



Mortality trends - deaths of despair

A comparison of data from Australia, the United Kingdom and the United States

Key findings

- In 2021, deaths of despair accounted for 3.4 per cent of all deaths in Australia.
- Suicide is the leading cause of death for Australians aged 15 to 44.
- Historically, male suicide rates have been 3 to 4 times higher than for females.
- Unintentional drug-induced deaths are the second leading cause of death for Australians aged 25 to 44.
- In Australia, 65 per cent of drug-induced deaths were unintentional in 2021.
- In 2021, 91 per cent of alcohol-induced deaths in Australia were the result of chronic conditions.

Disclaimer

This document discusses suicide and presents material that some people may find distressing. If this raises any issues for you, these services can help:

- Lifeline 13 11 14
- Suicide Call Back Service 1300 659 467



Introduction

Context

The term “deaths of despair” refers to deaths by suicide and those induced by drug or alcohol consumption, whether accidental or intentional. The term of deaths of despair does not include euthanasia. Deaths of despair have been of recent interest in economic policy, particularly in the United States.¹

In 2021, deaths of despair accounted for 3.4 per cent of all deaths in Australia. Research in the United States identified deaths of despair as a phenomenon that had emerged over a number of years, under very specific circumstances.²

Deaths of despair have also received attention in Australia, as mortality rates for these causes of death have not improved at the same rate as for other causes. There has been growing focus on the interaction between mental health and policy responses to improve outcomes.

Scope

This analysis compares the recent history of such deaths in Australia, the United Kingdom (or parts of)¹ and the United States, looking at historical trends and the first two years of the COVID-19 pandemic. These countries were selected due to cultural similarities and the availability of comparable data.

This analysis uses age-standardised death rates to account for differences in size and age structure of the populations, allowing for the comparison of mortality experiences across time and countries.

This analysis only considers historical data, which often lag. Lead indicators could provide a more complete picture of deaths of despair, but these are not within the scope of this analysis. The data within this analysis was current as at September 2023.

This analysis looks at trends for the overall population, as well as by age and sex. Underneath the overall trends, there may be differences between people of different characteristics, for example by income, education, race, indigenous status and for the LGBTIQ+ community.

Summary

- **United States:** there has been a dramatic rise in rates of suicide, and drug- and alcohol-induced deaths since the late 1990s. Synthetic opioid use has driven the significant increase in drug-induced death rates since the 2010s.
- **Australia:** deaths of despair have been more stable than in the United States, with no evidence of a similar increase in opioid-related deaths, and relatively low rates of alcohol-induced death. While suicide and drug-induced death rates fell in the early 2000s, they have increased in recent years.
- **United Kingdom:** in England and Wales, suicide rates have fallen over the past 40 years and drug-related deaths remain lower than in the United States. However, alcohol-induced death rates remain high.
- **Age and sex:** deaths of despair remain significantly higher for men than women across all three countries. While suicide is a leading cause of death for younger people, rates remain highest for those in middle age.
- **The first two years of the pandemic:** Long term trends in Australia did not accelerate. The United States and United Kingdom experienced increases in deaths induced by drugs (United States) and alcohol (United States and United Kingdom).



Suicide – recent trends

Australia

Following a peak in the 1990s, suicide rates decreased significantly for all age groups in the early 2000s. Rates rose steadily between 2006 and 2015, at which point they stabilised.

This rise was relatively consistent across age groups.³ Over the period 2019-2021, suicide was the leading cause of death for Australians aged 15-44.⁴

England and Wales

Suicide rates have declined by about 30 per cent over the past 40 years.⁵ This has almost entirely been driven by large decreases among people aged 65 and over.

While these age groups had some of the highest suicide rates in the early 1980s, they are now lower than all but the youngest age groups^{6,7}.

England and Wales experienced a low in suicide rates in the mid-2000s, with rates only slightly higher in recent years.

United States

Suicide rates for all age groups have steadily increased from the early 2000s to the late 2010s, except for males aged 75+.⁸

This rise has predominantly been driven by a significant increase in rates for the non-Hispanic white population, a group often associated with deaths of despair in academic literature.^{9,10,11}

Table 1: Summary statistics, suicide deaths, 2021

	Australia	England and Wales	United States
Age-standardised death rate (per 100,000)	12.0	10.7	14.1
Number of deaths	3,144	5,583	47,646

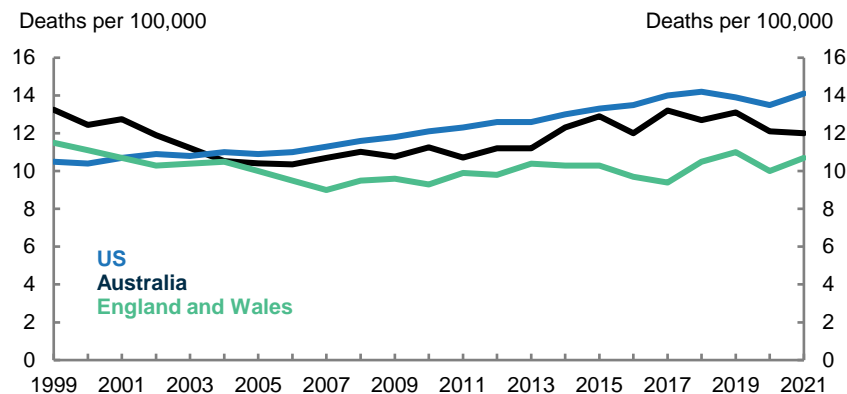
Source: ABS 2022, ONS 2022, CDC 2022

First two years of the pandemic

Suicide rates in Australia, England and Wales, and the United States all declined in 2020. However, in Australia the use of mental health services increased in 2020, and there were pressures on mental health over this period.¹²

In 2021, suicide rates remained lower in Australia, while there was a slight increase in suicide rates in England and Wales and the United States.

Chart 1: Age-standardised suicides



Source: ABS 2021, ONS 2021, CDC 2022

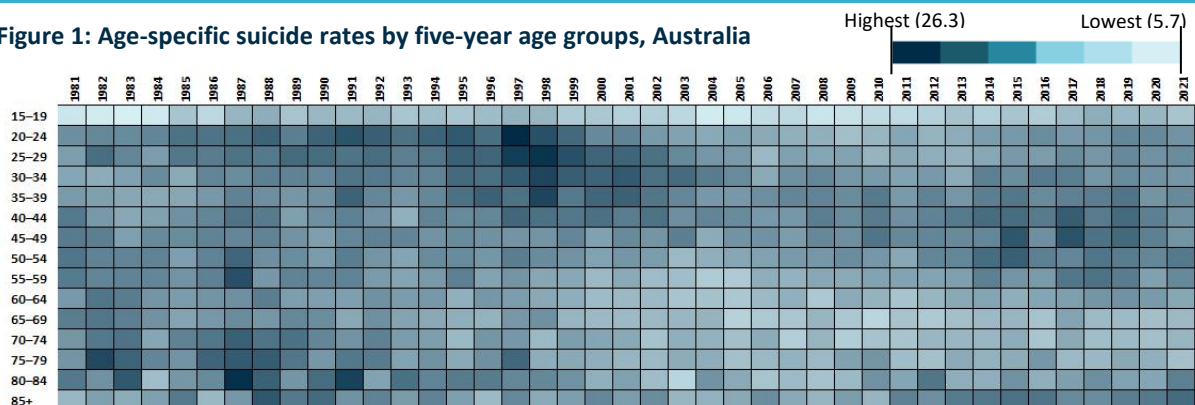
Suicide – by age and sex

By age

As mortality rates for other causes of death for younger age groups have reduced over time, suicide has emerged as the leading cause of death for Australians aged 15 to 44.¹⁷

Historically, those in middle age have had the highest suicide rates, though there are some exceptions. In the late 1990s, Australians aged 20 to 29 were the age group with the highest suicide rates.

Figure 1: Age-specific suicide rates by five-year age groups, Australia



Source: AIHW 2021

By sex

Since the mid-1970s male suicide rates have been 3 to 4 times higher than rates for females.¹³

Variations in Australia’s overall rate are largely driven by changes in the male suicide rate, as the rate for females is comparatively stable over the period (although there are signs that it might be increasing for younger females).

Despite this, ambulance attendance data for suicide attempts suggest females are more likely to attempt suicide than males.¹⁴

The disparity in suicide rates by sex has been observed in many countries, including England and Wales, and the United States^{15,16}.

Drug-induced deaths – recent trends

Australia

Rates for drug-induced deaths declined from the late 1990s through to the mid-2000s.

This decline was broadly across all classes of drugs, though was predominantly driven by a significant decrease in illicit use opioid-related deaths.¹⁸

Death rates rose from the mid-2000s to around 2017, largely driven by pharmaceutical rather than illicit drug use, after which point they have been gradually decreasing.¹⁹

England and Wales

Drug-induced deaths remained stable from the late 1990s to the early 2010s, before increasing.

This trend has primarily been driven by deaths involving natural opioids and cocaine. Half of all drug-induced deaths involved a natural opioid in 2021, and cocaine-related deaths continued to rise, with a sevenfold increase in the last decade.²⁰

United States

Drug-induced death rates have increased rapidly in recent years, with a fourfold increase over the past 20 years.

This increase has predominantly been driven by the rise in deaths related to opioid use.²¹ Three quarters of drug overdose deaths in 2021 involved opioids.²²

The percentage of all deaths in the United States attributed to overdose has grown from 0.8 per cent in 1999 to 3.2 per cent in 2021.^{23,24}

Table 2: Summary statistics, drug-induced deaths, 2021

	Australia	England and Wales	United States
Age-standardised death rate (per 100,000)	6.6	8.4	33.5
Number of deaths	1,704	4,859	106,699

Source: ABS 2022, ONS 2022, CDC 2022

First two years of the pandemic

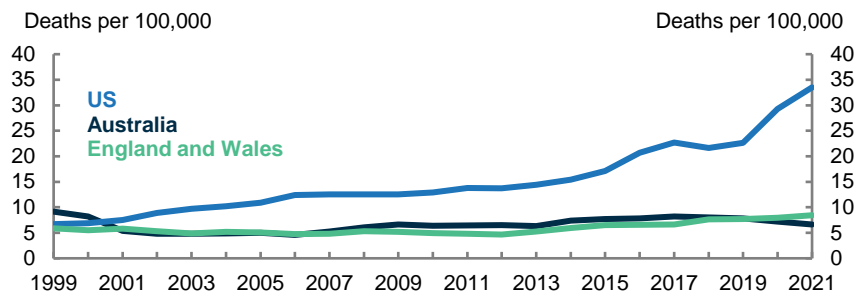
Drug-induced death rates decreased slightly in Australia in 2020 and 2021, while increasing in England and Wales.

In 2020 and 2021, drug induced deaths increased substantially in the United States. In 2020, the United States experienced the largest single-year increase in drug overdoses on record.²⁵

This was primarily driven by a 56 per cent increase in the number of deaths at least partially attributable to synthetic opioids.^{26,27}

The reduction in Australia is likely due to decisions to restrict access to over-the-counter codeine preparations.²⁸

Chart 2: Age-standardised death rates for drug-induced deaths



Source: ABS 2022, ONS 2022, CDC 2022

Drug-induced deaths – by sex, age and drug type

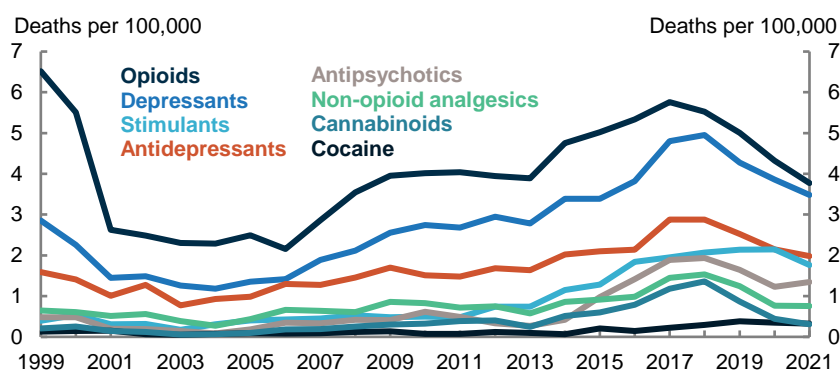
Australia

Over the past 10 years, death rates for drug-induced deaths have been 1.5 to 1.8 times higher for men than women. The difference between men and women is higher for younger age groups (15-34 years), and close to equal for older age groups (65 years and over).³³

In the past 10 years, age-specific drug-induced death rates have been highest for Australians aged 35-54 years, and lowest for those aged 15-24.³⁴ During this period, drug-induced death rates have been broadly similar in cities and regional or remote areas.²⁹ In Australia, over 70 per cent of drug-induced deaths were unintentional in 2021.³⁵

Over the past 20 years, benzodiazepines have remained the most commonly identified single drug type in drug-induced deaths, and opioids the most common drug class.³⁰ In contrast to England and Wales, Australia had relatively few deaths induced by cocaine use in 2021 (1.5 and 0.3 deaths per 100,000 respectively).^{31,32}

Chart 3: Age-standardised death rates, by drug, Australia

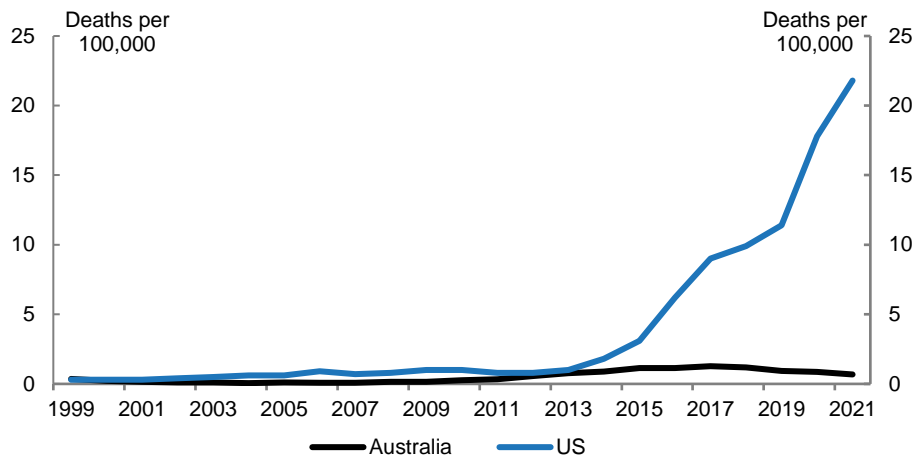


Source: AIHW 2021, AIHW 2023

United States

In the United States the proportion of drug-induced deaths that are unintentional has rapidly increased, from 71 per cent in 1999 to 92 per cent in 2021.^{36,37}

The rise over the last decade has been predominately driven by a significant increase in deaths involving synthetic opioids, such as fentanyl.³⁸ Fentanyl can be used to adulterate other illicit drugs (such as heroin or cocaine) without the user's knowledge. As fentanyl is significantly (50-100 times) more potent than other opioids (such as heroin or morphine), it can lead to overdose.³⁹

Chart 4: Age-standardised death rates, synthetic opioid-induced deaths, Australia and the United States

Source: AIHW 2021, NIH 20221

Alcohol-induced deaths

Recent trends

Over the past 20 years, mortality rates for alcohol-induced deaths have been stable in Australia and the United Kingdom while in the United States they increased steadily. The United Kingdom has historically had higher rates of alcohol-induced death than Australia and the United States, though they were nearly reached in the United States by 2021.

First two years of the pandemic

There were large increases in alcohol-induced deaths in the United States and United Kingdom, with a smaller increase in Australia. In Australia, the age-standardised rate of alcohol-induced deaths increased 4 per cent in 2020, and another 5 per cent in 2021.

In the United States, these rates increased by 26 and 10 per cent in 2020 and 2021, while in the United Kingdom they increased by 19 and 6 per cent. For both the United States and United Kingdom, these are the highest rates in the period analysed (1999-2021).

Table 3: Summary statistics, alcohol-induced deaths, 2021

	Australia	England and Wales	United States
Age-standardised death rate (per 100,000)	5.4	14.8	14.4
Number of deaths	1,559	9,641	54,258

Source: ABS 2022, ONS 2022, CDC 2021

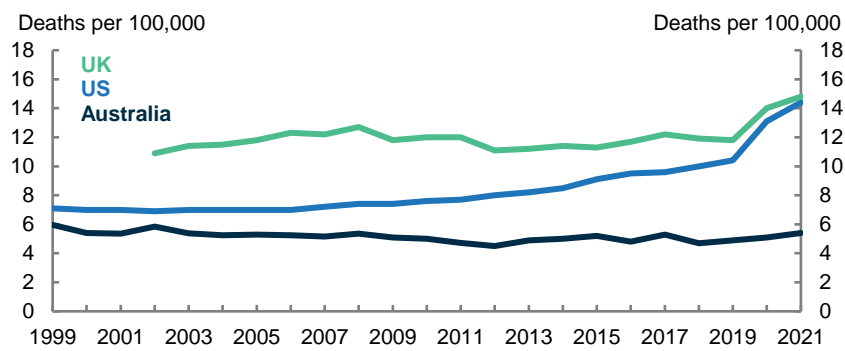
Trends by age and sex

As with suicide and drug-induced deaths, rates for alcohol-induced deaths have historically been between 2 to 4 times higher for men than women. This has consistently been observed in Australia, the United Kingdom and the United States.^{40, 41, 42} All of the increase in deaths in Australia between 2020 and 2021 was driven by males.⁴³

Alcohol-induced death rates are highest for those in middle age across Australia, the United Kingdom and the United States.^{44, 45, 46}

In contrast to drug-induced deaths, where most deaths are due to acute toxicity (i.e. overdose), alcohol-induced deaths are predominantly caused by chronic conditions such as alcoholic liver disease.^{47, 48} In 2021, 91 per cent of alcohol-induced deaths in Australia were due to chronic conditions.⁴⁹

Chart 5: Age-standardised death rates for alcohol-induced deaths



Source: AIHW 2021, ONS 2022, CDC 2022

More information

The Centre for Population

Population change affects every aspect of Australians' lives. It is important to understand how Australia's population is changing and the implications of these changes. The Centre for Population strives to understand and communicate the nuances of population change. The latest data, research and analysis on mortality trends and population change can be found at www.population.gov.au. The Centre for Population produces yearly [Population Statements](#) and contributes to [Intergenerational Reports](#) released by The Department of the Treasury.

The following resources provide more information on mortality trends.

Relevant links for deaths of despair in Australia

- [Causes of death, Australia](#) – **Australian Bureau of Statistics**: statistics on the number of deaths, by sex, selected age groups, and cause of death classified to the International Classification of Diseases
- [Suicide & self-harm monitoring data](#) – **Australian Institute of Health and Welfare**: statistical data on suicide and self-harm from multiple national sources.
- [Alcohol, tobacco & other drugs in Australia](#) – **Australian Institute of Health and Welfare**: this report consolidates recent information on the availability and consumption of alcohol, tobacco and other drugs in Australia, and related impacts, harms and treatment.

Relevant links for mental health in Australia

- [Mental health](#) – **Australian Bureau of Statistics**: statistics and information about psychological distress, mental and behavioural conditions and its prevalence in Australia.

Relevant links for deaths of despair in the United Kingdom

- [Suicides in England and Wales: 2021 registrations](#) – **Office for National Statistics**: registered deaths in England and Wales from suicide.
- [Deaths related to drug poisoning in England and Wales: 2021 registrations](#) – **Office for National Statistics**: deaths related to drug poisoning in England and Wales.
- [Alcohol-specific deaths in the UK: registered in 2021](#) – **Office for National Statistics**: deaths in the United Kingdom caused by diseases known to be a direct consequence of alcohol misuse.

Relevant links for deaths of despair in the United States

- [Underlying cause of death, 2018-2021, single race](#) – **Centers for Disease Control and Prevention**: data based on death certificates with single underlying cause of death.
- [Underlying cause of death, 1999-2020](#) – **Centers for Disease Control and Prevention**: data based on death certificates with single underlying cause of death.



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Appendix – classification for cause of death

The International Classification of Diseases (ICD) is the main basis for health recording and statistics on disease and cause of death. The use of ICD coding allows the comparison of causes of death across countries.

Table 4: ICD codes for suicide and drug- and alcohol-induced deaths

Description	ICD-10 Codes
Suicide deaths	
Terrorism international (suicide)	U03
Intentional self-harm	X60-X84
Sequelae of intentional self-harm	Y87.0
Drug-induced deaths	
Mental and behavioural disorders due to drug use (excluding alcohol and tobacco)	F11–F16, F18–F19
Accidental poisoning by drugs, medicaments and biological substances	X40–X44
Intentional self-poisoning by drugs, medicaments and biological substances	X60–X64
Assault by drugs, medicaments and biological substances	X85
Poisoning by drugs, medicaments and biological substances, undetermined intent	Y10–Y14
Alcohol-induced deaths	
Alcohol-induced pseudo-Cushing's syndrome	E24.4
Mental and behavioural disorders due to use of alcohol	F10
Degeneration of nervous system due to alcohol	G31.2
Alcoholic polyneuropathy	G62.1
Alcoholic myopathy	G72.1
Alcoholic cardiomyopathy	I42.6
Alcoholic gastritis	K29.2
Alcoholic liver disease	K70
Alcohol-induced acute pancreatitis	K85.2
Alcohol-induced chronic pancreatitis	K86.0
Fetal induced alcohol syndrome (dysmorphic)	Q86.0

Excess alcohol blood levels	R78.0
Accidental poisoning by and exposure to alcohol	X45
Intentional self-poisoning by and exposure to alcohol	X65
Poisoning by and exposure to alcohol, undetermined intent	Y15

Source: ICD 2022

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ⁱ Reporting on suicide and drug-induced death represents only England and Wales, reporting on alcohol-induced deaths represents the whole of the UK.

