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Viewing the monitoring data

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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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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 2022, there were 3,249 deaths by suicide – an average of about 9 deaths per day – with a rate of 12.3 per 100,000 population.

Suicide and self-inflicted injuries was the second leading cause of premature death from injury or disease
In 2018, males lost an average of 42.2 years and females lost and average of 41.6 years to 'suicide and self-inflicted injuries'.

Males are 3 times more likely to take their own life than females
In 2022, there were 2,455 male deaths at a rate of 18.8 per 100,000; there were 794 female deaths at a rate of 5.9 per 100,000. In 2022, 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 of all deaths among Australians aged 15–24 years were due to suicide in 2022.

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.

The highest proportion of deaths by suicide occur during mid-life
More than half of all deaths by suicide in 2022 (55%) occurred in people aged 30–59 (1,774 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 and over 85.

Results of a birth cohort analysis show trends in suicides have changed over time
Suicide rates for the most recently born female cohorts are higher than those for earlier female cohorts at the same age while suicide rates for the most recently-born male cohorts are similar to, or lower than, earlier male cohorts at the same age.

Using linked data, 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, except for Western Australia. 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 some states and territories for selected months from 2018 to 2021 (visit Ambulance attendances: suicidal and self-harm behaviours), with monthly data from January 2021. In addition, monthly ambulance data for Victoria from January to March 2021 are also reported (visit COVID-19). 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 in order 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. 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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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 2022, 1.7% of all deaths registered were by suicide – 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 in order to improve the effectiveness of suicide prevention.

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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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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 April 2024)
- Victoria (monthly reports up to May 2024)
- Queensland (monthly reports up to May 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. As such, they are not directly comparable with cause of death data released by the Australian Bureau of Statistics, which are based on final 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).

The state and territory suicide registers also differ from each other in their processes and counting rules for identifying suspected suicide deaths. Therefore, data from one register cannot be directly compared with those from another.

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

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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.

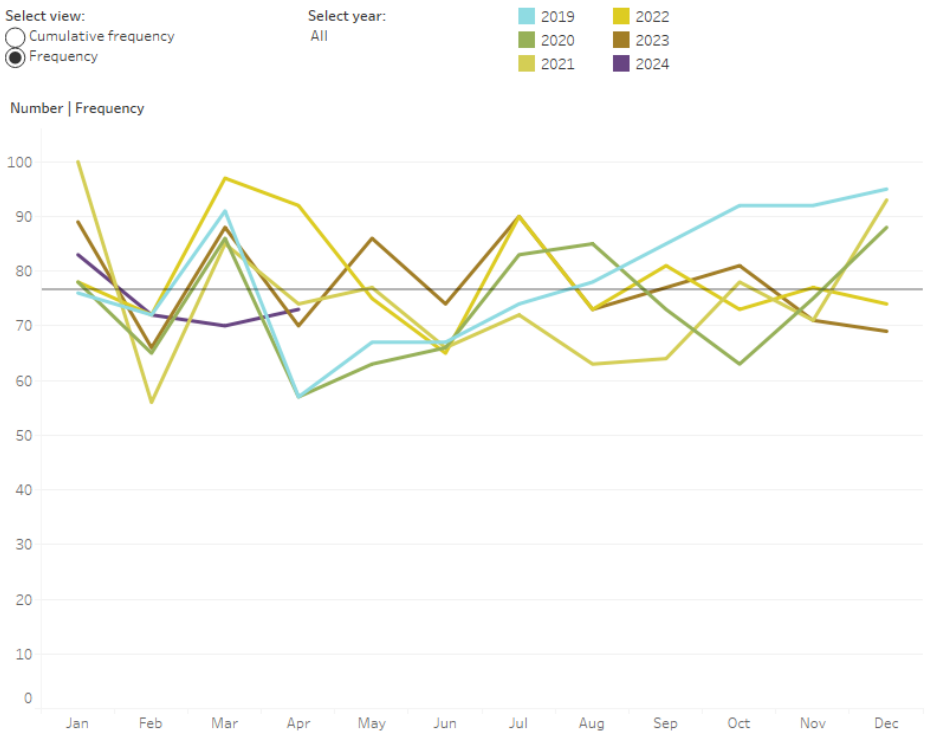
The latest NSW SuMS report for April 2024 shows that (NSW Health 2024):

- A total of 934 suspected or confirmed suicide deaths was recorded for the full year in 2023. This was lower than the number of suicide deaths in 2022 (947) and higher than in 2021 (899), and 2020 (882).
- 298 suspected deaths by suicide were recorded between 1 January and 30 April 2024. This compares to 313 suspected or confirmed suicide deaths for the same period in 2023, 339 in 2022, 315 in 2021 and 286 in 2020.

The number (frequency) of suspected or confirmed suicide deaths per month varies considerably from month to month, as can be seen in the visualisation below when the “Frequency” view is selected. The “Cumulative Frequency” view shows the year-to-date numbers of suicide deaths. From this view it appears that the increase in suicide numbers in 2022 began from around April 2022.

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

The interactive data visualisation shows the number of suspected and confirmed deaths by suicide in New South Wales, by month, beginning from January 2019 up to February 2023. Viewing can be changed between frequency and cumulative frequency. An average trendline has been included.



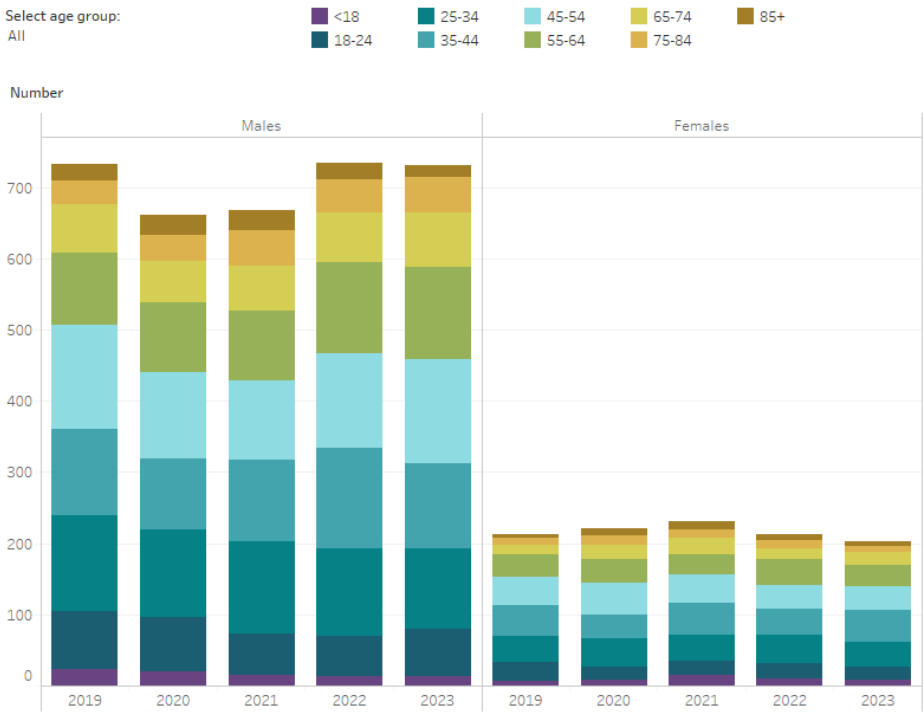
Notes: Data are subject to revision as coronial investigations progress and are finalised. Data for the same period may therefore vary between reports.
Source: NSW Health (2024)

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

- In 2023 there were 731 suspected or confirmed suicide deaths reported for males in NSW compared with 734 in 2022, 668 in 2021 and 661 in 2020.
- For females, there were 203 suspected or confirmed suicide deaths in 2023, compared with 212 in 2022, 231 in 2021, and 221 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 (130), 35 to 44 years (120), and 25 to 34 years (113) recorded the largest number of suspected or confirmed suicide deaths, accounting for 20%, 18%, 16% and 15% of all male suicide deaths, respectively.
- Similarly, for females, the age groups of 35 to 44 years (45), 25 to 34 years (34), 45 to 54 years (34) and 55 to 64 years (29) experienced the greatest number of suspected or confirmed deaths by suicide, accounting for 22%, 17%, 17% 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, starting from 2019 up to 2022. The population group is divided by sex (males, females) and age groups, ranging from people under the age of 18 years to 85 years and over. Viewing by location of usual residence can also be selected.



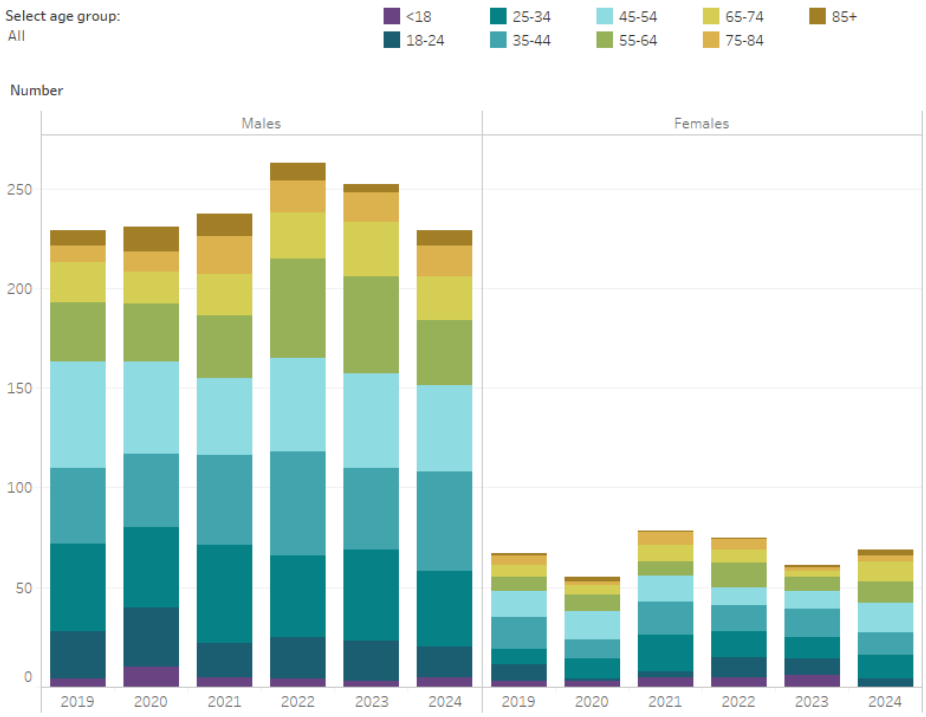
Notes: Data are subject to revision as coronial investigations progress and are finalised. Data for the same period may therefore vary between reports.
Source: NSW Health (2023, 2024)

Year-to-date data to 30 April 2024 from the SuMS show:

- Males recorded 229 suspected deaths by suicide, compared to 252 for the same period in 2023, 263 in 2022, 237 in 2021 and 231 in 2020.
- Females recorded 69 suspected deaths by suicide, compared with 61 for the same period in 2023, 75 in 2022, 78 in 2021 and 55 in 2020.

Frequency of suspected and confirmed deaths by suicide in New South Wales, by age group and sex, and location, 1 January to 30 April 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.
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 2024c):

- There was a total of 799 suspected or confirmed suicide deaths in 2023. This was higher than the number of suspected or confirmed suicide deaths in 2022 (766), 2021 (681), and 2020 (673).

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 2024b).

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

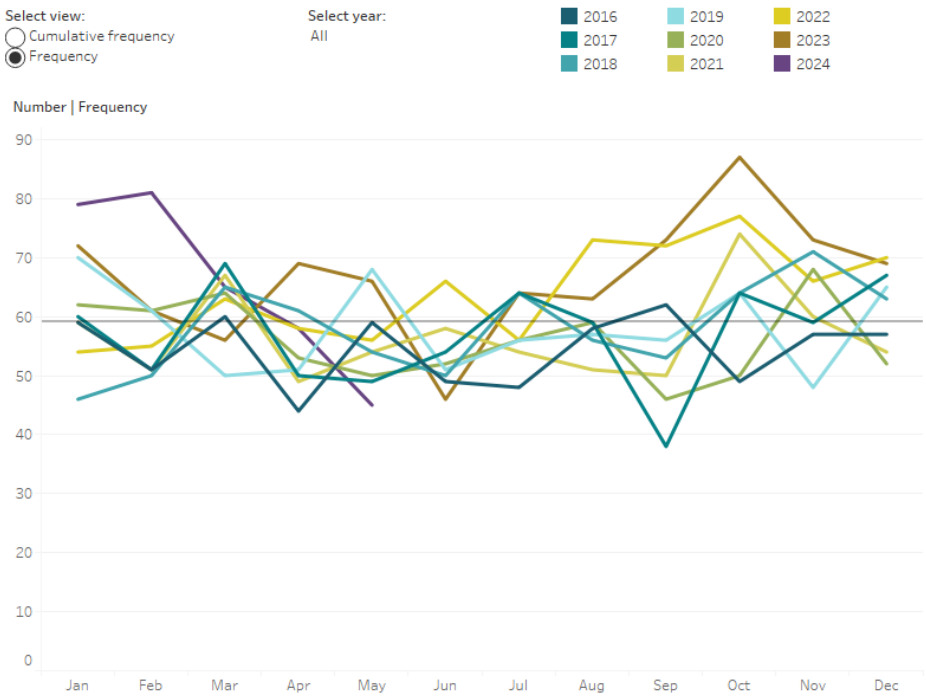
- Between 1 January and 31 May 2024, 328 suspected deaths by suicide were reported in Victoria. This compared to 324 in 2023, 286 in 2022, 280 in 2021 and 290 in 2020 in the same period.

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" view 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 58 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 5 months of 2024, with monthly averages of 67 in 2023 and 66 to 31 May 2024, both higher than previous years.

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

The interactive data visualisation shows the number of suspected deaths by suicide in Victoria, by month, starting from January 2016 to January 2023. Viewing can be changed between frequency and cumulative frequency. 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.
Source: CCOV (2021, 2022, 2023c, 2023d, 2024c)

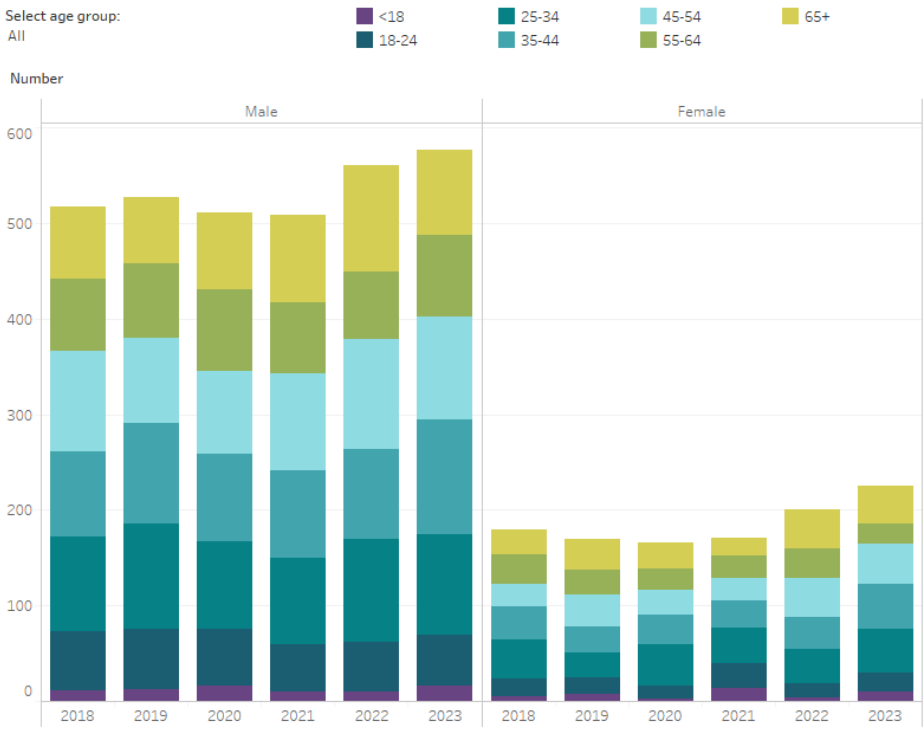
The CCOV also reports on suicide deaths by age group and sex, and incident location (CCOV 2024a, 2024b). For 2023:

- 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 sex (males, females) and age groups, ranging from people under the age of 18 to over 65. 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.
Source: CCOV (2024a)

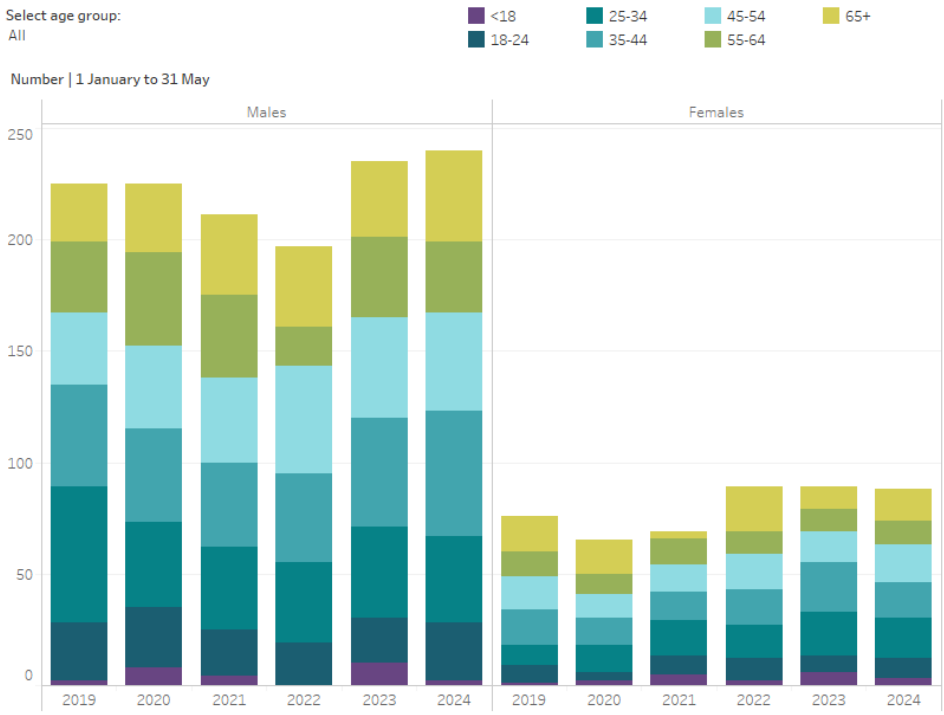
Year-to-date data to May 2024 for age group and sex, and incident location show (CCOV 2024c):

- Males recorded 240 suspected deaths by suicide, which is higher than the same period in 2023 (235), 2022 (197), 2021 (211), and 2020 (225).
- Females recorded 88 suspected deaths by suicide, compared with 89 for the same period in 2023, 89 in 2022, 69 in 2021, and 65 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 31 May 2019 to 2024

The interactive data visualisation shows the number of suspected deaths by suicide in Victoria, from month end January 2019 to month end April 2023. The population group is divided by sex (males, females) and age group, ranging from people under the age of 18 years to 65 years and over. Viewing by 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 June 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.
Source: CCOV (2024a,c)

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 2024d).

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 2024d).

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 2024d).

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.

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. To date, monthly reports have been published for October, November and December 2023, with data dating back to January 2016.

The latest iQSR Monthly Suicide Data Report for May 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).

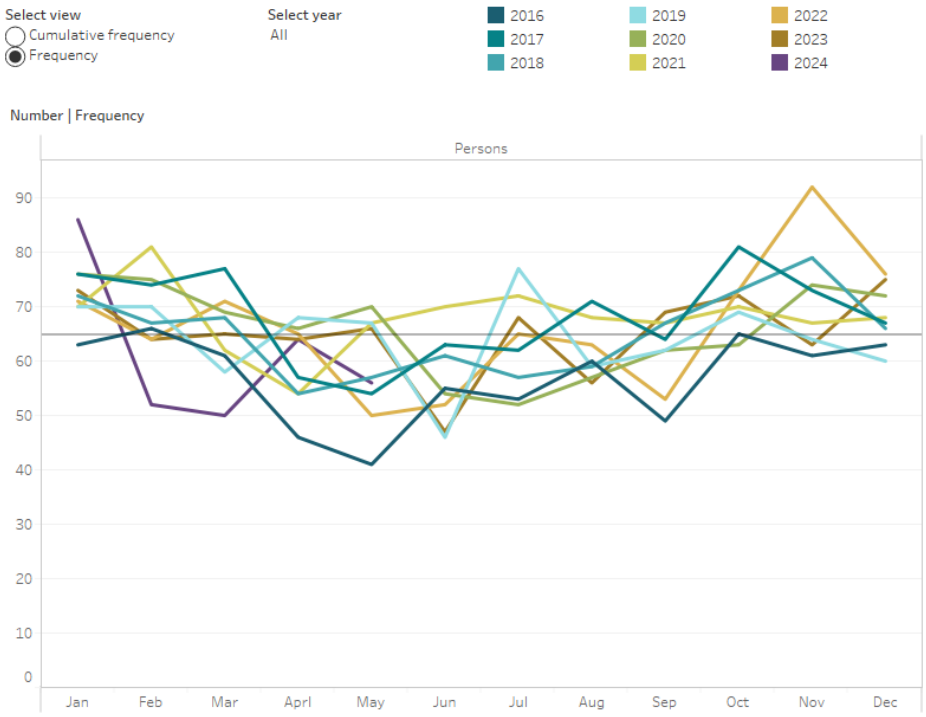
- 308 suspected deaths by suicide were recorded between 1 January and 31 May 2024. This compares to 332 for the same period in 2023, 321 in 2022, 334 in 2021 and 356 in 2020.

In the visualisation below:

- The number (frequency) of suspected suicide deaths per month varies considerably from month to month, when the "Frequency" view is selected. 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" view 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 from 2017 to 2023.

Frequency of suspected deaths by suicide in Queensland, by persons, male and female, 1 January 2016 to 31 May 2024

The interactive data visualisation shows the number of suspected deaths by suicide in Queensland, by month. Viewing can be changed between frequency and cumulative frequency. 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
Source: iQSR (2024a,b)

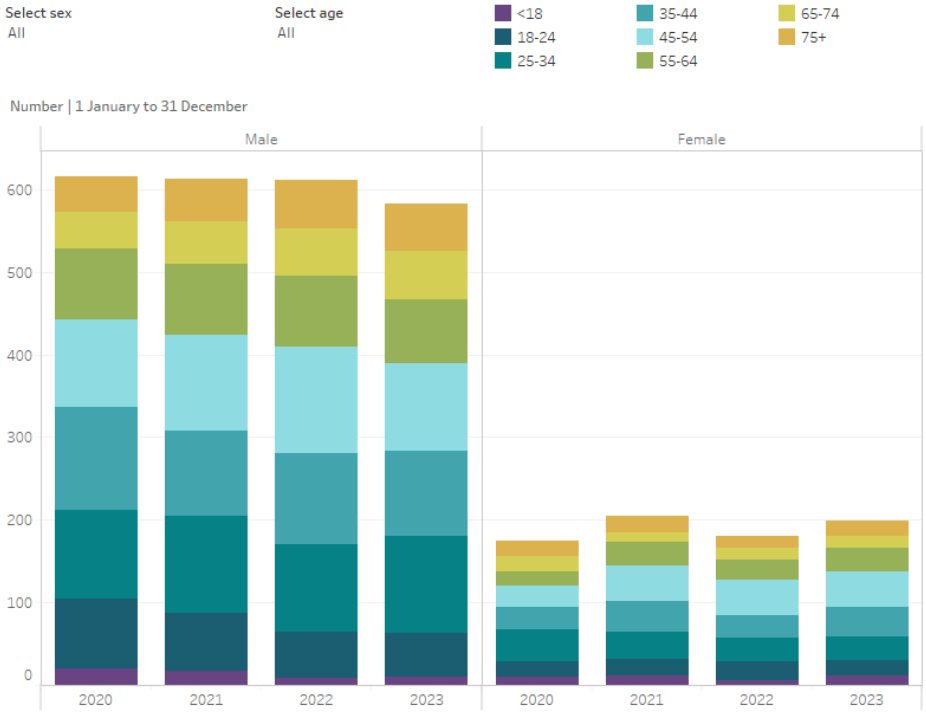
The iQSR reports on suspected suicide deaths by age group and residential location (QMHC 2024b):

- 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 2016-2023

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.
Source: iQSR (2024b)

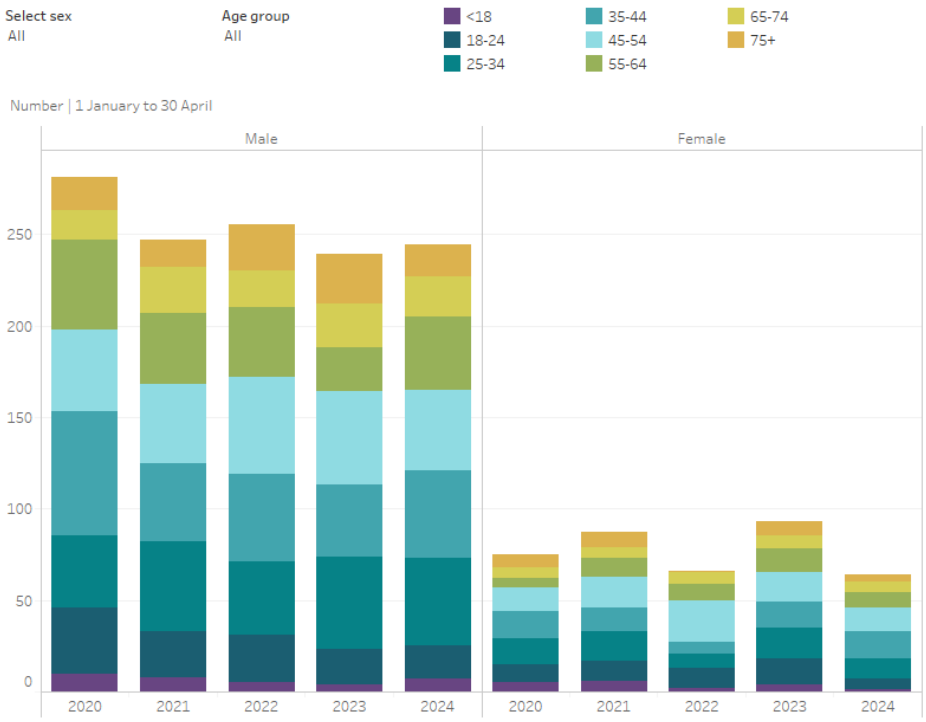
The year-to-date iQSR reports (to 31 May 2024) on suspected suicide deaths by age group, sex and residential location show (QMHC 2024b):

- Males recorded 244 suspected deaths by suicide, compared with 239 for the same period in 2023, 255 in 2022, 247 in 2021 and 281 in 2020.
- Females recorded 64 suspected deaths by suicide, compared with 93 for the same period in 2023, 66 in 2022, 87 in 2021 and 75 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 31 May 2020 to 2024.

Frequency of suspected deaths by suicide in Queensland by age group, sex, and location, 1 January to 31 May 2020-2024

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.
Source: iQSR (2024b)

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Australian Government
Australian Institute of Health and Welfare

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)

Ambulance attendances

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.

Viewing the monitoring data

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

The AIHW holds monthly ambulance attendance data for NSW, Vic, Qld, Tas, ACT and NT, dating from January 2021 to June 2023. Prior to 2021, the data comprises 1-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, 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 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?

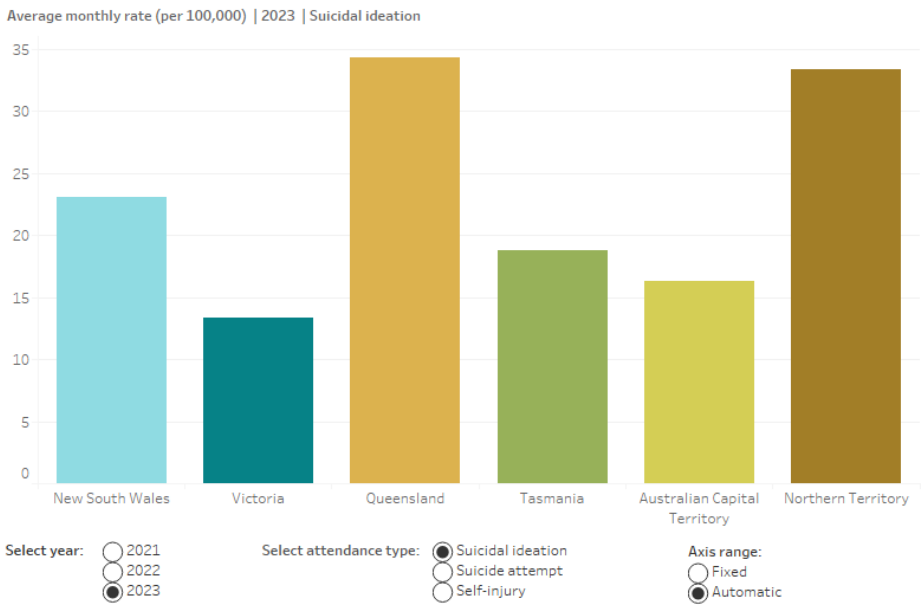
Comparing ambulance attendance rates across states and territories requires careful interpretation due to varying factors such as the availability of ambulance services, cost coverage differences, and access to 24-hour health centres. Additionally, inconsistencies in paramedic patient records across 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 June 2023. In the first half of 2023:

- Qld had the highest average monthly rate of ambulance attendances for suicidal ideation (34), followed by NT (33), NSW (23), Tas (19), ACT (16) and Vic (13).
- Qld had the highest average monthly rate of ambulance attendances for suicide attempt (17), followed by Tas (16), NT (14), Vic (11), ACT (10) and NSW (8.3).
- NT had highest average monthly rate of ambulance attendances for self-injury (17), notably higher than all other states and territories in the NASS, with rates of 10 in Qld, 9.1 in ACT, 8.6 in Tas, 7.6 in NSW and 4.8 in Vic.

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



Notes:
1. Average monthly rates are calculated by averaging the monthly rates for each year (i.e. for each year: summing the available monthly rates and dividing by the number of months for which data are available).
2. For 2021, NSW data for June are not available. Therefore, NSW 2021 average monthly rates are calculated for 11 months only.
3. For 2023, Vic, Qld, Tas, ACT and NT data includes January to June only (6 months). For NSW as January 2023 data are not available, only February to June 2023 are included (5 months).
Supplementary Table: AMB S6
Source: Monash University, Turning Point

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 June 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.

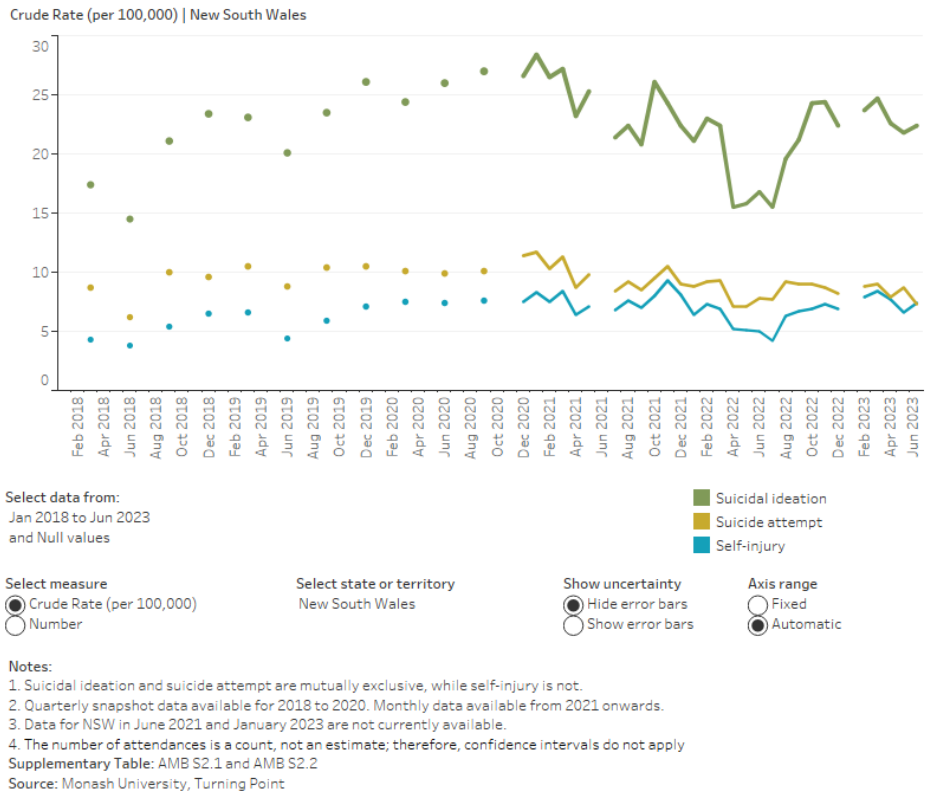
Caution is advised when making month to month comparisons, particularly for the 1-month per quarter snapshot data (pre-2021 data). It is advised to compare the same months over a few years to allow for any seasonal effects and variations at different times of the year. When comparing changes to estimates 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. This means that we are 95% confident that the true number falls within the interval range.

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 June 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) compared with suicide attempt (range from 6.2 to 12).
- For Tas, ACT and NT while similar to the above states there are differences. For example:
  - For NT the rates of ambulance attendances for suicide attempt (range from 7.7 to 19) are similar to self-injury (range from 8.1 to 21).

Ambulance attendances for suicidal ideation, suicide attempt and self-injury, March 2018 to June 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.



Notes:
1. Suicidal ideation and suicide attempt are mutually exclusive, while self-injury is not.
2. Quarterly snapshot data available for 2018 to 2020. Monthly data available from 2021 onwards.
3. Data for NSW in June 2021 and January 2023 are not currently available.
4. The number of attendances is a count, not an estimate; therefore, confidence intervals do not apply

Supplementary Table: AMB S2.1 and AMB S2.2

Source: Monash University, Turning Point

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.

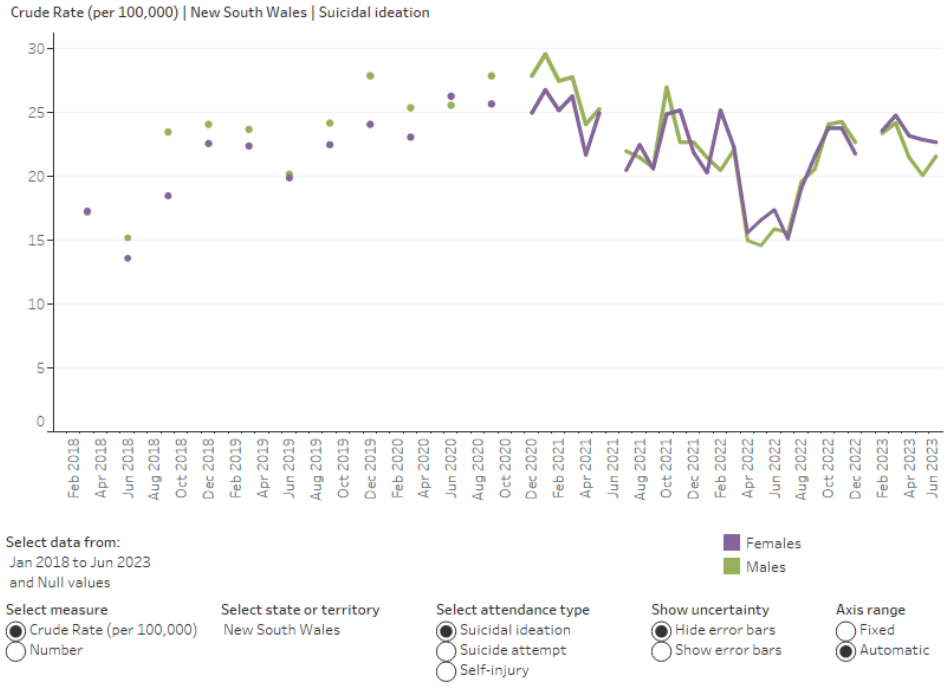
There are distinct differences between males and females when examining deaths by suicide and intentional self-harm hospitalisations; higher rates of deaths by suicide are seen in males compared with females (see Deaths by suicide over time) while females have higher rates of hospitalisations for intentional 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 June 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 (with the exception of self-injury in Vic in December 2020, where there was no difference by gender). For instance, in June 2023, the rates of ambulance attendances (per 100,000 population) for suicide attempt were:
  - around 1.5 times as high in females compared with males in NSW (8.8 and 5.7, respectively)
  - nearly 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 (18 and 10, respectively).
- Rates of ambulance attendances for suicidal ideation in NSW, Vic and Qld, however, were similar for males and females across the same period.
- 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 June 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.



Select data from:
Jan 2018 to Jun 2023
and Null values

Select measure
- (●) Crude Rate (per 100,000)
- ( ) Number

Select state or territory
New South Wales

Select attendance type
- (●) Suicidal ideation
- ( ) Suicide attempt
- ( ) Self-injury

Show uncertainty
- (●) Hide error bars
- ( ) Show error bars

Axis range
- ( ) Fixed
- (●) Automatic

Notes:
1. Data for NSW in June 2021 and January 2023 are not currently available.
2. The number of attendances is a count, not an estimate; therefore, confidence intervals do not apply

Supplementary Table: AMB S3.1 and AMB S3.2
Source: Monash University, Turning Point

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 June 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 (range from 14 to 23). The lowest rates were among females aged 65 years and over (range from 4.4 to 6.8).
- 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 (range from 13 to 19), 45 to 64 years (range from 9.0 to 13) and 65 years and older (range from 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 (range from 6.9 to 12), and those aged 45 years and older (2.9 to 4.8).

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 6.1 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 June 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.

Notes:
1. Selected states and territories include: NSW, Vic, Qld, Tas, ACT and NT.
2. Self-injury attendances are age-groups 45 years and over are aggregated due to a small number of attendances.
3. Data for June 2021 and January 2023 data are not shown due to data not being available for NSW in these months.
4. The number of attendances is a count, not an estimate; therefore, confidence intervals do not apply.

Supplementary Table: AMB S4
Source: Monash University, Turning Point

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

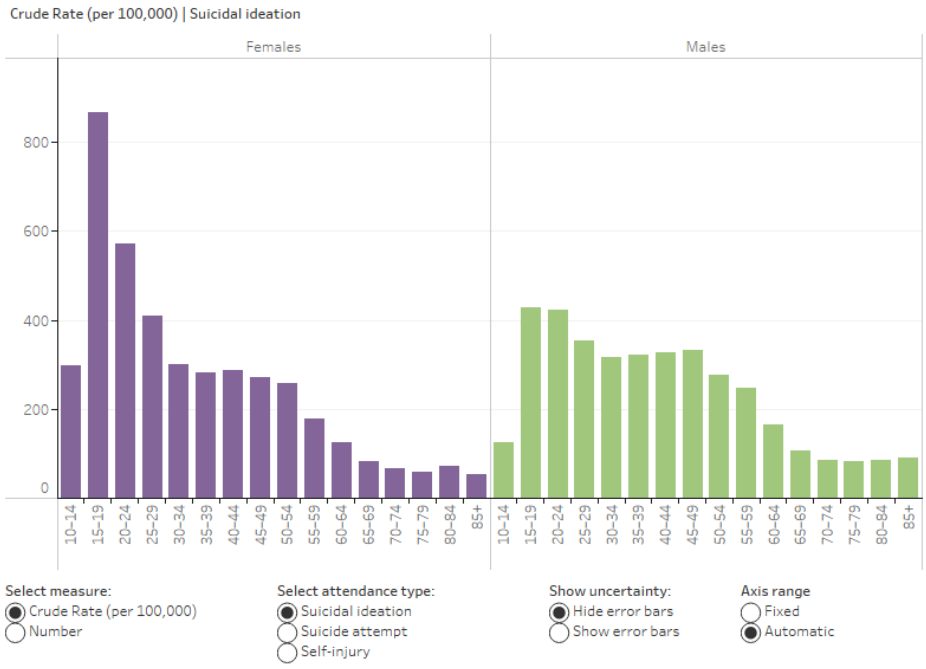
ideation, suicide attempt, and self-injury. Consistent with the findings over time, young females appear to be particularly at risk for suicidal ideation, suicide attempt and self-injury.

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 per 100,000 population) 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.



Notes:
1. Data included for NSW, Vic, Qld, Tas, ACT, and NT.
2. The number of attendances is a count, not an estimate; therefore, confidence intervals do not apply
Supplementary Table: AMB S1
Source: Monash University, Turning Point

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 June 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 (61%, 42% and 4.6% respectively for June 2023).
- Ambulance attendances for suicide deaths are most frequently attributed to hanging, followed by other, and then alcohol and other drugs (57%, 31%, and 13% respectively for June 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 month-to-month variations.

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

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

Content warning:

The data in this visualisation might be distressing to some readers as it contains data on the modality of suicide deaths and attempts. 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 if reporting on these statistics.

Proceed to visualisation

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'. *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).

Viewing the monitoring data

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

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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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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 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?

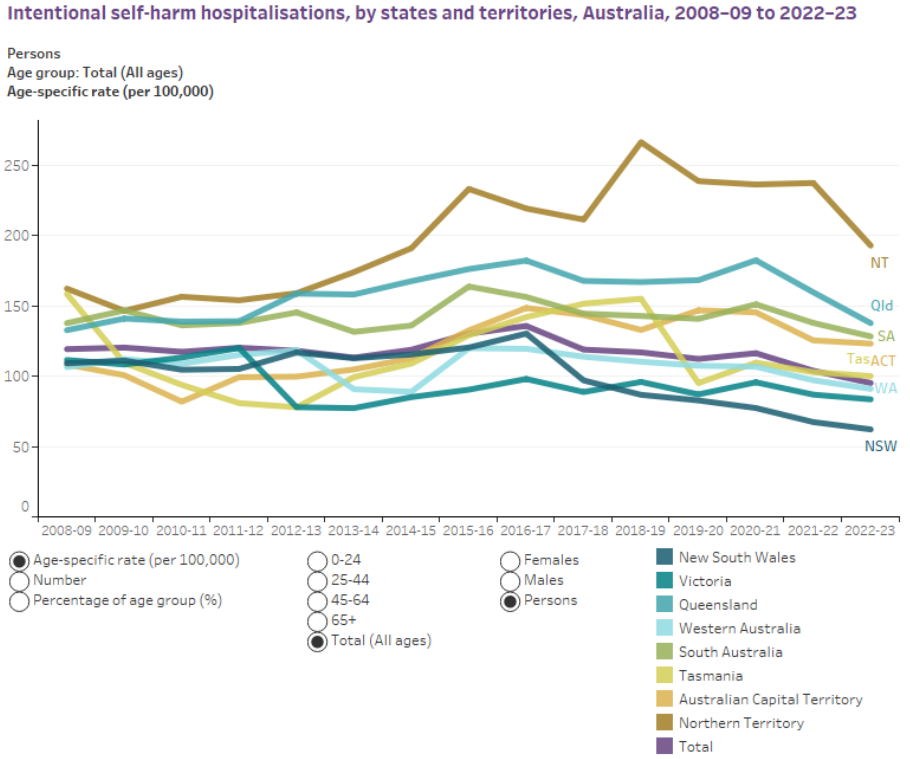
In 2022–23:

- 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.



Note:
1. Some data for the ACT and NT are not shown for the age groups 45–64 and 65+ due to small cell sizes.
2. Age-specific rates may differ to those previously reported due to re-based estimated residential population.
Source: AIHW National Hospital Morbidity Database
Supplementary Tables: NHMD S1
Latest data: 2022–23 (annual release)

See notes ▶

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).

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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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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

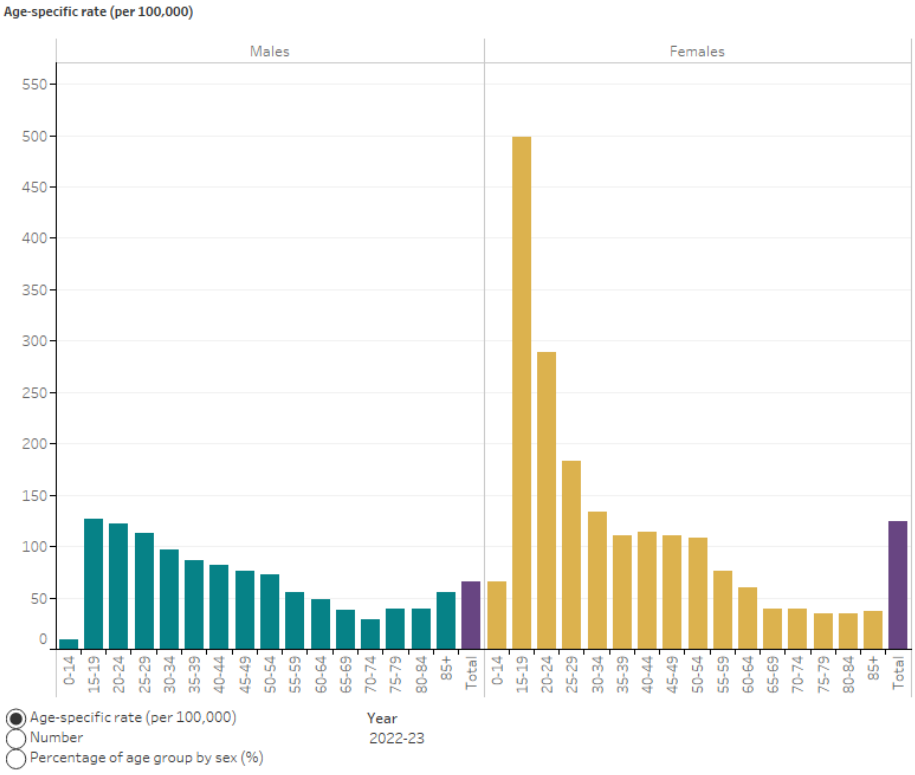
In 2022–23:

- 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).

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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.

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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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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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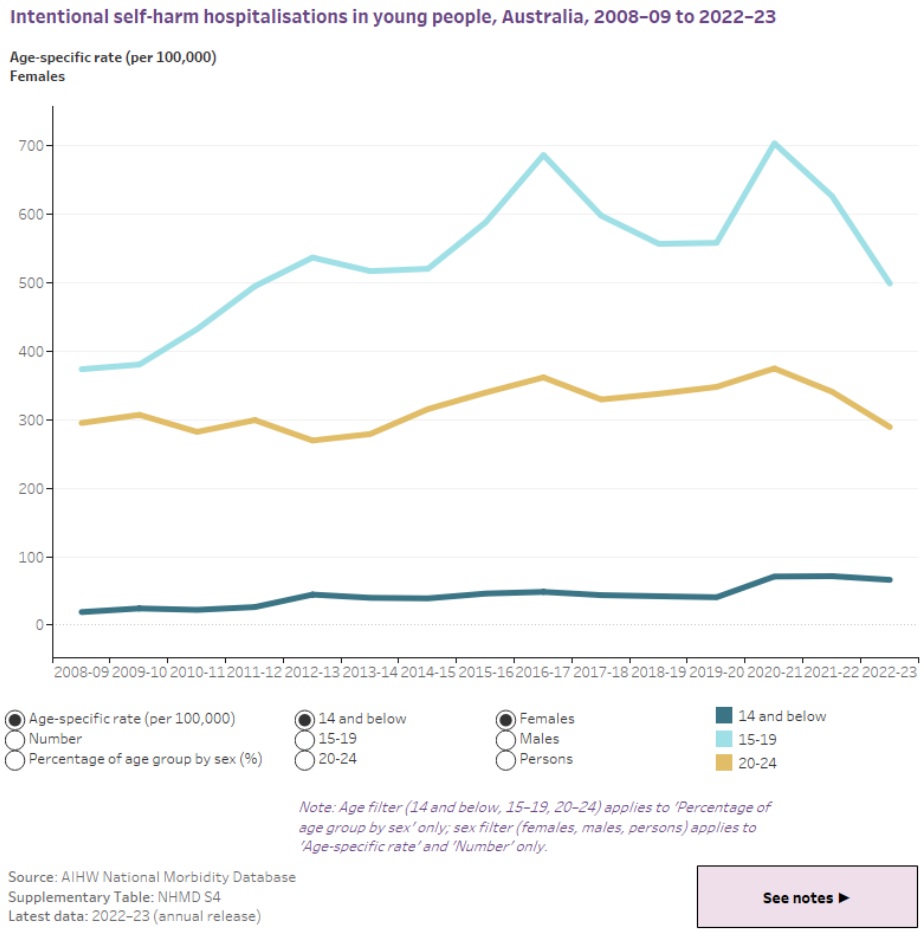
Intentional self-harm hospitalisations among young people

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.

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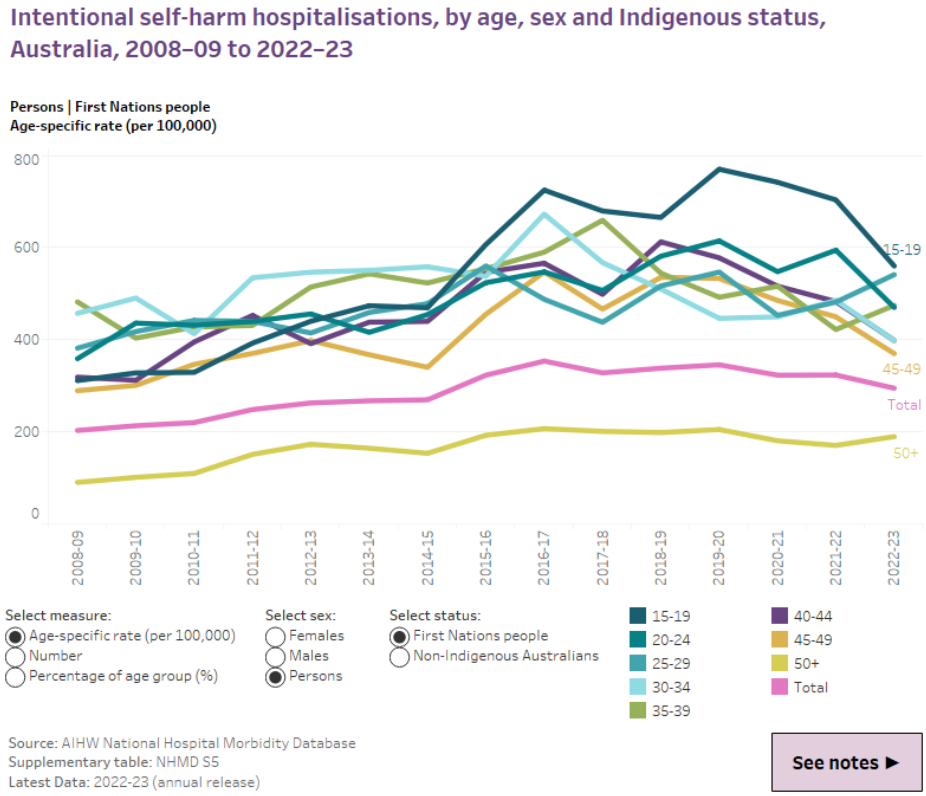
Intentional self-harm hospitalisations among Indigenous Australians

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).

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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 2018.* 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)*.

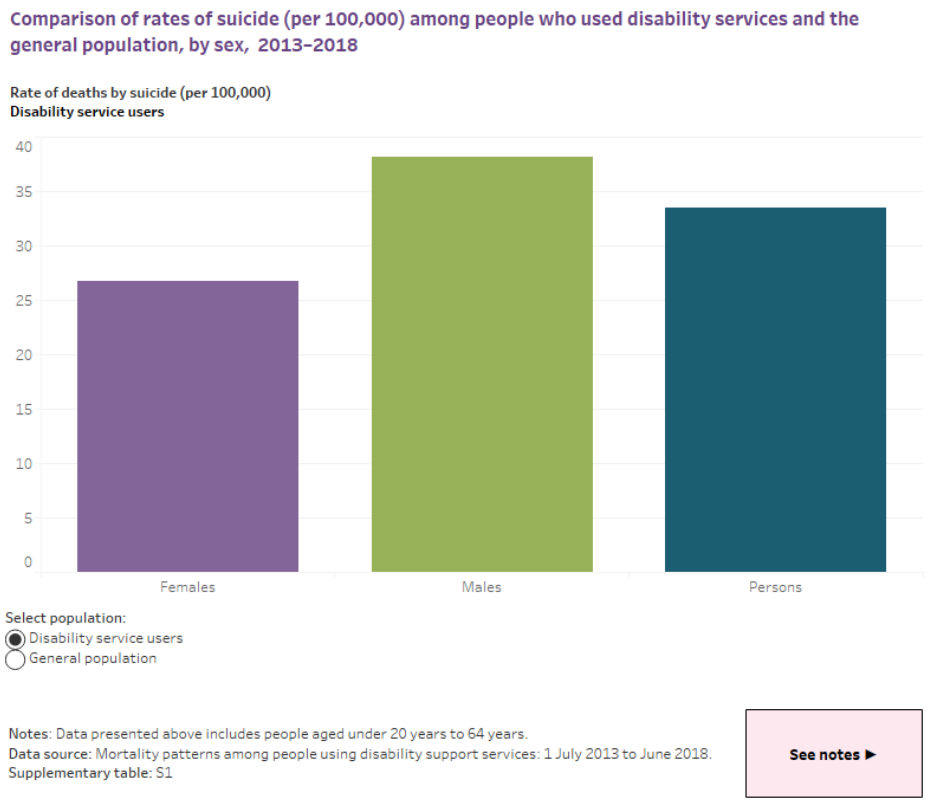
Deaths by suicide among people who used disability services and the general population

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).

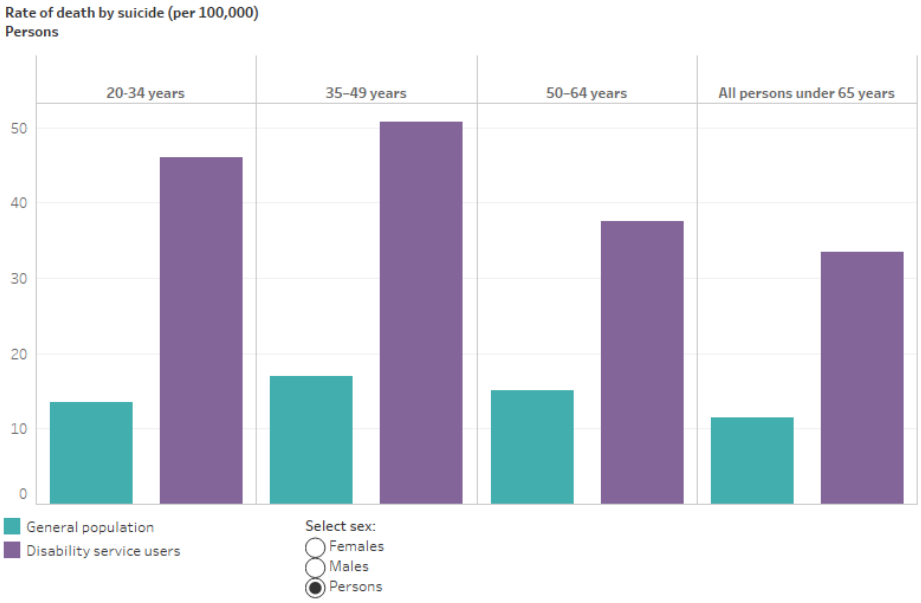
For females who used disability services, the highest rates of suicide were within the 35–49 years age group (38 per 100,000 population respectively). The rate of death by suicide among females who used disability services within the 35-49 years age group was almost five times greater than for females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

Comparison of rates of deaths by suicide among people who used disability services and the general population, by sex and age group, 2013–2018

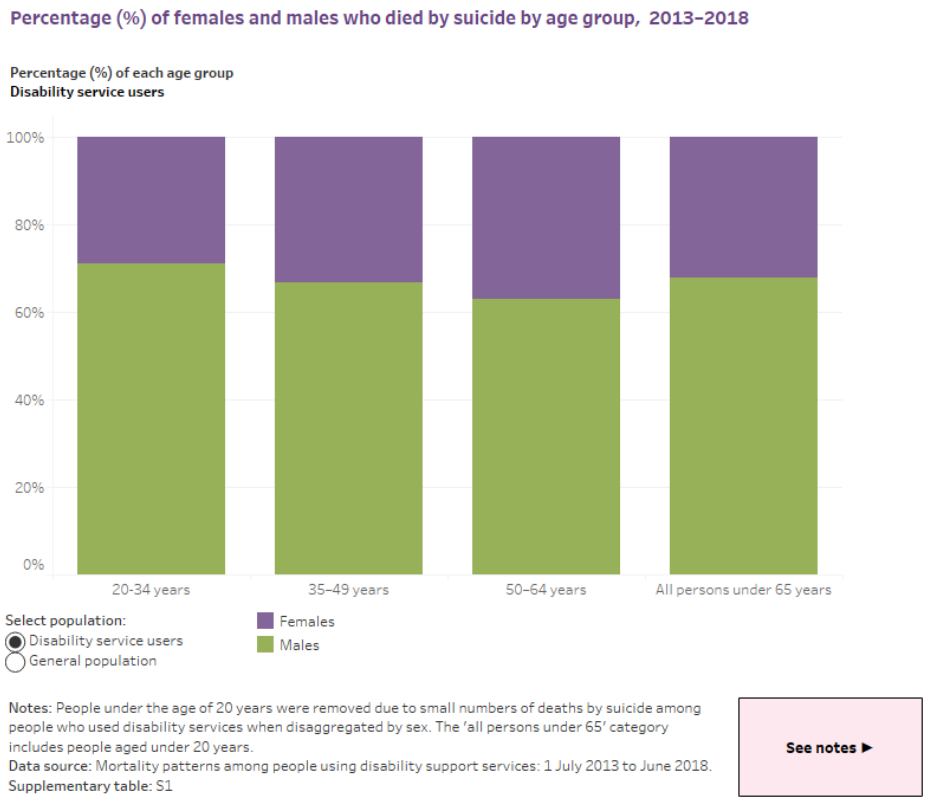


Notes: People aged under 20 years are not presented due to small numbers. 'All persons aged under 65' includes those aged under 20 years.
Data source: Mortality patterns among people using disability support services: 1 July 2013 to June 2018.
Supplementary table: S1

See notes ▶

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

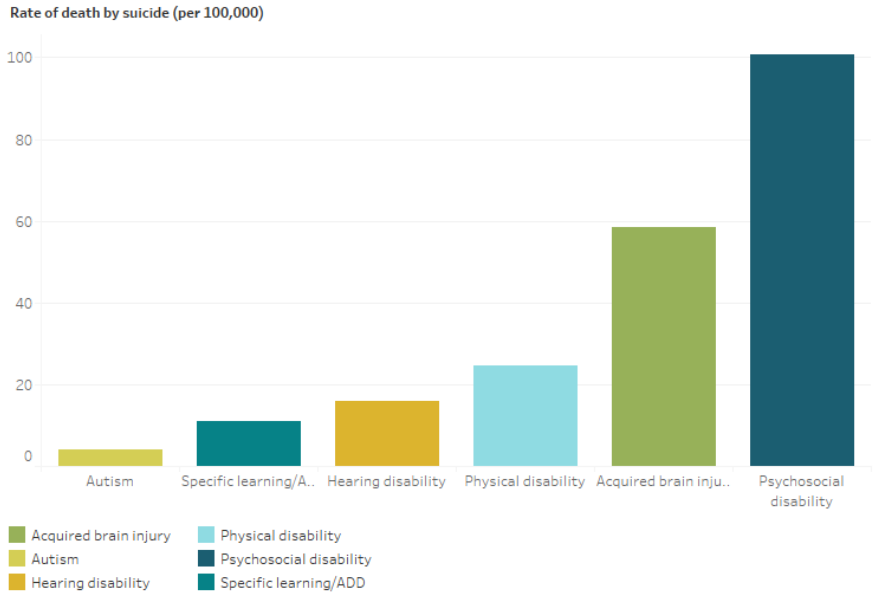
In this reporting the concept of 'primary disability' is that the type of disability which most clearly reflects the person's experience of disability and causes them the most difficulty in everyday life. Primary disability groups reported here are those used by the *Mortality patterns among people using 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.

Rates of suicide (per 100,000), among people who used disability services, by primary disability, 2013–2018



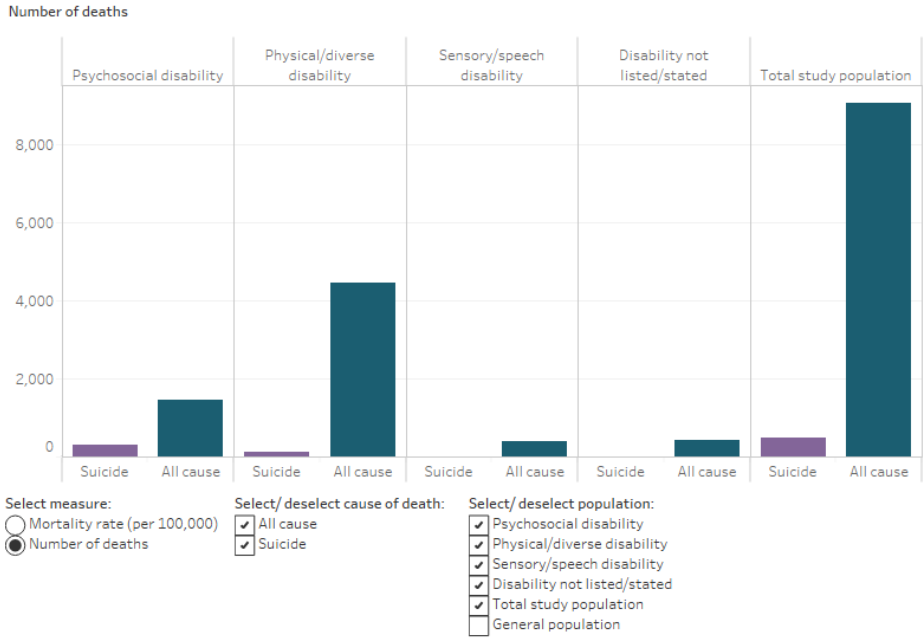
Notes: Data presented above includes people aged under 20.
Data source: Mortality patterns among people using disability support services: 1 July 2013 to June 2018.
Supplementary table: S1

See notes ▶

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



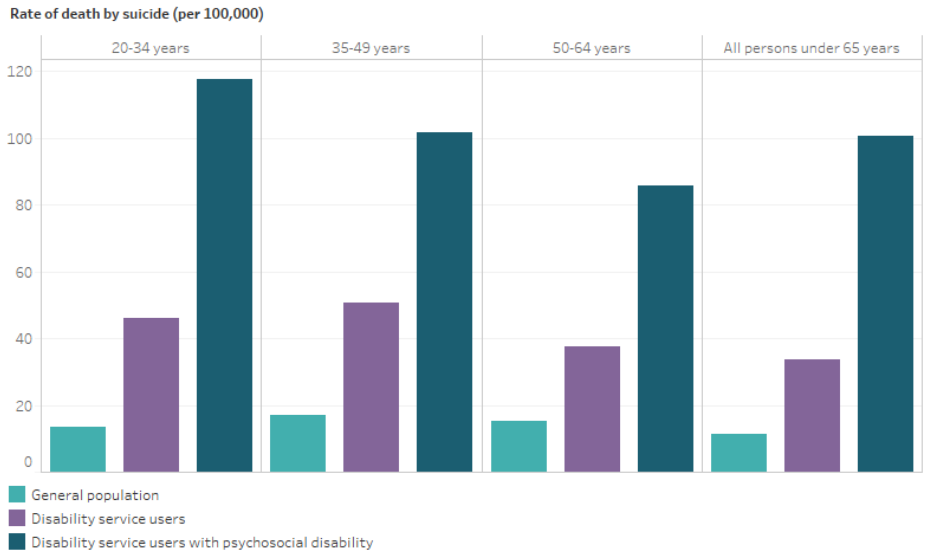
Notes: Data presented above includes people aged under 20.
Data source: Mortality patterns among people using disability support services: 1 July 2013 to June 2018.
Supplementary table: S1

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.

Rates of death by suicide among disability service users with psychosocial disability, people who used disability services, and the general population, by age group, 2013–2018



Notes: People under the age of 20 years were removed due to small numbers of deaths by suicide among people who used disability services when disaggregated by sex. The 'all persons under 65' category includes people aged under 20 years. 'Disability service users' includes people with psychosocial disability. Disability service users were removed from the 'general population'.
Data source: Mortality patterns among people using disability support services: 1 July 2013 to June 2018.
Supplementary table: S1

See notes ▶

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.

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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'.

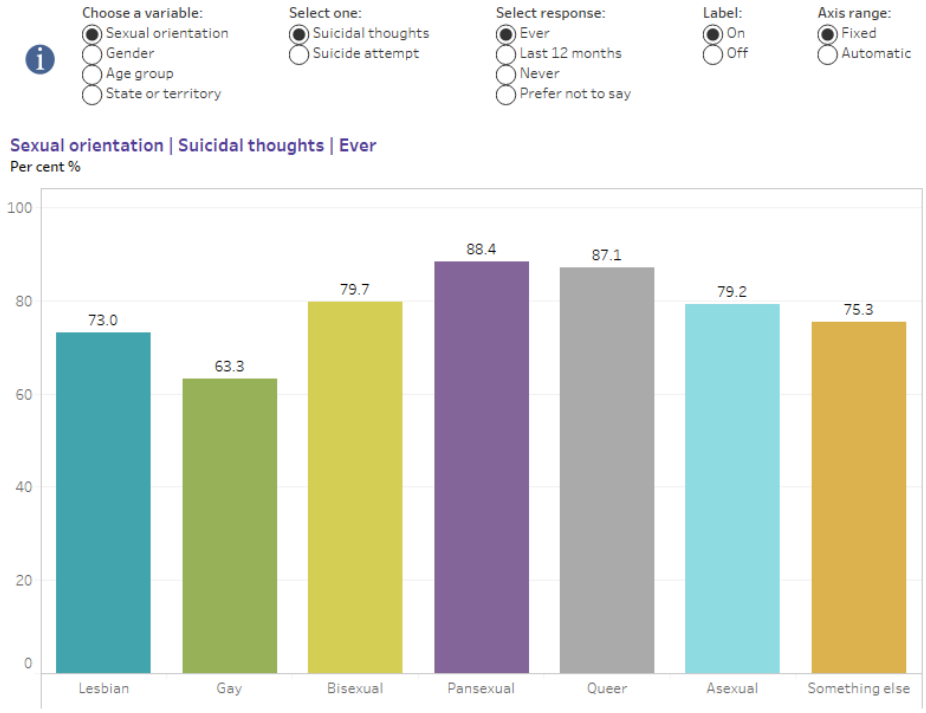
As the PL3 was a voluntary online survey, participants could leave questions blank if they wished. In these cases, the PL3 results reported below are the proportions (percentages) of those who answered the relevant question.

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.

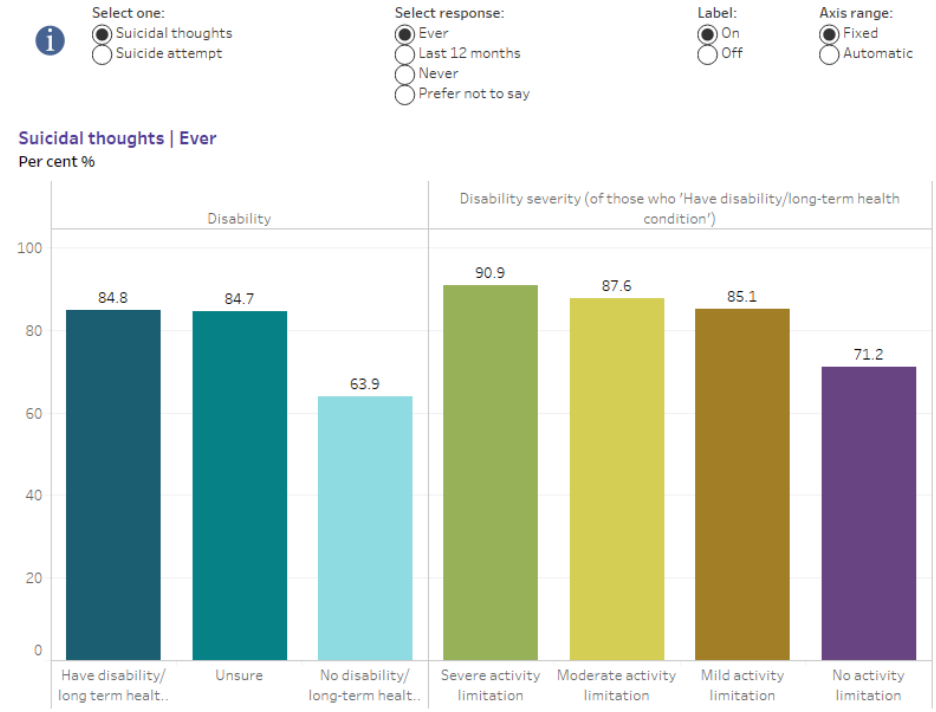
Suicide attempt, suicidal thoughts and disability or long-term health conditions in PL3

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.

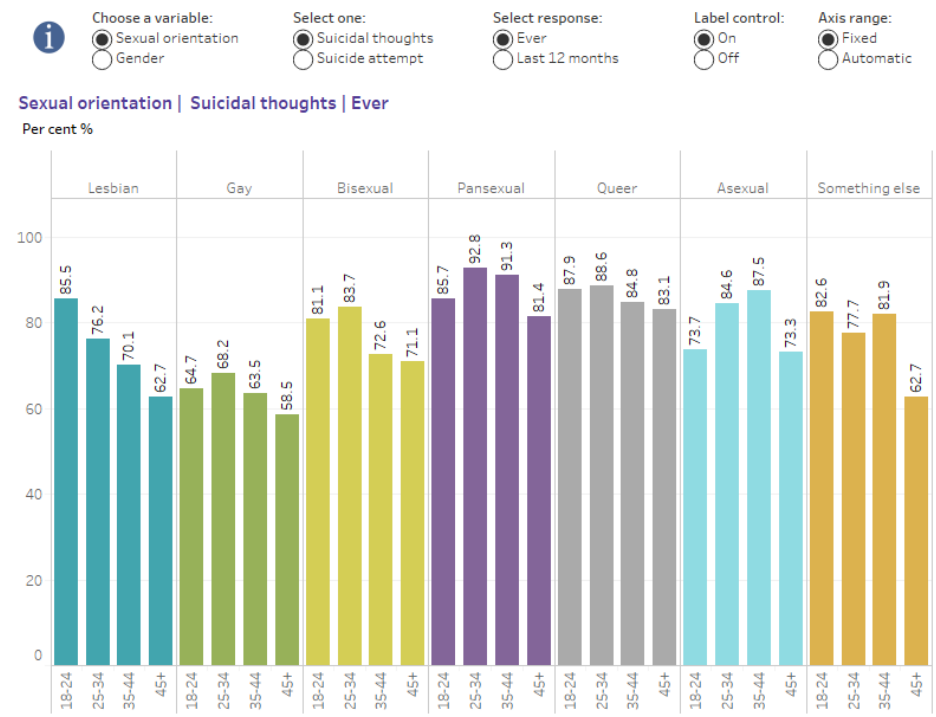
- Among PL3 participants with a disability or long-term health condition who reported severe limitations, 90.9% reported having suicidal thoughts in their lifetimes and 50.1% reported attempting suicide in their lifetimes. More than two thirds (68.0%) of these participants reported recent suicidal thoughts.
- 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.

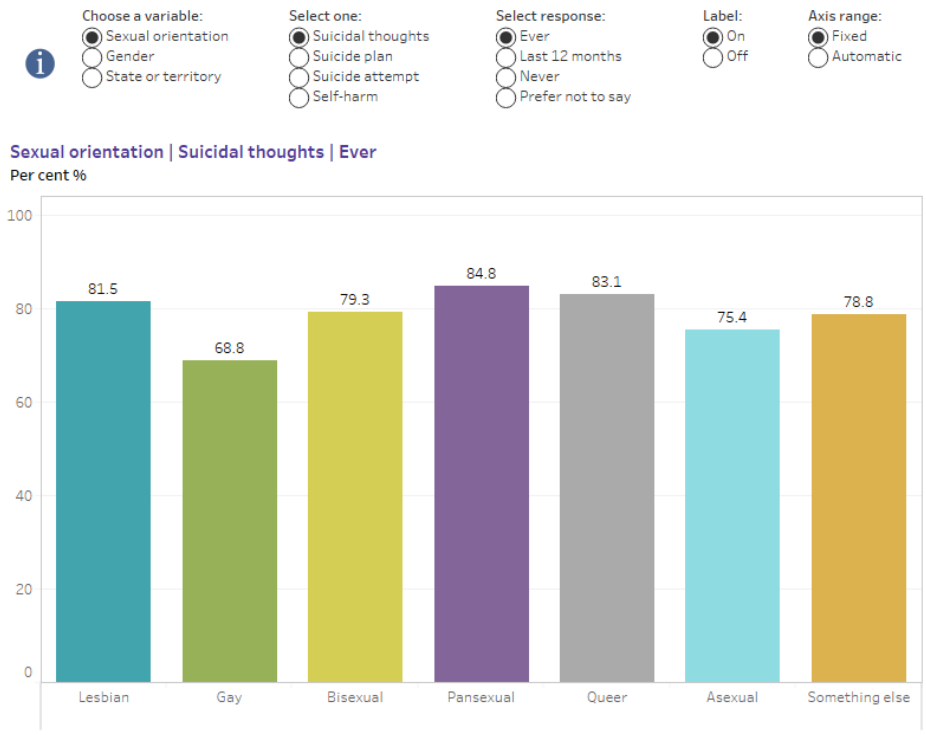
Prevalence of suicidal behaviour and thoughts and self-harm among LGBTQA+ young people – data from the 2019 Writing Themselves In 4 (WTI4) survey

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

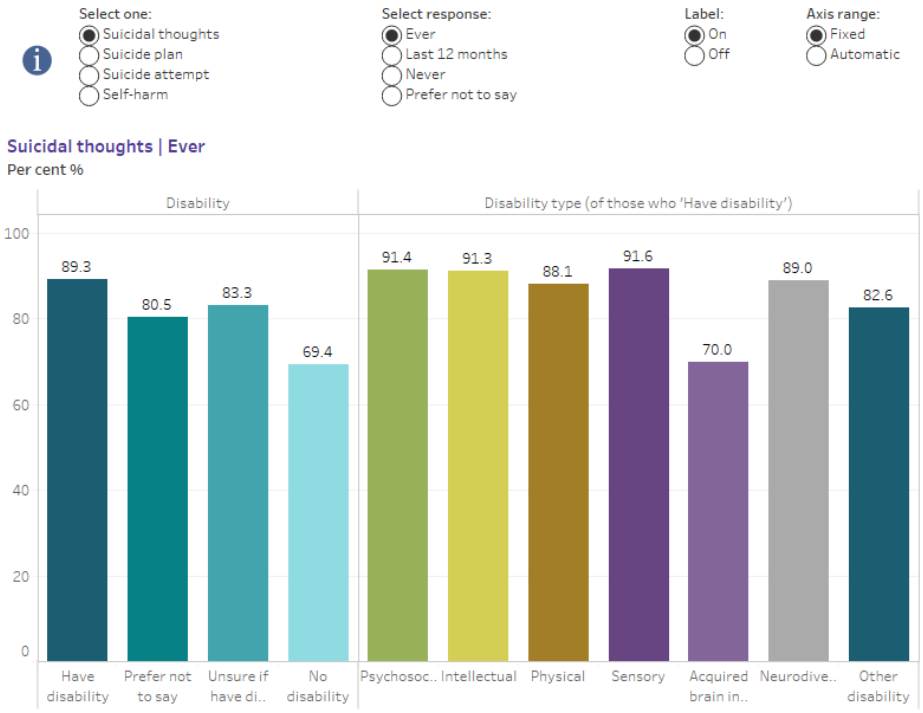
There was little difference between 14 to 17-year-olds and 18 to 21-year-olds in terms of likelihood of suicidal thoughts, suicide plan, suicide attempt, and self-harm over the lifetime. However, over the last 12 months, 14 to 17-year-olds were more likely than 18 to 21-year-olds to experience suicidal 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.



Notes: Caution should be exercised when interpreting the results of participants with acquired brain injury due to low numbers in the WTI4 survey; n.p. - not published
Source: Writing Themselves In 4 (WTI4)
Supplementary table: S5, S6

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%).

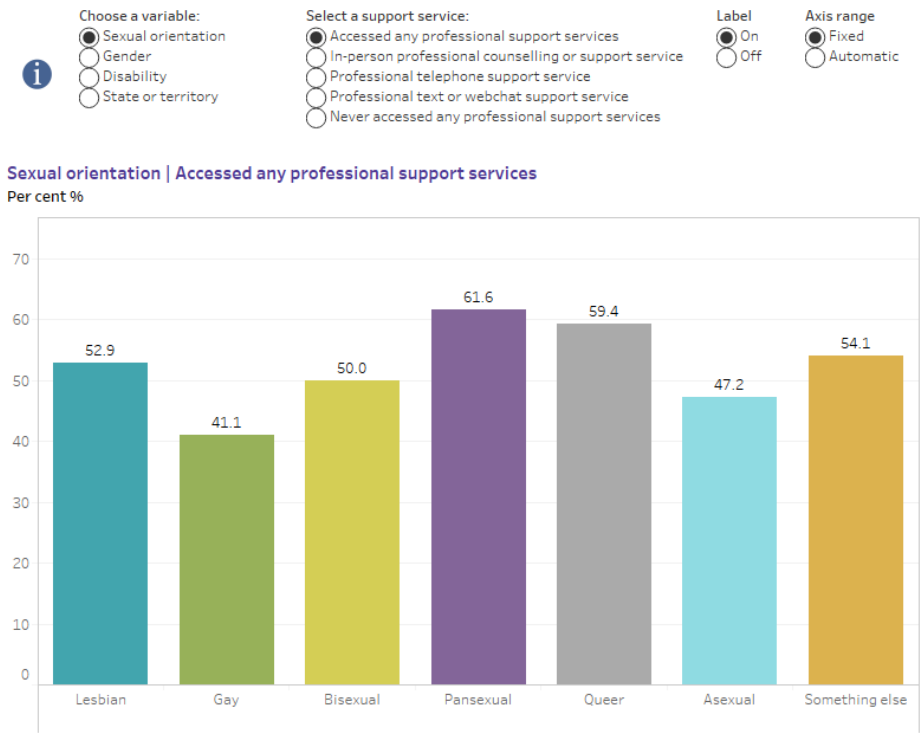
There was little difference between disability types in terms of likelihood of lifetime and recent (last 12 months) suicidal thoughts, suicide plan, suicide attempt and self-harm. Intellectual disability showed the highest likelihood of lifetime and recent (last 12 months) suicide plan and suicide attempt,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

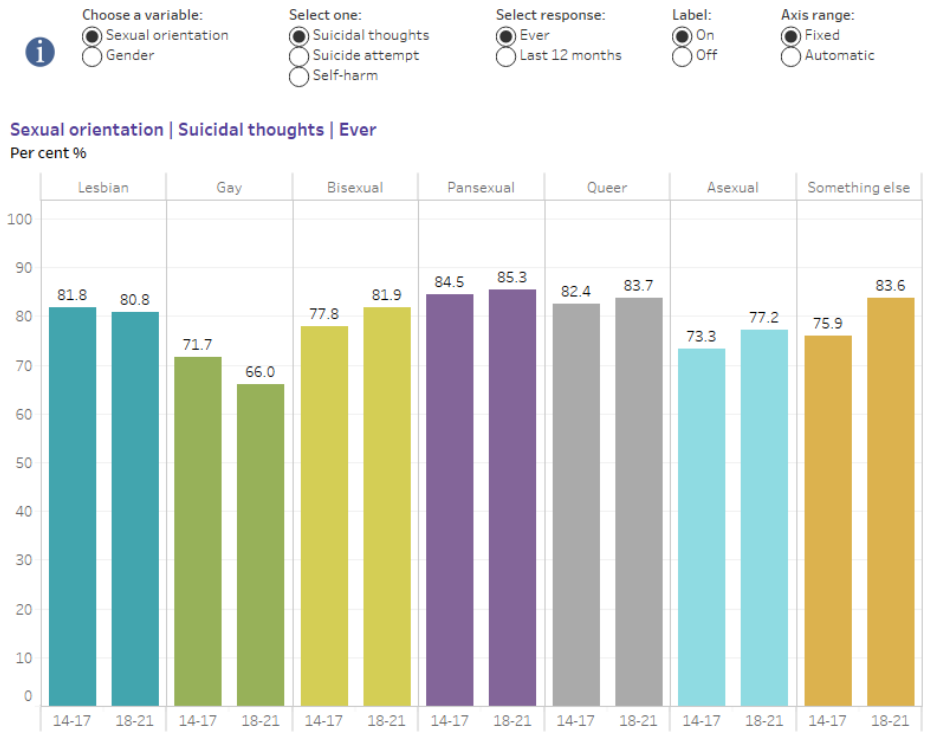
- Participants in the Australian Capital Territory (ACT) were more likely to access professional support services in relation to suicide or self-harm, with participants from the Northern Territory (NT) the least likely (65.0% of ACT participants compared with 41.7% of those from the NT).
- Access to 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.

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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.

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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.

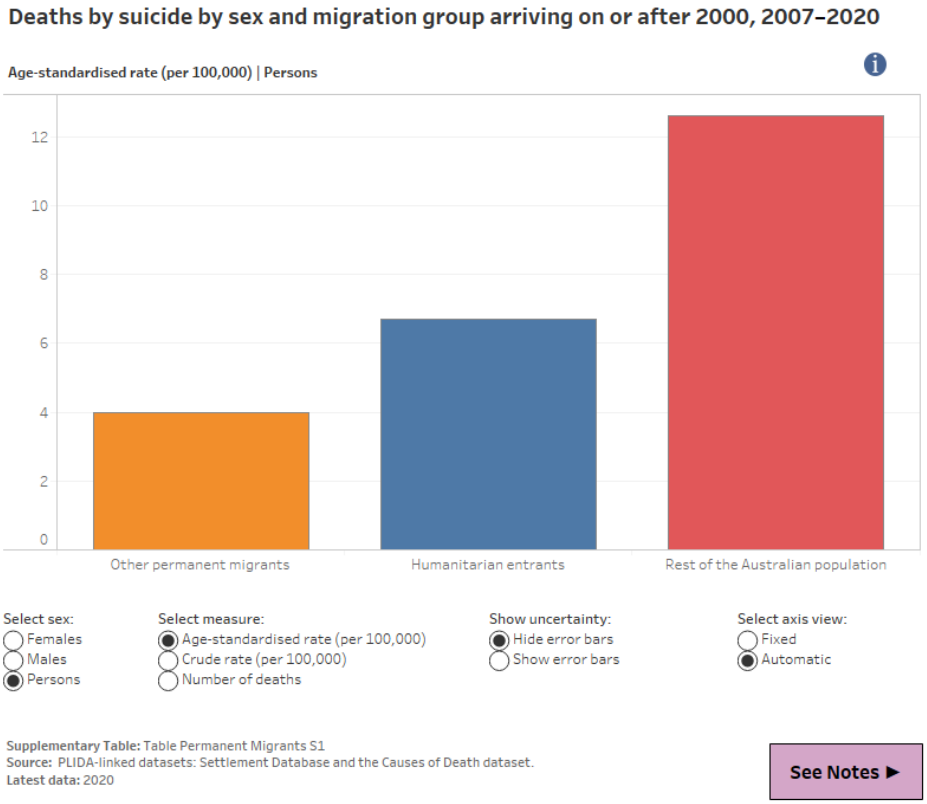
Information derived from analysis of linked Settlement Database and Causes of Death dataset data, is limited to the experience of people who have moved to Australia from another country (first-generation migrant Australians). Refugee and humanitarian, and other permanent migrants are part of the broader 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.



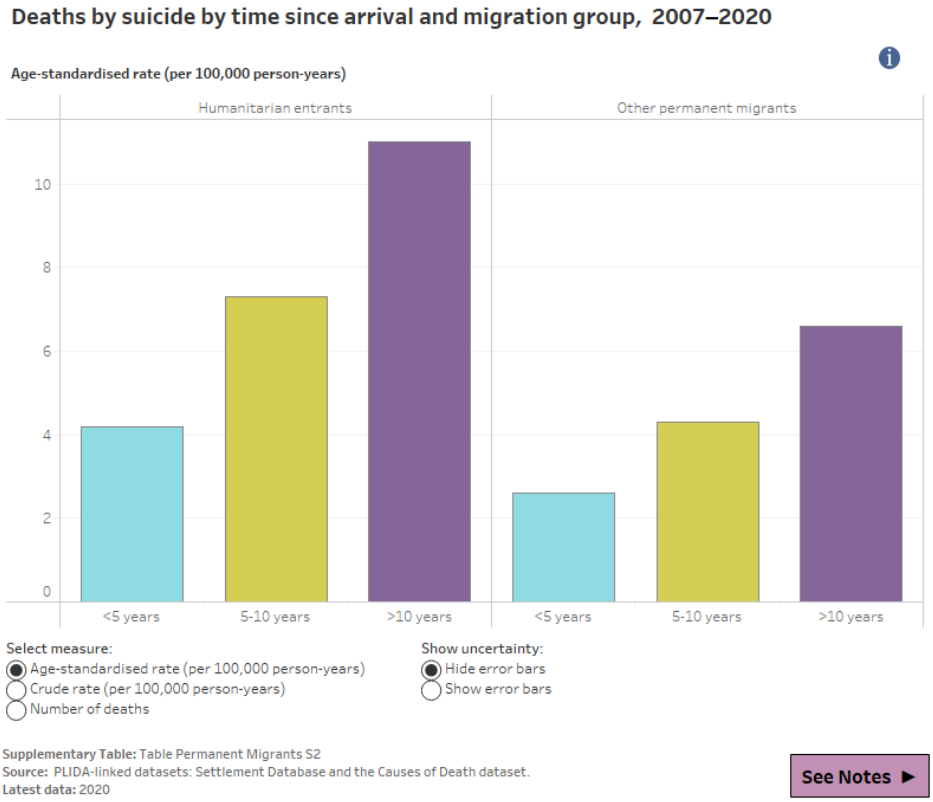
Rates of death by suicide for first generation 'Humanitarian entrants' and 'Other permanent migrants' increased with time since arriving in Australia

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.

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Viewing the monitoring data

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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.

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.

Australian Government
Australian Institute of Health and Welfare

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 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 2022, almost 1 in 6 people (17%) were aged 65 years and over (ABS 2023). 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.

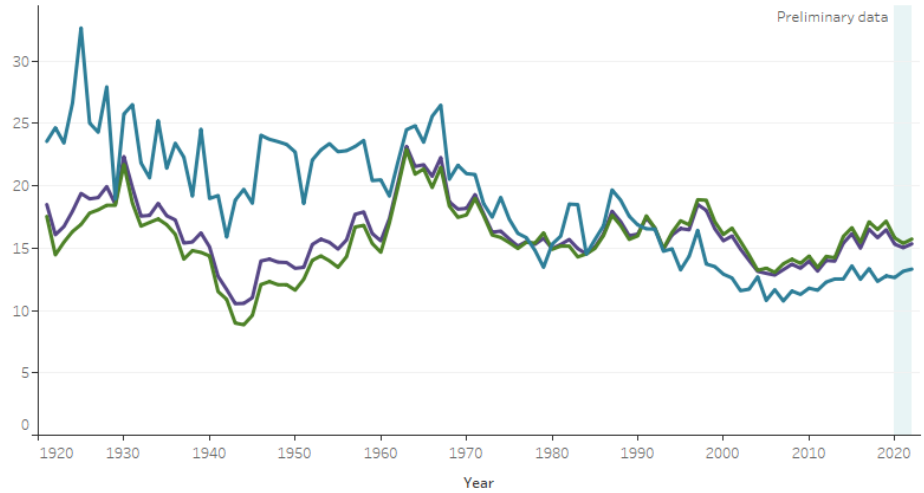
Death by suicide among older Australians

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 2022, 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.

Suicide deaths of older people compared to those under 65 years and all ages, Australia, 1921 to 2022

Age standardised rate (per 100,000) | Persons



Select year range: 1921 to 2022 and Null values

Select measure:
- Age standardised rate (per 100,000)
- Age-specific rate (per 100,000)
- Number

Select sex:
- Females
- Males
- Persons

Select to highlight group:
- 65 years and over
- Under 65 years
- All ages

Source: AIHW National Mortality Database and ABS Causes of Death, Australia 2023
Supplementary table: S1
Latest data: 2022 (annual release)

See notes ▶

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. 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.

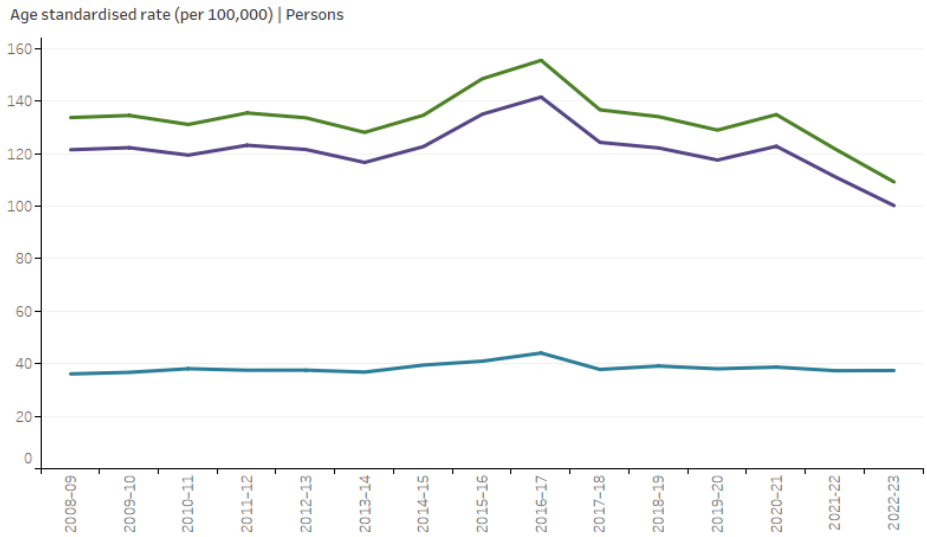
- **Early 1990s onwards:** Suicide rates among older Australians continued to fall and remained lower than those of people aged under 65 years. In 2022, the age-standardised suicide rate for those aged 65 and over was 13.3 per 100,000 people, compared to 15.7 for those aged under 65 years.
- Until around 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 of older people compared to those under 65 years and all ages, Australia, 2008–09 to 2022–23



Select measure:
- (●) Age standardised rate (per 100,000)
- ( ) Age-specific rate (per 100,000)
- ( ) Number

Select sex:
- ( ) Females
- ( ) Males
- (●) Persons

Select to highlight group:
- 65 years and over
- Under 65 years
- All ages

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

See notes ►

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.

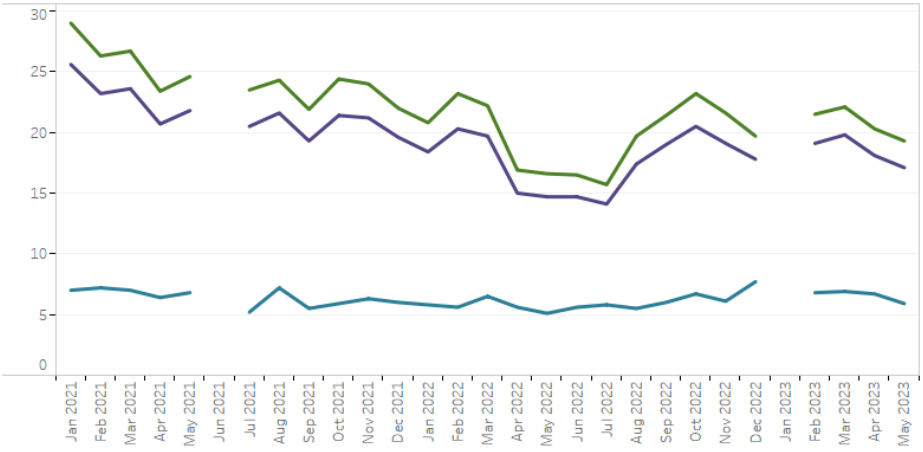
In addition, the following factors should be considered when interpreting ambulance data:

- 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'.

Suicidal ideation ambulance attendances over time by age group, selected states and territories

Age-specific rate (per 100,000) | Persons



Select month/year range:
Dec 2020 to May 2023

Select to highlight group:
- 65 years and over
- Under 65 years
- All ages

Select measure: Age-specific rate (per 100,000)

Select sex: Persons

Select attendance type: Suicidal ideation

Show uncertainty (95% CI): Hide error bars

Notes: Selected states and territories include: NSW, Vic, Tas and ACT. June 2021 and January 2023 data are currently unavailable.
Source: Monash University, Turning Point
Supplementary table: S3

See notes ▶

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

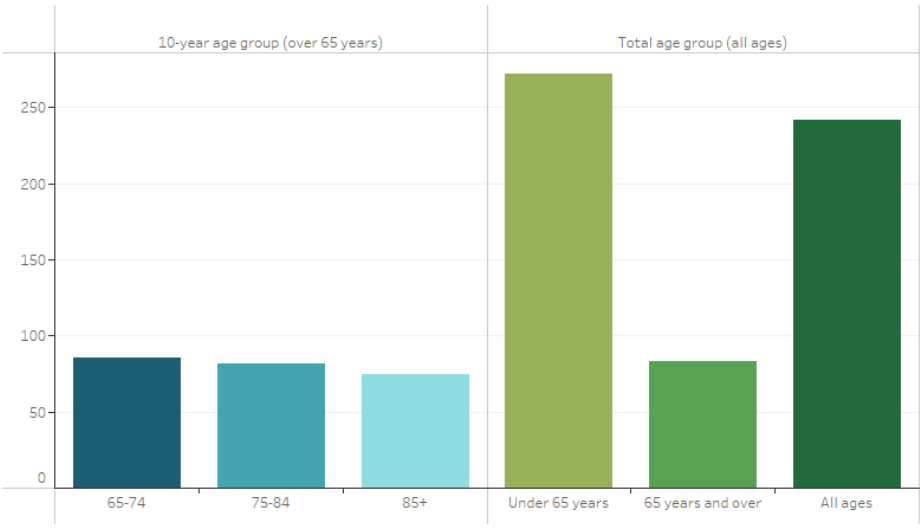
Comparing ambulance data between states and territories

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.

Suicidal ideation ambulance attendances by age group, 2022

Age-specific rate (per 100,000) | New South Wales | Persons



Select measure: Age-specific rate (per 100,000)
Select year: 2022
Select State/Territory: New South Wales
Select sex: Persons
Select attendance type: Suicidal ideation
Show/hide age groupings: All
Show uncertainty (95% CI): Hide error bars

Note: NSW June 2021 data are not available and are not included in the total for NSW 2021.
Source: Monash University, Turning Point
Supplementary table: S4 (NASS)

See notes ►

In 2022:

- across all 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

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Australian Government
Australian Institute of Health and Welfare

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 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 from the National Prisoner Health Data Collection 2022

In addition, the below page explores contact with the legal system more broadly, not necessarily for criminal reasons. For example, people who were involved in litigation or child custody disputes are included as well as people who had been to prison:

- Risk factors for suicide among people with legal system contact: Data from the National Mortality Database

Deaths by suicide among adults in custody: Data from the National Deaths in Custody Program

This release presents data from the National Deaths in Custody Program (NDICP), managed by the Australian Institute of Criminology (AIC). The National Deaths in Custody Program collects data on deaths occurring in prison custody, police custody and custody-related operations since 1979.

In this release, 'deaths by suicide' includes deaths where the manner of death was determined to be intentionally self-inflicted. This includes deaths in prison custody, police custody and custody-related operations. The determination of the manner of death is made by a coroner through a coronial finding. Deaths classified as self-inflicted but with unintentional or unknown intent are included in 'other deaths.' See 'What is a death in custody?' below for more information on the inclusion criteria.

What is a death in custody?

According to the National Deaths in Custody Program, a death in custody is defined as:

- a death, wherever occurring, of a person who is in prison custody, police custody or youth detention
- a death, wherever occurring, of a person whose death is caused or contributed to by traumatic injuries sustained, or by lack of proper care, while in such custody or detention
- 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 custody ranged between 23 and 44 deaths per year from 1989–90 and 2004–05. After this period, there was a slight decrease, with suicide deaths in custody consistently remaining lower, ranging from 7 to 23 each year. This downward trend is reflected in the proportion of suicide deaths relative to all deaths in custody since 1989–90. The data visualisation below illustrates this steady decrease, particularly noticeable from around 2004–05, with suicide deaths accounting for less than 30% (ranging from 7 to 28 deaths) of all deaths in custody since that period.

The interactive timeseries visualisation shows suicide deaths and other deaths in custody by year from 1989 to 2022. Percent (%) and number (n) can be chosen.

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.

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.

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.

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 found in other health surveys of people in prison. For example, a survey of adults on remand and sentenced in prison from the Australian Capital Territory (ACT) found around one-third (31%) of people held in ACT prisons had attempted suicide (Butler et al. 2018). Further, a study of First Nations men held both on remand and sentenced in Victoria found more than half (55%) had a history of attempted suicide (Shepherd et al. 2018). Because these two examples are specific to suicide attempts, we would expect that self-harm (which includes suicide attempts and injuries without suicidal intent) would be higher due to the broader inclusion criteria. The smaller proportions from the NPHDC may reflect differences in survey designs, for example the questions used. However, the sampling methods were similar. That is, no specific sampling criteria beyond voluntary participation in the surveys and being held in prison. For more information, please see the original, Health of People in Australia's Prisons 2022 report.

The interactive bar chart visualisation shows history of self-harm and no history of self-harm reported by people in prisons by sex, age group, First Nations status and all entrants. 'History of self-harm' can be viewed as a percent (%) or a number (n).

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).

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).

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 (%).

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 psychosocial risk factors mentioned were higher than those without legal system contact across all age groups. For instance, 25% (113) of 25–34-year-olds with legal system contact had 'Disruption of family by separation and divorce' mentioned in their file, making it the fourth most mentioned psychosocial risk factor for that age group. In contrast, 'Disruption of family by separation and divorce' was mentioned in fewer than 18% (563) of cases for 25–34-year-olds among those without legal system contact.
- ‘Problems related to other legal circumstances’ was the most common across all age groups, ranging from 77% (352) among 25–34-year-olds up to 82% (334) among people aged 55 years and over.
- ‘Personal history of self-harm’ was the second most common across all age groups except those aged 35–44 years. For this age group, ‘Personal history of self-harm’ was the fourth most common risk factor (22%, 113), following ‘Disruption to family by separation or divorce (ranked second, 29%, 153) and ‘Problems in relationship with spouse or partner’ (ranked third, 25%, 129).

Among those who died by suicide with no legal system contact:

- The most common risk factor across age groups was 'Personal history of self-harm', except for those aged 55 years and over. Among people aged 55 years, 'Limitations of activities due to disability' was the most common psychosocial risk factor mentioned (20%, 1,103) followed by 'Personal history of self-harm' (ranked second, 18%, 984) and 'Disappearance and death of family member' (ranked third, 11%, 638).
- 'Limitations of activities due to disability' was the most common risk factor for those aged 55 years. In contrast, it was the tenth most common psychosocial risk factor for the same age group with legal system contact, mentioned in 2.9% (12) of cases when 'legal system contact psychosocial risk factors' are excluded from the visualisation.

The interactive bar chart visualisation shows psychosocial risk factors among people who died by suicide who had contact with the legal system compared to people who did not have contact by age group. "Psychosocial risk factors" can be viewed as a percent (%).

Psychosocial risk factors for suicide differed by legal system contact and sex

Among people who died by suicide and had contact with the legal system:

- Both men and women had 'Problems related to other legal circumstances' as their most frequently mentioned psychosocial risk factor. Women had a slightly higher prevalence (84%, 189) compared to men (79%, 1,420).

Among those who died by suicide with no legal system contact:

- 'Limitation of activities due to disability' was the sixth most frequent psychosocial risk factor among men (7.4%, 955) and the fifth among women (8.0%, 367) without legal system contact. This factor did not appear in the top 10 psychosocial risk factors for men or women with legal system contact.
- 'Disappearance and death of a family member' was the third most common risk factor (11%, 508) among women but was the third most common (7.5%, 17) among women with legal system contact.

The interactive bar chart visualisation shows psychosocial risk factors among people who died by suicide who had contact with the legal system compared to people who did not have contact by sex. "Psychosocial risk factors" can be viewed as a percent (%).

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 psychosocial risk factor among those with legal system contact was 'Problems related to other legal circumstances' (81%, 1,445), followed by 'Disruption of family by separation and divorce' (24%, 422), and 'Personal history of self-harm' (23%, 416).
- 'Disappearance and death of a family member' was the ninth most common risk factor among those who had legal system contact (6.4%, 114) and the fourth most common among with no contact (9.0%, 1,449).

The interactive bar chart visualisation shows psychosocial risk factors 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. "Psychosocial risk factors" can be viewed as a percent (%).

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 mentioned mental and behavioural disorders by age group are presented below. People aged over 55 years generally had the lowest proportions of mental and behavioural disorders mentioned in their cases among both people who did and did not have contact with the legal system.

Among people who had contact with the legal system:

- ‘Mood [affective] disorders’ were consistently the most frequently mental and behavioural disorder across all age groups, ranging from range 35% (74) among people aged under 25 years and those 55 years and over (141), to 41% (187) among those aged 25–34 years.

Comparisons with those with no legal system contact:

- Substance-related mental and behavioural disorders tended to be ranked higher and mentioned more frequently among those who had contact with the legal system across all age groups.

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 age group. “Mental and behavioural disorders” can be viewed as a percent (%).

Mental disorders in women and substance disorders in men were more common among those with legal system contact than those without contact

Among people who died by suicide and had contact with the legal system:

- 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 (%).

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 (%).

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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.

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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).

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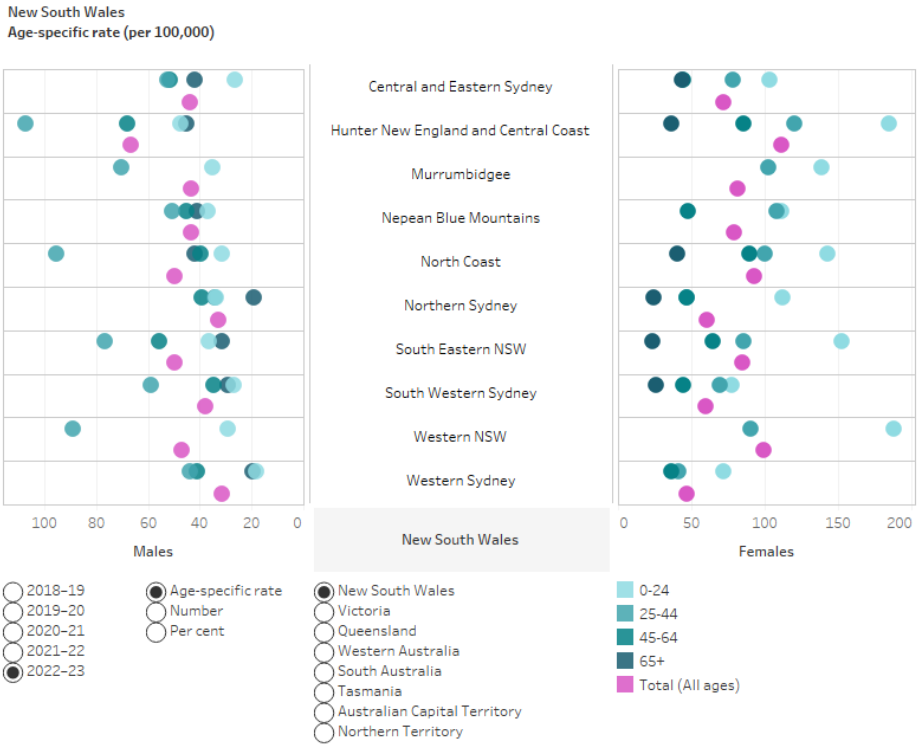
Intentional self-harm hospitalisations by PHN areas

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).

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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 (2014–18, 2015–2019, 2016–2020, 2017–2021, and 2018–2022). Data are provided at Statistical Area Level 3 (SA3s) and Statistical Area Level 4 (SA4s). Data at SA4s are further disaggregated by sex.

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.

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=47b5b317d1074ad09d93e861a6ebfb55)

Over the 5-year period 2018–2022, reportable age-standardised suicide rates in persons at the SA3 level, were:

- highest in the SA3 areas of Kimberley in Western Australia (32.9 deaths per 100,000 population), Burnett in Queensland (32.3) and Daly - Tiwi - West Arnhem in Northern Territory (31.4)
- lowest in the SA3 areas of Baulkham Hills in New South Wales (5.3 deaths per 100,000 population) Canterbury in New South Wales (5.5) and Tullamarine - Broadmeadows in Victoria (5.8).

Over the same period (2018-2022), reportable suicide rates in males, at the SA4 level, were:

- highest in the SA4 areas of Wide Bay, Queensland (37.6 deaths per 100,000 population), Northern Territory - Outback (35.6) and Western Australia - Outback (North) (35.4).
- lowest in the SA4 areas of Sydney - Inner South West (9.7 deaths per 100,000 population), Sydney - Baulkham Hills and Hawkesbury (9.8) and Sydney - Ryde (9.9).

For females, reportable suicide rates over the 5-year period 2018-2022, at the SA4 level, were:

- highest in the SA4 areas of Northern Territory - Outback (15.7 deaths per 100,000 population), Western Australia - Outback (North) (13.1), and Queensland - Outback (11.3)
- lowest in the SA4 areas of Sydney - South West (1.7 deaths per 100,000 population) and Sydney - Blacktown (3.4) and Sydney - Parramatta (3.7).

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.

For the best experience, use Chrome, Edge, Firefox or Safari 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).

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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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*).

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Burden of disease studies–suicide & 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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Social & economic factors & 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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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).

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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*.

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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 2022. 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 (managed by the Victorian Department of Justice). 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 2019 are finalised. Deaths registered in 2020 are revised, deaths registered in 2021 are preliminary revised, and 2022 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 methodology - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022), Australia (ABS Catalogue No. 3303.0).

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 (2022) 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 Victoria in earlier years. For detailed information on this issue, 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. At the time of coding both 2021 and 2022 data there was a higher proportion of open coroner cases at preliminary coding than seen in previous years (67.2% in 2021 versus and 65.2% in 2022 versus a 5-year average for 2015-2019 of 56.2%). This is reflected in the 2021 and 2022 preliminary datasets by a higher rate of deaths due to 'other ill-defined and unspecified causes of mortality' (R99). In consideration of this, the ABS conducted an early revision of 2021 coroner certified deaths that had ill-defined causes. Therefore, data for 2021 are now considered preliminary revised. The ABS will apply the full revisions process for 2021 data and an early revision of 2022 data during the 2024 revisions cycle.

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 on the ABS Causes of Death, Australia, 2022 methodology - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022) 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 methodology (ABS cat. no. 3303.0 - external site opens in new window (https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022#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 NSW 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 Indigenous 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

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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 and January 2023.
- 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

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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.

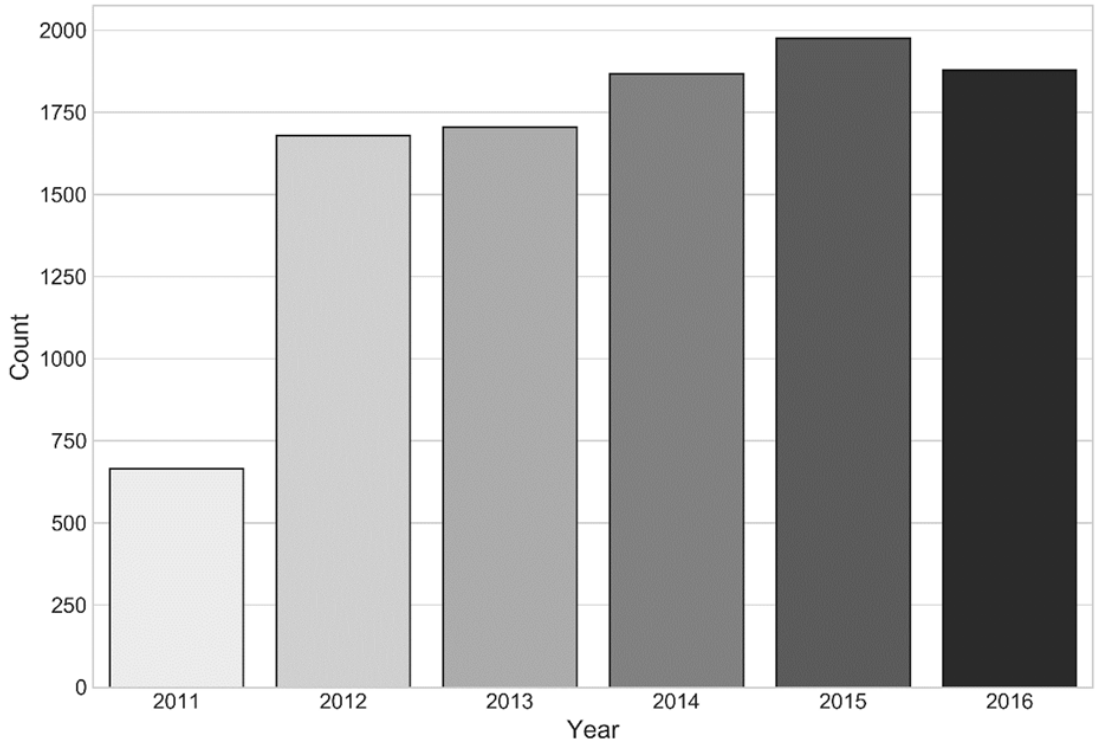
$$y^*_{i,t} = \alpha + \beta x_i + \delta z_{i,t} + \varepsilon_{i,t} \qquad (1)$$

$$y_{i,t} = \begin{cases} 1, y^*_{i,t} > 0 \\ 0, \text{otherwise} \end{cases} \qquad (2)$$

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 information see Technical notes of Serving and ex-serving Australian Defence Force members who have served since 1985: suicide monitoring 1997 to 2021.

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) 2015. The ABDS 2015 used burden of disease analysis to measure the impact of 216 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 and 2015. 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 2015 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 (2015) 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 2015 are available in Australian Burden of Disease Study 2015: methods and supplementary material.

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.

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).

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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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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.

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Suicide & self-harm monitoring

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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.

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Data downloads

Data tables: Older Australians – Suicide, self-harm and suicidal ideation

Data | *28 Aug 2024*
XLSX 349Kb

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: 2023 National Ambulance Surveillance System – self-harm behaviours

Data | *28 Aug 2024*

Source: National Ambulance Surveillance System for attendances related to self-harm behaviours and mental health
XLSX 376Kb

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: 2022 National Mortality Database – Suicide (ICD-10 X60–X84, Y87.0)

Data | *27 Oct 2023*
XLSX 600Kb

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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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.

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Notes

Latest data updates

For information on future planned updates to the publication see Data update schedule.

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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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.