayed the same.
- The most mentioned mental and behavioural disorders among those with legal system contact were 'Mood [affective] disorders' (39%, 692), Alcohol disorders' (25%, 446), and 'Anxiety disorders' (19%, 345). Among those without legal system contact, the most common disorders were 'Mood [affective] disorders' (45%, 7,210), 'Anxiety disorders' (20%, 3,288), and 'Alcohol disorders' (18%, 2,978).

The interactive bar chart visualisation shows mental and behavioural disorders among people who died by suicide who had contact with the legal system compared to people who did not have contact by First Nations status. “Mental and behavioural disorders” can be viewed as a percent (%).



Note: No line indicates selected risk factor does not appear within the top 10 mental and behavioural disorders for 'no contact with legal system'. Mental and behavioural disorders are not mutually exclusive, some cases may have multiple mental and behavioural
Source: AIHW National Mortality Database
Supplementary table: NMD 2

See notes ▶

References

ABS (Australian Bureau of Statistics) (2019) *Psychosocial risk Factors as they relate to coroner-referred deaths in Australia* - external site opens in new window (https://www.abs.gov.au/statistics/research/psychosocial-risk-factors-they-relate-coroner-referred-deaths-australia), ABS, Australian Government, accessed 8 August 2024

ABS (Australian Bureau of Statistics) (2021a) *Estimating Homelessness: Census* - external site opens in new window (https://www.abs.gov.au/statistics/people/housing/estimating-homelessness-census/latest-release), ABS, Australian Government, accessed 21 August 2023.

ABS (Australian Bureau of Statistics) (2021b), *Population: Census* - external site opens in new window (https://www.abs.gov.au/statistics/people/population/population-census/2021), ABS, Australian Government, accessed 21 August 2023.

ABS (Australian Bureau of Statistics) (2022a) *Twenty-seven years of Prisoners in Australia* - external site opens in new window (https://www.abs.gov.au/articles/twenty-seven-years-prisoners-australia), ABS, Australian Government, accessed 24 April 2023.

ABS (Australian Bureau of Statistics) (2022c) *National Study of Mental Health and Wellbeing* - external site opens in new window (https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/latest-release), ABS, Australian Government, accessed 16 May 2023.

ABS (Australian Bureau of Statistics) (2023) *Prisoners in Australia* - external site opens in new window (https://www.abs.gov.au/statistics/people/crime-and-justice/prisoners-australia/latest-release). ABS, Australian Government, accessed 29 January 2024.

ABS (Australian Bureau of Statistics) (2023) *Causes of Death, Australia methodology* - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022#mortality-coding). ABS, Australian Government, accessed 29 January 2024.

ABS (Australian Bureau of Statistics) (2024) *I* *rait Islander Australians* - external site opens in new window (https://www.abs.gov.au/st /estimates-and-projections-aborjginal-and-torres-strait-islander-australians/latest-release). ABS, Austr

AIHW (Australian Institute of Health and We *uicide among Indigenous Australians* - external site opens in new window (https://ww -4373-938f-2aa51a0b4128/aihw-2022-protective-and-risk-factors.pdf?v=1260), Australian Government

AIHW (Australian Institute of Health and We IHW, Australian Government, accessed 21 August 2023.

AIHW (Australian Institute of Health and We *risons* 2022, AIHW, Australian Government, accessed 19 March 2024.

AIHW (Australian Institute of Health and We *by suicide,* AIHW, Australian Government, accessed 24 January 2024.

Australian Government (2022) *National Men* ernal site opens in new window (https://federalfinancialrelations.gov.au/agreements/m ancial Relations, Australian Government, accessed 3 March 2023.

Butler A, Young JT, Kinner SA and Borschma nong incarcerated adults in the Australian Capital Territory - external site opens in new com/articles/10.1186/s40352-018-0071-8)', *Health Justice,* 6(13):6–13, https://doi.org/10.1186/s

Marzano L, Hawton K, Rivlin A, Smith EN, Piper M and Fazel S (2016) 'Prevention of Suicidal Behavior in Prisons - external site opens in new window (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5120691/)' *Crisis*, 37(5):323–334, 10.1027/0227-5910/a000394.

McAlister M, Bricknell S (2023) *AIC Statistical Report 41: Deaths in custody in Australia 2021–22* - external site opens in new window (https://www.aic.gov.au/publications/sr/sr44), AIC, Australian Government, accessed 08 August 2024.

Mitchell M, McCrory A, Skaburskis I and Appleton, B (2022) 'Criminalising gender diversity: Trans and gender diverse people's experiences with the Victorian Criminal Legal System - external site opens in new window (https://www.crimejusticejournal.com/article/view/2225)', *International Journal for Crime, Justice and Social Democracy*, 11(4):99–112, https://doi.org/10.5204/ijcjsd.2225.

Rose A, Trounson J, Skues J, Daffern M, Shepherd SM, Pfeifer JE and Ogloff JRP (2019) 'Psychological wellbeing, distress and coping in Australian Indigenous and multicultural prisoners: a mixed methods analysis - external site opens in new window (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7033708/#CIT0012)'. *Psychiatry, Psychology, and Law,* 26(6):886–903, https://doi.org/10.1080/13218719.2019.1642259.

Sarre R, King S and Bamford D (2006) 'Remand in custody: critical factors and key issues - external site opens in new window (https://www.aic.gov.au/publications/tandi/tandi310)', *Trends & Issues in Crime and Criminal Justice* no. 310, accessed 19 March 2024, Australian Institute of Criminology.

Shepherd SM, Spivak B, Arabena K and Paradies Y (2018) 'Identifying the prevalence and predictors of suicidal behaviours for indigenous males in custody - external site opens in new window (https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-018-6074-5)'. *BMC Public Health* 18(1159), https://doi.org/10.1186/s12889-018-6074-5.

Van Hout MC, Kewley S and Hillis A (2020) 'Contemporary transgender health experience and health situation in prisons: A scoping review of extant published literature (2000-2019) - external site opens in new window (https://www.tandfonline.com/doi/abs/10.1080/26895269.2020.1772937)' *International Journal of Transgender Health,* 21(3):258–306, https://doi.org/10.1080/26895269.2020.1772937.

WHO (World Health Organization) 2019, The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision - external site opens in new window (https://www.ihacpa.gov.au/resources/icd-10-amachiacs-eleventh-edition), Australian Modification, 11th Edition.

Zhong S, Senior M, Yu R, Perry A, Hawton K, Shaw J and Fazel S (2021) 'Risk factors for suicide in prisons: a systematic review and meta-analysis - external site opens in new window (https://pubmed.ncbi.nlm.nih.gov/33577780/)' *Lancet Public Health,* 6(3):e164-e174, https://doi.org/10.1016/S2468-2667(20)30233-4.

Viewing the monitoring data

Caution: Some people may find parts of this content confronting or distressing.

Please carefully consider your needs when reading the following information about suicide and self-harm. If this material raises concerns for you contact Lifeline on 13 11 14, or see other ways you can seek help.

The information included here places an emphasis on data, and as such, can appear to depersonalise the pain and loss behind the statistics. The AIHW acknowledges the individuals, families and communities affected by suicide each year in Australia.

Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

The AIHW supports the use of the Mindframe guidelines - external site opens in new window on responsible, accurate and safe suicide and self-harm reporting. Please consider these guidelines when reporting on statistics on the monitoring of suicide and self-harm.

Suicide & self-harm monitoring

Need help now?
Lifeline 13 11 14
More (/suicide-self-harm-monitoring/research-information/crisis-support)

The use of mental health services, psychological distress, loneliness, suicide, ambulance attendances and COVID-19

While there has been a rise in the use of mental health and crisis services during the COVID-19 pandemic, the pandemic was not associated with a rise in suspected deaths by suicide in 2020 and 2021, see Suspected deaths by suicide for details. Preliminary national mortality data published by the Australian Bureau of Statistics for 2020 to 2021 show that the rate of death by suicide in Australia was lower in 2020 (12.1 per 100,000 population) and 2021 (12.0) than in 2019 (13.1), see Deaths by suicide over time.

Deaths referred to the coroner where initial investigation points to suicide are referred to as 'suspected deaths by suicide'. In some cases it can take a number of years for the coronial process to determine if suicide was the cause of a specific death. These data are not directly comparable with coroner-certified deaths as reported in Deaths by suicide in Australia or published by the Australian Bureau of Statistics as 'Causes of Death, Australia - external site opens in new window (https://www.abs.gov.au/statistics/health/causes-death#:~:text=Provisional%20Mortality%20Statistics&text=The%20age%2Dstandardised%20death%20rate,in%20November%20(see%20article).)'.

Use of mental health services

Since April 2020, the AIHW has compiled and reported mental health-related data. This reporting commenced as part of the National Suicide and Self-harm Monitoring Project. Data from the Medicare Benefits Schedule (MBS), Pharmaceutical Benefits Scheme (PBS), and crisis and support organisations (Lifeline, Beyond Blue, Kids Helpline) were collected weekly in 2020, fortnightly in 2021 and monthly in 2022. These data are shared within government to inform the mental health response to the COVID-19 pandemic. The most current data are available at Mental health services in Australia.

Increased demand for mental health services and crisis and support organisations between 2020 and 2022

These data show that since the onset of the COVID-19 pandemic, overall, there has been a substantial increase in the use of crisis and support organisations (as measured by the number of calls or other contacts, such as webchat or email) and mental health-related services (as measured by MBS and PBS claims processed). The extent to which this increase in demand has been driven by a rise in psychological distress (rather than an increase in people seeking assistance for other reasons, such as loneliness or concern about contracting COVID-19) is unclear. However, given a range of survey data indicate that the average level of psychological distress rose in Australia in 2020 and 2021 from pre-pandemic levels (see psychological distress below), increased demand for mental health-related services and crisis and support organisations is almost certainly indicative of an increase in the need for mental health support and assistance as a result of the pandemic.

Psychological distress

Psychological distress is commonly measured using the Kessler Psychological Distress Scale—10 items (K10). The K10 questionnaire was developed to yield a global measure of psychological distress, based on questions about people's level of nervousness, agitation, psychological fatigue and depression in the past 4 weeks. The Kessler 6 Scale is an abbreviated version of K10.
There is an association between high levels of psychological distress and serious mental health disorders. As a result, instruments such as K10 and K6 can be used in representative sample surveys as a broad indicator of the level of these disorders in the Australian population (Slade, Grove & Burgess 2011). This is important, as there is an association between mental health issues and deaths by suicide. Data from the Queensland Suicide Register for 2016–2018 based on police and coroners reports, show that 53% of people who died from suicide reportedly had a mental health condition (Leske et al. 2022). Leske et al. (2022) note that this is likely to be an underestimate. Australia wide, just under 63% of people who died by suicide in 2021 had a recorded mental and behavioural disorder as an associated cause of death (ABS 2022a).

There are several ways to gain insights into the level of psychological distress in the community and monitor trends over time.

One way is to look at trends in severe levels of psychological distress through the use of mental health and crisis support services. The AIHW has compiled data on the use of mental health services and crisis and support organisations during the COVID-19 pandemic. The most current data are available at MHSA. However, while this approach is useful, it is not a direct measure of the level of psychological distress in the population. It also does not capture those who choose not to seek assistance or those who cannot access mental health services or crisis and support organisations.

Another way to analyse trends in the level of psychological distress since the onset of the pandemic is to use sample surveys. This approach has been challenging since the onset of COVID-19 due to the fact that face-to-face surveys are very difficult to undertake at this time and pose a potential health and safety risk to interviewers and interviewees. This has led to a number of online surveys being conducted but many of these surveys are not based on probability sampling. In some cases, samples are drawn by inviting all members of the public above a certain age to respond, with unknown response rates. Other samples are drawn from panels where individuals opt-in online. While this sort of approach can provide some useful information, results are unlikely to be representative of the Australian population and therefore cannot be used, even with reweighting, to derive estimates for the Australian population. A major report on online panels for the American Association for Public Opinion Research (AAPOR 2010) noted that:

> Researchers should avoid nonprobability online panels when one of the research objectives is to accurately estimate population values. There currently is no generally accepted theoretical basis from which to claim that survey results using samples from nonprobability online panels are projectable to the general population. Thus, claims of "representativeness" should be avoided when using these sample sources.

Given the need for representative data, the AIHW collaborated with the Centre for Social Research and Methods at the Australian National University to include questions on loneliness and levels of psychological distress in the ANUpoll surveys, which collect data using the Life in Australia™ Panel. Importantly, this panel uses random probability-based sampling methods and covers both online and offline populations (that is, people who do and do not have access to the internet). In addition, ANUPoll data collected between January 2020 and January 2021 were used to develop a longitudinal dataset. This longitudinal data set enables changes in the experience of an individual to be measured across this period (Biddle 2021a). Data on psychological distress during the COVID-19 pandemic have been collect in April, May, August, October and November 2020, January, April, August and October 2021, January, April, August, October 2022, and January 2023.

Pre COVID–19 snapshot

To understand how COVID-19 may have affected Australians' levels of psychological distress, it is important to look at data from before the pandemic. It is particularly important to consider any existing trends prior to the pandemic—for example, if psychological distress was generally increasing among Australians in the years before the pandemic.

This is possible using results from the Australian Bureau of Statistics' National Health Survey (NHS), which is conducted approximately every 3 years. Tables 1 to 3 show the proportion of males, females and people with high or very high levels of psychological distress, as measured by the Kessler 10 Scale, from 2004–05 to 2017–18. While the results vary by age, there is no consistent trend over this period. It is worth noting, however, that young women aged 18–24 generally have higher levels of psychological distress than other age groups. Overall, between 2011–12 to 2017–18 there appears to have been small increases in the proportion of both males and females with high or very high levels of psychological distress.

The National Drug Strategy Household Survey (NDSHS) also showed an increase in the proportion of people reporting high or very high levels of psychological distress; from 10% in 2010 to 14% in 2019 (AIHW 2020).

Table 1: Proportion of persons with high/very high psychological distress, by age group and year

	18–24	25–34	35–44	45–54	55–64	65–74	75+	Total
2004–05	15.5	11.8	14.9	13.7	12.2	11.2	10.7	13.0

2007–08	11.8	12.3	11.5	13.2	13.2	9.0	10.8	12.0
2011–12	11.8	10.9	10.9	11.4	10.4	9.3	9.3	10.8
2014–15	15.4	10.9	11.9	12.4	11.0	10.1	9.7	11.7
2017–18	15.2	13.1	11.8	14.3	14.4	10.7	8.8	13.0

Source: ABS 4364.0.55.001 - National Health Survey

Table 2: Proportion of males with high/very high psychological distress, by age group and year

	18–24	**25–34**	**35–44**	**45–54**	**55–64**	**65–74**	**75+**	**Total**
2004–05	12.4	9.3	11.4	11.0	11.3	9.8	10.8	10.8
2007–08	6.5	10.9	8.8	11.1	11.6	7.4	8.8	9.6
2011–12	10.6	8.2	9.1	8.9	8.8	7.0	7.8	8.8
2014–15	11.1	9.8	10.0	9.2	9.8	9.7	9.0	9.9
2017–18	12.4	11.8	10.3	13.2	12.1	10.0	7.5	11.3

Source: ABS 4364.0.55.001 - National Health Survey

Table 3: Proportion of females with high/very high psychological distress, by age group and year

	18–24	**25–34**	**35–44**	**45–54**	**55–64**	**65–74**	**75+**	**Total**
2004–05	18.7	14.3	16.6	16.3	13.1	12.5	10.7	15.1
2007–08	17.4	13.9	14.2	15.3	14.7	10.6	12.3	14.3
2011–12	13.0	13.6	12.7	13.8	11.9	11.6	10.5	12.7
2014–15	20.0	11.7	13.7	15.4	12.3	10.3	10.6	13.5
2017–18	18.4	14.7	13.7	15.3	16.9	11.3	9.7	14.5

Source: ABS 4364.0.55.001 - National Health Survey

Psychological distress during COVID-19

The Australian Bureau of Statistics' National Study of Mental Health and Wellbeing, 2020–21 showed that 15% of Australians aged 16–85 experienced high or very high levels of psychological distress as measured by the Kessler 10 scale in 2020–21 (ABS 2022b). However, being from a different survey, these results are not directly comparable with the pre-COVID-19 results from the NHS or NDSHS.

The ANUpoll collected data on psychological distress using the K6 scale prior to and during the COVID-19 pandemic. Data were collected from 2,500 respondents in 2017 (February). Data were collected from over 3,000 respondents for each of the ANUpoll's administered during 2020 (April, August, October and November), 2021 (January, April, August and October), 2022 (January, April, August and October), and 2023 January.

Prevalence of 'severe' psychological distress from 2020 to 2023

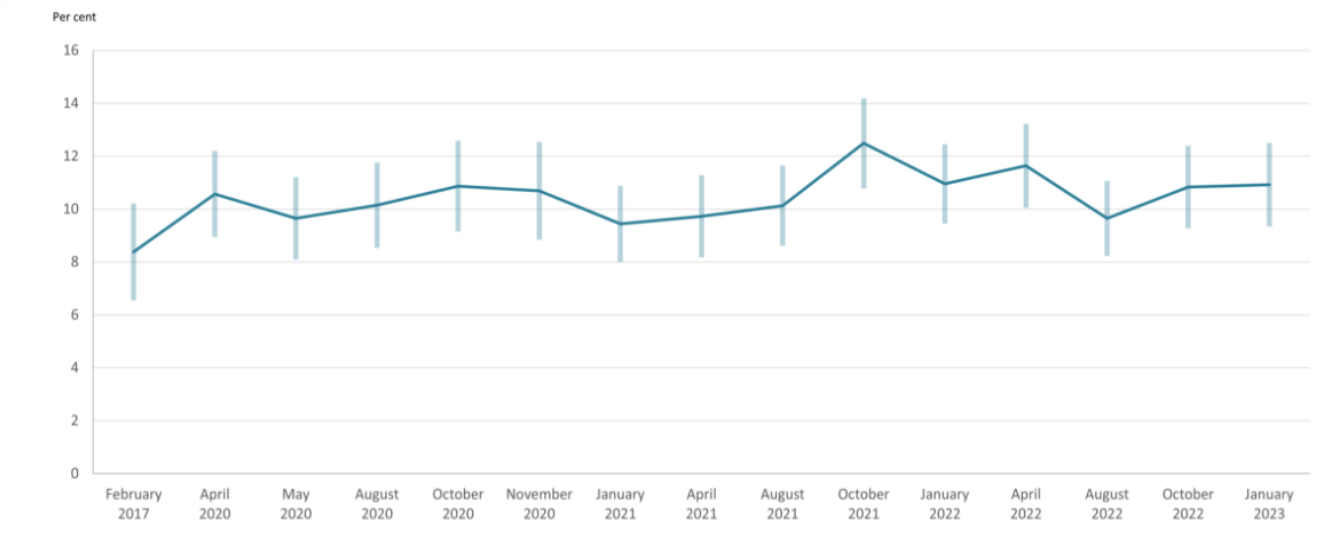
The K6 scale can be used to categorise those survey respondents experiencing 'severe' psychological distress, consistent with having a 'probable serious mental illness' according to their K6 score (Prochaska et al. 2012). Figure 1, below, shows the proportion of people experiencing severe psychological distress for each of wave of the ANUpoll during the COVID-19 pandemic as well as prior to the pandemic in February 2017.

Results of the surveys show that the proportion of the population experiencing severe psychological distress rose from 8.4% (of people aged 18+) in February 2017 to 10.6% in April 2020 (Biddle et al. 2020b) with a subsequent fall to 9.7% in May 2020 followed by an increase to 10.9% in October 2020, and a substantial decrease to 9.4% in January 2021 (Biddle & Gray 2021b). The proportion of people experiencing severe psychological distress in August 2021 (10.1%) was similar to April 2021 (9.7%) and continued to be significantly higher than in February 2017 (8.4%) (Biddle et al. 2021c). Between August and October 2021, there was a large and statistically significant increase in the proportion of Australians experiencing severe psychological distress from 10.1% to 12.5%. At 12.5% in

October this proportion was at its highest level recorded since the onset of the COVID-19 pandemic (Biddle et al. 2021d). The proportion of people experiencing severe psychological distress declined to 11.0% in January 2022, increased slightly to 11.6% in April 2022 (Biddle 2022a,b), before declining again in August 2022 to 9.7%. (Biddle, McAllister and Sheppard 2022). The proportion of Australians experiencing severe psychological distress again increased to 10.8% in October 2022 (Biddle 2022c). In January 2023, 10.9% of Australian's experienced severe psychological distress (Biddle & Gray 2023).

While the percentage changes in the proportion of Australians experiencing severe psychological distress between 2020 and January 2023 may appear to be small, a change of 1% point represents a change in the experience of approximately 200,000 people. This calculation is based on the June 2021 estimated resident adult Australian population of about 20,000,000 people (ABS 2022c).

Figure 1: Proportion of Australians aged 18 years and over experiencing severe psychological distress, by survey month from February 2017 to January 2023



Average psychological distress (K6 score) in 2020, 2021 and 2022

Another way of analysing trends in psychological distress is to look at how the average K6 score has changed over time. The data show some notable changes in the average level of psychological distress between 2020 and 2023, with marked differences by age and some variation by gender and jurisdiction. The K6 measure of psychological distress used in the analysis prepared by the ANU has been constructed to have a minimum value of 6 and a maximum value of 30 (Biddle et al. 2020c). Higher scores indicate higher average levels of distress. People with a sum of 11–18 out of a possible maximum of 30 are categorised as experiencing 'moderate' psychological distress. This group can be considered to be struggling with mental distress worthy of mental health support but are not at risk of clinical levels of mental health problems (Prochaska et al. 2012). Those with a K6 sum of 19 or higher out of a possible maximum of 30 are categorised as experiencing 'severe' psychological distress consistent with having a 'probable serious mental illness'.

In February 2017, the average K6 score was 11.2. In April 2020, it increased to 11.9. Between April and May 2020 there was a significant reduction in psychological distress (to an average score of 11.5); however, the score remained above the pre-COVID-19 level of February 2017. The average score rose from 11.5 in May 2020 to 11.7 in August 2020 but showed very little change from August to October 2020 (11.8) (Biddle & Gray 2020). This was followed by a large and statistically significant fall in the average K6 score from October to November 2020 (11.4) (Biddle et al. 2020e). While the average score in November 2020 was quite a bit lower than it was in April 2020 it was higher than it was prior to the onset of COVID-19 in February 2017.

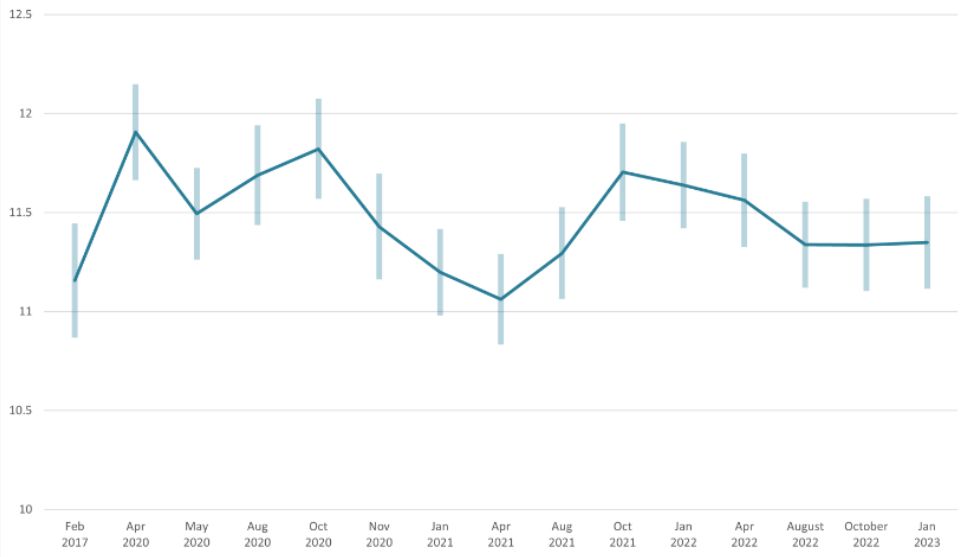
From November 2020 to January 2021, the average K6 score fell from 11.4 to 11.2 and continued to decline to 11.1 in April 2021 (Biddle & Gray 2021b). In August 2021, following the most recent outbreak of COVID-19, the average K6 score increased (worsened) to 11.3 but remained lower than scores recorded in April to October 2020. The increase in psychological distress between April and August 2021 was greater for women than men (after controlling for levels of psychological distress in April 2021). Also, after controlling for other factors, women had higher levels of psychological distress in August 2021 compared with men (Biddle & Gray 2021c).

The average level of psychological distress in August 2021 (11.3) was not significantly different to the pre-pandemic level (11.2) observed in February 2017 (Biddle & Gray 2021c). In other words, the average level of psychological distress had returned to pre-pandemic levels. That said, however, there were differences by age (Figure 3).

Between August and October 2021, the average level of psychological distress increased significantly from 11.3 to 11.7 but remained lower than the peaks April and October 2020 (11.9 and 11.8, respectively) (Biddle & Gray 2021d). The worsening of psychological distress between August and October 2021 was due to increases among people aged 18 to 44 years and 75 years and older (Figure2).

Between October 2021 and January 2022, there was a slight but not statistically significant decline in average psychological distress from 11.7 to 11.6 (Biddle & Gray 2022). Average psychological distress remained at 11.6 in April 2022 (Biddle 2022b). There may have then been a small decline in average psychological distress to 11.3 during August 2022 (Biddle, McAllister and Sheppard 2022). Average psychological distress remained stable at 11.3 in October 2022 and January 2023 (Biddle 2022c; Biddle & Gray 2023). Since August 2022, average psychological distress has no longer been significantly higher than the pre-COVID-19 level of February 2017 (p10., Biddle & Gray 2023).

Figure 2: Average psychological distress of Australians aged 18 years, by survey month from February 2017 to January 2023

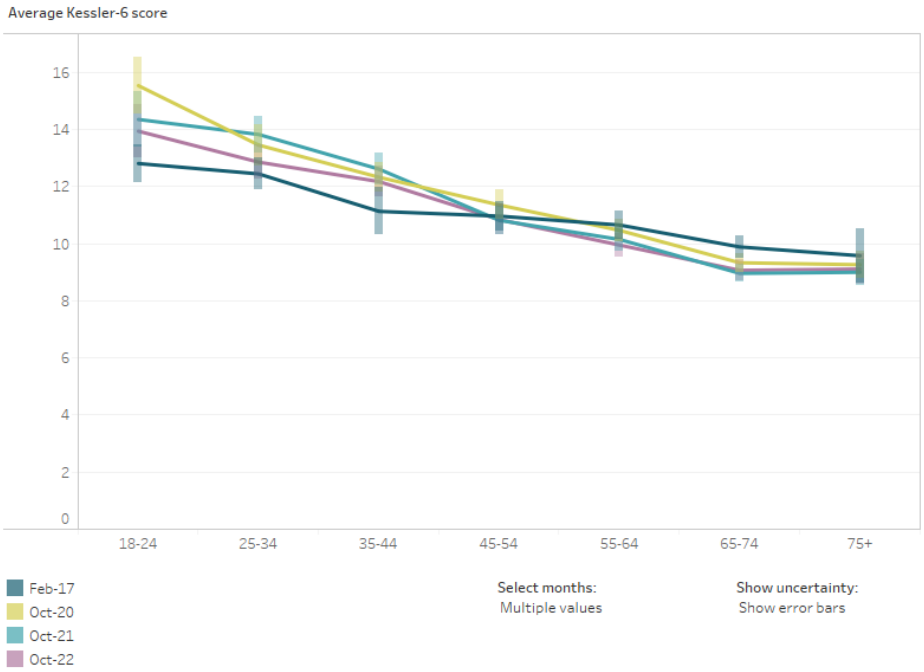


Psychological distress by age

Figure 3 shows average K6 scores by age groups. The chart shows a clear gradient with younger people experiencing higher average levels of psychological distress than people in older age groups (Biddle et al. 2020c,d; Biddle & Gray 2020; Biddle & Gray 2021a,b,c,d). The chart also shows a distinct pattern over time. For younger people (18–44), average levels of psychological distress were higher in 2020, 2021 and January and April 2022 than they were before the pandemic, especially for those aged 18–24. Those aged 45 and above experienced either little change or improvements in their level of psychological distress over the same period. As an example, the average levels of psychological distress among those aged 18–24, 25–34 and 35–44 were significantly higher in April 2020 than in February 2017 (Biddle et al. 2020c). However, it is worth noting there were improvements during the course of 2020. For example, the level of psychological distress among those aged 18–24 showed a significant improvement from October to November 2020 (Biddle et al. 2020e). Furthermore, average levels of distress for people within the younger age groups (18–24, 25–34 and 35–44 years) appear to have either lowered or remained relatively stable between April 2022 and January 2023 (Biddle 2022c; Biddle & Gray 2023; Biddle, McAllister and Sheppard 2022).

Figure 3: K6 measure of psychological distress, by age group and selected survey months from February 2017 to January 2023

This figure shows the average K-6 measure of psychological distress by age group for February 2017, April 2020, October 2021 and April 2022. For young Australians (18 to 24 years old in particular, but also all those aged under 45), there was a worsening in psychological distress between February 2017 and April 2020. Although there were improvements in psychological distress in these age groups, psychological distress remained higher in October 2021 and April 2022 than it was in February 2017. For those aged 55 years and over, average levels of psychological distress were slightly lower in April 2022 than in February 2017



Demographic factors associated with psychological distress during the COVID-19 pandemic

An advantage of the ANUpoll data is that longitudinal data are available for a proportion of respondents and therefore, the impacts of the COVID-19 pandemic and associated factors can be measured in the same respondents over time. Biddle et al. constructed a statistical (regression) model to investigate the possible impacts of the COVID-19 pandemic on psychological distress, as measured by the K6, from April 2020 to April 2022 (Biddle et al. 2022). The model also included measures of mental health, other than the K6, from the February 2020 ANUpoll to control for pre-pandemic levels of psychological distress. It was necessary to use other mental health measures because, prior to April 2020, the most recent ANUpoll to include the K6 was conducted in April 2017 and the remaining longitudinal sample from this time is insufficient as a baseline for the present regression analysis. The analysis showed that over the experience of the pandemic between April 2020 and April 2022 (Biddle et al. 2022):

- females had significantly higher levels of psychological distress than males
- Aboriginal and Torres Strait Islander Australians had higher levels of psychological distress than non-Indigenous Australians, although the difference was not statistically significant
- Victorians had higher levels of psychological distress than residents of New South Wales (the base case).
- household income was associated with psychological distress, with higher levels of psychological distress experienced by those living in lower income households.

What contributed to increased levels of psychological distress?

The heightened level of psychological distress in April 2020 coincided with the first wave of COVID-19 infections in Australia and the initial lockdown period, while the improvement from April to May 2020 coincided with the loosening of restrictions. The increase in the level of psychological distress between May and August 2020 coincided with the second wave of COVID-19 in Victoria and the associated lockdown – with much of the worsening in the average K6 score over this period reflecting changes in Victoria (Biddle & Gray 2020).

To test whether outcomes worsened in Victoria relative to the rest of the country after the reintroduction of lockdowns in July 2020, Biddle et al. conducted a difference-in-difference analysis using linked data for May and August (that is, data across these months for the same people) (Biddle et al. 2020d). This showed a significant worsening in Victoria relative to the rest of the country on several outcomes including: psychological distress, loneliness, life satisfaction, satisfaction with direction of country, likely to be infected by COVID-19 and hours worked). On the other hand, the decrease in levels of psychological distress from October to November 2020 coincided with improvements in Victoria. According to Biddle et al. (2020e):

There has also been a continued convergence in psychological distress between Victoria and the rest of Australia. In October 2020, just as lockdown conditions had started to be eased, psychological distress in Victoria was more than 1-point higher in Victoria compared to the rest of Australia (12.67 compared to 11.52). By November 2020, however, this difference had declined to less than half of one point – 11.73 compared to 11.32.

In 2021, the worsening of psychological distress between April and August was greater for residents of Sydney and Melbourne, than those living in the rest of Australia (Biddle & Gray 2021c). The increase in psychological distress from August to October did not show a clear geographic pattern.

To investigate the factors that appeared to be contributing to the rises in psychological distress Biddle et al. undertook regression modelling of the ANUpoll longitudinal subset (Biddle et al. 2020c). Modelling of ANUpoll data collected from the same respondents in February 2017, April 2020 and May 2020 showed that the strongest predictor of psychological distress (K6 score) was 'increased (worsened) stress' (this is not surprising as stress is a key predictor of poor mental health outcomes) (Biddle et al. 2020c). 'Increased loneliness' was also a strong predictor of K6 scores even when other factors like changes in employment status were controlled for. This suggests that increased loneliness during the pandemic is of concern and that increases in psychological distress are not only being driven by job loss.

Job loss itself was a predictor of K6 scores in the modelling (Biddle et al. 2020c). Controlling for other factors, people who were employed in February 2020 but not in May 2020 had higher levels of psychological distress than those who were employed. In all the models, those living outside capital cities had lower rates of psychological distress than those living in capital cities, after controlling for other factors (Biddle et al. 2020c). This is probably a reflection of the fact that infection rates and the economic impacts of lockdowns have been higher in major cities than they have been in regional or remote areas.

After controlling for factors such as 'relationships worsening', 'increased stress' and 'loss of employment', there was no significant difference in K6 scores between young people (18–24) and older people. This suggests that these factors were the drivers of higher levels of psychological distress among young people.

One final point worth noting is that in the regression analysis of K6 scores, previous K6 scores in February 2017 had a significant predictive effect on K6 scores for May 2020 (Biddle et al. 2020c). This shows that people who are already experiencing high levels of psychological distress can be particularly vulnerable when the situation worsens.

As the COVID-19 pandemic continues, it becomes less clear whether pandemic related factors or other socioeconomic factors may be primarily responsible for any community level change in psychological distress. In the August and October 2022 and January 2023 ANUPolls, respondents were asked whether they 'felt anxious or worried for the safety of yourself, close family members or friends, due to COVID-19'. Responses to this question provide some information as to whether distress experienced is related to the COVID-19 pandemic or to other factors. In August 2022, 48.3% of respondents reported feeling anxious or worried due to COVID-19. In October 2022, this dropped to 29.8% of respondents, and in January 2023 34.3% of respondents reported feeling anxious or worried due to COVID-19 (Biddle 2022c; Biddle & Gray 2023; Biddle, McAllister and Sheppard 2022).

Loneliness

The ANUpoll also asked respondents whether 'In the past week, how often have you felt lonely?' Analysis summarised in Biddle et al. (2020c) shows that those who experienced loneliness had higher rates of psychological distress than those who did not.

Between April 2020 and May 2020, there was a significant decline in experiences of loneliness overall, with 36.1% of the sample saying that they experienced loneliness at least some of the time in May 2020, compared with 45.8% in April 2020 (Biddle et al. 2020c). Declines in loneliness were consistent by age and sex, with the exception of young people (aged 18–24) who did not have a statistically significant reduction in the level of loneliness from April to May 2020—despite the fact that they had the highest proportion of respondents saying that they felt lonely at least some of the time in April 2020 (63.3%) (Biddle et al. 2020c).

There was a rise in reported loneliness from 36.1% in May 2020 to 40.5% in August 2020 (Biddle et al. 2020d). However, this rise only occurred in Victoria where the proportion of the population who were lonely at least some of the time increased from 35.7% in May 2020 to 44.5% in August 2020; in 'the other seven States and Territories, there was no significant difference between loneliness in May 2020 (37.1%) and August 2020 (38.8%)' (Biddle et al. 2020d). The increase in loneliness from May 2020 to August 2020 in Victoria coincided with the lockdown associated with the second wave of COVID-19 infections.

Females were more likely to report experiencing loneliness than males (44.8% of females compared with 35.7% of males in August 2020). The proportion of young people aged 18–24 years who were experiencing loneliness in August 2020 was also higher than for other ages groups (Biddle et al. 2020d).

The proportion of Australians who said that they had experienced loneliness at least some of the time declined from 40.5% in August 2020 to 35.2% in November 2020 (Biddle et al. 2020e). This is the lowest value observed over the pandemic period so far. In addition, according to Biddle et al (2020e):

> There has been a very large decline in the proportion of Australians who said that they 'never met socially with friends, relatives or work colleagues' since the early days of the pandemic. In April 2020, 49.4% of Australians said they 'never met socially'. This declined to 26.5% by May 2020, and even further to 6.8% in November 2020. While this is a dramatic change over a reasonably short period of time, the level of social isolation in November 2020 is still above the pre-pandemic level of 2.0 per cent [recorded in February 2020].

The proportion of Australians who said that they had experienced loneliness at least some of the time remained consistent from November 2020 (35.2%) to January 2021 (36.1%) and April 2021 (35.5%) and increased slightly in August 2021 (37.6%) (Biddle & Gray 2021a & c). However, the increase in loneliness in August 2021 was mainly due to a large increase in Sydney, with the proportion of Sydney residents experiencing loneliness at least some of the time increasing from 35.3% in April 2021 to 44.3% in August 2021, while the rest of Australia reported little change in this period (34.6% in August 2021 compared with 34.0% in April 2021). At the time of the August 2021 survey, Sydney had been in lockdown for the longest amount of time during the COVID-19 Delta strain outbreak. The proportion of Australians who said that they had experienced loneliness at least some of the time increased in October 2021(39.2%) (Biddle 2021b) and then decreased in January 2022 (38.2%) and April 2022 (36.5%) (Biddle 2022a,b) but remained above the lows from November 2020 to April 2021.

Loneliness has a clear impact on levels of psychological distress and life satisfaction. In a regression analysis of data from the November 2020 ANUpoll (that controlled for psychological distress in April 2020) those who felt lonely 'some', 'occasionally' or 'most' of the time all had significantly higher levels of psychological distress than others (Biddle et al 2020e). This suggests that reductions in loneliness may contribute to reductions in levels of psychological distress. Similar results are evident for life satisfaction – that is, after controlling for life satisfaction in April 2020, people who reported feeling lonely at least some of the time had significantly lower levels of life satisfaction than others.

As with average levels of psychological distress over the pandemic period, loneliness also differed by population group. Biddle et al. calculated an average loneliness score across the 10 ANUpoll survey waves from April 2020 to April 2022 (Biddle et al. 2022). Regression analysis was then undertaken to examine the factors associated with average loneliness over the pandemic period and differences between population groups. The regression model included a measure of social interaction from the February 2020 ANUpoll to control for pre-pandemic loneliness. The results of the model showed that during the pandemic period (Biddle et al. 2022):

- females were slightly more likely to experience loneliness than males, although the difference was not statistically significant
- respondents aged 45 and over had substantially lower levels of loneliness than those aged under 45
- those in the lowest income households had the highest levels of loneliness, compared with those in higher income households
- Victorians seemed to experience similar levels of loneliness as residents of New South Wales and South Australians experienced lower levels of loneliness compared with New South Wales (the base case)

The most recent ANUpolls show that the proportion of Australians' who were lonely at least some of the time during August 2022, October 2022, and January 2023 was 35.6%, 35.9%, and 35.4% respectively (Biddle 2022c; Biddle & Gray 2023; Biddle, McAllister and Sheppard 2022).

Life satisfaction

Another way of tracking wellbeing is to analyse changes in life satisfaction. In the ANUpoll surveys life satisfaction is measured on a scale of 1 to 10, with higher scores indicating higher levels of satisfaction. Average life satisfaction scores fell substantially during the early stages of the pandemic from 6.9 in January 2020 to 6.5 in April 2020, before rising to 6.8 in May 2020 as infection rates fell and lockdown conditions started to be eased (Biddle et al. 2020d). The average level of satisfaction then fell to 6.6 in August 2020. However, between October and November 2020, life satisfaction improved substantially from an average score of 6.7 to 7.0. The average life satisfaction score was no longer significantly different to that recorded in October 2019 (7.1), and was slightly higher than that recorded during the Black Summer Bushfire crisis (6.9 in January 2020) (Biddle et al. 2020e).

Although the overall level of life satisfaction in November 2020 had returned to pre-pandemic levels (October 2019) there was a substantial reduction in life satisfaction scores during 2020. A regression analysis conducted in November 2020 using the longitudinal nature of the ANUpoll data, suggested that after controlling for the level of life satisfaction in January 2020, the total loss of life satisfaction over 2020 was:

- significantly higher for people living in Victoria compared with the rest of the Australian population
- lower for those aged 55 years and over compared with those aged 35–44
- lower for those who living outside the capital cities (Biddle et al. 2020e).

This is consistent with what you would expect given the greater impact of, among other things, lockdowns (through, for example, their impact on employment) for younger people, people in Victoria and people living in capital cities.

Nationally, the average life satisfaction score showed little change from November 2020 (7.0) to January 2021 (7.0), and then declined slightly to 6.9 in April 2021, although the difference was not statistically significant (Biddle & Gray 2021a,b).

In August 2021, the average life satisfaction score in Australia decreased substantially to 6.5, to a level similar to that reported in April 2020 at the peak of the first wave of COVID-19 in Australia and was lower than all other time points measured by ANUpoll (Biddle & Gray 2021c). In order to demonstrate the magnitude of the decline in life satisfaction between April and August 2021, Biddle & Gray (2021c) converted the decline into income equivalents, based on the relationship between life satisfaction and household income prior to the pandemic. This model estimated that the decrease in life satisfaction reported between April and August 2021 was equivalent to a loss of $827 in average weekly household income (Biddle & Gray 2021c).

There was a slight increase in life satisfaction between August 2021 and October 2021, from 6.5 to 6.6. The October ANUPoll was conducted in mid-October when COVID-19 restrictions were beginning to be lifted. Life satisfaction remained at 6.6 in January 2022 and increased slightly to 6.7 in April 2022, still lower than the levels observed pre-pandemic and from November 2020 to April 2021 (Biddle 2022a,b, Biddle & Gray 2021d).Unlike psychological distress and loneliness, life satisfaction was included in the January 2020 ANUpoll, which can be used as a pre-pandemic baseline. Average life satisfaction over the pandemic period has mostly been lower than before the pandemic in January 2020 (noting that life satisfaction was lower in January 2020 when bushfires were affecting large parts of Eastern Australia than it was in October 2019) (Biddle et al. 2022). Biddle et al. calculated average loss of life satisfaction during the pandemic period for respondents to the April 2022 ANUpoll, using the January 2020 ANUpoll as the baseline and data from the ANUpoll surveys conducted between April 2020 and April 2022 (Biddle et al. 2022). The calculation assumes that had the COVID-19 pandemic not occurred, life satisfaction would have remained at January 2020 levels. The average level of 'lost life satisfaction' due to the pandemic for respondents to the April 2022 ANUpoll was 0.216, which when converted to income equivalents was roughly equivalent to a halving in income (Biddle et al. 2022).

The impact of the pandemic on life satisfaction differed by age, with the greatest declines among those aged 18 to 24 years, moderate declines for those aged 25 to 54, no significant declines for those aged 55 and over and slight increases for those aged 75 and over (Biddle et al. 2022).

Regression modelling was used to estimate the association between other demographic variables and loss of life satisfaction due to the pandemic. In this model, greater declines in life satisfaction were observed in respondents who had not completed year 12 compared with those who had as well as Victorians compared with residents of New South Wales. Respondents in the 4th and 5th income quintiles (the two highest income groups) had the smallest loss in life satisfaction, compared with other income quintiles (Biddle et al. 2022)

The most recent ANUpolls show that average Australian life satisfaction during August 2022, October 2022, and January 2023 was 6.8, 6.7, and 6.8 respectively (Biddle 2022c; Biddle & Gray 2023; Biddle, McAllister and Sheppard 2022). While life satisfaction has steadily increased since August 2021, it remains lower than November 2020 and pre-COVID-19 during October 2019 (p6., Biddle & Gray 2023).

Data on deaths by suicide

There has been considerable commentary since the start of the pandemic on its potential to impact on the incidence of deaths by suicide. Much of this commentary has been based on modelling using previous experience including the relationship between unemployment and deaths by suicide. However, evidence to-date does not indicate an increase in suicide deaths in Australia during the pandemic. National mortality data published by the Australian Bureau of Statistics show that the rate of death by suicide in Australia was lower in 2020 (12.1 per 100,000 population) and 2021 (12.0) than in 2019 (13.1), see Deaths by suicide over time. That said, Australian Bureau of Statistics coding of psychosocial risk factors associated with deaths by suicide in 2020 determined that 3.2% of these deaths had the pandemic mentioned in either a police or pathology report or a coronial finding. In 2021, the percentage of suicide deaths where the pandemic was mentioned decreased to 2.6%. In most of these cases, other risk factors for suicide were also present. In 2021, the pandemic appeared to impact on people in different ways, including through job loss and financial insecurity as well as general concern or anxiety about societal changes or contacting the virus (ABS 2022a). For more information, visit Psychosocial risk factors and deaths by suicide.

Internationally, a 'living systematic review' (John et al. 2021) based on evidence until 19 October 2020, has concluded that:

> There was no consistent evidence of a rise in suicide but many studies noted adverse economic effects were evolving. There was evidence of a rise in community distress, fall in hospital presentation for suicidal behaviour and early evidence of an increased frequency of suicidal thoughts in those who had become infected with COVID-19. This living review provides a regular synthesis of the most up-to-date research evidence to guide public health and clinical policy to mitigate the impact of COVID-19 on suicide risk as the longer term impacts of the pandemic on suicide risk are researched.

A study investigating trends in suicide deaths between January 2017 and August 2020, using data from the Queensland, New South Wales, and Victorian suicide registers concluded that (Clapperton et al., 2021):

> Although our analysis found no evidence of an overall increase in suicides after the pandemic began, the picture is complex. The identified increase in suicide in young men indicates that the impact of the pandemic is likely unevenly distributed across populations. The increase in suicides in the context of unemployment reinforces the vital need for mitigation measures during COVID-19, and for ongoing monitoring of suicide as the pandemic continues.

Since 2020, suicide registers in Victoria and New South Wales have regularly published data on suspected deaths by suicide for 2019, 2020 and 2021. The *Suicide in Queensland: Annual Report 2022* (Leske et al. 2022) included data on suspected deaths by suicide from the interim Queensland Suicide Register (iQSR) from 2019 to 2021. The number of suspected deaths by suicide recorded in suicide registers fluctuates from year to year and, while there have been increases and decreases in some jurisdictions in 2020 and 2021 compared with 2019, there is no evidence to-date that the pandemic has affected suicide rates. For more information see Suspected deaths by suicide.

While the pandemic does not appear to have affected suicide rates in Queensland compared with previous reports, examination of police reports by the iQSR indicates that between 29 January 2020 and 31 December 2021 COVID-19 appeared to be a contributing factor in 86 of the 1,539 suspected deaths by suicide (5.6%) (Leske et al. 2022).

> It is true that some key risk factors associated with deaths by suicide did worsen following the onset of the pandemic. For example, there were considerable job losses and rises in the level of psychological distress. On the other hand, it is possible that a general sense of 'we are all in this together' could have a protective impact. From February to April 2020 there were rises in the level of trust in others and in governments in Australia (Biddle et al. 2020a). In addition, the vast majority of people who experience unemployment or high levels of psychological distress or mental health issues will never experience a suicide attempt. That said, it is very important to monitor trends in risk factors and trends in deaths by suicide in real time.

A study undertaken by Leske et al (2021) used Queensland Suicide Register data to compare rates of suspected suicide before the COVID-19 pandemic (2015-2019) to rates of suspected suicide during the earlier months of the pandemic (February 2020-August 2020). Leske et al. (2021) found there was no overall change in the rates of suspected suicide during the first seven months of the pandemic in Queensland. Nonetheless, that COVID-19 had been a contributing factor for some individual suspected suicide deaths that occurred during the period.

Another factor that should be considered is the impact of both JobKeeper and the JobSeeker supplement. This is important given the association between the risk of dying by suicide and socioeconomic outcomes. Modelling undertaken by the ANU suggests that not only were levels of poverty and housing stress lower than they otherwise would have been as a result of these payments, they were also lower than they were prior to the spread of COVID-19 (Philips et al. 2020). Households who mainly relied on the JobSeeker payment prior to the pandemic and the introduction of the JobSeeker supplement saw their poverty rate fall from 67% prior to COVID-19 to 6.8% (Phillips et al. 2020). On a similar note Biddle et al. (2020d) found that real incomes actually rose for those in the bottom decile of the income distribution from February to August 2020. Using data from the Taking the Pulse of the Nation Survey, Botha et al. (2020) have shown that the level of psychological distress among the unemployed declined after May 2020. The ANU modelling suggests that the protective impact of JobKeeper and the JobSeeker supplement on housing stress and poverty were reduced somewhat by the changes to these payments announced in July 2020 (Phillips et al. 2020).

Ambulance attendances

A key part of the National Suicide and Self-harm Monitoring Project is the compilation and coding of data from ambulance attendances. The National Ambulance Surveillance System (NASS), established in 2020, provides data on ambulance attendances for suicidal and self-harm behaviours for New South Wales, Victoria, Queensland, Tasmania and the Australian Capital Territory. The NASS is a partnership between Turning Point, Monash University and jurisdictional ambulance services across Australia. Comprehensive data from the NASS are reported in Ambulance attendances: suicidal and self-harm behaviours.

In 2020, prior to the establishment of the NASS, the AIHW requested Turning Point prioritise the coding of data for Victoria. Victoria was chosen as monthly data on ambulance attendances were already being compiled for the Victorian Government and there were concerns about the impact of the Melbourne lockdown on suicide and self-harm behaviours.

Monthly data on the number of ambulance attendances related to suicide attempts in Victoria from 2018 to 2020 are shown in Figure 4. As the figure shows, there is no clear difference from 2018 to 2020. The total number of ambulance attendances related to suicide attempts in Victoria in 2020 was 4% lower than in 2019 but 8% higher than in 2018.

In 2020, there was an 11% increase in the total number of ambulance attendances in Victoria relating to suicidal ideation (thinking about suicide), compared with 2019, with the increase more pronounced in the second half of 2020. There was also an increase in the total number of mental health attendances (16% higher in 2020 than in 2019). This is consistent with the overall greater use of mental health services in 2020 that is evident in other data. This highlights the fact that greater use of, and need for, mental health services does not necessarily equate to trends in the number of suicide attempts. The vast bulk of people who use mental health services will never have a suicide attempt but timely access to mental health services may reduce the number of deaths by suicide. The total number of ambulance attendances for self-injury in Victoria in 2020 was considerably higher (33%) than in 2019. This highlights the fact that self-injury and suicide attempts are not the same thing.

Figure 4: Monthly ambulance attendances for suicide attempts, Victoria, 2018 to 2020

References

AAPOR (American Association for Public Opinion Research) (2010) *Report on Online Panels* - external site opens in new window (https://aapor.org/wp-content/uploads/2022/11/nfq048.pdf), accessed 16 November 2022.

ABS (Australian Bureau of Statistics) (2022a) Causes of Death, Australia 2021 - external site opens in new window (https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia/latest-release), ABS website, accessed 4 November 2022.

ABS (2022b) *National Study of Mental Health and Wellbeing - external site opens in new window (https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/latest-release),* ABS website, accessed 15 February 2023.

ABS (2022c) *National, State and Territory Population - external site opens in new window (https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/jun-2022),* ABS website, accessed 16 February 2023.

ABS (2021) *First insights from the National Study of Mental Health and Wellbeing, 2020-21 - external site opens in new window (https://www.abs.gov.au/articles/first-insights-national-study-mental-health-and-wellbeing-2020-21#:~:text=In%202020%2D21%2C%2015%25,high%20levels%20of%20psychological%20distress.&text=one%20in%20five%20(20%25),%2D85%20years%20(9%25).),* ABS website, accessed 16 November 2022.

AIHW (Australian Institute of Health and Welfare) (2020) *National Drug Strategy Household Survey 2019* - external site opens in new window, AIHW, Australian Government, accessed 16 November 2022.

Biddle, N (2021a) *ANU Poll 2020-2021 longitudinal - external site opens in new window (https://dataverse.ada.edu.au/dataset.xhtml?persistentId=doi:10.26193/JGW1LD),* [dataset], dataverse.ada.edu.au, doi:10.26193/JGW1LD, accessed 23 March 2023.

Biddle N (2021b) *ANU Poll 48 (October 2021): Mental health and economic stress during COVID-19* - external site opens in new window (https://dataverse.ada.edu.au/dataset.xhtml?persistentId=doi:10.26193/THF1VZ) [data set], dataverse.ada.edu.au, accessed 16 November 2022.

Biddle N (2022a) *ANU Poll 49 (January 2022): Experiences with COVID-19 - external site opens in new window (https://dataverse.ada.edu.au/dataset.xhtml?persistentId=doi:10.26193/2MX3D0),* [data set], dataverse.ada.edu.au, accessed 16 November 2022.

Biddle N (2022b) *ANU Poll 50 (April 2022): Volunteering, aged care, policy priorities and experiences with COVID-19 - external site opens in new window (https://dataverse.ada.edu.au/dataset.xhtml?persistentId=doi:10.26193/AXQPSE)*[data set], dataverse.ada.edu.au, accessed 16 November 2022.

Biddle N (2022c) *ANU Poll 53 (Oct 2022): COVID-19, mental health, employment, data privacy and support for randomised controlled trials - external site opens in new window (https://dataverse.ada.edu.au/dataset.xhtml?persistentId=doi:10.26193/WBJE1K),* [data set], dataverse.ada.edu.au, accessed 23 February 2023.

Biddle N and Gray M (2020) *Tracking outcomes during the COVID-19 pandemic (October 2020) – Reconvergenc* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/tracking-outcomes-during-covid-19-pandemic-october-2020-reconvergence), COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N and Gray M (2021a) *Tracking outcomes during the COVID-19 pandemic (January 2021) – Cautious Optimism* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/tracking-outcomes-during-covid-19-pandemic-january-2021-cautious-optimism), COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N and Gray M (2021b) *Tracking wellbeing outcomes during the COVID-19 pandemic (April 2021) – Continued social and economic recovery and resilience* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/tracking-wellbeing-outcomes-during-covid-19-pandemic-april-2021-continued), COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N and Gray M (2021c) *Tracking wellbeing outcomes during the COVID-19 pandemic (August 2021) – Lockdown blues* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/tracking-wellbeing-outcomes-during-covid-19-pandemic-august-2021-lockdown), COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N and Gray M (2021d) *Tracking wellbeing outcomes during the COVID-19 pandemic (October 2021) – Putting the worst behind us?* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/tracking-wellbeing-outcomes-during-covid-19-pandemic-october-2021-putting) , COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N and Gray M (2022) *Tracking wellbeing outcomes during the COVID-19 pandemic (January 2022) – Riding the Omicron wave* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/tracking-wellbeing-outcomes-during-covid-19-pandemic-january-2022-riding) , COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N and Gray M (2023) *Taking stock: Wellbeing and political attitudes in Australia at the start of the post-COVID era, January 2023 - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/taking-stock-wellbeing-and-political-attitudes-australia-start-post-covid-era)* , COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N, Gray M and Rehill P (2022) *Mental health and wellbeing during the COVID-19 period in Australia* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/mental-health-and-wellbeing-during-covid-19-period-australia), ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N, Edwards B, Gray M and Sollis K (2020a) *Hardship, distress, and resilience: The initial impacts of COVID-19 in Australia* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/hardship-distress-and-resilience-initial-impacts-covid-19-australia-1), ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N, Edwards B, Gray M and Sollis K (2020b) *Initial impacts of COVID-19 on mental health in Australia (22 May 2020)* - external site opens in new window (https://csrm.cass.anu.edu.au/sites/default/files/docs/2020/6/Mental_health_before_and_during_the_COVID_crisis.pdf), COVID–19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N, Edwards B, Gray M and Sollis K (2020c) *Mental health and relationships during the COVID-19 pandemic (July 2020)* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/mental-health-and-relationships-during-covid-19-pandemic), COVID–19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N, Edwards B, Gray M and Sollis K (2020d) *Tracking outcomes during the COVID-19 pandemic (August 2020) – Divergence within Australia* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/tracking-outcomes-during-covid-19-pandemic-august-2020-divergence-within), COVID–19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle N, Edwards B, Gray M and Sollis K (2020e) *Tracking outcomes during the COVID-19 pandemic (November 2020) – Counting the Cost of the COVID-recession* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/tracking-outcomes-during-covid-19-pandemic-november-2020-counting-costs-covid), COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.

Biddle, N, McAllister, I, and Sheppard, J (2022) *ANU Poll 52 (August 2022): COVID-19, mental health, population issues, data privacy and coercive control* - external site opens in new window (https://dataverse.ada.edu.au/dataset.xhtml?persistentId=doi:10.26193/FCZGOK)dataset], dataverse.ada.edu.au, doi:10.26193/FCZGOK, accessed 23 March 2023.

Botha F, Butterworth P and Wilkins R (2020) *Mental distress in Australia over the course of the first wave of the COVID-19 Pandemic* - external site opens in new window (https://melbourneinstitute.unimelb.edu.au/publications/research-insights/search/result?paper=3491818), Melbourne Institute Research Insights 24/20, Melbourne Institute: Applied Economic & Social Research, Melbourne.

Clapperton, A., Spittal, M. J., Dwyer, J., Garrett, A., Kõlves, K., Leske, S., Millar, C., Edwards, B., Stojcevski, V., Crompton, D. R., & Pirkis, J. (2021). 'Patterns of suicide in the context of COVID-19: Evidence from three Australian States. *Frontiers in Psychiatry*, 12. https://www.frontiersin.org/articles/10.3389/fpsyt.2021.797601.

John A, Eyles E, Webb RT, Okolie C, Schmidt L, Arensman E, Hawton K, O'Connor RC, Kapur N, Moran P, O'Neill S, McGuiness LA, Olorisade BK, Dekel D, Macleod-Hall C, Cheng HY, Higgins JPT and Gunnell D (2021) 'The impact of the COVID-19 pandemic on self-harm and suicidal behaviour: update of a living systematic review' [version 2; peer review: 1 approved, 2 approved with reservations] *F1000Research*, 9:1097, doi: 10.12688/f1000research.25522.2.

Leske S, Adam G, Catakovic A, Weir B, and Kôlves K (2022) *Suicide in Queensland: Annual Report 2022* - external site opens in new window (https://www.griffith.edu.au/__data/assets/pdf_file/0033/1639473/AISRAP-Annual-Report-2022.pdf). Australian Institute for Suicide Research and Prevention, Griffith University, Brisbane.

Leske, S., Kõlves, K., Crompton, D., Arensman, E., & de Leo, D. (2021). Real-time suicide mortality data from police reports in Queensland, Australia, during the COVID-19 pandemic: An interrupted time-series analysis. *The Lancet Psychiatry*, 8(1), 58–63. https://doi.org/10.1016/S2215-0366(20)30435-1.

Phillips B, Gray M and Biddle N 2020 *JobKeeper and JobSeeker impacts on poverty and housing stress under current and alternative economic and policy scenarios* - external site opens in new window (https://csrm.cass.anu.edu.au/research/publications/covid-19-jobkeeper-and-jobseeker-impacts-poverty-and-housing-stress-under), ANU Centre for Social Research and Methods, Australian National University, Canberra

Prochaska J, Sung H-Y, Max W, Shi Y and Ong M (2012) 'Validity study of the K6 scales as a measure of moderate mental distress based on mental health treatment need and utilization', *International Journal of Methods in Psychiatric Research*, 21(2): 88-97, doi: 10.1002/mpr.1349.

Slade T, Grove R and Burgess P (2011) 'Kessler Psychological Distress Scale: Normative data from the 2007 Australian National Survey of Mental Health and Wellbeing', *Australian & New Zealand Journal of Psychiatry*, 45(4):308-316, doi:10.3109/00048674.2010.543653.

Viewing the monitoring data

Caution: Some people may find parts of this content confronting or distressing.

Please carefully consider your needs when reading the following information about suicide and self-harm. If this material raises concerns for you contact Lifeline on 13 11 14, or see other ways you can seek help.

The information included here places an emphasis on data, and as such, can appear to depersonalise the pain and loss behind the statistics. The AIHW acknowledges the individuals, families and communities affected by suicide each year in Australia.

Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

The AIHW supports the use of the Mindframe guidelines - external site opens in new window on responsible, accurate and safe suicide and self-harm reporting. Please consider these guidelines when reporting on statistics on the monitoring of suicide and self-harm.

Suicide & self-harm monitoring

Need help now?

Lifeline 13 11 14
More (/suicide-self-harm-monitoring/research-information/crisis-support)

Suicide & self-harm monitoring: Geography

Reporting deaths by suicide and hospitalisations for intentional self-harm at smaller, more 'localised' geographical areas, can reveal information that may be masked by reporting for the whole of Australia or by states and territories – allowing for a better understanding of suicidal behaviours for local communities, policymakers and researchers.

Although suicide has a significant impact on the community, it is a relatively rare cause of death in Australia meaning that depending on the level of geography considered, there may be areas where there are very few – or even no – deaths by suicide recorded in a given year. The number of hospitalisations for intentional self-harm are approximately 10 times that of deaths by suicide; however, further disaggregation (or breakdown) of the data by age or sex reduces the numbers of events able to be reported for each group in each small geographical area in a single year. Strict privacy and confidentiality controls or concerns regarding statistical reliability mean that small numbers (or rates based on them) cannot be publicly reported, thereby reducing the coverage of reportable data as smaller geographical areas are considered.

Numbers and age-standardised rates (where they could be reliably calculated) of deaths by suicide and hospitalisations for intentional self-harm have been reported by PHN area and Statistical Areas level 3 and 4. For the reporting of suicide and hospitalised intentional self-harm data by Statistical Area, the smallest possible geographical area has been used while still allowing for maximum coverage of reportable data across these small geographical areas.

This section also contains global statistics on suicide – intended to provide a broad view of the issue across the world.

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Australian Youth Self-Harm Atlas

The Australian Youth Self-Harm Atlas study investigated regional variability in suicidality and self-harm, as well as risk and protective factors, for young people aged 12 to 17 years. Aspects of the quantitative component of the study are presented here. The full Australian Youth Self-Harm Atlas: Summary Report - external site opens in new window (https://espace.library.uq.edu.au/view/UQ:2090e31) (Hielscher et al., 2022), includes a summary of both quantitative and qualitative study components.

Strengthening suicide prevention

The National Mental Health and Suicide Prevention Agreement (Commonwealth of Australia, 2022) identifies the importance of strengthening regional planning and evaluation of suicide prevention initiatives. To do this, detailed regional data are needed.

The Australian Youth Self-Harm Atlas study:

- Is the first national Australian study to estimate the variability of youth self-harm and suicidality, across small areas of geography (Hielscher et al., 2022).
- Distinguishes between self-harm without suicidal intent, suicidal ideation/planning, and suicide attempt. This differentiation has service and program planning implications but is not often available within administrative datasets.
- Data are representative of whole communities, rather than being limited to the experience of those using hospital (or other healthcare) services.

While identifying communities whose residents are not faring as well as others may be seen as stigmatising, the purpose for doing so is to provide evidence upon which community members and decision-makers can rely.

About the Study

Data sources

The Australia Youth Self-Harm Atlas study generated synthetic estimates of youth suicidality and self-harm using:

- Young Minds Matter (YMM) survey - external site opens in new window (https://youngmindsmatter.telethonkids.org.au/). A nationally representative household survey about the health and wellbeing of children and young people conducted between 2013 and 2014.
- 2016 Census - external site opens in new window (https://www.abs.gov.au/websitedbs/censushome.nsf/home/2016).
- 2019 Australian Bureau of Statistics Estimated Resident Population - external site opens in new window (https://www.abs.gov.au/methodologies/national-state-and-territory-population-methodology/sep-2022) data.

Generating synthetic estimates

The Australian Youth Self-Harm Atlas study generated synthetic estimates to enable measurement of suicidality and self-harm prevalence, and related risk and protective factors for small areas.

The Young Minds Matter (YMM) survey data holds information about suicidality and self-harm among young people that completed the survey. While the sampling strategy used for the survey was scientifically robust, not every community across Australia was invited to participate (Hafekost et al., 2016). As such, it is not possible to use YMM data to directly measure suicidality and self-harm among the young people within each community across Australia. To solve this problem, small area estimation methods were used to produce synthetic prevalence estimates of youth suicidality and self-harm for Statistical Area level 1s (SA1) across Australia. SA1s are a standardised measure of geography and part of the Main Structure of the Australian Statistical Geography Standard - external site opens in new window (https://www.abs.gov.au/statistics/standards/australian-statistical-geography-standard-asgs-edition-3/jul2021-jun2026/main-structure-and-greater-capital-city-statistical-areas) (ASGS), developed by the Australian Bureau of Statistics. SA1s generally have a population of 200 to 800 people, and an average population of about 400 people.

The small area estimation undertaken involved linking Young Minds Matter survey data with 2016 Census data. Noting that 2016 Census data are available for all SA1 areas, whereas the survey data are only available for those SA1 areas that were invited to participate. Patterns in responding for those who completed both the Young Minds Matter (YMM) survey and the 2016 Census were then used to extrapolate responses to the youth suicidality and self-harm YMM survey questions for communities that were not actually invited to complete the survey. Data generated in this way, using sophisticated statistical models, are referred to as synthetic estimates. Synthetic estimates generated for SA1 areas were then summed together and presented at broader areas of geography. Synthetic estimates were presented in this publication at SA3, SA4 and Primary Health Network (PHN) areas.

Australian Bureau of Statistics Estimated Resident Population data for 2019 were used to calculate suicidality and self-harm prevalence estimates for geographic areas.

As a means of external validation, synthetic suicidality and self-harm prevalence estimates were compared to rates of death by suicide. At an SA2 level, each of the suicidality and self-harm measures used within the study were positively correlated with the average annual rate of death by suicide between 2010-2019.

Synthetic estimates based on small numbers of young people were suppressed to maintain confidentiality and avoid publishing statistics of low reliability.

The Australian Youth Self-Harm Atlas study includes the following suicidality and self-harm outcomes:

- Self-harm (regardless of intent): self-injurious behaviour irrespective of intent or motivation, including behaviours with either suicidal or non-suicidal intent, or where intent is ambiguous. This was the primary outcome of this study (inclusive of non-suicidal self-harm and suicide attempt behaviour).
- Non-suicidal self-harm: self-injurious behaviour for which there is evidence that the person did not intend to kill themselves.
- Suicidal ideation/plans: thoughts of engaging in or planning suicide-related behaviour; without engaging in suicidal behaviour.
- Suicide attempt: non-fatal, self-directed, potentially self-injurious behaviours with an intent to die.
- Suicidality: suicidal thoughts or behaviours, including ideation, plans, and attempts.

Study limitations and important data considerations

The information provided by the Australian Youth Self-Harm Atlas Study may be the best available small area data for youth suicidality and self-harm.

Even so, there are important limitations to consider included within the 'Study limitations and important data considerations' - external site opens in new window (https://aihw.gov.au/suicide-self-harm-monitoring/data/geography/youth-self-harm-atlas/limitations-and-interpretation-considerations) sections of this publication.

The study team

The Australian Youth Self-Harm Atlas study was undertaken by a team of researchers and clinicians, and at the heart of the project was a partnership between Queensland Institute of Medical Research (QIMR) Berghofer and Roses in the Ocean. Roses in the Ocean is a lead Australian organisation for lived experience of suicide.

The AIHW has worked in collaboration with Youth Self-Harm Atlas study authors, Dr Emily Hielscher (formerly of Queensland Institute of Medical Research (QIMR) Berghofer) and Professor David Lawrence (Curtin University), to integrate quantitative findings of the study into the AIHW Suicide and Self-Harm Monitoring website.

Viewing the monitoring data

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Deaths by suicide by remoteness areas

About 28% of the Australian population live in regional and remote areas – areas outside Australia's major cities. There are many positive aspects about living in regional and remote areas, including higher levels of life satisfaction compared with those in urban areas (Wilkins 2015), increased community interconnectedness and social cohesion, and higher levels of community participation, volunteering and informal support from their communities (Ziersch et al. 2009). However, Australians living in these areas face unique challenges due to their geographic isolation, and often have poorer health and welfare outcomes than those living in major cities.

For further information on how the statistics reported here were calculated see Technical notes.

Suicide deaths by remoteness area, Australia, 2010 to 2023.

The line graph shows the age-standardised rates of suicide for Very Remote, Remote, Outer Regional and Inner Regional areas and Major Cities from 2010 to 2023. Users can also choose to view age-standardised rates and numbers of deaths by suicide for remoteness areas by sex.

Are people in regional and remote areas at greater risk of deaths by suicide?

From 2001 to 2023:

- The numbers of deaths by suicide were highest in *Major Cities* and fell as remoteness increased, while age-standardised suicide rates tended to increase with the increasing remoteness.
- Suicide rates for residents of *Major Cities* were the lowest of all 5 remoteness areas each year and remained relatively stable over the period (ranging from 9.2 deaths per 100,000 population in 2006 to 11.7 in 2001 and 2017).
- Suicide rates in *Very Remote* areas fluctuated between 2001 and 2023, with the lowest rate recorded in 2003 (17.6 deaths per 100,000 population) and the highest in 2007 and 2016 (29.1). The rate of suicide in *Very Remote* areas was 27.3 in 2001 and 21.0 in 2023. Fluctuations in rates are due largely to the small population and small numbers of deaths by suicide in these areas.
- Suicide rates for residents of *Remote* areas also fluctuated over the period, ranging from 10.6 deaths per 100,000 population in 2009 to 23.7 in 2022.
- Suicide rates in *Inner Regional* and *Outer Regional* areas were generally higher in the second half of the period, with lows of 11.4 and 12.1 deaths per 100,000 population, respectively, in 2006 and highs of 17.1 and 20.1, respectively, in 2019.
- The greatest proportion of deaths by suicide occurred in *Major Cities* and remained relatively stable at 61.3–66.7% over the period.

In 2023:

- The age-standardised suicide rate for residents of *Major Cities* (10.0 deaths per 100,000 population) was lower than the national rate of 11.8.
- Suicide ates for residents of all other remoteness areas were above the national rate.

- The rate for residents of *Very Remote* areas (21.0 deaths per 100,000 population) was 2.1 times that of the rate for residents of *Major Cities* (10.0); however, numbers of deaths were relatively small (40 deaths in *Very Remote* areas vs 1,985 in *Major Cities*).
- The proportion of deaths by suicide occurring in *Major Cities* in 2023 was 62.5%.

References

Wilkins R 2015. The Household, Income and Labour Dynamics in Australia Survey: selected findings from waves 1 to 12. - external site opens in new window (https://melbourneinstitute.unimelb.edu.au/__data/assets/pdf_file/0006/2155506/hilda-statreport-2015.pdf) Melbourne: Melbourne Institute of Applied Economic and Social Research.

Ziersch A, Baum F, Darmawan I, Kavanagh A & Bentley, R 2009. Social capital and health in rural and urban communities South Australia. - external site opens in new window (https://www.ncbi.nlm.nih.gov/pubmed/19236353) Australian and New Zealand journal of public health 33:7–16. Adelaide: Flinders University.

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Intentional self-harm hospitalisations by remoteness areas

Hospitalisations data for patients with intentional self-harm injuries includes those with and without suicidal intent. For further information see the Technical notes.
Understanding the geographical distribution of hospitalisations due to intentional self-harm based on patients' area of usual residence (see Technical notes for more information) can help target suicide prevention activities to areas in need.

The line graph shows age-specific rates of intentional self-harm hospitalisations for Very Remote, Remote, Outer Regional, Inner Regional, Major Cities and Total remoteness areas for all ages combined from 2012–13 to 2022–23. Users can also choose to view age-specific rates, numbers and proportions of hospitalisations for intentional self-harm by remoteness area and specific age groups.

Are people in regional and remote areas at greater risk of intentional self-harm hospitalisations?

In 2022–23:

- residents of *Very remote* areas recorded a rate of 169 hospitalisations per 100,000 population, close to twice that of residents of *Major cities*, which recorded the lowest rate (89 hospitalisations per 100,000 population)
- Over two-thirds of intentional self-harm hospitalisations were residents of *Major cities* (68%)
- young people aged 15–19 had the highest rates of intentional self-harm hospitalisations in each remoteness area, with the exception of *Very remote* for which 20–24 year olds had the highest rate
- the highest rate of intentional self-harm hospitalisations overall was in the 20–24 age group in *Very remote* areas (435 hospitalisations per 100,000 population), followed by 15-19 year olds in *Remote* areas (417).

A similar pattern was seen with deaths by suicide as age-standardised suicide rates tended to increase with remoteness of place of residence see Suicide by remoteness areas.

How have rates of intentional self-harm hospitalisations changed for remoteness areas?

Between 2012–13 and 2022–23:

- overall rates of intentional self-harm hospitalisations increased in *Very remote* areas from 2012–13 to 2021–22 (from 172 to 193 hospitalisations per 100,000 population) before falling to 159 in 2022–23
- rates fell in *Inner regional* areas (from 125 to 88, and *Major cities* (111 to 89) over this period while rates initially increased in *Outer regional* areas from 136 hospitalisations per 100,000 population in 2012–13 to 170 in 2016–17, and then steadily decreased to 122 in 2022–23
- the highest increases in rates of intentional self-harm hospitalisations occurred in those aged 35–39 in *Very remote* areas (256 hospitalisations per 100,000 population in 2012–13 to 356 in 2022–23

- the largest decrease in rates of intentional self-harm hospitalisations was among the 35–39-year-old age group in *Outer regional* areas (from 256 hospitalisations per 100,000 population in 2012–13 to 145 in 2022–23).

Viewing the monitoring data

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Deaths by suicide, by Primary Health Network areas

Where people live can impact on their risk of suicide and also their access to services. Reporting rates or numbers of deaths by suicide at Primary Health Network (PHN) areas allows for more localised information that may provide a better understanding of the incidence of deaths by suicide in the local community and allow clinicians, policymakers and researchers to better plan services or suicide prevention activities.

PHNs are organisations that connect health services across a specific geographic area (PHN areas). There are 31 PHN areas that cover the whole of Australia with the boundaries defined by the Australian Government Department of Health - external site opens in new window (https://www1.health.gov.au/internet/main/publishing.nsf/content/phn-maps-aust). For further information on how the statistics reported here were calculated see Technical notes.

Suicide deaths by Primary Health Network areas, Australia, 2010 to 2023.

The line graph shows the age-standardised rates of suicide for Australia by Primary Health Network (PHN) area from 2010 to 2023. Users can choose to view age-standardised rates and numbers of deaths by suicide by selected PHN.

How do suicide rates vary among PHN areas?

In 2023:

- Age-standardised rates and numbers of deaths by suicide varied across PHN areas, ranging from 5.7 deaths per 100,000 population in Western Sydney PHN area to 22.5 in Country WA in PHN.
- The greatest number of deaths by suicide occurred in the South Eastern Melbourne PHN (192).

Data are not published for PHN areas where there are small numbers of deaths by suicide due to privacy and confidentiality concerns or other concerns about the quality of the data (for example, age-standardised rates cannot be published for Western Queensland for most years).

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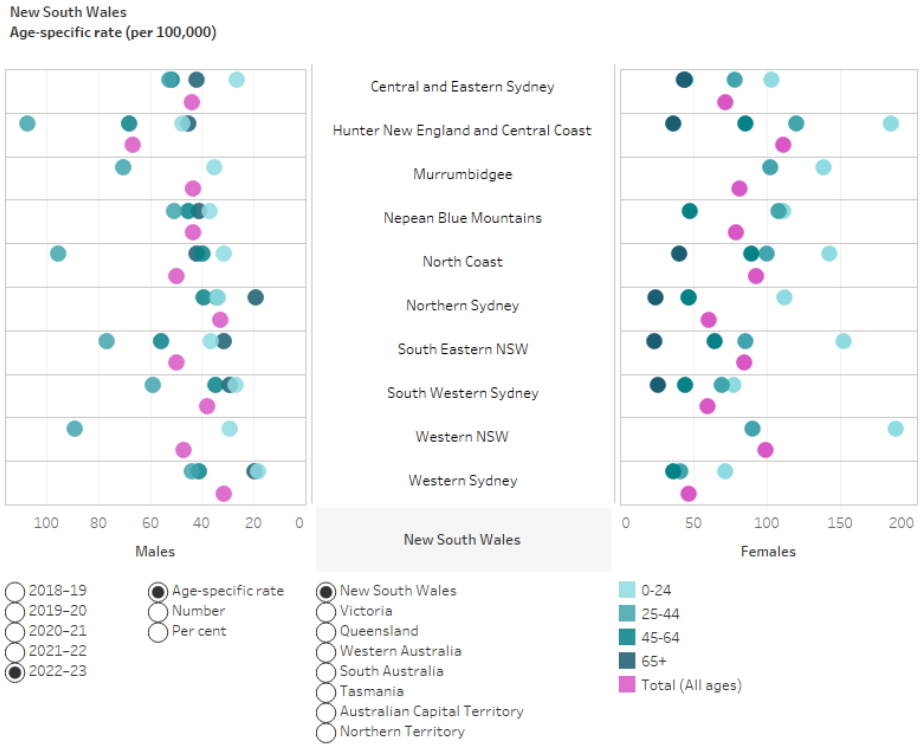
Intentional self-harm hospitalisations by Primary Health Network areas

Hospitalisations data for patients with intentional self-harm injuries includes those with and without suicidal intent. For further information see the Technical notes.

The reporting of rates of intentional self-harm hospitalisations by Primary Health Network (PHN) areas can provide localised information to enable PHNs to identify and investigate areas requiring more coordination of care to patients, by working directly with key primary and secondary health care providers and hospitals.

The distribution plot shows the age-specific rates of intentional self-harm hospitalisations for males and females by all ages and broad age groups (0–24, 25–44, 45–64, 65 and over) for Primary Health Networks (PHNs) in 2022-23. Users can also choose to view horizontal stacked bar charts showing numbers and proportion of intentional self-harm hospitalisations for PHNs by all ages and age groups by sex.

Intentional self-harm hospitalisations, by age, sex and Primary Health Network (PHN) areas, Australia, 2022–23



Note: Some data are not shown for age groups 45–64 and 65+ for selected PHNs due to small cell sizes.
Source: AIHW National Hospital Morbidity Database
Supplementary Table: NHMD S7
Latest data: 2022–23 (annual release)

See notes ▶

How do rates of intentional self-harm hospitalisations vary across PHN areas?

The rates of hospitalisations for intentional self-harm in 2022–23 varied greatly by PHN area:

- the Western Queensland PHN area had the highest rate (239 hospitalisations per 100,000 population), while Western Sydney PHN area had the lowest rate (39). The rate per 100,000 population for Australia was 95.
- The highest rate of intentional self-harm hospitalisations was among females aged 25–4 in the Western Queensland PHN area (427 per 100,000 population; 38 hospitalisations). This was also followed by those aged 24 years and below, in the same PHN area (422 per 100,000 population; 44 hospitalisations).
- Rates of intentional self-harm hospitalisation for males tended to be highest in those aged 25–44 years. The Western Queensland PHN area reported the highest rate for males in the 25–44 years age group (358 per 100,000 population; 31 hospitalisations) followed by the Northern Territory PHN (239 per 100,000 population; 101 hospitalisations).

Viewing the monitoring data

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Deaths by suicide, by local areas

Suicide incidence data in local communities provide insight into small populations and the variability of suicide rates across Australia. This is particularly pertinent for suicide prevention activities.

Deaths by suicide data have been aggregated (pooled) across five 5-year periods (2014–2018, 2015–2019, 2016–2020, 2017–2021, 2018–2022, and 2019–2023). Data are provided at Statistical Area Level 3 (SA3s) and Statistical Area Level 4 (SA4s). Data at SA4s are further disaggregated by sex.

How to use these maps

Use the zoom and search functions to explore the map. Click on an area in the map to view additional information. The colour shading indicates different rates of deaths by suicide, with darker shades indicating a higher rate.

For the best experience, use Chrome, Edge or Firefox browsers. For more information on browser compatibility, see Supported browsers. - external site opens in new window (https://doc.arcgis.com/en/web-appbuilder/create-apps/supported-browsers.htm)

Suicide by local areas

(Map will open in a new window)

(https://maps.arcgis.aihw.gov.au/portal/apps/experiencebuilder/experience/?id=2e92627e9eaf4178b050809d3fe9999a)

Note: Data behind these maps are available on the Data downloads page: National Mortality Database - Suicide (ICD-10 X60–X84, Y87.0), Tables NMD S10 and S11.

Over the 5-year period 2019–2023, reportable age-standardised suicide rates in persons at the SA3 level, were:

- highest in the SA3 areas of Burnett in Queensland (33.4 deaths per 100,000 population, 76 deaths total), Kimberley in Western Australia (32.9 per 100,000 and 59 deaths total) and Far North in Queensland (32.1 per 100,000 and 37 deaths total)
- lowest in the SA3 areas of Blacktown - North (5.6 deaths per 100,000 population, 38 deaths total), Parramatta (5.7 per 100,000 and 44 deaths total) and Baulkham Hills (5.7 per 100,000 and 46 deaths total) all in New South Wales.

Over the same period (2019–2023), reportable suicide rates in males, at the SA4 level, were:

- highest in the SA4 areas of Western Australia – Outback (North) (43.2 deaths per 100,000 population, 89 deaths total), Wide Bay in Queensland (35.2 per 100,000 and 257 deaths total) and South East in Tasmania (33.7 per 100,000 and 39 deaths total)

- lowest in the SA4 areas in Sydney in Baulkham Hills and Hawkesbury (10.0 deaths per 100,000 population, 63 deaths total), Inner South West (10.1 per 100,000 and 163 deaths total) and North Sydney and Hornsby (10.6 per 100,000 and 110 deaths total) all in New South Wales.

For females, reportable suicide rates over the 5-year period 2019–2023, at the SA4 level, were:

- highest in the SA4 areas of Northern Territory - Outback (17.1 deaths per 100,000 population, 46 deaths total), Queensland - Outback (12.3 per 100,000 and 22 deaths total), and Western Australia – Wheat Belt (10.2 per 100,000 and 31 deaths total)
- lowest in the SA4 areas of Sydney, South West (1.9 deaths per 100,000 population and 22 deaths total), Parramatta (3.1 per 100,000 and 38 deaths total) and Blacktown (3.4 per 100,000 and 34 deaths total), all in New South Wales.

SA3s and SA4s are a standardised measure of geography and part of the Main Structure of the Australian Statistical Geography Standard - external site opens in new window (https://www.abs.gov.au/statistics/standards/australian-statistical-geography-standard-asgs-edition-3/jul2021-jun2026/main-structure-and-greater-capital-city-statistical-areas), developed by the Australian Bureau of Statistics. All data are presented by year of registration, which is not necessarily the same as the year the death occurred. For more information, see Technical notes.

Direct estimates of suicide rates based on small numbers can be highly variable from year to year. As such, age standardised rates based on 20 or fewer deaths over the 5-year period have not been reported. Additionally, some areas with small numbers of deaths have had a random number of deaths assigned to them (instead of the true number) to protect the confidentiality of individuals. See Technical notes to ensure the data are interpreted appropriately.

The AIHW is committed to continually improving the quality, ease-of-use, and timeliness of its products. In this product, we are using a new data visualisation tool to present results by geographical areas using maps. We welcome any feedback on this new presentation and hope that it will provide useful insights into the topic. As this tool is a relatively new addition to our website, we will be continuing to work to enhance its use and would welcome any feedback.

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Intentional self-harm hospitalisations by local areas

Hospitalisations data for patients with intentional self-harm injuries includes those with and without suicidal intent. For further information see the Technical notes.
The rates of hospitalisations for intentional self-harm in small geographic areas can provide insight into the incidence of intentional self-harm in local communities.

Statistical Areas Level 3 (SA3s) is a type of geographical classification - external site opens in new window (https://www.abs.gov.au/websitedbs/D3310114.nsf/home/Australian+Statistical+Geography+Standard+(ASGS)) defined by the Australian Bureau of Statistics (ABS) to provide a regional breakdown of Australia. There are 336 geographical areas which cover states and territories (excluding SA3s associated with overseas territories and other) with boundaries defined by the ABS. Each SA3 generally has a population of between 30,000 and 130,000 people. Allocation to an SA3 for hospitalisation data is based on the patient's usual place of residence, rather than where they received treatment.

Variations in hospitalisation rates between geographical areas may be due to a range of factors. Crude hospitalisation rates at SA3s should be interpreted with caution as areas with small populations are more sensitive to changes in the number of hospitalisations.

How to use these maps

Use the zoom and search functions to explore the map. Click on an area in the map to view additional information. Change maps by selecting to 'open' or 'close' the eye icon. The colour shading indicates different rates of intentional self-harm hospitalisations, with darker shades indicating a higher rate.

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Intentional self-harm hospitalisations by local areas

(Map will open in a new window)

(https://maps.arcgis.aihw.gov.au/portal/apps/experiencebuilder/experience/?id=90d297637f4a42fb8515256ce392f6fc)

Note: Data behind these maps are available on the Data downloads page: 2022–23 National Hospital Morbidity Database—Intentional self-harm hospitalisations.

Variation across local areas

In 2022–23, rates of hospitalisations for intentional self-harm across SA3 geographies varied widely.

- Across Australia, rates ranged from 21 per 100,000 population for intentional self-harm hospitalisations in Lithgow - Mudgee (New South Wales) to 614 in Barkly (Northern Territory).
- For females, rates of hospitalisation ranged from 23 per 100,000 population in Manningham - West (Victoria) to 972 in Barkly (Northern Territory).
- For males, rates ranged from 19 hospitalisations per 100,000 population in Yarra Ranges (Victoria) to 371 in Caboolture Hinterland (Queensland).

Rates of intentional self-harm hospitalisations for different age groups also varied widely between SA3s.

- Rates of hospitalisations for intentional self-harm for those aged 24 and below ranged from 26 hospitalisations per 100,000 population in Merrylands - Guildford (New South Wales) to 498 in Caboolture (Queensland).
- For the 25–44 age group, rates ranged from 28 hospitalisations per 100,000 population in Ryde - Hunters Hill (New South Wales) to 981 in Barkly (Northern Territory).
- For those aged 45 and over, rates ranged from 17 hospitalisations per 100,000 population in Merrylands - Guildford (New South Wales) to 303 in Whitsunday (Queensland).

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International estimates of death by intentional self-harm

Global statistics on suicide provide a broad view of the issue across the world and provide a means of evaluation to allow governments, policy makers and researchers to learn from each other to improve suicide prevention planning and decision making. The intent in providing this information is to contribute to an informed, open debate about ways to prevent suicide in Australia—not to create comparisons ranking suicide rates around the world.

These data are estimates based on modelling assumptions from the most recent update to the Global Burden of Disease Study (GBD 2019) and are sourced from the Global Health Data Exchange (GHDx), a data catalogue created and supported by the Institute for Health Metrics and Evaluation (IHME). For further information see Global Health Data Exchange - external site opens in new window (http://ghdx.healthdata.org/) and IHME Global burden of disease - external site opens in new window (http://www.healthdata.org/gbd/2019).

The interactive data visualisation below allows you to view the most recent data (rates of suicide and years of life lost) from Australia, Organisation for Economic Co-operation and Development (OECD) member countries, G20 nations (19 member nations plus the remaining 24 European Union nations individually represented) and World Health Organization regions. You can view data for any country or region using the 'multiple values' selector.

Deaths due to deliberate self-harm by region, 1990 to 2019.

This line graph shows the self-harm measures from 1990–2020, in OECD countries, G20 countries and WHO regions. Users can filter the graph in various ways, including viewing the age-standardised rate or Years of Life Lost (YLL) due to deliberate self-harm, viewing the latest year of data only and filtering by age groups and sex. Users can also compare Australia to OECD countries, G20 countries and WHO regions. Overall, Australia tracks slightly above the averages of OECD countries, G20 countries and WHO regions in 2020. The average age-standardised suicide rate has declined steadily in OECD countries, G20 countries and WHO regions.

Data are presented as deaths or years of life lost due to death by intentional self-harm. The terms self-harm and suicide are used interchangeably. It should be noted that this terminology is different to that used in other sections of the *Suicide & self-harm monitoring* website, where the term self-harm refers to non-fatal injury rather than death. The ICD-10 codes used here include: X60-X64.9, X66-X84.9, Y87.0 which are slightly different to those reported in other sections of *Suicide & self-harm monitoring*.

International rates of deaths due to self-harm should be interpreted with caution as the quality of mortality data can vary between countries and there is a lack of consistency in methods of death registration. Also, due to stigma associated with suicide—and the fact that it is illegal in some countries—some countries are likely to underestimate suicide rates and this may bring into question the reliability of suicide-related statistics (particularly in countries with low reported suicide rates).

Overall, there has been a reduction in suicide rates since 1990 driven mostly by declines in Europe and South East Asia. Across other regions, suicide rates have remained relatively stable.

Suicide rates by country

Of OECD nations in 2019, age-standardised suicide rates ranged from 2.8 per 100,000 in Turkey to 23.9 per 100,000 in Lithuania. Australia's 2019 estimated suicide rate (10.4 per 100,000 population) was in the middle of OECD countries (18 of 36) and was similar to those reported in Canada, Czech Republic, New Zealand, and Sweden. The suicide rates in Austria and the United States were higher at 11.3 and 11.7 per 100,000 of the population respectively. Suicide rates have been rising in the United States prior to 2020 (see Deaths of despair).

Similarly, in comparison with G20 nations in 2019, Australia was 23 of 43 (19 members nations plus remaining 24 European Union nations individually represented).

Suicide is more common in males than females in all countries

Suicide rates for males and females can be explored for any country or region on the interactive visualisations by selecting the drop down options for sex.

In 2019, in OECD countries, rates for males varied from 4.4 per 100,000 in Turkey to 42.2 in Lithuania, while female suicide rates ranged from 1.3 per 100,000 in Greece to 11.8 in the Republic of Korea. Again, Australia was in between with suicide rates of 16.2 per 100,000 for males and 4.8 per 100,000 for females.

Suicide rates by age

Suicide is one of the leading causes of death in young people in Australia; however, this does not necessarily mean suicide is more likely to occur in young people than in older age groups—it is largely a reflection of the fact that older Australians also die from many other causes.

Viewing the monitoring data

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Suicide & self-harm monitoring: Behaviours & risk factors

Risk factors are behaviours or aspects of lifestyle, environmental exposures or inherited characteristics that can interact to influence people's risk of suicidal behaviours. Therefore, looking at risk factors at a population level can help target assistance.

It is important to remember that the presence of one or more of these risk factors cannot predict or explain suicide or intentional self-harm as each person's experience is unique. Experiencing any of these risk factors does not necessarily mean a person has—or ever will—attempt suicide, but establishing whether a person has any of these risk factors can help determine whether they are at increased risk. Also, some people will have suicidal thoughts without having a history of any risk factors.
Risk factors and behaviours can be modifiable (change over time; for example, illicit drug use) or non-modifiable (permanent or constant; for example, a personal history of self-harm). They can also be background factors (such as a childhood history of abuse) or recent stressful life events. The presence of these factors and their influence is different from person to person over their lifetime and can vary by sex, culture and other characteristics.

Information on these risk factors in Australians has been obtained from a number of sources by making greater use of existing data sets or by integrating multiple data sets. This includes:

- the presence of psychosocial factors (for example, a past history of self-harm; relationship problems; legal issues; bereavement; unemployment; homelessness; and disability) in deaths by suicide obtained by manual review of reports and coronial findings held by the National Coronial Information System (NCIS) by the Australian Bureau of Statistics
- the effect of differences in educational attainment and labour force status in deaths by suicide obtained by integrating the ABS Causes of Death data set with that of the Census 2011
- risk factors associated with suicide and self-inflicted injuries included in the Australian Burden of Disease Study 2015 (to be updated with 2019 data as soon as possible as per the recent AIHW report *The health impact of suicide and self-inflicted injuries in Australia, 2019*).

Viewing the monitoring data

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Behavioural risk factor burden for suicide and self-inflicted injuries

The National Suicide and Self-harm Monitoring Project provided funding for the AIHW to produce a report on The health impact of suicide and self-inflicted injuries in Australia, 2019. The report estimates the combined impact of people dying prematurely from suicide and the direct health impacts on individuals living with injury due to self-harm. Note that the estimates do not take into consideration the potential mental health issues associated with self-harm or the effects suicide and self-harm can have on people's families, friends and communities. Through detailed data visualisations the report presents time series data for the Australian population by age, sex and key population groups. The contribution of various modifiable risk factors to disease burden is also estimated.

Data on risk factors associated with suicide and self-inflicted injuries from the Australian Burden of Disease Study 2022 are included below. The full report is available here. - external site opens in new window (https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2022/contents/about)
According to the AIHW's Australian Burden of Disease Study 2022, suicide and self-inflicted injuries was the second leading cause of premature death from injury or disease, accounting for an estimated 6% of the total years of life lost in Australia (AIHW, 2022). Moreover, suicide and self-inflicted injuries is the leading cause of premature death in men aged 15–49 years. See Burden of disease for further information.

What is burden of disease?

Burden of disease analysis measures the impact of living with illness and injury and dying prematurely. The method uses the summary measure 'disability-adjusted life years (or DALY) to measure the years of healthy life lost by combining premature death (years of life lost; YLL) with years lived with disability (YLD). For further information including a more comprehensive explanation of the methodology and data sources used, see Australian Burden of Disease Study: methods and supplementary material 2022 (https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2022/contents/technical-notes).

The burden of suicide and self-inflicted injuries due to behavioural risk factors, known as attributable burden, has also been estimated in the Australian Burden of Disease Study. These estimates reflect the amount of burden that could have been avoided if all people in Australia were not exposed to the risk factor.

In 2022, 'suicide and self-inflicted injuries' was the second leading cause of fatal burden among all people, with an estimated 159,200 total YLL. Approximately 121,200 YLL were lost to suicide and self-inflicted injuries among men and 38,000 YLL among women. In 2022, suicide and self-inflicted injuries were also the second leading cause of fatal burden among men and the ninth leading cause of fatal burden among women (down from eighth in 2018).

The interactive data visualisation shows the leading causes for years of life lost (YLL) based on leading causes of mortality in Australia. Sex (females, males, persons) and data year can be selected for viewing. Highlighted in purple indicates YLL due to suicide and self-inflicted injuries.

The visualisation directly below shows the average YLL per individual deceased person separately for each of the study years (2003, 2011 and 2018). The causes of death shown in this visualisation are the top 20 leading contributors to years of life lost initially identified according to total YLL. The causes of death included are not necessarily among the top 20 leading causes according to average YLL.

In 2018, an average of 42.2 years were lost to 'suicide and self-inflicted injuries' among males, and 41.6 years were lost to 'suicide and self-inflicted injuries' among females.

The interactive data visualisation shows average years of life lost (YLL). The causes of death shown in this visualisation are the top 20 leading contributors to years of life lost initially identified according to total YLL. Sex (females, males, persons) and data year can be selected for viewing. Highlighted in purple indicates YLL due to suicide and self-inflicted injuries.

'Child abuse and neglect' during childhood was:

- consistently the leading behavioural risk factor contributing to the years of healthy life lost due to suicide and self-inflicted injuries in both men and women since 2003 and has increased at each time point.
- associated with 32% of the years of healthy life lost due to 'suicide and self-inflicted injuries' in men (about 25,700 DALYs) and 43% of the years of healthy life lost due to 'suicide and self-inflicted injuries' in women (about 12,000 DALYs) in 2019 with the vast majority of these years of healthy life lost due to premature death.

Until 2018, among men, the second and third leading risk factors contributing to the years of healthy life lost due to suicide and self-inflicted injuries were 'alcohol use' and 'illicit drug use' across all years of the Australian Burden of Disease Study. Since 2018, 'illicit drug use' became the second leading risk factor contributing to the years of healthy life lost due to suicide and self-inflicted injuries among men followed by 'alcohol use'. In 2019 this trend continued:

- 'Illicit drug use' was responsible for 23% (about 18,600 DALYs) of the years of healthy life lost to 'suicide and self-inflicted injuries' among men.
- 'Alcohol use' was responsible for 22% of the years of healthy life lost due to 'suicide and self-inflicted' injuries in men (about 18,100 DALYs)

For women, the second greatest contributor to the years of healthy life lost due to 'suicide and self-inflicted injuries' was 'intimate partner violence' (estimated in women only) which was consistent over all study years. The third leading contributor of healthy life lost due to suicide and self-inflicted injuries among women has remained 'illicit drug use' since 2018. In 2019:

- 'Intimate partner violence' contributed 25% of the years of healthy life lost due to suicide and self-inflicted injuries in women (about 7,000 DALYs).
- 'Illicit drug use' contributed to 11% of the years of healthy life lost to suicide and self-inflicted injuries (about 3,100 DALYs) among women.

The interactive data visualisation shows the burden (based on frequency) of suicide and self-inflicted injuries attributable to selected risk factors and categorised by age (from 5 years old to over 85). Selection for sex (females and males), data year (2003, 2011, 2015, 2018 and 2019) and attributable DALY, YLD and YLL are available for viewing.

In 2019, 'child abuse and neglect' during childhood was the greatest contributor to the years of healthy life lost due to suicide and self-inflicted injuries in both men and women in all age groups. The exception to this are women aged 85 years and over where 'intimate partner violence' was the highest contributor. The majority of the 'child abuse and neglect' burden was experienced among people aged 15–44 years. In females, the number of DALYs was similar across these age groups (about 2,000–2,900 DALYs). The highest among men was between ages 25–34 years (7,000 DALYs).

Similarly, most of the years of healthy life lost due to suicide and self-inflicted injuries attributable to 'alcohol use' or 'illicit drug use' was experienced in ages 15–54 years. Both risk factors were highest among both men and women aged 15–34 years.

The years of healthy life lost due to suicide and self-inflicted injuries in women that were attributable to 'intimate partner violence' was highest among women aged 35–44 years.

References

Australian Institute of Health and Welfare 2022. Australian Burden of Disease Study 2022 (https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2022/contents/about). Cat. no. BOD 37. Canberra: AIHW.

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Impact of suicide among Aboriginal and Torres Strait Islander Australians

Suicide rates among Aboriginal and Torres Strait Islander people are substantially higher than those of non-Indigenous Australians (see *Deaths by suicide amongst Indigenous Australians (https://www.aihw.gov.au/suicide-self-harm-monitoring/data/populations-age-groups/suicide-indigenous-australians)).* Reducing deaths by suicide and suicidal behaviour among Indigenous Australians is a public health priority for all Australian governments (Cth of Australia, 2022). Therefore, providing data and information about suicide and self-harm among Indigenous Australians is a priority for the National Suicide and Self-harm Monitoring System.

For more information on suicide among Indigenous Australians and efforts to enhance and improve access to the evidence base, see the Indigenous Mental Health and Suicide Prevention Clearinghouse - external site opens in new window (https://www.indigenousmhspc.gov.au/).
The following is an overview of the estimated impact of suicide among Indigenous Australians, from AIHW's Australian Burden of Disease study (see *Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2018*) (https://www.aihw.gov.au/reports/burden-of-disease/illness-death-indigenous-2018/summary). The visualisation directly below shows the estimated total number of years of life lost (YLL) among Indigenous Australians for the top 20 leading contributors to YLL. This information is displayed separately for each of the study years (2003, 2011 and 2018).

Suicide and self-inflicted injuries were the second highest cause of total YLL among Indigenous Australians, second to coronary heart disease across all three data years. In 2018, there was approximately 10,800 YLL for suicide and self-inflicted injuries, an increase of around 2,400 years since 2011 (8,400 YLL) and 4,100 years since 2003 (6,700 YLL).

Among Indigenous men, suicide and self-inflicted injuries were the second highest cause of YLL, after coronary heart disease. Approximately 8,000 years of life were lost to suicide and self-inflicted injuries in 2018, compared to around 5,900 YLL in 2011 and 5,400 YLL in 2003.

In 2018, approximately 2,800 years of life were lost due to suicide and self-inflicted injuries among Indigenous women. Though suicide and self-inflicted injuries were the second leading cause of YLL in both 2018 and 2011, they were the sixth leading cause of YLL among Indigenous women in 2003.

The interactive data visualisation shows the leading causes for years of life lost (YLL) among Aboriginal and Torres Strait Islander people, based on leading causes of mortality in Australia. Sex (females, males, persons) and data year (2003, 2011, 2015, 2018) can be selected for viewing. Highlighted in purple indicates YLL due to suicide and self-inflicted injuries.

The visualisation directly below shows the average YLL per individual deceased among Indigenous Australians separately for each of the study years (2018, 2011, and 2003). The causes of death shown in this visualisation are the top 20 leading contributors to total YLL identified above. The causes of death included are not necessarily among the top 20 leading causes according to average YLL.

Among all Indigenous people who died by suicide and self-inflicted injuries, an average of around 55 years of life were lost in 2018, 2011, and 2003. The average YLL by suicide and self-inflicted injuries is higher for Indigenous people compared to non-Indigenous people. The average YLL by suicide and self-inflicted injuries for non-Indigenous people was 41 in 2018 and 2011, and 43 in 2003.

Among Indigenous men, the average YLL per death by suicide and self-inflicted injuries was 55 in 2018 and 2011 and 56 in 2003. Among Indigenous women, the average YLL per death by suicide and self-inflicted injuries was 57 in 2018 and 2011 and 58 in 2003.

The interactive data visualisation shows the leading causes for average years of life lost (YLL) based on leading causes of mortality in Australia. Sex (females, males, persons) and data year (2003, 2011, 2015, 2018) can be selected for viewing. Highlighted in purple indicates YLL due to suicide and self-inflicted injuries.

References

AIHW (Australian Institute of Health and Welfare (2023) *Deaths by suicide amongst Indigenous Australians* (https://www.aihw.gov.au/suicide-self-harm-monitoring/data/populations-age-groups/suicide-indigenous-australians), accessed 31 Jan 2023.

The Commonwealth of Australia (Cth of Australia) (2022) *National Mental Health and Suicide Prevention Agreement* - external site opens in new window (https://federalfinancialrelations.gov.au/agreements/mental-health-suicide-prevention-agreement), The Federal Financial Relations website, accessed 3 March 2023.

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Psychosocial risk factors and deaths by suicide

Capturing information on risk factors relating to deaths by suicide can highlight areas of a person's life experience that may need additional attention to provide the most effective suicide prevention interventions. However, it is important to note that the presence of one or more of these risk factors in an individual's life does not necessarily mean they will experience suicidal behaviours. The vast majority of people who experience these risk factors will not experience suicidal behaviours.

As part of the National Suicide and Self-harm Monitoring Project the AIHW has funded the Australian Bureau of Statistics (ABS) to identify and code (using ICD-10) psychosocial risk factors for deaths referred to a coroner, including deaths by suicide.

From 2018 to 2023, around two-thirds of all deaths by suicide had at least one or more psychosocial risk factor identified (ABS 2024). The types of psychosocial risk factors associated with deaths by suicide were age dependent and differed throughout the lifespan.

Most frequently occurring psychosocial risk factors in coroner-certified suicide deaths by age and sex, Australia, 2023.

The horizontal bar graph shows the proportion of coroner-certified deaths by suicide with psychosocial risk factors identified in males in Australia in 2023. The user can choose to view the data by sex, by age groups, and by the number of deaths by suicide with psychosocial risk factors identified.

In 2023, among those who died by suicide:

- 'Personal history of self-harm (Z915)' was the most commonly identified risk factor for females aged under 65 years and males aged 0 to 34 years and 55 to 64 years. The percentage of all suicide deaths with this risk factor was 32.5% for females and 17.7% for males. This code includes both intentional self-harm as well as suicide attempts (ABS 2019).
- 'Problems in relationship with spouse or partner (Z630)' and 'Personal history of self-harm (Z915)' were the two most commonly identified risk factors for males aged 35 to 44 years. 'Problems in relationship with spouse or partner (Z630)' was also identified as a frequently occurring psychosocial risk factor in males and females across most age groups. This code includes intimate partner violence, relationship issues, acute events, as well as ongoing/reoccurring one-off events, which impacted the chain of events (leading to death) and domestic violence (ABS 2019).
- 'Disruption of family by separation and divorce (Z635)' was the most commonly identified risk factor for males aged 45 to 54 years and a common risk factor in males under 65 years and females aged under 45 years. The percentage of all suicide deaths with this risk factor was higher among females than males for ages under 35 years, and higher among males than females for ages 35 years and over. This code includes relationship breakdowns or separation, divorce, and was also applied to children who died by suicide and were affected by separation of divorce of their guardians (ABS 2019).

- ‘Limitation of activities due to disability (Z736)’ was the most commonly identified risk factor in males and females aged 65 years and over (25.0% and 27.1% respectively in 2023). This code included all types of disabilities as well as health conditions which reduced an individual’s abilities, such as chronic conditions in the elderly, and/or a perceived limitation of ability due to a newly diagnosed illness (ABS 2019).
- ‘Problems related to other legal circumstances (Z653)’ was another common risk factor in males aged 25 to 54 years and females aged 25 to 34 years (associated with more than 10% of deaths by suicide). This code included domestic violence orders, child custody or support proceedings, litigation, restraining orders, potential or impeding legal circumstances or court appearances, charges which had been laid or the person was awaiting/anticipating commencement of legal proceedings and circumstances where death occurred in relation to illegal activities and not captured in a different code (ABS 2019).
- 'Other problems related to housing and economic circumstances (Z598)' is another common risk factor for males aged 45 to 54 years and females aged 55 to 64 years. For males the percentage risk increases by age peaking for ages 45 to 54 years (12.0%) while for females the percentage risk continues to rise peaking at 55 to 64 years (10.3%). According the ABS (2019) annex, ‘Other and unspecified problems related to economic circumstances (Z598)' includes foreclosures on loans, problems with creditors, financial loss/difficulty/issues/troubles/concerns/problems/stress, bankruptcy, unemployment of a family member, unspecified financial issues or any other specific economic circumstances which do not fit in Z590–597 (ABS 2019).
- There is no national standard for the collection of data on psychosocial factors – each state and territory has its own legislation and processes relating to coroner-certified deaths meaning that the type of information collected and held by the NCIS database differs by jurisdiction. Also, due to the method used for the collection of data, protective factors are not included. See Listing of psychosocial risk factor ICD-10 codes with inclusions and exclusions - external site opens in new window (https://www.abs.gov.au/articles/listing-psychosocial-risk-factor-icd-10-codes-inclusions-and-exclusions) for the full ABS annex and code definitions.

COVID-19 psychosocial risk factors

Risk factors which were prevalent among cases of death by suicide in 2020–2021, namely those related to the COVID-19 pandemic, were rarely among the most frequently occurring risk factors in 2023. Risk factors related to the pandemic are therefore low in prevalence when looking at the 2020 and 2021 years.

In 2020, the ABS added codes for the capture of the COVID-19 pandemic as a risk factor based on how it was described as part of the coronial investigation:

- F41.8 Pandemic-related anxiety and stress
- Z29.0 Isolation or quarantine (hotel or home), and
- Z29.9 Prophylactic measures put in place through health directives, including closure of business and stay at home measures.

In 2023, there were 29 people who died by suicide (0.9% of all suicides) who had identified COVID-19 as a risk factor (F41.8, Z29.0, Z29.9). Those who died by suicide between 2020–2023 with issues relating to the COVID-19 as a risk factor represent 3.9% of all suicides during this period. However, for people who died by suicide and had the COVID-19 pandemic mentioned as a risk factor, it did not appear as an isolated risk (they had, on average, 7.4 risk factors and 3.7 psychosocial risk factors) (ABS 2024). It is important to remember that circumstances relating to suicide are complex and multifaceted and a combination of multiple factors contribute to a person taking their own life rather than a single reason.

In 2023, of those who died by suicide with issues relating to the COVID-19 pandemic as a risk factor:

- 44.8% also had problems relating to employment or unemployment
- 41.4% also had mood disorders, including depression
- 10 people also had problems related to the social environment (this is down from 17 in 2022, 65 in 2021 and 66 in 2020)

When COVID-19 was mentioned as a risk factor it manifested in different ways. For some people direct impacts from the pandemic, such as job loss, lack of financial security, family and relationship pressures, and not feeling comfortable with accessing health care were noted. For others, a general concern or anxiety about the pandemic and societal changes were stated or anxiety about contracting the virus itself. For further information about how the pandemic affected suicide rates, please visit the Suicide and Self-harm Monitoring COVID-19 page.

The ABS reviewed and coded psychosocial risk factors (defined as social processes and social structures which can have an interaction with individual thought, behaviour and/or health outcomes) associated with deaths by suicide in 2017 through a review of police, toxicology and pathology reports and coronial findings held by the NCIS. The AIHW is working with the ABS to continue this work and embed psychosocial risk factors in future national mortality data sets.

References

ABS (Australian Bureau of Statistics) 2019, *Psychosocial risk factors as they relate to coroner-referred deaths in Australia* - external site opens in new window (https://www.abs.gov.au/statistics/research/psychosocial-risk-factors-they-relate-coroner-referred-deaths-australia#annex-listing-psychosocial-codes-inclusions-and-exclusions-), ABS Website, accessed 4 October 2023.

ABS 2024, *Risk factors for intentional self-harm deaths (Suicide) in Australia - external site opens in new window (https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia/latest-release#risk-factors-for-intentional-self-harm-deaths-suicide-in-australia),* ABS Website, accessed 11 October 2024.

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Social and economic factors and deaths by suicide

There is growing evidence that social factors, including education, employment status, income level and wealth, play an important role in determining the risk of suicide in high income countries (Blakely et al, 2003).

A combination of factors contribute to someone considering suicide. Although some social factors may be associated with an increased risk of suicide, they cannot be considered a direct cause.
Understanding how social factors affect the risk of suicide is important to better inform strategies to reduce suicide in Australia and may help in the planning of more effective evidence-based prevention and intervention programs.

Using linked data from the Multi-Agency Data Integration Project (MADIP), the AIHW has conducted two studies and a further study in collaboration with the Australian National University's Centre for Social Research and Methods to identify social and economic characteristics associated with greater risk of death by suicide. While these pieces of work are distinct, together they add to the growing understanding of population-level influences on suicide deaths in Australia.

The MADIP is a partnership among Australian Government agencies to link administrative and survey data. These studies used de-identified Australian Census of Population and Housing (2011) data linked with 7 years of Death Registrations (2011 to 2017). For more detailed information on the MADIP data asset, data linkage and analytical methods used, see Technical notes.

Data linkage combines information from multiple sources, while preserving privacy. All linked data sets used for analysis at the AIHW comply with legislative and regulatory standards, are securely stored and accessed, and meet ethical standards and community expectations. Protocols are in place to prevent privacy breaches or the unauthorised identification of individuals, and to ensure data security and restricted access to information.
The initial analysis, Educational attainment, employment and deaths by suicide, found that the cumulative risk of suicide in Australia is higher in those with fewer years of education and is lower among those who are employed. These results have been reported previously on *Suicide and self-harm monitoring*.

Additional analysis, Regression risk models for selected census variables, developed statistical regression models to examine the association between 10 identified predictive social and economic factors from the 2011 Census and deaths by suicide in Australia. The difference between this approach and the previous cumulative risk analysis, is that regression allows for adjustment for the various risk factors for suicide, which may make estimates more precise.

The multivariate (multiple variables) regression model showed that the strongest associations with deaths by suicide (relative to respective reference groups, and after adjusting for other variables in the model) included:

- being male (HR = 3.12; 95% CI 2.93 to 3.32)
- being widowed, divorced or separated (HR = 1.95; 95% CI 1.79 to 2.12)
- being in a lone person household (HR = 1.72; 95% CI 1.57 to 1.87)

- being unemployed (HR = 1.75; 95% CI 1.55 to 1.99) or not in the labour force (HR = 1.80; 95% CI 1.64 to 1.99)

Results for other variables are reported on Regression risk models for selected census variables.

In further analysis, Social and economic factors associated with suicide in Australia: a focus on individual income reported here for the first time, a longitudinal approach was taken, which enabled the investigation of changes to individuals' income and employment status across time. It also examined the absolute risk, as well as relative odds of dying by suicide.

The longitudinal multivariate regression model confirmed findings from the Regression risk models for selected census variables study and produced additional insights into associations between deaths by suicide, income and income uncertainty including:

- those with higher income uncertainty had higher odds of suicide death relative to those with lower income uncertainty. Relative to those in the lowest income uncertainty quintile, the odds of dying by suicide increased by 1.91 (95% CI 0.29 to 0.44) for those in the highest income uncertainty quintile.
- people who experienced longer periods of unemployment had higher odds of suicide death. Relative to those with no periods of unemployment, the odds of dying by suicide increase by 1.57 (95% CI 1.21-2.05) for those unemployed for 2 years; 1.75 (95%CI 1.36-2.26) for those unemployed for 3 years; 2.03 (95% CI 1.61-2.57) for those unemployed for 4 years; and 1.96 (95% CI 1.61-2.57) for those unemployed for 5 years.

Additional results are reported on Longitudinal analysis of income uncertainty and the full report can be found on Releases.

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Deaths by suicide, by socioeconomic areas

There is a strong association between socioeconomic status and deaths by suicide. Age-standardised rates and numbers of deaths by suicide tend to be higher for those living in lower socioeconomic areas (more disadvantaged areas). However, it is important to remember that suicide can affect all Australians and each person's experience is unique; not everyone who lives in these areas will experience suicidal behaviours.

Highest rates of suicide occur in lowest socioeconomic areas

From 2001 to 2023, age-standardised suicide rates were highest for those who lived in the lowest socioeconomic areas (most disadvantaged areas), and generally decreased as the level of disadvantage lessened.

In 2023, the suicide rate for people living in the lowest socioeconomic (most disadvantaged) areas (17.3 deaths per 100,000 population; Quintile 1) was more than twice that of those living in the highest socioeconomic (least disadvantaged) areas (7.4 deaths per 100,000 population; Quintile 5). Similarly, the number of deaths by suicide generally declined as socioeconomic disadvantage decreased.

Suicide rates increased over time in lowest socioeconomic areas

Overall, age-standardised suicide rates increased for those living in the lowest socioeconomic areas (Quintile 1); from 14.0 deaths per 100,000 population in 2001 to 17.3 deaths per 100,000 population in 2023. In contrast, smaller change was observed for those living in the higher socioeconomic areas (Quintiles 4 and 5).

Henley and Harrison (2019) found that over the period 2009–10 to 2015–16, suicide rates increased significantly for those living in the lowest socioeconomic areas (most disadvantaged) by an average 3.5% per year while little change was observed for those in the highest (least disadvantaged) socioeconomic areas (0.2% change per year).

Socioeconomic status classifies individuals according to the socioeconomic characteristics of the area in which they lived prior to their death by suicide. More information is available on the ABS website, ABS Index of Relative Socio-Economic Disadvantage (IRSD) - external site opens in new window (https://www.abs.gov.au/methodologies/socio-economic-indexes-areas-seifa-australia-methodology/2021#index-of-relative-socio-economic-disadvantage-irsd).

Suicide deaths by socioeconomic area and mechanism, Australia, 2010 to 2023.

The series of line graphs show suicide deaths by socioeconomic areas (Quintiles 1 to 5) from 2001 to 2023. Users can choose to view age-standardised suicide rates or numbers of deaths by suicide. Users can choose to view suicide deaths by specified mechanisms (Firearms, gas, Hanging, Other mechanism, or Poisoning (except gas)). Users may also view the percentage of all suicide deaths that occurred by a specified mechanism.

Methods of suicide vary by socioeconomic areas

Understanding the methods used for suicide can play an important role in suicide prevention. These data are provided to inform discussion around restriction of access to means as a policy intervention for the prevention of suicide.

Please consider your need to read the following information. If this material raises concerns for you or if you need immediate assistance, please contact a crisis support service, available free of charge, 24 hours a day, 7 days a week.

Please consider the Mindframe guidelines - external site opens in new window (https://mindframe.org.au/suicide/communicating-about-suicide/mindframe-guidelines) if reporting on these statistics.
The classification system used to code causes of deaths data, ICD-10, uses the term 'mechanism' to refer to the external cause of death. Throughout *Suicide & self-harm monitoring* website, 'mechanism' has been used in data visualisations, while the term 'method' has been used in the accompanying text.

Throughout 2001 to 2023, age-standardised suicide rates generally decreased with decreasing socioeconomic disadvantage for hanging (ICD-10 X70). In 2023 the rate of suicide by hanging for those living in the lowest socioeconomic areas (Quintile 1) was 2.6 times that of those living in the highest socioeconomic areas (Quintile 5) (11.4 vs 4.4 deaths per 100,000 population).

There was little difference in suicide rates between socioeconomic areas for poisoning excluding gas (ICD-10 X60–X66, X68–X69), firearms (ICD-10 X72–X75), poisoning by gas (ICD-10 X67), or other methods (ICD-10 X71, X76–X84, Y87.0).

Between 2001 and 2023, the proportion of all deaths by suicide that occurred due to exposure to poisonous substances, excluding gas, or by other methods generally increased with decreasing socioeconomic disadvantage. Whereas the proportion of all deaths by suicide completed by hanging tended to decrease as socioeconomic disadvantage increased.

Reference

AIHW: Henley G & Harrison JE 2019. Injury mortality and socioeconomic influence in Australia, 2015–16. Injury research and statistics series no. 128. Cat. no. INJCAT 208. Canberra: AIHW.

Viewing the monitoring data

Caution: Some people may find parts of this content confronting or distressing.

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The information included here places an emphasis on data, and as such, can appear to depersonalise the pain and loss behind the statistics. The AIHW acknowledges the individuals, families and communities affected by suicide each year in Australia.

Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

The AIHW supports the use of the Mindframe guidelines - external site opens in new window on responsible, accurate and safe suicide and self-harm reporting. Please consider these guidelines when reporting on statistics on the monitoring of suicide and self-harm.

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Intentional self-harm hospitalisations by socioeconomic areas

Hospitalisations data for patients with intentional self-harm injuries includes those with and without suicidal intent. For further information refer to the Technical notes.

Socioeconomic area classifies individuals according to the socioeconomic characteristics of the area in which they live. These areas are defined using the ABS Index of Relative Socio-Economic Disadvantage (IRSD), which reflects the average level of socioeconomic disadvantage of the area (see Technical notes for more information).

The line graph shows age-specific rates of intentional self-harm hospitalisations from 2012–13 to 2022–23 by socioeconomic areas from Quintile 1, the most disadvantaged, to Quintile 5, the least disadvantaged. Users can also choose to view age-specific rates, numbers and proportion of hospitalisations for intentional self-harm by socioeconomic areas by sex and specific age groups.

Does socioeconomic area affect risk of hospitalisation for intentional self-harm?

Rates of hospitalisations for intentional self-harm tend to be higher for those living in lower socioeconomic (more disadvantaged) areas.

In 2022–23:

- the rate for the most disadvantaged areas (Quintile 1) was 126 hospitalisations per 100,000 population, which is 1.7 times the rate for the least disadvantaged areas (Quintile 5; 72 per 100,000 population).

A similar pattern was seen in suicide rates in 2021, see Suicide by socioeconomic areas.

How have rates of intentional self-harm hospitalisations changed for socioeconomic areas?

From 2012–13 to 2022–23:

- the highest proportion of intentional self-harm hospitalisations was for people living in the lowest socioeconomic (most disadvantaged) areas; this proportion has remained relatively stable over the period, averaging around 24%
- rates for males in the lowest socioeconomic areas, Quintile 1 and 2, increased from 122 and 100 hospitalisations per 100,000 in 2012–13 to 140 and 113 in 2016–17, respectively, before decreasing to 88 and 71 hospitalisations per 100,000 population in 2022–23
- rates for females in the lowest (most disadvantaged) socioeconomic areas (Quintile 1) also increased from 189 in 2012–13 to 223 in 2016–17 and then decreased to 163 in 2022–23.

The highest age-specific rates of hospitalisations between 2012–13 and 2022–23 were recorded for those aged 25–44 for males and 0–24 for females, in the lowest socioeconomic areas (Quintile 1).

- Age-specific rates for intentional self-harm hospitalisations increased for all socioeconomic areas in females aged 0-24 from 2012–13 to 2020–21 before decreasing in 2021–22 and again in 2022–23.
- Rates for females aged 25–44 in Quintile 1 increased from 256 per 100,000 population in 2012–13 to 294 in 2016–17 before falling to 193 in 2022–23.
- Rates for males aged 25–44 in Quintile 1 ranged from 207 in 2012–13 to 230 in 2016–17 then fell to 142 in 2022–23.

An increase in the rate of hospitalisations due to intentional self-harm for all socioeconomic areas was reported in 2016–17, which may be due to increases in hospitalisations in some states. Variation in hospital admission policy and practices between states and territories may have contributed to differences in the reporting of hospitalisation data. For further information, see the data quality statement - external site opens in new window (https://meteor.aihw.gov.au/content/724188).

Viewing the monitoring data

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Deaths of despair

Since the late 1990s, there has been a marked increase in the overall mortality of middle-aged white non-Hispanic males and females in the United States (Case and Deaton 2015, 2017, 2020). This increase in mortality was largely attributed to increases in deaths by suicide, drug and alcohol poisonings (both accidental and undetermined intent) and deaths due to chronic liver diseases and cirrhosis – together termed 'deaths of despair' by Case and Deaton (2015, 2017, 2020). They linked this trend to a decline in economic security, a lack of universal health care and the widespread availability of opioids (Case and Deaton 2015, 2017, 2020). In 2017, Case and Deaton suggested that a similar increase in mortality from deaths of despair may be emerging in other countries (Case and Deaton 2017).

Selected causes of death, by sex, Australia, 1997 to 2023.

The line graph shows age-standardised rates of death by suicide, alcoholic liver disease and cirrhosis, accidental poisoning, and all of these causes combined from 1997 to 2023. Users can also choose to view age-standardised death rates and numbers of deaths for this period by sex and cause of death.

An analysis of Australian mortality data using methods similar to those used by Case and Deaton shows that Australians are not increasingly dying due to these 'deaths of despair' over time. The rates of combined deaths by suicide, alcoholic liver disease and cirrhosis, and accidental poisoning (deaths of despair) over the period 1997 to 2023 show no clear trend. Since 2014 the rate has remained around 23 to 25 deaths per 100,000 population (from 2014 to 2023), similar to rates at the start of the period 1997 to 1999; between these dates rates remained lower (around 20 deaths per 100,000 population).

Males are more likely than females to die by these selected causes of death (suicide, alcoholic liver disease and cirrhosis, and accidental poisoning). At the start of the period, between 1997 and 1999, male rates of combined deaths by suicide, alcoholic liver disease and cirrhosis, and accidental poisoning ranged between 35.7 and 38.1 deaths per 100,000 population. Female rates, for the same period, ranged from 10.8 to 11.2 – less than one-third of the male rates. Since 2014, death rates for both males and females have shown little variation. Male rates ranged between 33.5 and 36.8 deaths per 100,000 population and female rates ranged from 12.3 to 14.3. Since 2014 these causes of death were, on average, 2.7 times as common in males than females.

References

Case A & Deaton A 2020. Deaths of Despair and the Future of Capitalism. Princeton: Princeton University Press.

Case A & Deaton A 2017. Mortality and morbidity in the 21st century. Brookings Papers on Economic Activity 397.

Case A & Deaton A 2015. Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century. PNAS. 112(49):15078-15083.

Viewing the monitoring data

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Technical notes

This section contains more detailed information about the data sources, codes and classifications, and analysis methods used in compiling data for *Suicide & self-harm monitoring*.

Viewing the monitoring data

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Data sources

National Mortality Database (NMD)

The AIHW National Mortality Database (NMD) contains records for deaths in Australia from 1964 to 2023. The database comprises information about causes of death and other characteristics of the person, such as sex, age at death, area of usual residence and Indigenous status.

The AIHW sources causes of deaths data from the Registries of Births, Deaths and Marriages in each state and territory and the National Coronial Information System (NCIS). The cause of death data are compiled and coded by the Australian Bureau of Statistics (ABS) to the International Statistical Classification of Diseases and Related Health Problems (ICD) and maintained at the AIHW in the NMD. Registration of deaths is the responsibility of the Registry of Births, Deaths and Marriages in each state and territory.

To improve the quality of data, the ABS annually revises the causes of death for coroner-referred deaths to reflect the latest available information. This process applies to deaths registered after 1 January 2006. Deaths registered between 2006 and 2020 are finalised. Deaths registered in 2021 are revised, deaths registered in 2022 are preliminary revised, and 2023 registered deaths are preliminary. Revised, preliminary revised, and preliminary data are subject to further revision by the ABS. For a more detailed description of the coverage and processing of deaths data, including deaths certified by the coroner, refer to the ABS Causes of death, Australia, 2023 methodology - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2023), Australia (ABS 2024).

In the NMD, the year the death occurred, the year the death was registered with the state and territory registry, and the in scope year the death was lodged with the ABS (ABS reference year) are provided. Year of registration has been used for the purposes of monitoring deaths by suicide. Deaths based on the year the death occurred have also been presented; however, as some deaths at the end of each calendar year may not be registered until the following year, year of death information for the latest available year (2023) is generally an underestimate of the actual number of deaths that occurred in that year. While not as significantly impacted, it should be noted that latest data by year of registration is also an underestimate and subject to revision.

In more recent years, there have been occasions where the ABS has received a large number of deaths, which were registered in earlier years. For examples of where the ABS has received late registrations and the impact on mortality patterns, see Technical Note: Victorian additional registrations and time series adjustment - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2019#technical-note-victorian-additional-registrations-and-time-series-adjustment) and Technical Note: Victorian additional registrations (2013–2016) - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2021#technical-note-victorian-additional-registrations-2013-2016-).

Deaths (such as those from suicide) that are referred to a coroner can take time to be fully investigated, which can influence what information is available to assign a cause of death code during the ABS coding process. Each year, some coroner cases are coded by the ABS before the coronial proceedings are finalised. Coroner cases that have not been closed or had all information made available can impact on data quality as less specific ICD-10 codes often need to be applied. Published data include 2023 preliminary data, 2022 preliminary revised data and 2021 revised data. For more details of revisions to 2021 and 2022 data, refer to the Technical Notes in the 2022 issue of the Causes of Death Methodology - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022). Data for reference years up to and including 2020 are considered final and no longer subject to the standard revisions process. Final data for 2021, revised data for 2022, and preliminary revised data for 2023 will be released in early 2025.

It is expected that deaths due to intentional self-harm will increase through the revisions process. For further information surrounding the revisions process, see 'Coding of suicide' in the 'Deaths due to intentional self-harm (suicide)' section of the ABS Causes of Death, Australia, 2023 methodology - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2023) page.

The data quality statements underpinning the AIHW NMD can be found on the following ABS internet pages:

- ABS Quality declaration summary for Causes of death, Australia, 2023 methodology - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2023#data-quality).
- ABS Quality declaration summary Deaths, Australia - external site opens in new window (https://www.abs.gov.au/methodologies/deaths-australia-methodology/2021#data-quality)

For more information on the AIHW NMD see National Mortality Database and About National Mortality Database.

Quality of Indigenous status data

The Indigenous status of a deceased person is captured through the death registration process; however, it is recognised that not all such deaths are captured through these processes, leading to under-identification. The Aboriginal and Torres Strait Islander (First Nations) origin of a deceased person is noted on the Death Registration Form (DRF) and the Medical Certificate of Cause of Death (MCCD).

For 2022 for New South Wales, information from the MCCD has been used for the first time. Using both sources (the DRF and MCCD) resulted in a greater proportion of deaths of First Nations origin, compared to 2021. This change has introduced a break in time series in First Nations death statistics in New South Wales and Australia. Therefore, caution should be used when making comparisons with previous years. For more information on this change and the impacts refer to the Technical Note: The impact of using two sources for deriving the Indigenous status of deaths in NSW in 2022 - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022#technical-note-the-impact-of-using-two-sources-for-deriving-the-indigenous-status-of-deaths-in-nsw-in-2022).

Data on deaths by suicide in First Nations people have been compiled by jurisdiction of usual residence for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. Data for Victoria, Tasmania and the Australian Capital Territory have been excluded in line with national reporting guidelines.

National Mortality Database (NMD): Contact with the legal system

The National Mortality Database (NMD) contains data on all deaths in Australia, including those by suicide. It includes individual level data on sex, age at death, area of usual residence, and First Nation status as well as causes of death. Data are sourced from Registries of Births, Deaths and Marriages in each state and territory and the National Coronial Information System (managed by the Victorian Department of Justice).

The NMD is compiled and coded by the Australian Bureau of Statistics (ABS) to the International Statistical Classification of Diseases and Related Health Problems (ICD) and maintained at the AIHW in the NMD. For more information on the NMD, see NMD technical notes section, above.

The ICD is a coding framework published by the World Health Organization and is used to compare mortality and morbidity statistics internationally. Chapters 5 and 21 were used to analyse the data on the NMD. Chapter 5 of the ICD-10, *Mental and Behavioural Disorders* is a list of codes for all diagnosable mental and behavioural disorders, including acute toxicities (codes F00-99) and are sometimes known as 'F-codes'. Chapter 21 of the ICD-10, *Factors Influencing Health Status and Contact with Health Services*, includes 'psychosocial risk factors' for mortality and morbidity (codes Z00 – Z99). These codes are used to identify factors which might have influenced a person's health as well as affected their ability to contact health services. For more information on how deaths are coded by the ABS, please see the ABS Causes of Death methodology - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022#mortality-coding).

As part of the National Suicide and Self-harm Monitoring Project, the AIHW commissioned the ABS to code psychosocial risk factors ('Z-codes') among cases of suicide. Data coding began in 2017 and is available for all deaths by suicide since 2017.

For the analysis Risk factors for suicide among people with legal system contact: Data from the National Mortality Database, specific Z-codes were used to flag in the NMD whether a person who died by suicide had contact with the legal system. Table 1 provides an overview of the included codes and their inclusion and exclusion criteria from the ABS.

Table 1: Underlying Z-codes for 'contact with legal system'

ICD-10 Z-code	ABS inclusion/exclusion criteria
Z65.0 'Conviction in civil and criminal proceedings without imprisonment'	Includes: • Any mention of a conviction • Charged with an offence • Criminal history Excludes: • Problems related to release from prison (Z65.2)
Z65.1 'Imprisonment and other incarceration'	Includes: • Current imprisonment/incarceration • Impending imprisonment/incarceration
Z65.2 'Problems related to release from prison'	Includes: • Recent release from prison • Any mention where the deceased had been imprisoned
Z65.3 'Problems related to other legal circumstances'	Includes: • Domestic Violence Orders • Child custody or support proceedings • Litigation • Restraining Orders • Potential or impending legal circumstances or court appearances • Charges have been laid, awaiting/anticipation of commencement court proceedings • Circumstances where death occurs in relation to illegal activities, where it is not captured elsewhere (e.g. motor vehicle crash in a stolen vehicle, where crash was not in relation to police pursuit [Y35])

Source: ABS (2019) 'Psychosocial risk factors as they relate to coroner-referred deaths in Australia' - external site opens in new window (https://www.abs.gov.au/statistics/research/psychosocial-risk-factors-they-relate-coroner-referred-deaths-australia)

If a case has any one of above the listed codes, it was flagged as 'had contact with the legal system'. Codes were applied to all deaths by suicide between 2017 and 2022. Due to the small numbers, data was aggregated across all available years.

Table 2 defines how mental and behavioural disorders were identified in the NMD:

Table 2: underlying F-codes used to identify mental and behavioural disorders

Mental and behavioural disorder	Definitions and underlying codes
Mood [affective] disorders	Mood [affective] disorders (F30-9).
Anxiety disorders (includes neurotic, stress, and somatoform disorders)	Neurotic, stress-related and somatoform disorders (F40.0-8).
Alcohol disorders	Mental and behavioural disorders due to use of alcohol (F10.0-9).

Other substance disorders	Includes mental and behavioural disorders due to use of: sedatives or hypnotics, cocaine, hallucinogens, tobacco, volatile solvents, and multiple drug use and use of other psychoactive substances (F13.0-14.9, F16.0-19.9).
Other mental and behavioural disorders	Includes Behavioural syndromes associated with physiological disturbances and physical factors, mental retardation, disorders of psychological development, behavioural and emotional disorders with onset usually in childhood and adolescence and unspecified mental disorders (F50.0-9, F45.4, F70-99).
Stimulant disorders	Mental and behavioural disorders due to use of other stimulants, including caffeine (F15.0-9).
Personality disorders	Disorders of adult personality and behaviour (F60-9).
Opioid disorders	Mental and behavioural disorders due to use of opioids (F11.0-9).
Schizophrenia, schizotypal, and delusional disorders	Schizophrenia, schizotypal, and delusional disorders (F20-29).
Cannabinoid disorders	Mental and behavioural disorders due to use of cannabinoids (F12.0-9).
Organic disorders	Organic, including symptomatic, mental disorders (F00-09). Includes dementia and Alzheimer's disease.

Limitations of using NMD data to identify legal system contact, psychosocial risk factors and mental and behavioural disorders

Data collection varies by each state and territory and between individual cases. There may have been cases where the person had contact with the legal system or experienced other psychosocial risk factors and mental and behavioural disorders, but it was not noted in their coronial file and therefore not counted and compiled by the ABS.

Furthermore, psychosocial risk factors and mental and behavioural disorders can be either constant or temporary. An example of a constant psychosocial risk factor is something which cannot be changed, like a personal history of self-harm or the death of a family member. Temporary psychosocial risk factors are those which can change or resolve over time, some examples might include unemployment or problems within the social group, such as family or friends. An experience of one or more psychosocial risk factors or mental and behavioural disorders does not mean a person will die by suicide.

Depending on the type of mental and behavioural disorder, some may also be treatable and resolve over time. Mental and behavioural disorders relating to alcohol and substance use included 'acute intoxication' which, if not fatal, can resolve over time. A permanent mental or behavioural disorder is one which may or may not be treated but does not resolve over time.

Caution must be taken when interpreting some of the data. Many of the proportions are based on small numbers, sometimes fewer than 10. Where amalgamated data were less than 5 they are shown as 'not presented' ('n.p.'). Consequential suppressions were applied if other groups could be used in conjunction with totals to calculate the suppressed numbers. Consequential suppressions are also shown as 'n.p.'

Codes from the ICD-10 may not be culturally sensitive to the lives and experiences of First Nations people (AIHW 2022). Therefore, care must be taken when interpreting and comparing data among First Nations and non-Indigenous Australians.

Finally, the ABS does not code for perpetration or victimisation. For example, a case which included mention of a domestic and family violence order will be counted under 'Problems related to other legal circumstances' regardless of whether the person received (or was subject to) the order or was the person who applied for it.

This analysis compliments the National Deaths in Custody Program and the National Prisoner Health Data Collection by including people who may not have been in custody but who nonetheless had contact with the legal system. People who died by suicide and who had contact with the legal system were not necessarily imprisoned but may have had an upcoming proceeding or experienced other legal processes such as Domestic Violence Orders and restraining orders. This analysis adds another dimension to our overall understanding of the link between contact with the legal system in Australia and deaths by suicide.

It should be noted that due to the differences in data collection there are some discrepancies between the numbers of people who died in prisons between the NMD and the National Deaths in Custody Project (NDICP). In the NMD, numbers of people who were coded to as having had "imprisonment and other incarceration" mentioned in the case also included 'impending imprisonment' which may have affected these numbers. The criteria for a death in custody on the NDICP is slightly different, it does not include impending incarceration and includes police custody (see NDICP report - external site opens in new window (https://www.aic.gov.au/publications/sr/sr44)).

References

ABS (Australian Bureau of Statistics) (2019) Annex listing: Psychosocial codes (inclusions and exclusions) - external site opens in new window (https://www.abs.gov.au/statistics/research/psychosocial-risk-factors-they-relate-coroner-referred-deaths-australia#annex-listing-psychosocial-codes-inclusions-and-exclusions-), ABS, Australian Government, accessed 24 January 2024.

ABS (Australian Bureau of Statistics) (2019) Psychosocial risk Factors as they relate to coroner-referred deaths in Australia, ABS, Australian Government, accessed 8 August 2024.

ABS (Australian Bureau of Statistics) (2023) Causes of Death, Australia Methodology. - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022#mortality-coding) ABS, Australian Government, accessed 29 January 2024.

AIHW (Australian Institute of Health and Welfare) (2022a) *Protective and risk factors for suicide among Indigenous Australians* - external site opens in new window (https://www.indigenousmhspc.gov.au/publications/protective-and-risk-factors), Australian Government, accessed 10 April 2024.

McAlister M, Bricknell S (2023) *AIC Statistical Report 41: Deaths in custody in Australia 2022–23* - external site opens in new window (https://www.aic.gov.au/publications/sr/sr44) , AIC, Australian Government, accessed 10 April 2024.

WHO (World Health Organization) 2019, The International Statistical Classification of Diseases and Related Health Problems - external site opens in new window (https://www.ihacpa.gov.au/resources/icd-10-amachiacs-eleventh-edition), Tenth Revision, Australian Modification, 11th Edition.

National Hospital Morbidity Database (NHMD)

Data for patients who were hospitalised with intentional self-harm injuries are sourced from the AIHW's National Hospital Morbidity Database (NHMD). Most of the data used for the monitoring of hospitalisations for intentional self-harm are from 2008–09 to 2022–23. For each reference year, the NHMD includes all hospitalisations for patients who were discharged between 1 July and 30 June.

The NHMD is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals. It has records for all separations of admitted patient care from essentially all public and private hospitals in Australia.

The data supplied are based on the National Minimum Data Set (NMDS) for Admitted Patient Care and include administrative, demographic, and length of stay data, as well as data on the diagnoses of the patients, the procedures they underwent in hospital and external causes of injury and poisoning.

The purpose of the NMDS for Admitted Patient Care is to collect information about care provided to admitted patients in Australian hospitals. The scope of the NMDS is episodes of care for admitted patients in all public and private acute and psychiatric hospitals, free standing day hospital facilities, and alcohol and drug treatment centres in Australia. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not in scope but may be included.

episode of care: The period of admitted patient care between a formal or statistical admission and a formal or statistical separation, characterised by only one care type (see care type and separation). METEOR identifier: 268956.

separation: The process by which an episode of care for an admitted patient ceases. A separation may be formal or statistical. METEOR identifier: 327268.

formal separation: The administrative process by which a hospital records the cessation of treatment and/or care and/or accommodation of a patient.

statistical separation: The administrative process by which a hospital records the cessation of an episode of care for a patient within the one hospital stay.
The criteria used to describe intentional self-harm hospitalisations reported in *Suicide & self-harm monitoring* is described in the Codes and classifications section below.

Data limitations

States and territories are primarily responsible for the quality of the data they provide. However, the AIHW undertakes extensive validations on receipt of data, checking for valid values, logical consistency and historical consistency. Where possible, data in individual data sets are checked with data from other data sets. Potential errors are queried with jurisdictions, and corrections and resubmissions may be made in response to these queries. Except as noted, the AIHW does not adjust data to account for possible data errors or missing or incorrect values.

The most recent Data quality statement for Admitted Patient Care - external site opens in new window (https://meteor.aihw.gov.au/content/index.phtml/itemId/724188) is available in METeOR. The Data Quality Statement contains information on other changes that may affect interpretation of the data for the relevant year. Please also see technical appendices for more information.

Quality of Indigenous status data

In 2011–12, an estimated 88% of Indigenous patients were correctly identified in public hospitals (AIHW 2013). The overall quality of the data provided for Indigenous status needs some improvement and varied between states and territories. It is unknown to what extent Indigenous Australians might be under-identified in private hospital admissions data. See Admitted patient care 2022–23 [PDF 580KB] for information supplied by the states and territories to provide some additional insight into the quality of Indigenous status data in the NHMD.

National Ambulance Surveillance System (NASS)

The National Ambulance Surveillance System (NASS) is a public health monitoring system, which aims to provide timely and comprehensive data on intentional self-harm (including suicidal behaviours with self-injurious intent), mental health, and alcohol and drug harms in the community. Data for the NASS are compiled by Turning Point in partnership with Monash University and are sourced from paramedic electronic patient care records provided by Australian state and territory-based ambulance services. As part of the National Suicide and Self-harm Monitoring Project, the AIHW has contracted Turning Point through Monash University to develop and maintain the NASS for self-harm related ambulance attendances. Self-harm (suicide, suicidal ideation, suicide attempt, and self-injury) related modules from the NASS are reported here.

Information is obtained and coded through manual scrutiny of de-identified electronic patient care records (ePCRs), including paramedic clinical assessment, patient self-report, information from third parties and other evidence at the scene, such as written statements of intent (including social media, text messages and written notes), as recorded by paramedics. Intent of self-harm behaviours derived from the ePCR may be from either stated or physical evidence, or where there is evidence, but the patient may have denied the behavioural intent (Lubman et al. 2020).

Self-harm related ambulance attendances are included if self-harm occurred in the preceding (past 24 hours) or during the ambulance attendance, with 4 categories of self-harm related ambulance attendances defined and coded as:

- self-injury (non-fatal intentional injury without suicidal intent)
- suicidal ideation (thinking about killing oneself without acting on the thoughts)
- suicide attempt (non-fatal intentional injury with suicidal intent, regardless of likelihood of lethality)
- suicide (fatal intentional injury with suicidal intent).

Suicide, suicide attempt and suicidal ideation are considered mutually exclusive; however, self-injury could be simultaneously coded with any other self-harm case category.

The number of attendances related to suicide is under-represented as ambulances do not attend all deaths. Furthermore, when they do attend there may be insufficient information to determine suicidal intent at the scene.

Methods of suicide, suicide attempt or suicidal ideation are coded as are methods of self-injury and categories of suicidal ideation preparation (planned, unplanned and unknown if planned) using a modified ICD-10 coding framework.

For more information see Lubman et al.2020 - external site opens in new window (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0236344).

Data limitations

Data are collected for operational rather than monitoring or research purposes with paramedics only recording information that they either observe or is provided to them by the patient or bystanders, and which they deem clinically relevant to patient care. It is possible that relevant information with respect to self-harm or mental health variables is not recorded, or similar events may not be recorded consistently by different paramedics over time.

External factors also need to be considered which may impact the interpretation of the data. When interpreting ambulance attendance rates across states and territories, several factors can influence differences. For instance, the number of ambulance services available may vary by state and territory. Some states offer free ambulance services to their residents, while others are covered by private

health insurance or out-of-pocket costs or are only free to vulnerable populations (ACT Emergency Services Agency n.d.; NSW Ambulance n.d.; Queensland Government 2020; Tasmanian Government Department of Health 2021 & Victorian Government Department of Health 2022). Access to 24-hour health centres is also not the same in all jurisdictions. For example, access to these services may be lower in states and territories with higher regional and remote populations, and greater geographical spread, such as Queensland (Lubman et al. 2020). Furthermore, paramedics record information that is relevant to patient care, and not for research purposes and, therefore, patient records may be inconsistent between jurisdictions, although the coding of these records by Turning Point provides a degree of consistency in the data obtained (Lubman et al. 2020). Factors such as these are not measurable in the data and the extent to which they influence the differences in rates of ambulance attendances between states and territories is unknown.

Technical issues outside of the control of Turning Point may impact ambulance attendance data such as industrial action, information technology issues and transportation of data. Every attempt, if possible, is made to fully retrieve lost data. Specific issues that have occurred are listed below:

- Data unavailable for NSW for June 2021.
- Industrial action occurred in NSW in April 2022, with a minimal impact on ambulance services and demand.
- A small decrease in the number of NSW ambulance attendances was observed in July and August 2022 due to technical issues.
- Industrial action in NSW during late January to early February 2023, which could result in lower numbers.
- A computer-aided dispatch outage in Qld on 10 March 2023 resulted in no cases being recorded for that date.

References

ACT Emergency Services Agency (n.d.) *Fees and charges* - external site opens in new window (https://esa.act.gov.au/about-esa-emergency-services/ambulance/fees-and-charges), ACT Emergency Services Agency website, accessed 25 May 2023.

Lubman DI, Heilbronn C, Ogeil RP, Killian JJ, Matthews S, Smith K, Bosley E, Carney RMcLaughlin K, Wilson A, Eastham M, Shipp C, Witt K, Lloyd B, and Scott D (2020) 'National ambulance surveillance system: A novel method using coded Australian ambulance clinical records to monitor self-harm and mental health-related morbidity'. *PLoS ONE*, 15:e0236344, doi:org/10.1371/journal.pone.0236344 - external site opens in new window (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0236344).

NSW Ambulance (n.d.) *Accounts & Fees* - external site opens in new window (https://www.ambulance.nsw.gov.au/our-services/accounts-and-fees), NSW Ambulance website, accessed 25 May 2023.

Queensland Government (2020) *Interstate Ambulance Treatment and Transport Information for Queensland Residents* - external site opens in new window (https://www.qld.gov.au/emergency/emergencies-services/interstate-ambulance-treatment), Queensland Government website, accessed 25 May 2023.

Tasmanian Government Department of Health (2021) *Ambulance costs* - external site opens in new window (https://www.health.tas.gov.au/hospitals/ambulance/ambulance-costs), Tasmanian Government Department of Health website, accessed 25 May 2023.

Victorian Government Department of Health (2022) *Ambulance fees* - external site opens in new window (https://www.health.vic.gov.au/patient-care/ambulance-fees)Victorian Government Department of Health website, accessed 25 May 2023.

Multi-Agency Data Integration Project (MADIP)

The Multi-Agency Data Integration Project (MADIP) is a partnership among Australian Government agencies to develop a secure and enduring approach for combining information on healthcare, education, government payments, personal income tax, and demographics (including the Census) to create a comprehensive picture of Australian populations over time (ABS 2018). The key MADIP datasets used in analysis published on the Suicide and Self-Harm Monitoring site were:

- Person Linkage Spine (Australian Bureau of Statistics)
- 2011 Census of Housing and Population (Australian Bureau of Statistics)
- Causes of Death (Australian Bureau of Statistics)
- Personal Income Tax (Australian Taxation Office)
- Social Security and Related Information (Department of Social Services)
- Synthetic income data developed by the Australian National University using personal income tax data, social security payment information and Census (for more information see Biddle & Marasinghe 2021 - external site opens in new window (https://taxpolicy.crawford.anu.edu.au/publication/ttpi-working-papers/18706/using-census-social-security-and-tax-data-multi-agency-data)).

Linkage approach

In order to identify socioeconomic factors associated with deaths by suicide in Australia, 2011 Census and 2011 to 2017 Causes of Death data were linked to the ABS Person Linkage Spine (Spine). The Spine is comprised of all persons in the Medicare Enrolments Database, Personal Income Tax or Social Security and Related Information data sets at any point between 2006 and 2016 (ABS 2019).

As the baseline population, 2011 Census was considered a closed population and several assumptions were made about this population. These include:

- everyone in the 2011 Census who did not die over the period were still in the population up to the end of 2017, that is, no migration occurred
- person information in the 2011 Census were held constant over the analysis period. However, in the modelling analysis conducted, time varying age and income of the year before suicide were calculated and applied.

Table 1 shows the linkage coverage of Census 2011 and deaths by suicide from the ABS Causes of Death. The Estimated Residential Population of Australia at 30 September 2011 was 22.43 million people (ABS 2021). Of these, 20,739,159 were accounted for in the Census 2011, noting that the Census 2011 started in August 2011. In total, the linked Census 2011 population was 16,700,062 (74.4% of the total Australian population of September 2011). According to the National Deaths Index, there are 17,306 deaths by suicide from September 2011 to December 2017, of which 11,580 (67%) deaths by suicide were linked to the linkable Census 2011 data. Suicide was defined by ICD-10 external cause codes X60–X84 and Y87.0

Table 1: Linkage coverage of 2011 Census population and deaths by suicide in ABS MADIP

	Total (n)	**Linked (n)**	**Linked (%)**
ERP[(a)] at Sept 2011	22,432,771	16,700,062	74
Deaths by suicide[(b)]	17,306	11,580	67

a. Estimated resident population. Linked records are from 2011 Census population.
b. Linked deaths by suicide weighted to all deaths by suicide from September 2011 to December 2017.

Estimated suicide risk by educational attainment and employment method

Imputing weights for unlinked suicide deaths and 2011 Census

To address the issue of unlinked deaths by suicide and 2011 Census records, an imputation weighting technique was used. This section describes the method used to develop these weights, which involved a three-staged approach.

First stage: imputing weights to scale up the Census population. The ABS historical ERP for 31 December 2011 by states, sex and 5-year age groups were used to derive weights by these demographic characteristics, based on the assumption that there were no significant differences in the age distribution of the population. The derived weight was applied at the person level for each record of Census that has ABS Person Linkage Spine (Spine) information to enable analysts to weight the analyses to the 31 December 2011 total ERP.

Unlike the original ABS research paper (ABS 2016) describing the creation of a linked data set between 2011 Census and deaths registered in the following 13 months, the imputation method did not calculate weights by Indigenous and non-Indigenous populations. Also, note that Diplomatic personnel resident in Australia have not been excluded from total ERP.

Second stage: suicide weights were calculated by using all deaths by suicide from 2011 to 2017 by states and territories, sex and 5-year age groups. Suicide weights were then applied at person level to only those linked Census records with suicide information. This made it possible to weight the analyses to all deaths by suicide (18,848) from 2011–2017.

An issue with applying suicide weights is that suicide weights are slightly higher when compared with population weights applied in the first stage. As such, the combined weights of the linked records with both 2011 Census and suicide information when aggregated, the weighted ERP will be slightly higher than that of 31 December 2011. Hence the need for a scale down adjustment factor.

Third stage: Finally, a scale down adjustment factor, derived based on total ERP, linked deaths by suicide and all deaths by suicide, was applied at the person level to only Census records without linked death by suicide information. Hence the weights of the Census population with or without linked death by suicide information, aggregated to the 31 December 2011 ERP (22,340,025).

Cumulative suicide incidence

Australian residents in the 2011 Census, weighted to 31 December 2011 estimated resident population (ERP) and linked to ABS Causes of Death data from 2011 to 2017 created a binary outcome of either died by suicide (ICD 10 external cause codes X60–X84, Y87.0) or not. Note that deaths by suicide used in this analysis are based on year of occurrence. These may differ from deaths by suicide data used in other AIHW publications which are based on year of registration. In addition to the closed population assumptions noted above, due to data quality issues the age in this analysis is at the time of the 2011 Census except for those who have died by suicide.

Over the period 2011 to 2017, Australia recorded more than 18,800 deaths by suicide of people who were in the 2011 Census. This resulted in a cumulative incidence of about 84 per 100,000 people during the 7-year period. The cumulative number and incidence of deaths by suicide that occurred over the 7 years varies considerably by sex, educational attainment and labour force status.

Uncertainty in the estimates

All data are subject to some level of uncertainty. For the data presented in this analysis the sources of uncertainty include:

Linkage error: Uncertainty is introduced when there is error in linking data sets. The data used in this report carries some risk of linkage error. An attempt has been made to reduce this error through imputation weighting process but some uncertainty remains.

Timeliness of data: Some of the data used in this analysis is Census data collected in August 2011. A person's education status and employment status can change over time, particularly for certain population groups. The use of out-of-date information introduces a source of error to the analysis.

Randomness in the number of deaths by suicide that occur in a given time period, 2011–2017: The number of deaths by suicide that occur in a given time period fluctuate, even if the underlying population risk remains the same. The exact distribution of the counts is unknown. With deaths by suicide being a rare event it is often assumed that the counts follow a Poisson distribution. If this is the case then the relative level of uncertainty due to randomness decreases as the number of deaths by suicide increase.

Regression risk models for selected census variables

The MADIP datasets used in this modelling are outlined in the Data section of these Technical notes. In this analysis, only people aged 25 to 64 years in the linked 2011 Census have been included, representing, over 9 million people in the 2011 Census and 7,000 deaths by suicide from 2011 to 2017. This age group was chosen because most deaths by suicide occur between these ages and because of the relative stability of socioeconomic factors over time (such as level of education) among this age group. While suicide is the leading cause of death among people aged 15 to 24 years, people in this age group were excluded from the modelling because of their lack of socioeconomic stability.

Missing values have been excluded from this analysis. Educational attainment has the highest proportion of missing values (5.5%). Unlike with the cumulative suicide risk estimations, the data used in the regression modelling has not been weighted.

To identify modelling predictors and explore their association with suicide deaths, an extensive literature review of social factors was carried out. This included earlier analyses published by AIHW, which showed deaths by suicide varied by factors such as employment and educational attainment.

Socioeconomic factors identified from the 2011 Census were used as predictors and deaths by suicide as the outcome variable. A total of 10 factors were included:

- Age (10-year age groups)
- Sex
- Indigenous status
- Registered marital status
- Family household composition
- Highest level of educational attainment
- Labour force participation
- Occupation
- Synthetic total income (quartiles, see Biddle & Marasinghe 2021)
- Need for assistance with core activities of daily living.

Method

Two modelling approaches were tested: Poisson regression and competing-risks regression (as described by Fine & Gray 1999). For Poisson regression, counts of the outcome variable with the value 1 for deaths by suicide and 0 for those who did not die by suicide were created and data aggregated by socioeconomic factor.

For the competing-risks regression, the influence of other causes of death is considered. This is because people who died from any other causes (such as cancer and coronary heart disease) are no longer at risk of dying by suicide.

Sex-stratified and Indigenous-stratified multivariate models were also fitted to investigate the associations within males and females, and within Indigenous and non-Indigenous people. Due to data quality issues including small sample sizes, Indigenous-stratified models have not been published. Univariate and multivariate models (including quasi-Poisson to deal with slight overdispersion) were also refitted. The coefficients obtained were back transformed so they could be interpreted as rate ratios (for Poisson models) and subhazard ratios (for competing-risks models). Analysis was conducted using R (**glm** package) and Stata (version 16) software.

Of the models tested, competing-risks regression, a method that accounts for people being censored from the risk set because of a competing cause, was used to estimate the risk of death by suicide and the selected socioeconomic factors. Univariate, multivariate and sex-stratified competing-risks models were developed. Generally, competing-risks regression models can be regarded as an extension of the Cox proportional hazards model, where subjects who experience competing events (deaths from other causes) are adequately counted as not having any chance of dying by suicide.

Estimated coefficients of competing-risks models can be interpreted in a similar way as coefficients estimated from a Cox model, except that they estimate the effect of certain covariates in the presence of competing events. Note that the transformed coefficients are known as subhazard ratios, similar to hazard ratios estimated in Cox regression. The subhazard ratio can be interpreted as a rate ratio (Henan 2010), but here we are considering the relative change in rates of the event in those subjects who are either currently event-free or who have previously experienced a competing event (Austin & Fine 2017). For simplicity and ease of understanding, coefficients in this report are referred to as hazard ratios.

Social and economic factors associated with suicide in Australia: a focus on individual income

Researchers from the Australian National University's Centre for Social Research and Methods (CSRM), in close collaboration with the AIHW, have extended the analysis Regression risk models for selected census variables. An extract from the Multiagency Data Integration Project (MADIP) was used. For this analysis, the following MADIP datasets were utilized. 2011 Census information, 2011-2016 Personal income tax (PIT) records, 2011-2016 Social security and related information (SSRI) and 2011-2016 cause of death data. The data linkage process was identical to the linkage process described in the Data section of these Technical notes.

The following set of explanatory variables were used to capture the social and economic factors. More specifically, the CSRM used the time-invariant 2011 Census data to capture social factors and time-variant PIT and SSRI to capture economic factors of suicide.

Table 2 – Explanatory variables and sources

Variable	Source	Type
1. Highest level of education	2011 Census	Social
2. Age	2011 Census	Social
3. Sex	2011 Census	Social
4. Indigenous status	2011 Census	Social
5. Need for assistance with core activities	2011 Census	Social
6. Household composition	2011 Census	Social
7. Total income	2011 – 2016 PIT	Economic
8. SSRI	2011 – 2016 SSRI	Economic

In addition to the variables presented in Table 1, the following variables were derived using Census, PIT and SSRI data.

1. A synthetic measure of income – A measure of income that was derived using a machine learning algorithm. This income variable provides a representative measure of income of the entire Australian population (Biddle and Marasinghe 2021). This measure was then divided into quintiles to obtain a relative measure of income.
2. Coefficient variation of income (relative standard deviation) – Coefficient of variation of income was used to capture the income uncertainty of each individual. The measure was defined such that it captured income uncertainty between the current year and the previous year (i.e. variation between t and t-1). This measure was then divided into quintiles. An income uncertainty of quintile 1 implied an individual had low-income variation relative those in higher income uncertainty quintiles. Furthermore, since this measure uses data from t-1, the scope of the study was limited to 2012 January to 2016 December.
3. Proxy for unemployment – Unemployment status of an individual was captured using SSRI information. More specifically, if an individual received Newstart allowance and Youth allowance, the individual was then classified as being unemployed that period.

Methods

Longitudinal (panel) regression

The MADIP dataset is a longitudinal dataset therefore, utilizing longitudinal regression methods allows us to control for unobserved individual heterogeneity across the time period. For example, longitudinal regression methods would allow us to control for unobserved measures such as behavioural differences and cultural differences across individuals. Given that suicide is a complex individual decision and may not be entirely explained by observed variables, controlling for these unobserved heterogeneity would allow us to obtain unbiased estimates.

In this analysis, two competing longitudinal regression methods were tested – a random effects logistic model and a population-averaged logistic model. Both models were estimated with robust standard errors to account for heteroskedasticity.

Given that the random effects logistic model is dependent on the strong assumption that the underlaying variation have no serial correlation, the population-averaged logistic model was selected as the primary regression method due to its robustness to serial correlation (Hill et al., 2010). Furthermore, a likelihood-ratio test was also undertaken to decide between the two models. The result suggested that the population-averaged model was more appropriate than the Random effects model. Equation (1) and (2) outline the population-averaged model.

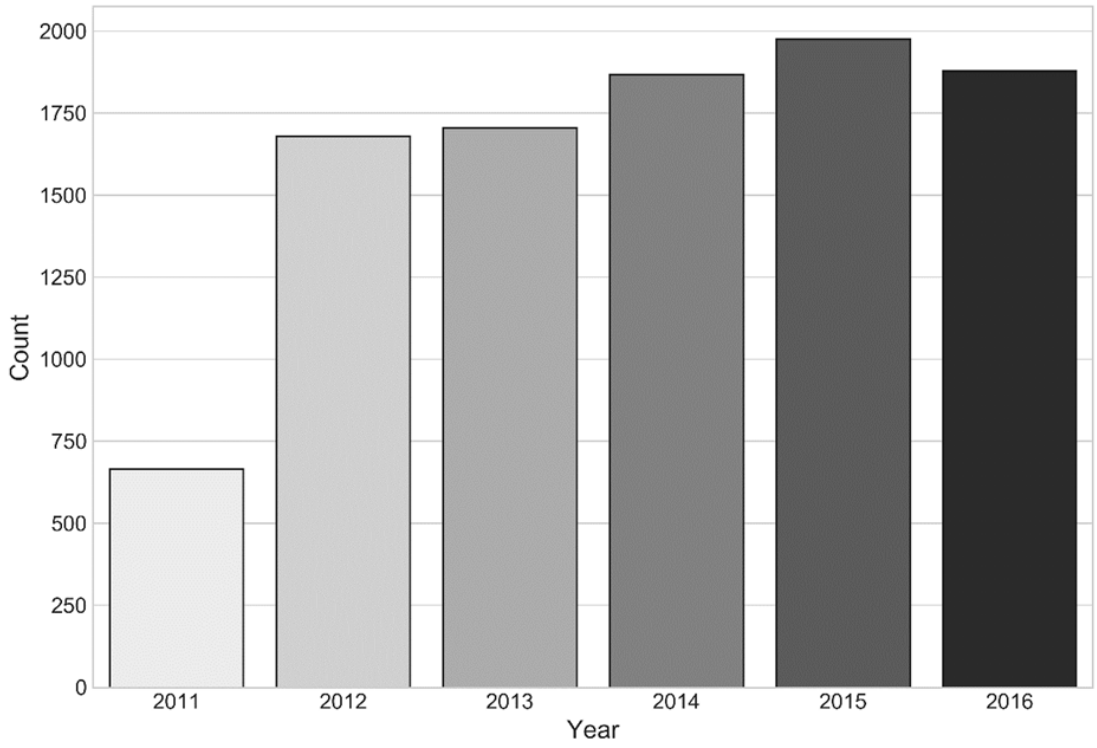
$$y^*_{i,t} = \alpha + \beta x_i + \delta z_{i,t} + \varepsilon_{i,t} \qquad (1)$$

$$y_{i,t} = \begin{cases} 1, y^*_{i,t} > 0 \\ 0, \text{otherwise} \end{cases} \qquad (2)$$

Where $y_{i,t}$ is the dependent variable which takes the value 1 if individual i has completed suicide at time t and 0 otherwise. x_i is a vector of time-invariant explanatory variables, $z_{i,t}$ is a vector of time-varying explanatory variables and ε is the error term which is assumed to be independent and identically distributed with $\varepsilon \sim (0, \sigma^2)$.

Setting up the dataset as a panel allowed us to account for individual heterogeneity. However, given that suicide is a rare event, explanatory variables with large number of categories (for example – occupation) were excluded from the longitudinal analysis. This was primarily due the low number of suicides each year, which in turn made the models more sensitive to variables with a large number of categories. Given this drawback of panel data, a cross-sectional analysis was also conducted as a part of the sensitivity analysis.

Figure 1 - Annual suicide counts[1]



1. Year 2011 was not included in the analysis.

Reference

Hill, R.C., Griffiths, W.E. and Lim, G.C., 2010. Principles of econometrics. pp 537-560. John Wiley & Sons.

Australian Defence Force (ADF) Suicide Data Sources

In addition to the NMD, the Australian Defence Force (ADF) suicide monitoring analysis used the following data sources:

National Death Index (NDI). The NDI is managed by the AIHW and contains person-level records of all deaths in Australia since 1980 obtained from the Registrars of Births, Deaths and Marriage in each state and territory. Its use is confined to data linkage studies approved by the AIHW Ethics Committee for health and medical research. NDI records are supplemented with cause of death information from the NMD. In this study, the NDI is linked with Defence payroll data to create the linked Defence payroll–NDI data set used in analysis of suicide in the ADF population.

Department of Defence personnel system data. The Department of Defence compiled a file of current and historical Defence personnel systems covering ADF members who have served since 1 January 1985. This combines PMKeyS, Core HR system, D1, CENRESPAY (for reservists), ADFPAY (for permanent members) and other historical payment systems. The Department of Defence and AIHW assessed the resulting file for completeness and duplicates. Comparisons were made with records from Department of Defence annual reports and other sources to validate the list. Data from the National Archives was also investigated for its suitability in validation, however as the majority of records are electronic files based on photos of paper records, this was not usable.

For further supplementary findings from the analyses and more detailed information about the data sources and methodology used in compiling data for serving and ex-serving ADF members, please see Technical notes of the Serving and ex-serving Australian Defence Force members who have served since 1985: suicide monitoring 1997 to 2022.

Australian Burden of Disease Study (ABDS)

Estimates of fatal (years of life lost, YLL) and non-fatal burden (years lived with disability, YLD) were sourced from the Australian Burden of Disease Study (ABDS) 2022. The ABDS 2022 used burden of disease analysis to estimate the impact of 220 diseases and injuries on the health of the Australian population. The study provides a detailed picture of the burden of disease and injury in the Australian population in 2003, 2011, 2015, 2018 and 2022. It also includes estimates of the contribution made by selected risk factors on the disease and injury burden in Australia, and by socioeconomic areas for some risk factors.

The ABDS 2022 uses and adapts the methods of global studies to produce estimates that are more relevant to the Australian health policy context. The chosen reference period (2022) reflects the data availability from key data sources (such as the National Health Survey, deaths data, hospital admissions data and various disease registers) at the time of analysis.

Results from the study provide an important resource for health policy formulation, health service planning and population health monitoring. The results provide a foundation for further assessments.

Full details on the various methods, data sources and standard inputs used in the ABDS 2022 are available in Australian Burden of Disease Study 2022, Technical notes - Australian Institute of Health and Welfare (aihw.gov.au)

Data from suicide registers

New South Wales Suicide Monitoring System

The New South Wales (NSW) Suicide Monitoring System contains data on all suspected and confirmed suicide deaths from 2019 to present. Established in October 2020, the system is a collaboration between the NSW Ministry of Health, Department of Communities and Justice, the State Coroner and NSW Police.

The NSW Suicide Monitoring System contains initial police information of suspected suicide deaths from the JusticeLink information system, which is managed by NSW Department of Communities and Justice. The information is manually checked against other data sources, including coronial determination.

NSW Health publishes monthly reports on suspected deaths by suicide in NSW on their website NSW Suicide Monitoring System - external site opens in new window (https://www.health.nsw.gov.au/towardszerosuicides/Pages/suicide-monitoring-system.aspx).

Victorian Suicide Register

The Victorian Suicide Register (VSR) contains data on all suicide deaths reported to the Coroners Court of Victoria (CCOV) from 2000 to present. The Coroners Prevention Unit, a specialist investigative service for Victorian Coroners, has managed the VSR since its implementation in 2012. The VSR operates with funding from the Victorian Department of Health.

VSR data are used to inform investigations into suspected suicides and support coronial recommendations to prevent similar deaths. VSR data are regularly shared with the Victorian Department of Health, AIHW, Victoria Police and other organisations involved in suicide prevention.

Data on the VSR are obtained and coded from materials gathered throughout the course of coronial investigation, including police notification of death, forensic reports (autopsy and toxicology), witness statements and medical records.

CCOV releases a range of suicide data reports from the VSR on their website - external site opens in new window (https://www.coronerscourt.vic.gov.au/forms-resources/publications?combine=&field_audience_target_id=All&field_publication_type_target_id=All&year=&page=5), including information on suspected deaths by suicide on a monthly basis, and overviews of First Nations suicides in Victoria. CCOV has also published a report on suicide among LGBTIQ+ people in Victoria.

Queensland Suicide Register and interim Queensland Suicide Register

In Queensland, there are two systems that are used to monitor suicide deaths: the Queensland Suicide Register (QSR), which includes suicide data since 1990 and is used to monitor longer-term trends, and the interim Queensland Suicide Register (iQSR). The iQSR was established in 2011 to provide real-time information on suicide deaths.

Data on this website are from the iQSR. The iQSR contains interim data on suspected suicides in Queensland, recorded shortly after the death occurs. The data are based on initial police reports and other information that is available to police at the time when they refer the death to the coroner.

The QSR contains information on suicide deaths for which coronial investigations have been finalised. The QSR is based on more information than the iQSR, including toxicology reports, post-mortem examination and the finding from the coroner, including details on the context and circumstances of the death.

The QSR and iQSR are currently managed by the Queensland Mental Health Commission (QMHC) on behalf of the Queensland Government, with support from the Coroners Court of Queensland (CCQ) and Queensland Police Service (QPS). Prior to September 2023, the iQSR was managed by the Australian Institute for Suicide Research and Prevention (AISRAP) at Griffith University. The QMHC publishes monthly reports - external site opens in new window (https://info.qmhc.qld.gov.au/suicide-data#:~:text=on%20suicide%20deaths.-,The%20Queensland%20Suicide%20Register,and%20entered%20into%20the%20QSR.) based on data from the iQSR, around eight weeks from the last day of the reporting month. The QMHC also published the Suicide in Queensland: Annual Report 2023 - external site opens in new window (https://www.qmhc.qld.gov.au/sites/default/files/suicide_in_queensland_annual_report_2023_web.pdf) which utilised data from the iQSR. The annual report summarises data on suspected suicides in Queensland for the calendar year 2023 and includes limited comparative data from previous years. Previous annual reports - external site opens in new window (https://www.griffith.edu.au/griffith-health/australian-institute-suicide-research-prevention/research/qsr) on the Queensland Suicide Register were published by the Australian Institute for Suicide Research and Prevention (AISRAP).

National Integrated Health Services Information (NIHSI)

End of life service use for those who died from suicide in Australia

Data sources

Data are from the National Integrated Health Services Information Analysis Asset (NIHSI AA) version 0.5. This data asset includes mortality data together with information from hospital admissions, Medicare Benefits Schedule (MBS), Pharmaceutical Benefits Scheme (PBS) and residential aged care data.

The analysis population was those who had died between 1 July 2010 and 31 December 2017 in the linked National Deaths Index (NDI). Suicide was defined as the principal external cause of death in X60–X84 and Y87.0 based on the International Classification of Diseases, Tenth Revision (ICD-10) codes. Patient demographic information was taken from the NDI and is therefore accurate at the time of death not time of service. Only people whose age at death was between 15 to 64 years were included in the analysis. This was due to people in this age range making up the majority of those who die from suicide and to allow for better comparisons with deaths from other causes, which mostly occur in people older than 65 (AIHW 2022a). People without a primary cause of death and with sex not stated were also removed from the analysis due to small cell sizes.

Method

The analysis included MBS, PBS emergency department presentation and outpatient services in addition to hospital admissions datasets. For more information on MBS item classification and PBS item classification, drawn from the Anatomical Therapeutic Chemical (ATC) codes (AIHW 2022b), visit Mental health-related prescriptions.

Hospitalisation data was taken from two sources: admitted patients and emergency department (ED) presentations. The method for counting hospital admissions in this analysis based on the method in a similar study by Clapperton et al. (2021).

Within the NIHSI AA v0.5, hospital data pertains to only New South Wales (NSW), Victoria (Vic) (excluding Albury-Wodonga), South Australia (SA) and Tasmania (Tas) public hospitals. Admitted patient information also contains information from private hospitals in Victoria. To ensure accurate comparisons with hospitals data, only deaths registered in NSW, Vic, SA and Tas are included in the analysis.

Admitted patient data refers to only acute admitted and mental health separations (Admitted Patient Care National Minimum Data Set care types of 1, 7.1, 7.2, and 11). In scope separations where the patient was transferred from another hospital or had a change of care type in the same hospital are not counted in the total to avoid duplication.

Any hospital episode (ED presentation, hospital admission) that ended in "death" was excluded as it was considered to be a result of the fatal (suicide) incident. The only exception to this were episodes where the intentional self-harm was coded as occurring in a health service area–these episodes were retained as they were most likely inpatient suicides (Clapperton et al. 2021).

For admitted patient data, the definitions for mental health and self-harm behaviours include:

- 'Any mental health' hospitalisations are defined as any diagnosis (principal, secondary, etc.) of a mental disorder (ICD-10-AM codes F00–F99).
- Intentional self-harm hospitalisations are defined based on the ICD-10-AM principal diagnosis in the range S00–T75 or T79 and has a principal external cause code in the range X60–X84 or Y87.0.
- Suicidal ideation hospitalisations (ICD-10-AM code R45.81) are grouped with 'any mental health' and intentional self-harm hospitalisations, as this code is usually coded in the absence of a mental health condition.

For ED presentation data, the definitions 'mental health-related ED presentations' refers to presentations that have a principal diagnosis that falls within the *Mental and behavioural disorders* chapter (Chapter 5) of ICD-10-AM (codes F00–F99). It should be noted that this definition does not encompass all mental health-related presentations to ED. See Mental health services in Australia for further information.

Note that diagnosis codes for intentional self-harm sit outside the *Mental and behavioural disorders* chapter (X60–X84). Additionally, an ED presentation for self-harm may have a principal diagnosis relating to the injury. These presentations cannot be identified as mental health-related presentations and are not included in this analysis (AIHW 2022).

Presentations to hospital emergency departments relating to suicide attempts or intentional self-harm cannot be easily identified in the current national emergency department data collection. Furthermore, ICD-10-AM diagnosis codes for intentional self-harm do not specify if there was suicidal intent or not – and therefore includes both suicide attempts and non-suicidal self-harming behaviours (AIHW 2022b). See Suicide & self-harm monitoring: Intentional self-harm hospitalisations for further information.

'Any hospitalisation' refers to any acute admitted/mental health care separation or ED presentation.

Limitations of this analysis includes:

- Mental health items could be miscoded or reported, for example, GP mental health services are typically billed under general GP consultations.
- Service use captured in the NIHSI is influenced by severity of condition, a person's ability and desire to access a service, and the availability of alternative services not captured in the data (e.g. private community mental health services).

References

Australian Institute of Health and Welfare (AIHW) (2022a) *Deaths in Australia*, AIHW, Australian Government, accessed 11 October 2022.

Australian Institute of Health and Welfare (AIHW) (2022b) Mental health services in Australia, AIHW, Australian Government, accessed 09 September 2022

AIHW (2022c) Suicide and self-harm monitoring: Intentional self-harm hospitalisations, AIHW, Australian Government, accessed 14 October 2022.

Clapperton A, Dwyer J, Millar C, Tolhurst P and Berecki-Gisolf J (2021) 'Sociodemographic characteristics associated with hospital contact in the year prior to suicide: A data linkage cohort study in Victoria, Australia - external site opens in new window (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0252682)', PLoS ONE, 16(6): e0252682, doi:10.1371/journal.pone.0252682.

Viewing the monitoring data

Caution: Some people may find parts of this content confronting or distressing.

Please carefully consider your needs when reading the following information about suicide and self-harm. If this material raises concerns for you contact Lifeline on 13 11 14, or see other ways you can seek help.

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Codes and classifications

International Statistical Classification of Diseases (ICD) and Related Health Problems

The ICD, which was developed by the World Health Organization (WHO), is the international standard for coding morbidity and mortality statistics. It was designed to promote international comparability in collecting, processing, classifying and presenting these statistics. The ICD is periodically reviewed to reflect changes in clinical and research settings.

For *Suicide & self-harm monitoring*, deaths since 1964 (included in the NMD) classified as 'intentional self-harm' according to the relevant revisions of the ICD classification were included:

Table 1: Versions of ICD and years applicable in Australia

ICD version	Years applicable	Intentional self-harm codes
7th revision	1958–1967	E970–E979 and E963
8th revision	1968–1978	E950–E959
9th revision	1979–1996	E950–E959
10th revision	1997 to date	X60–X84 and Y87.0

For deaths prior to 1964, please see General Record of Incidence of Mortality (GRIM) books GRIM 2017 Intentional self-harm (suicide) X60–X84, Y87.0 for ICD versions and codes used.

ICD-10-AM

Diagnosis, intervention and external cause data are reported to the NHMD by all states and territories using the International Statistical Classification of Diseases and Related Health Problems, 10th revision, Australian Modification (ICD-10-AM) and the Australian Classification of Health Interventions (ACHI). The Australian Coding Standards (ACS) are designed to be used in conjunction with the ICD-10-AM and ACHI to support sound coding convention.

The hospital separations reported were coded according to the applicable ICD-10-AM edition for the following years:

- 2008–09 to 2010–11: ICD-10-AM 6th edition
- 2010–11 to 2012–13: ICD-10-AM 7th edition
- 2013–14 to 2014–15: ICD-10-AM 8th edition
- 2015–16 to 2016–17: ICD-10-AM 9th edition
- 2017–18 to 2020–21: ICD-10-AM 10th edition.

Records that satisfied the following criteria were included:

- a principal diagnosis in the ICD-10-AM range S00-T75, T79 (Injury, poisoning and certain other consequences of external causes)
- the first reported external cause code in the record in the ICD-10-AM range X60–X84, Y87.0 (external causes of morbidity).

Excluded from the criteria are:

- separations for which the care type was reported as Newborn (without qualified days), and records for Hospital boarders or Posthumous organ procurement
- separations with a mode of admission of 'transfer from another hospital'
- separations with reported ICD-10-AM code Z50 (Care involving the use of rehabilitation procedures) in additional diagnosis.

Changes to the Australian Coding Standard for Rehabilitation in 1 July 2015 ICD-10-AM (9th Edition), means that the ‘reason’ for rehabilitation (codes S00–T98 Injury, poisoning and certain other consequences of external causes) will be assigned the principal diagnosis and the rehabilitation code (Z50) will be sequenced as the additional diagnosis. This change results in an increase in the number of separations in principal diagnoses with codes from S00–T98 from 1 July 2015 onwards. In order to reflect the number of injury separations where the primary clinical intent is acute care and not rehabilitation, records with Z50 (Care involving the use of rehabilitation procedures) in principal diagnosis or additional diagnosis for all years are excluded in the data set before and after the coding change.

Intentional self-harm hospitalisations reported in *Suicide & self-harm monitoring* may differ from other publications. The differences are small and may reflect differences in the inclusion criteria (e.g. Y87.0 included here) and/or exclusion criteria. Data may also be subject to periodic updates occurring after the original publication date.

Viewing the monitoring data

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Methods

Crude rates

A crude rate provides information on the number of events relative to the population 'at risk' (for example, the entire population) in a specified period based on the Australian estimated resident population for the relevant analysis year. No age adjustments are made when calculating such a rate. Crude rates are used throughout this publication and expressed per 100,000 population.

Age-specific rates

Age-specific rates are calculated by dividing the number of events (for example, deaths) in each specified age group, by the total population at risk of the event in the same age group. Where age-specific rates are reported they are expressed per 100,000 population.

Age-standardised rates

Age-standardised rates are incidence rates that enable comparisons between populations that have different age structures and over time as the age structure of the population of interest may change. This effectively removes the influence of the age structure on the summary rate—it is the overall death rate that would have prevailed in the standard population if it had experienced at each age the death rates of the population under study.

Direct standardisation was used in this report. To calculate age-standardised rates, age-specific rates (grouped in 5-year intervals) were multiplied against a standard population. Directly age-standardised rates were adjusted using the current Australian standard population (that is, the non-recast Australian estimated resident population (ERP) as at 30 June 2001).

Rates are expressed as per 100,000 per population years.

Standardised mortality ratio

Standard mortality ratio (SMR) is a widely recognised measure used to account for differences in age structures when comparing death rates between populations. This method of standardisation can be used when analysing relatively rare events (i.e. where number of deaths is less than 25 for the analysed time period) (Curtin and Klein, 1995). The SMR has been used in the analysis of Australian Defence Force (ADF) deaths by suicide. It is used to control for the fact that the 3 ADF service status groups have a younger age profile than the Australian population, and rates of suicide vary by age in both the study populations and the Australian population. The SMRs control for these differences, enabling comparisons of suicide counts between the 3 service status groups and Australia without the confounding effect of differences in age. The SMR is calculated as the observed number of events (deaths by suicide) in the study population divided by the number of events that would be expected if the study population had the same age and sex specific rates as the as the comparison population.

Geography

Geographic location data are based on the area of usual residence of the deceased in the NMD or admitted patient in the NHMD. These data are specified using Statistical Area Level 2 (SA2) of the Australian Bureau of Statistics (ABS) Australian Statistical Geography Standard (ASGS) Edition 2016 for all states and territories. From 2016–17, the area of usual residence in the NHMD was voluntarily provided by some jurisdictions in the form of a Statistical Area level 1 (SA1).

Remoteness areas

Data for remoteness areas are based on a person's usual residence, rather than where they died (NMD) or received treatment (NHMD). Data by remoteness are aligned to the 2016 Australian Statistical Geography Standard (ASGS) Remoteness Area Structure. Correspondence files are sourced from Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas (ABS cat. no. 1270.0.55.001). The 2016 ASGS Remoteness Structure categorises geographic areas in Australia into 5 classes of remoteness areas based on their relative access to services using the Accessibility/Remoteness Index of Australia which is, in turn, derived by measuring the road distance of a location from the nearest urban centre. The 5 classes are: *Major cities, Inner regional, Outer regional, Remote,* and *Very remote*. See the Australian Statistical Geography Standard (ASGS): Remoteness Structure, 2016 - external site opens in new window (https://www.abs.gov.au/ausstats/abs@.nsf/mf/1270.0.55.005)for further information on Remoteness areas including details of the nature of the changes between the ASGS 2011 and ASGS 2016.

Socioeconomic status

The Socio-Economic Indexes for Areas (SEIFA) is a suite of 4 summary measures, developed by the ABS based on Census data that ranks geographic areas across Australia in terms of their relative socioeconomic advantage and disadvantage. The SEIFA index used is the 2016 SEIFA Index of Relative Socioeconomic Disadvantage (IRSD) for use at Statistical Area Level 2 except for NHMD 2012–13 to 2016–17 data which uses the 2011 SEIFA IRSD.

The IRSD includes only measures of relative disadvantage. A low score indicates greater disadvantage in general (for example, an area has many households with low income, many people with no qualifications and many people working in low skill occupations). A high score indicates a relative lack of disadvantage in general (for example, an area has few households with low incomes, few people with no qualifications and few people working in low skilled occupations). It is important to understand that a high score reflects a relative lack of disadvantage rather than advantage and that the IRSD relates to the average disadvantage of all people living in a geographic area and does not reflect the socioeconomic status of all individuals living within the area.

Population-based Australian cut-offs for SEIFA quintiles have been used in this report. Population-based quintiles are calculated by dividing SEIFA areas into 5 equal groups in such a way that the population in each group is approximately equal. As SEIFA measures the characteristics of an area rather than individuals, the population in the most disadvantaged population-based quintile ('1—Lowest') is the 20% of the national population residing in the most disadvantaged areas, rather than the most disadvantaged 20% of the population.

See the Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA) Australia, 2016 - external site opens in new window (https://www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001) for further information on SEIFA.

Primary Health Network

Primary Health Networks (PHNs) were established in 2015 by the Department of Health to commission medical services and improve the coordination of care for patients across specific geographic areas (PHN areas). There are 31 PHN areas that cover the whole of Australia.

Statistics for PHN areas are derived by aligning deaths or hospitalisations area of usual residence data at Statistical Area Level 2 (SA2) to the 2017 PHN structure using ABS correspondence files, sourced from Australian Statistical Geography Standard (ASGS): Volume 3 - Non ABS Structures, July 2018 (ABS cat. no. 1270.0.55.003) - external site opens in new window (https://www.abs.gov.au/ausstats/abs@.nsf/mf/1270.0.55.003).

Statistical Areas

Statistical Areas are a geographic classification defined by the Australian Bureau of Statistics. They encompass 4 levels, with increasing size and population: Statistical Areas Level 1 (SA1s); Statistical Areas Level 2 (SA2s); Statistical Areas Level 3 (SA3s); and Statistical Areas Level 4 (SA4).

Deaths by suicide and hospitalisations for intentional self-harm data at Statistical Area Level 2 (SA2) were aligned to Statistical Area Level 3 (SA3) and 4 (SA4) geographies based on the 2016 Australian Statistical Geography Standard (ASGS) structure. Correspondence files are sourced from Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas (ABS cat. no. 1270.0.55.001) - external site opens in new window (https://www.abs.gov.au/ausstats/abs@.nsf/mf/1270.0.55.001).

Using confidence intervals to test for statistical significance

Statistical significance is a measure that indicates how likely it is that an observed difference, or a larger one, would occur under the conditions of the null hypothesis.

In the analysis of deaths by suicide in Australian Defence Force personnel, 95% confidence intervals (CIs) are provided for each standardised mortality ratio to indicate the level of uncertainty around these estimates due to random fluctuations in the number of deaths by suicide over time. Estimates produced using low numbers can be sensitive to small changes in numbers of deaths over time and will therefore have wide CIs. 95% CIs are provided within this report as they may account for the variation in absolute numbers of deaths by suicide over time (related to the small sample size). It is important to note that there are other sources of uncertainty, such as linkage error, that are not captured by the provided CIs.

Use of CIs is the simplest way to test for significant differences between service groups and Australian comparison groups. For the purpose of this monitoring site, differences are deemed to be statistically significant if CIs do not overlap with 1.0 in the case of an SMR. The CIs in this report cannot be used to determine the significance of differences over time between overlapping 3-year time periods.

References

ABS (Australian Bureau of Statistics) 2019. Microdata: Multi-Agency Data Integration Project, Australia, March 2019. Cat. 1700.0.

ABS 2018. Multi-Agency Data Integration Project (MADIP) Research Projects - external site opens in new window (https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1700.0~Australia~Main%20Features~MADIP%20Basic%20Longitudinal%20Extract,%202011-2016%20(2011-2016%20Cohorts)~10000).

ABS 2016. Research Paper: Death Registrations to Census Linkage Project - A Linked Dataset for Analysis, Mar 2016. Cat. 1351.0.55.058.

Curtin, LR, & Klein, R J 1995. *Direct standardization (age-adjusted death rates)* (No. 6). Hyattsville, MD: US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Health Statistics.

Lubman DI, Heilbronn C, Ogeil RP, Killian JJ, Matthews S, Smith K, et al. 2020. National Ambulance Surveillance System: A novel method using coded Australian ambulance clinical records to monitor self-harm and mental health-related morbidity - external site opens in new window (https://doi.org/10.1371/journal.pone.0236344). PLoS ONE 15(7): e0236344.

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Data downloads

Data tables: 2023 September National Ambulance Surveillance System – self-harm behaviours

Data | *09 Dec 2024*

Source: National Ambulance Surveillance System for attendances related to self-harm behaviours and mental health
XLSX 399kB

Data tables: Older Australians – Suicide, self-harm and suicidal ideation

Data | *08 Nov 2024*
XLSX 349kB

Data tables: 2023 National Mortality Database – Suicide (ICD-10 X60–X84, Y87.0)

Data | *08 Nov 2024*
XLSX 662kB

Data tables: People in contact with the legal system – Intentional self-harm

Data | *28 Aug 2024*
XLSX 175kB

Data tables: 2022–23 National Hospital Morbidity Database – Intentional self-harm hospitalisations

Data | *28 Aug 2024*

Source: National Hospital Morbidity Database
XLSX 804kB

Data tables: Deaths by suicide among Centrelink income support recipients

Data | *22 May 2024*
XLSX 147kB

Data tables: Suicide among refugee and humanitarian entrants and other permanent migrants

Data | *22 Nov 2023*

Deaths by Suicide 2007-2020 among refugee and humanitarian entrants and other permanent migrants
XLSX 134kB

Data tables: WTI4 2019 supplementary table November 2023

Data | *22 Nov 2023*
XLSX 119kB

Data tables: Youth Self-Harm Atlas

Data | *28 Sep 2023*

Hielscher, E., Chang, I., Hay, K., McGrath, M., Poulton, K., Giebels, E., Blake, J., Batterham, P., Lawrence, D., and Scott, J. (2022). Australian Youth Self Atlas – Summary Report. QIMR Berghofer Medical Research Institute: Brisbane, Australia.
XLSX 212kB

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Notes

Latest data updates

For information on future planned updates to the publication see Data update schedule.

3 February 2025

- Data from suicide registers

9 December 2024

- Ambulance attendances: suicidal and self-harm behaviours
- Data from suicide registers

11 November 2024

- Deaths by suicide in Australia
- Topic Summary
- Data from suicide registers
- Australian Defence Force suicide and self-harm monitoring

17 September 2024

- Data from suicide registers

28 August 2024

- Suicide and self-harm among older Australians
- Suicide and self-harm among people in contact with the justice system
- Ambulance attendances: suicidal and self-harm behaviours
- Intentional self-harm hospitalisations 2022–23
- Suicide and intentional self-harm Australia's health topic summary page
- Featured report – Mental health and wellbeing outcomes associated with social, medical, and legal gender affirmation among trans young people in Australia
- Featured report – From euphoria to wellbeing: Correlates of gender euphoria and its association with mental wellbeing among transgender adults

16 July 2024

- Data from suicide registers

22 May 2024

- Deaths by suicide among Centrelink income support recipients
- LGBTIQ+ Australians: suicidal thoughts and behaviours and self-harm
- Regression risk models for selected census variables

18 April 2024

- Data from suicide registers

14 March 2024

- Data from suicide registers

18 January 2024

- Data from suicide registers

12 December 2023

- LGBTIQ+ Australians: suicidal thoughts and behaviours and self-harm
- Data from suicide registers

22 November 2023

- Suicide among refugee and humanitarian entrants and other permanent migrants
- LGBTIQ+ Australians: suicidal thoughts and behaviours and self-harm
- Australian Defence Force suicide monitoring
- Fact sheets and key messages

27 October 2023

- Deaths by suicide in Australia
- Topic Summary
- Data from suicide registers

6 October 2023

- Data from suicide registers

28 September 2023

- Youth Self-Harm Atlas
- Ambulance attendances: suicidal and self-harm behaviours
- Intentional self-harm hospitalisations 2021-22
- Featured report - Feasibility Study for Identifying Suicide Clusters Using Real-time Coronial Data
- Topic summary

5 September 2023

- Data from suicide registers

13 July 2023

- Data from suicide registers

7 July 2023

- Suicidal and self-harming thoughts and behaviours among LGBTIQ+ Australians
- Ambulance attendances: suicidal and self-harm behaviours

15 June 2023

- Data from suicide registers

16 May 2023

- Data from suicide registers

6 April 2023

- Impact of suicide among Aboriginal and Torres Strait Islander Australians
- Ambulance attendances: suicidal ideation and self-harm behaviours
- Deaths by suicide among people who used disability service
- Burden of disease studies - Suicide & self-inflicted injuries
- Data from suicide registers

17 February 2023

- Data from suicide registers

17 January 2023

- Data from suicide registers

12 December 2022

- ANU paper: Spatiotemporal Analysis of Suicide Deaths 2001 – 2020

6 December 2022

- Australian Defence Force suicide monitoring

18 November 2022

- Data: Deaths by Suicide in Australia

4 November 2022

- Data from suicide registers

5 October 2022

- Data from suicide registers

8 September 2022

- Data from suicide registers

5 August 2022

- Data from suicide registers
- Australian prevalence estimates of suicidal behaviours

26 July 2022

- Research & information | Releases | Featured reports - Evaluation of the National Suicide and Self-harm Monitoring Project and System| Final Report
- Behaviours & risk factors - Longitudinal analysis of income uncertainty & suicide (MADIP data asset)
- Intentional self-harm hospitalisations 2020-21
- Ambulance attendances - suicidal and self-harm behaviours
- Research & information | Releases | Consultations - Data Requirements for the Portal

8 July 2022

- Data from suicide registers
- COVID-19 - The use of mental health services, psychological distress, loneliness, suicide, ambulance attendances and COVID-19
- Australia's health 2022: Suicide & intentional self-harm

8 June 2022

- Data from suicide registers

27 April 2022

- Data from suicide registers
- COVID-19 - The use of mental health services, psychological distress, loneliness, suicide, ambulance attendances and COVID-19

3 February 2022

- Data from suicide registers

9 December 2021

- Data from suicide registers
- COVID-19 - The use of mental health services, psychological distress, loneliness, suicide, ambulance attendances and COVID-19
- Research & information | Releases | Featured Reports - A scoping review of analytic methods used within the peer reviewed literature
- Research & information | Releases | Featured Reports - Addendum | Suicide mortality in Australia: Estimating and projecting monthly variation and trends from 2007 to 2018 and beyond
- Research & information | Releases | Consultations – Consultation with young people - Suicide & self-harm monitoring website

8 December 2021

- Ambulance attendances: suicidal and self-harm behaviours
- Research & information | Releases | Featured Reports – Patterns of suicide in the context of COVID-19: Evidence from three Australian states

4 November 2021

- Data from suicide registers
- The health impact of suicide and self-inflicted injuries in Australia, 2019

15 October 2021

- Ambulance attendances: suicidal and self-harm behaviours
- Behaviours & risk factors - Social factors & suicide (MADIP data asset)
- COVID-19 - The use of mental health services, psychological distress, loneliness, suicide, ambulance attendances and COVID-19

30 September 2021

- Deaths by suicide in Australia, Populations & age groups, Behaviours & Risk Factors [ABS Causes of Death 3303.0]
- Populations & age groups - Australian Defence Force suicide monitoring
- Data from suicide registers
- Geography - Intentional self-harm hospitalisations by local areas

1 September 2021

- Data from suicide registers

20 July 2021

- Deaths by suicide in Australia - Deaths by suicide over time
- Data from suicide registers
- COVID-19 - The use of mental health services, psychological distress, loneliness, suicide, ambulance attendances and COVID-19
- Ambulance attendances: suicidal and self-harm behaviours
- Populations & age groups - Suicide & Indigenous Australians
- Intentional self-harm hospitalisations (all pages excluding Intentional self-harm hospitalisations by local areas)
- Geography - International estimates of death by self-harm

30 March 2021

- Victoria & New South Wales Suicide Register data
- The use of mental health services, psychological distress, loneliness, suicide, ambulance attendances and COVID-19

18 November 2020

- Mortality data; Geography – Suicide by PHN areas
- Victoria and New South Wales Suicide Register data; COVID–19 – Data from suicide registers

9 November 2020

- Mortality data; Death by suicide in Australia; Populations & age groups; Geography; Behaviours & risk factors

9 October 2020

- Populations & age groups – Australian Defence Force suicide monitoring

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Amendments

28 July 2022

- Ambulance attendances – Ambulance attendances: suicidal and self-harm behaviours

9 November 2020

- Populations & age groups – Suicide among young people.

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Glossary

additional diagnosis: The diagnosis of a condition or recording of a complaint—either coexisting with the principal diagnosis or arising during an episode of admitted patient care (hospitalisation)—that requires the provision of care. Multiple diagnoses may be recorded.

ADF personnel: Serving, reserve and ex-serving members of the Australian Defence Force; civilian personnel employed by the Department of Defence are excluded.

admission: An admission to hospital. The term hospitalisation is used to describe an episode of hospital care that starts with the formal admission process and ends with the formal separation process.

administrative data collection: A data set that results from the information collected for the purposes of delivering a service or paying the provider of the service. This type of collection is usually complete (all in-scope events are collected), but it may have limitations for population-level analysis because the data are collected primarily for an administrative purpose.

age structure: The relative number of people in each age group in a population.

age-specific rate: The number of events for a specified age group over a specified period (e.g. calendar or financial year), divided by the total population in that age group. Reported as number per 100,000. The numerator and denominator relate to the same age group.

age-standardised rates: are incidence rates that enable comparisons to be made between populations that have different age structures. The age structures of the different populations are converted to the same 'standard' structure, and then the rates that would have occurred with that structure are calculated and compared. Rates are expressed as per 100,000 per population years.

associated cause(s) of death: All causes of death listed on the death certificate, other than the **underlying cause of death**. They include the immediate cause, any intervening causes, and conditions which contributed to the death but were not related to the disease or condition causing the death.

attributable burden: The disease burden attributed to a particular risk factor. It is the amount of burden that could be avoided if the risk factor were removed or reduced to the lowest possible exposure.

Australian Statistical Geography Standard (ASGS): Common framework defined by the Australian Bureau of Statistics (ABS) for collecting and disseminating geographically classified statistics. It replaced the Australian Standard Geographical Classification (ASGC) in July 2011.

burden of disease: The quantified impact of a disease, injury or risk factor on a population, using the **disability-adjusted life year (DALY)** measure. One DALY is one year of 'healthy life' lost due to illness and/or death. The more DALY associated with a disease or injury, the greater the burden. The DALY is produced by combining the non-fatal and fatal burden together. People generally experience more burden as they age.

cause(s) of death: All diseases, morbid conditions or injuries that either resulted in or contributed to death—and the circumstances that produced any such injuries—that are entered on the death certificate. The coding of causes of death produces an **underlying cause of death** and, for many deaths, one or more **associated cause(s) of death**. See also **multiple causes of death**.

child: A person aged 0–14 years.

comorbidity: The occurrence of 2 or more health conditions in a person at one time. While the coexistence of these multiple conditions may be unrelated, in many instances there is some association between them.

confidence interval: A statistical term describing a range (interval) of values within which we can be 'confident' that the true value lies, usually because it has a 95% or higher chance of doing so.

contemporary ex-serving (Australian Defence Force): Australian Defence Force members who have had at least 1 day of full-time or reserve service on or after 1 January 2001, and have since been discharged from the Australian Defence Force.

current serving (Australian Defence Force): Australian Defence Force members who have had at least 1 day of full-time service on or after 1 January 2001, and are still serving in the Australian Defence Force.

crude rate: The crude rate is the number of events recorded during a specified time period (e.g. calendar year) per 100,000 estimated resident population.

DALY: See **disability-adjusted life year**.

data linkage: The process of combining (linking) information from two or more different data sources that are believed to relate to the same entity (for example, the same individual or the same institution). This linkage can yield more information about the entity and, in certain cases, provide a time sequence—helping to 'tell a story', show 'pathways' and perhaps unravel cause and effect. The term is used synonymously with 'record matching and 'data integration'.

death: Any death which occurs in, or en route to Australia and is registered with a State or Territory Registry of Births, Deaths and Marriages.

determinant: Any factor that influences how likely a population or individual will stay healthy or become ill or injured. Factors that increase the chances of ill health are known as risk factors, while those that promote good health are protective factors. Services or other programs that aim to improve health are usually not included in this definition.

disability-adjusted life year (DALY): A measure of healthy life lost, either through premature death or living with disability due to illness or injury. It is the basic unit used in burden of disease and injury estimates.

episode of care: The period of admitted patient care between a formal or statistical admission and a formal or statistical separation, characterised by only one care type (see care type and **separation**).

estimated resident population (ERP): The official ABS estimate of the Australian population. The ERP is derived from the 5-yearly Census counts and is updated quarterly between each Census. It is based on the usual residence of the person. Rates are calculated per 1,000 or 100,000 mid-year (30 June) ERP.

external cause: The environmental event, circumstance, or condition that is regarded as the cause of injury, poisoning and other adverse effect.

fatal burden: The quantified impact on a population of dying prematurely due to disease or injury, measured by years of life lost (YLL).

hospitalisation: An episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of type of care (e.g. from acute care to rehabilitation).

incidence: A measure of the number of new cases of a characteristic that develop in a population in a specified time period; whereas prevalence is the proportion of a population who have a specific characteristic in a given time period, regardless of when they first developed the characteristic.

incidence rates: incidence rates for death by suicide refers to the number of suicides during a specified period over the population within the same period. Rates are expressed as per 100,000 per population years.

Index of Relative Socioeconomic Disadvantage (IRSD): One of the set of **Socio-Economic Indexes for Areas (SEIFA)** for ranking the average socioeconomic conditions of a population in a geographic area. The IRSD was developed by the ABS for use at Statistical Area Level 2 and summarises attributes of the population that indicate disadvantage, such as low income, low educational attainment, high unemployment and jobs in relatively unskilled occupations.

Indigenous: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander. See also **Aboriginal or Torres Strait Islander**.

intentional self-harm: Includes attempts to suicide, as well as cases where people have intentionally hurt themselves, but not necessarily with the intention of suicide (e.g. acts of self-mutilation).

International Statistical Classification of Diseases and Related Health Problems (ICD): The World Health Organization's internationally accepted classification of death and disease. The 10th Revision (ICD-10) is currently in use. The ICD-10-AM is the Australian Modification of the ICD-10; it is used for diagnoses and procedures recorded for patients admitted to hospitals.

monitoring (of public health): A process of keeping a regular and close watch over important aspects of the public's health and health services through various measurements, and then regularly reporting on the situation, so that the health system and society more generally can plan and respond accordingly. The term is often used interchangeably with surveillance, although surveillance may imply more urgent watching and reporting, such as the surveillance of infectious diseases and their epidemics.

morbidity: The ill health of an individual and levels of ill health in a population or group.

mortality: Number or rate of deaths in a population during a given time period.

multiple causes of death: All causes listed on the death certificate. This includes the **underlying cause of death** and all **associated causes of death**. This information is useful for describing the role of all diseases involved in deaths, where there is more than one cause contributing to the death. For deaths where the underlying cause was identified as an external cause multiple causes include circumstances of injury, the nature of injury as well as any other conditions reported on the death certificate.

non-fatal burden: The quantified impact on a population of ill health due to disease or injury, measured as years lived with disability (YLD).

non-Indigenous: People who have declared that they are not of Aboriginal or Torres Strait Islander descent.

prevalence: The number or proportion (of cases, instances, and so forth) in a population at a given time.

prevention (of suicide): Action to reduce or eliminate the onset, causes, complications or recurrence of suicide.

Primary Health Networks (PHNs): Primary Health Networks were established on 1 July 2015 by the Australian Government Department of Health. They are independent primary health care organisations that commission services and are operated by not-for-profit companies, informed by clinical councils and community advisory committees.

Primary Health Network (PHN) areas: PHNs connect health services across a specific geographic area (a PHN area), with the boundaries defined by the Australian Government Department of Health. There are 31 PHN areas that cover the whole of Australia.

principal diagnosis: The diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care (hospitalisation). Diagnoses are recorded using the relevant edition of the International statistical classification of diseases and related health problems, 10th revision, Australian modification (ICD-10-AM).

protective factors: Factors that enhance the likelihood of positive outcomes and reduce the chance of negative consequences from exposure to risk.

psychological distress: Psychological distress is commonly measured using the Kessler Psychological Distress Scale—10 items (K10). The K10 questionnaire was developed to yield a global measure of psychosocial distress, based on questions about people's level of nervousness, agitation, psychological fatigue and depression in the past four weeks. The Kessler 6 Scale is an abbreviated version of K10.

psychosocial factors: Social processes and social structures which can have an interaction with individual thought, behaviour and/or health outcomes.

public health: Activities aimed at benefiting a population, with an emphasis on prevention, protection and health promotion as distinct from treatment tailored to individuals.

quintile: A group derived by ranking the population or area according to specified criteria and dividing it into five equal parts. Commonly used to describe socioeconomic areas.

rate: A rate is one number (the numerator) divided by another number (the denominator). The numerator is commonly the number of events in a specified time. The denominator is the population 'at risk' of the event. Rates (crude, age-specific and age-standardised) are generally multiplied by a number such as 100,000 to create whole numbers.

remoteness area: A classification of the remoteness of a location using the Australian Statistical Geography Standard Remoteness Area Structure (2016) which divides Australia into 5 classes of remoteness based on their relative access to services using the Accessibility and Remoteness Index of Australia which is, in turn, derived by measuring the road distance of a location from the nearest urban centre. The 5 Remoteness Areas are Major cities, Inner regional, Outer regional, Remote and Very remote.

reserve (Australian Defence Force): Australian Defence Force members who have had at least 1 day of reserve service on or after 1 January 2001.

risk factor: Any attributes, characteristics or exposures that increase the likelihood of a person developing a health condition or experiencing an event.

separation (from hospital): An episode of care for an admitted patient, which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute care to rehabilitation). Separation also means the process by which an admitted patient completes an episode of care either by being discharged, dying, transferring to another hospital or changing type of care.

social determinants of health: The circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies and politics.

socioeconomic status: The social and economic position of an individual or group within the larger society. In this monitoring site, socioeconomic status is reported using the Socio-Economic Indexes for Areas, typically for 5 groups, from the most disadvantaged (lowest socioeconomic status areas) to the least disadvantaged (highest socioeconomic status areas).

Socio-Economic Indexes for Areas (SEIFA): A set of indexes, created from Census data, that represent the socioeconomic status of geographical areas in Australia according to their relative socioeconomic advantage and disadvantage. The SEIFA index used in this report is the **Index of Relative Socioeconomic Disadvantage (IRSD)**. It is important to understand that the index value reflects the overall or average level of disadvantage of the population of an area; it does not reflect the socioeconomic status of individuals living within the area.

Socio-Economic Indexes for Areas (SEIFA) quintiles: Population-based quintiles are calculated by dividing SEIFA areas into 5 equal groups in such a way that the population in each group is approximately equal. As SEIFA measures the characteristics of an area rather than individuals, the population in the most disadvantaged population-based quintile ('1—Lowest') is the 20% of the national population residing in the most disadvantaged areas, rather than the most disadvantaged 20% of the population.

statistical areas: A geographical classification defined by the ABS. They encompass four levels, with increasing size and population: Statistical Areas Level 1 (SA1s); Statistical Areas Level 2 (SA2s); Statistical Areas Level 3 (SA3s); and Statistical Areas Level 4 (SA4s).

statistical significance: A statistical measure indicating how likely the observed difference or association is due to chance alone. Rate differences are deemed to be statistically significant when their confidence intervals do not overlap, since their difference is greater than what could be explained by chance.

suicidal ideation: Serious thoughts about ending one's own life.

suicidal behaviours: The collective term for suicidal ideation, suicide plans and suicide attempts.

suicide: An action intended to deliberately end one's own life.

total burden: The sum of fatal burden (YLL) and non-fatal burden (YLD).

underlying cause of death: The disease or injury that initiated the train of events leading directly to a person's death, or the circumstances of the accident or violence that produced the fatal injury. See also **cause(s) of death** and **associated cause(s) of death**.

usual residence: The area of the address at which the deceased lived or intended to live, for 6 months or more prior to death.

years lived with disability (YLD): The number of years of what could have been a healthy life that were instead spent in states of less than full health. YLD represent non-fatal burden.

years of life lost (YLL): The number of years of life lost due to premature death, defined as dying before the ideal life span. YLL represent fatal burden.

Viewing the monitoring data

Caution: Some people may find parts of this content confronting or distressing.

Please carefully consider your needs when reading the following information about suicide and self-harm. If this material raises concerns for you contact Lifeline on 13 11 14, or see other ways you can seek help.

The information included here places an emphasis on data, and as such, can appear to depersonalise the pain and loss behind the statistics. The AIHW acknowledges the individuals, families and communities affected by suicide each year in Australia.

Aboriginal and Torres Strait Islander readers are advised that information relating to Indigenous suicide and self-harm is included.

The AIHW supports the use of the Mindframe guidelines - external site opens in new window on responsible, accurate and safe suicide and self-harm reporting. Please consider these guidelines when reporting on statistics on the monitoring of suicide and self-harm.

Suicide & self-harm monitoring

Need help now?

Lifeline 13 11 14
More (/suicide-self-harm-monitoring/research-information/crisis-support)

Archived content

For the latest data, please see Data downloads.

The below data tables contain previously published data that have now been superseded.

Notes for archived data downloads

- **National Hospital Morbidity Database—Intentional self-harm hospitalisations**
  The estimated resident populations used in rates calculations throughout this data table have been revised in more recent updates.
- **National Mortality Database—Suicide (ICD-10 X60–X84, Y87.0)**
  The estimated resident populations used in rates calculations throughout this data table have been revised in more recent updates.

Data tables: 2019 National Hospital Morbidity Database—Intentional self-harm hospitalisations

Data

Source: National Hospital Morbidity Database Originally published 29/9/2020, republished 28/9/2023
XLSX 397kB

Data tables: 2019 National Ambulance Surveillance System

Data

Source: National Ambulance Surveillance System for attendances related to self-harm behaviours and mental health
XLSX 140kB

Data tables: 2019 National Mortality Database—Suicide (ICD-10 X60–X84, Y87.0)

Data
XLSX 440kB

Data tables: 2020 National Hospital Morbidity Database – Intentional self-harm hospitalisations

Data

Source: National Hospital Morbidity Database Originally published 27/7/2022 republished 28/9/2023
XLSX 473kB

Data tables: 2020 National Mortality Database—Suicide (ICD-10 X60–X84, Y87.0)

Data
XLSX 475kB

Data tables: 2020–21 National Hospital Morbidity Database—Intentional self-harm hospitalisations

Data

Source: National Hospital Morbidity Database
XLSX 571kB

Data tables: 2021 National Ambulance Surveillance System—self-harm behaviours

Data

Archived 7 July 2023
XLSX 301kB

Data tables: 2021 National Mortality Database—Suicide (ICD-10 X60–X84, Y87.0)

Data
XLSX 589kB

Data tables: 2021–22 National Hospital Morbidity Database—Intentional self-harm hospitalisations

Data

Archived 28 Aug 2024
XLSX 733kB

Data tables: 2022 National Ambulance Surveillance System—self-harm behaviours

Data
XLSX 356kB
