Australian Government
Australian Institute of Health and Welfare

Deaths in Australia

Web report | Last updated: **09 Apr 2025** | Topic: Life expectancy & deaths

About

Deaths data are a vital measure of a population's health and provide information on patterns of diseases that cause death, by population groups and over time. Examining death patterns can help explain differences and changes in health status, evaluate health strategies, and guide planning and policy-making.

This web report presents data to 2023 on deaths, causes of death and life expectancy in Australia.

Cat. no: PHE 229

Findings from this report:

- In 2023, there were 183,131 deaths registered in Australia, a 4% decrease from 2022 (190,939 deaths)
- The leading causes of death in 2023 were coronary heart disease and dementia including Alzheimer's disease
- 48% of deaths of people aged under 75 were potentially avoidable
- In 2023, coronary heart disease was involved in almost 1 in 5 deaths

Multiple causes of death

Usually, statistics about how people die are based on the initiating or 'underlying' cause of death (see Cause of death terminology). But medical death certificates contain other information that can be useful in understanding why a death occurred. For example, while the underlying cause of death for a person might be coronary heart disease, the death certificate might also record the health condition that led directly to death (such as acute myocardial infarction) referred to as 'direct' causes of death in this section on multiple causes of death. Other conditions that significantly contributed to the death such as diabetes, alcohol use disorders and other contextual factors (referred to here as 'contributory' causes) may also be recorded on the death certificate.

Consideration of all these cause types (underlying, direct, and contributory) is referred to as 'multiple' causes of death (see Cause of death terminology). Assessment of multiple causes of death offers greater insight to understanding why Australians die to help inform health services and decision-makers to develop strategies to reduce the impact of diseases and promote better health.

Analysis of multiple causes of death necessitates a more detailed disaggregation of causes of death than that used when looking at the leading underlying causes of death only. This is to enable identification of causes that aren't typically recorded as an underlying cause (such as risk factor related conditions) and specific conditions such as heart failure and frailty which would usually be grouped as ill-defined causes of death. As such there are some minor differences in the cause list and classification of diseases used in this section compared to previous sections on leading causes of death. See Technical notes for more detail.

The short video below explains how diseases, conditions, and health events are recorded on a death certificate, and how this information is translated for statistical purposes.

For a detailed description of how events that cause death are reported (certified) in Australia and translated into data, see Where do cause of death statistics come from? in the report What do Australians die from?

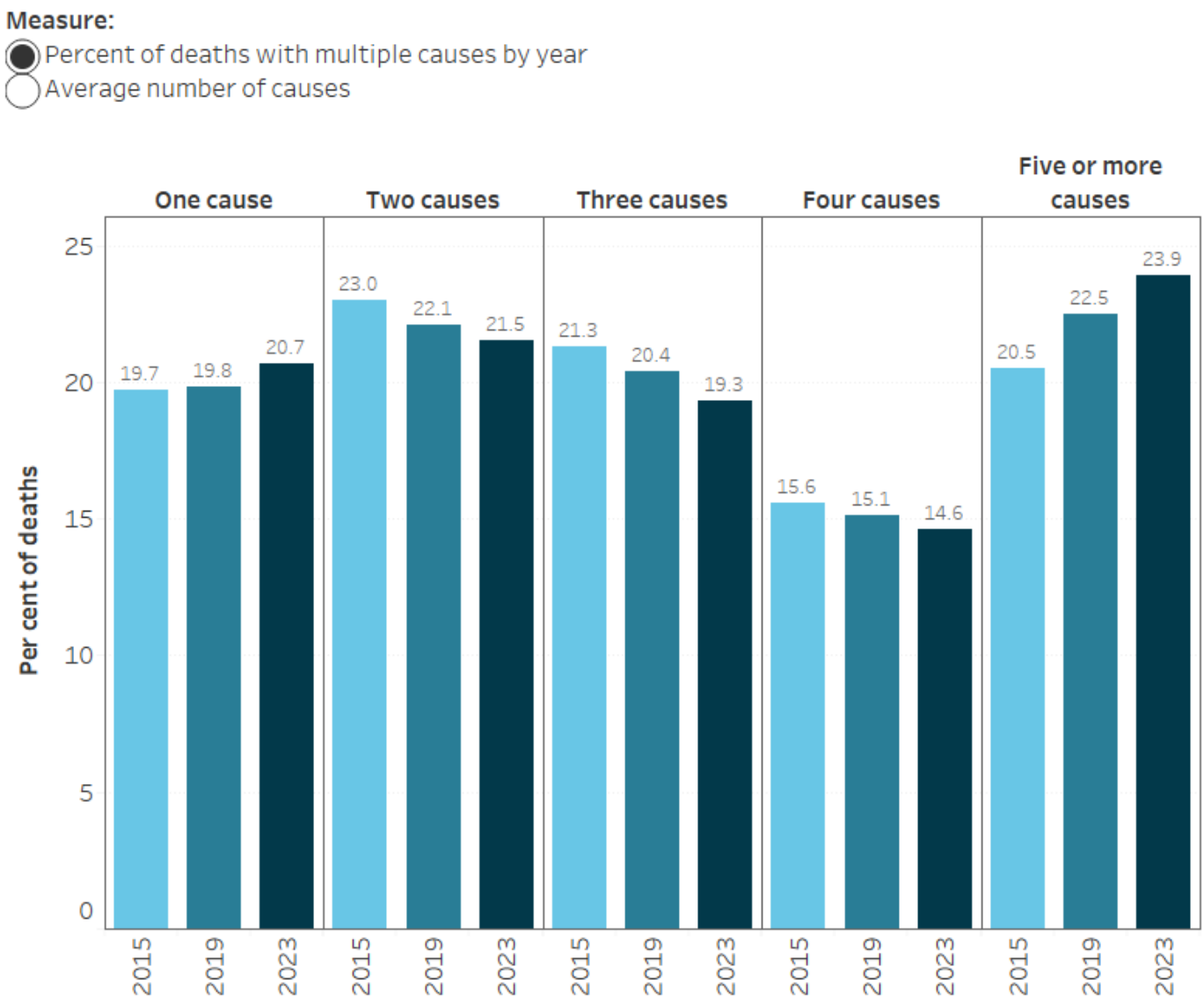
Learn more about multiple causes of death

- How many deaths and how many causes?
- Which health conditions are more likely to be reported as underlying, direct or contributory causes?
- Most common causes involved in deaths in Australia
- Psychosocial factors contribute to death
- Multiple causes of death by socioeconomic area

How many deaths and how many causes?

Of the 183,131 deaths registered in Australia in 2023 almost 4 in 5 (79%) involved more than one cause and almost one-quarter (24%) involved 5 or more causes (Figure 8.1).

Figure 8.1 Percent of deaths with multiple causes by year, and average number of causes by underlying cause of death



Notes:
Year refers to year of registration of death. Deaths registered in 2023 are based on preliminary cause of death data and are subject to further revision by the Australian Bureau of Statistics (ABS). Deaths registered in 2015 and 2019 are based on final versions.
Source: AIHW National Mortality Database; Table S8.1 & S8.3.
https://www.aihw.gov.au

The average number of causes per death has typically increased over time (from 3.1 in 2015 to 3.3 in 2023) (Table S8.2). The proportion of deaths that involved 5 or more causes also increased from 20% of deaths in 2015 to 24% of deaths in 2023 (Figure 8.1).

The average number of causes per death can differ by age, and what caused the death. The average number of causes per death generally increased with age from 1.8 for those aged 0–14 to 3.5 in those aged 85 years and over (Table S8.2). Those aged 15–44, where deaths were mainly due to external causes, had the highest average number of causes per death (see Factors influencing number of causes reported on death certificates).

External causes (events causing injury, for example) had the highest average number of causes per death (5.4) (Figure 8.1). External causes of death are usually reported to a coroner for a detailed assessment of the causes and circumstances involved in the death. As a result, the causes of death include the range of injuries sustained in an accident or all toxic substances involved in deaths due to accidental poisoning.

Factors influencing number of causes reported on death certificates

The number of causes recorded on death certificates can be influenced by a range of factors including certification practices (which can also vary over time), access to medical records including medical history, the resources (personnel and technology) for completing the death certificate and the nature of the underlying health condition. Variation over time might also be related to better diagnostics and increasing multimorbid chronic disease (that is, the presence of 2 or more long-term health conditions) (Harrison and Siriwardena 2018).

Other reasons could be the arrival of new widespread infectious diseases such as COVID-19, where presumably people continue to experience the same level of chronic comorbidity involvement in death as in pre-COVID years, but with the addition of COVID-19-related complications and causes.

In 2017, an initiative was undertaken by the Australian Bureau of Statistics to improve the coding of information in coroner-certified deaths. As a result, the psychosocial contexts that contributed to a death were able to be included in the Australian cause of death data (ABS 2019). This practice is likely to increase the number of causes recorded in specific circumstances (see Psychosocial factors contribute to death).

For information about multimorbidity in chronic disease, see Multimorbidity.

References

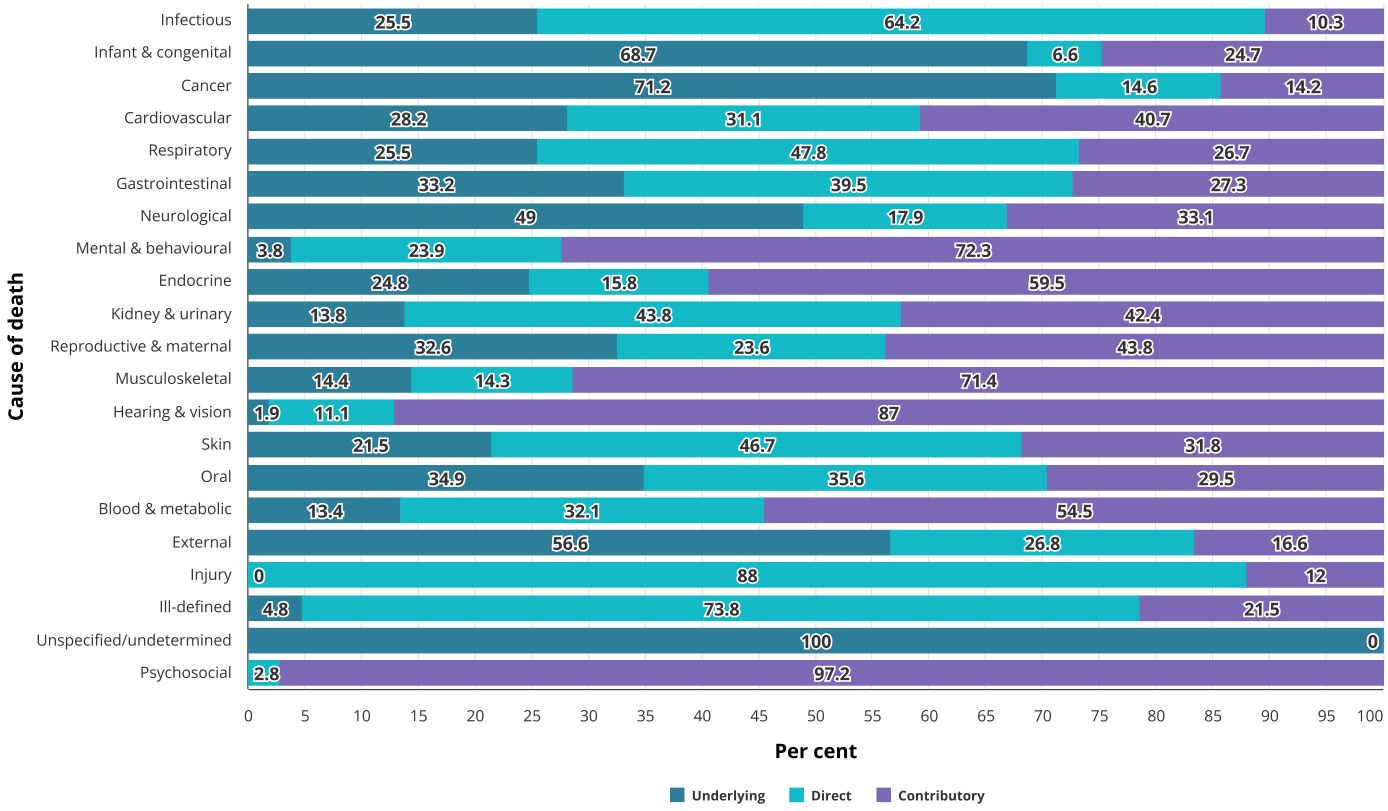
ABS (Australian Bureau of Statistics) (2019) *Psychosocial risk factors as they relate to coroner-referred deaths in Australia*, ABS, Australian Government, accessed 11 March 2025.

Harrison C and Siriwardena AN (2018) 'Multimorbidity: editorial', *Australian Journal of General Practice*, 47, no.1–2, doi:10.31128/AJGP-11-17-4404.

Which health conditions are more likely to be reported as underlying, direct or contributory causes?

Health conditions can play different roles in causing death. Some conditions are more likely to be reported as either the underlying, direct or contributory cause of death (Figure 8.2).

Figure 8.2 Cause of death, per cent involvement by cause type, cause groups 2023



Notes:

1. The year refers to year of registration of death. Deaths registered in 2023 are based on the preliminary version and are subject to further revision by the Australian Bureau of Statistics (ABS).
2. Cause groups and specific causes are based on the cause list used for reporting on multiple causes of death as described in the Technical notes.

Source: AIHW National Mortality Database; Table S8.4.

Causes which are more likely to be underlying cause of death when mentioned on the death certificate include:

- cancers (71% of mentions are as an underlying cause of death)
- external causes (57% of mentions)
- neurological conditions (49% of mentions).

Direct causes of death often reflect complications of the underlying cause and are experienced at the end of life. Injuries are almost always (88% of the time) direct causes as these reflect the consequences of external causes. Infectious and respiratory diseases can arise as a complication of the underlying cause and often in a medical setting. Other conditions or health events which are more likely to be reported as direct causes of death when mentioned on the death certificate include:

- ill-defined causes (74% of mentions are as a direct cause of death)
- infectious diseases (64%)
- respiratory diseases (48%).

Conditions or health events which are more likely to be contributory causes, that is, conditions which significantly contributed to the death but were not in the chain of events leading to death, include:

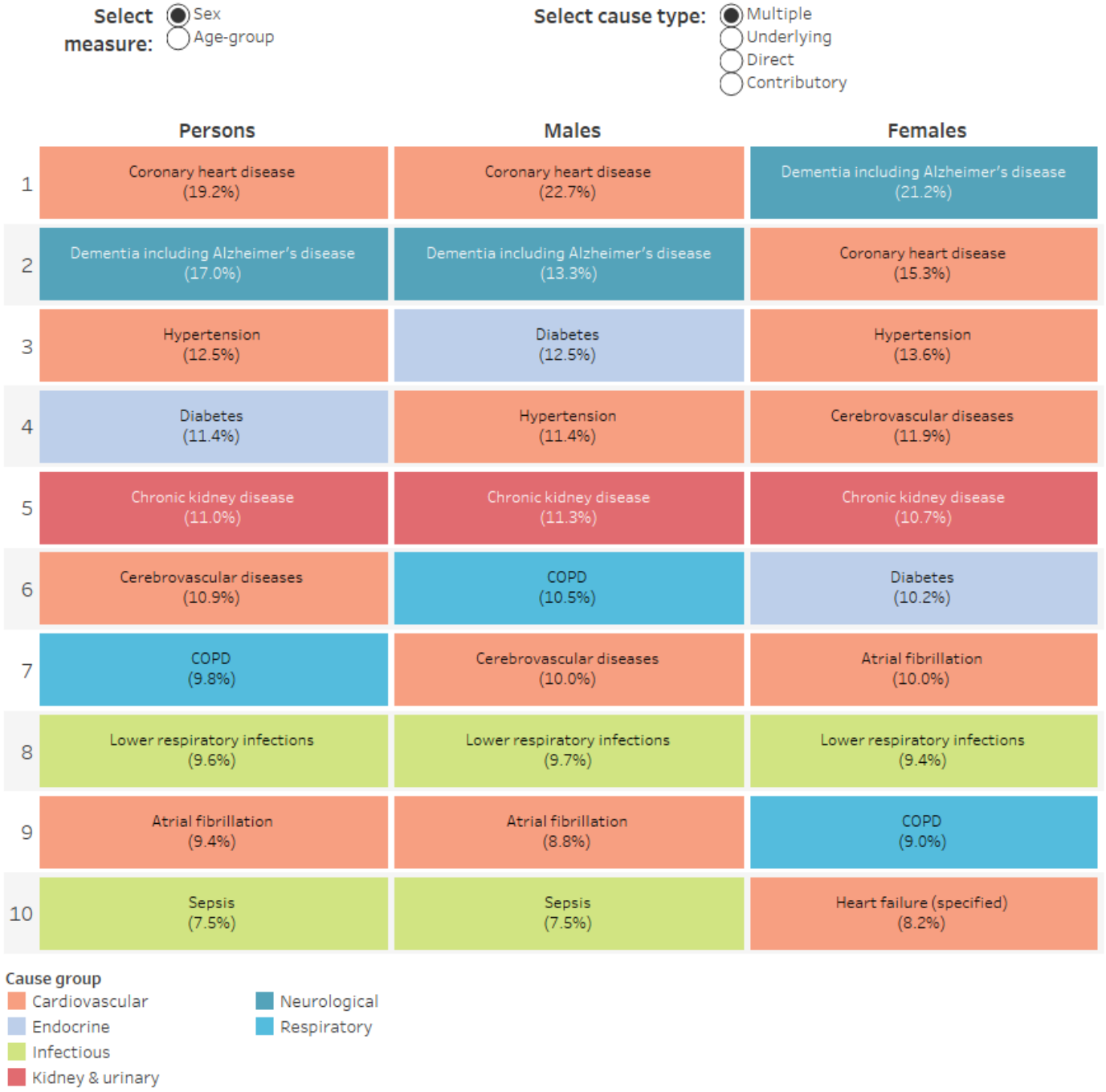
- mental and behavioural conditions (72% of mentions were as a contributory cause of death)
- musculoskeletal (71%)
- endocrine (59%).

Most common causes involved in deaths in Australia

Multiple causes reflect how often the health condition is involved in causing death. In 2023, the 20 causes most commonly involved in death included a mix of chronic conditions, infectious diseases, risk factor-related causes and non-specific causes.

Assessment of multiple causes can show which conditions are most involved in causing death but not revealed as the underlying cause only. For example, hypertension, (specified) heart failure, sepsis and frailty were among the most commonly recorded causes, but were not among the leading underlying causes (Figure 8.3). In 2023, hypertension was the most common contributory cause recorded in 8.2% of deaths. However, a recent Australian study has shown that hypertension mortality is significantly underreported (Adair et. al 2024).

Figure 8.3: Most common causes of death, by cause type, 2023



Notes:

1. The year refers to year of registration of death. Deaths registered in 2023 are based on the preliminary version and are subject to further revision by the Australian Bureau of Statistics (ABS).
2. Cause groups and specific causes are based on the cause list used for reporting on multiple causes of death as described in the Technical notes: Classifying causes of death.

Source: AIHW National Mortality Database; Tables S8.5 & S8.6.

Using the multiple cause of death approach shows that considering the underlying cause only may underestimate the impact of certain conditions in causing death. For example, in 2023:

Coronary heart disease was the underlying cause in 1 in 11 deaths but was involved in 1 in 5 deaths.

Dementia including Alzheimer's disease was the underlying cause in 1 in 11 deaths, but the condition was involved in 1 in 6 deaths.

Diabetes was the underlying cause in 1 in 31 deaths but was involved in 1 in 9 deaths.

Chronic kidney disease was the underlying cause in 1 in 59 deaths but was involved in 1 in 9 deaths.

The 20 most common causes involved in deaths in Australia in 2023 (using multiple causes) were similar for males and females, with some differences in rankings and proportions.

There were more noticeable differences between males and females in the 20 leading contributory causes. Substance use disorders (alcohol, tobacco, other drugs) were among the most common contributory causes for males, while musculoskeletal conditions (osteoporosis and osteoarthritis) were common contributory causes for females.

For younger Australians (aged 15–44), external causes and substance use disorders were commonly involved in death.

For ages 45–54, coronary heart disease and chronic liver disease were the most common causes involved in death.

For those aged 55–94 chronic diseases were the most common conditions involved in death.

Differences are seen across the lifespan in the types of deaths and the role they play. In 2023, among young Australians (aged 15–44), the most common causes involved in death were external causes such as suicide and substance use disorders (Figure 8.3). The direct and contributory causes reflect the consequences and common circumstances surrounding the deaths, including:

- consequential injuries (e.g. asphyxiation) and toxic effect of substances and drugs were the most common direct causes of death
- mental health conditions such as drug and alcohol use disorders and depression, and psychosocial contexts such as issues related to intimate partner relationships (such as relationship breakdowns) and personal history of self-harm were among the leading contributory causes.

For ages 45–54, coronary heart disease and chronic liver disease were the most common causes involved in death. Alcohol use disorders and substance use disorders commonly contributed to deaths in this age group.

From ages 55–94, the most commonly recorded causes involved in death were chronic diseases (coronary heart disease, diabetes and dementia). In 2023, for people aged 55–94:

- sepsis, lower respiratory infections and secondary cancers were the most common direct causes, reflecting the health consequences of the chronic diseases involved in death.
- chronic and risk factor related conditions such as diabetes, chronic kidney disease, hypertension and dementia were common contributory causes.

The mortality profile for the oldest Australians, 95 years and older, shows that dementia was the most common cause involved in death and frailty and senility were among the most often reported direct and contributory causes.

References

Adair T, Li H and Rao C (2024) 'Assessing the accuracy of reporting of hypertension on death certificates in Australia' *American Journal of Hypertension*, 37(12): 948–952. https://doi.org/10.1093/ajh/hpae108

Psychosocial factors contribute to death

If you experience any impacts by viewing this material, please stop reading and seek support.

Crisis and support services

Death is not wholly attributable to disease, injury or health-related risk factors (such as smoking). It is well established that non-medical factors, such as social determinants, play a role in a person's life and death (AIHW 2022, WHO 2024). Since 2017, information on some of these factors (described as psychosocial risk factors) has been collected for coroner-referred deaths (ABS 2019).

Deaths are referred to a coroner in circumstances where: the death was a result of an accident or injury; the identity of the person is unknown; they were in custody or care; the death was health care-related; the person died unexpectedly; or the cause of death is not known.

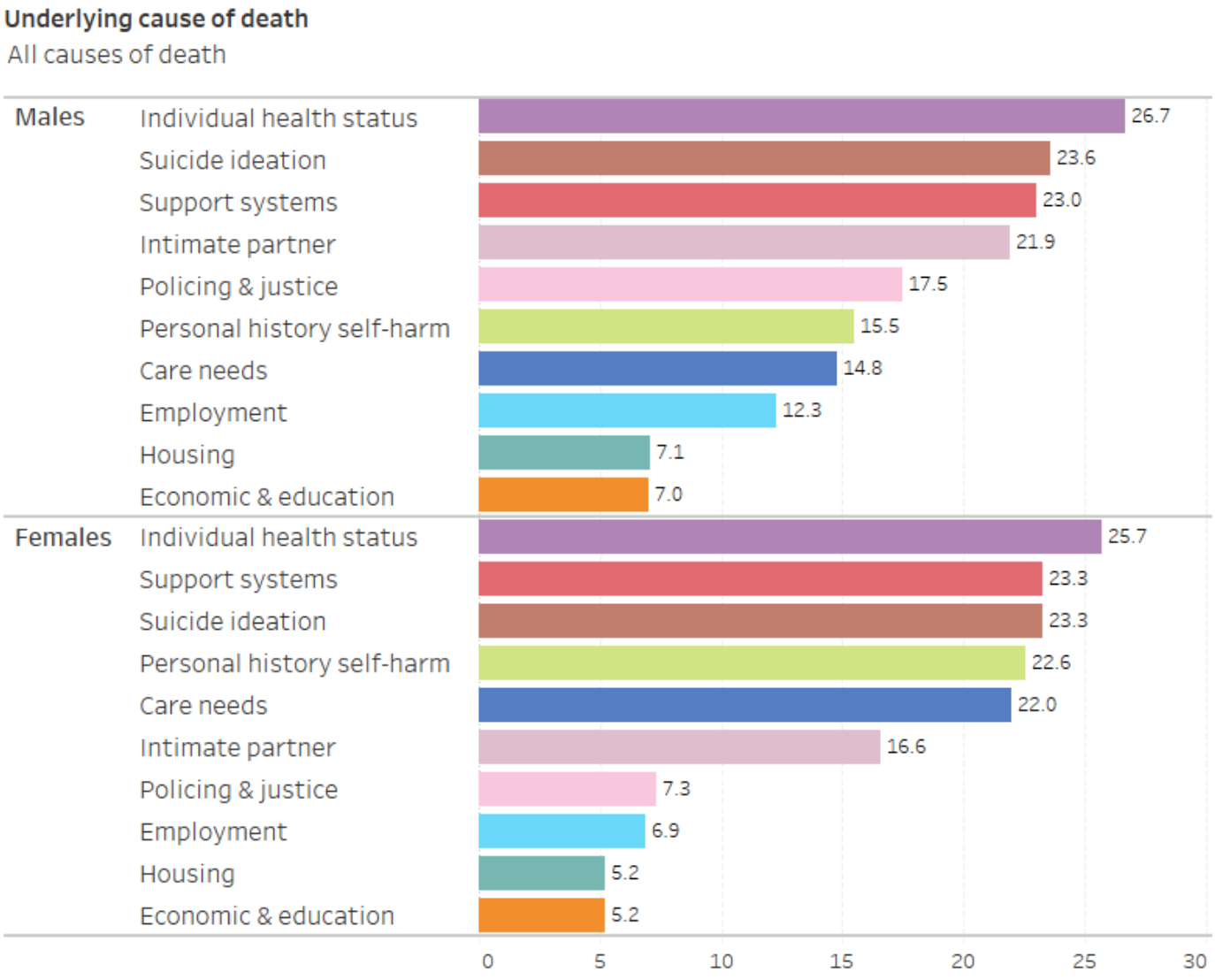
Psychosocial factors can include long-standing and unmodifiable circumstances (such as negative events in a person's childhood or a history of self-harm) and temporary factors (such as fights within a primary support group or unemployment). See What do Australians die from? and the Cause list for further descriptions of psychosocial factors.

In 2023, there were 22,900 (13%) coroner-referred deaths. Of the coroner-referred deaths, 4,677 (20%) mentioned at least 1 psychosocial factor. Among these deaths, on average 1.8 factors per death were identified (Table S8.7).

Some causes of death are more likely to mention psychosocial factors, due to the complex nature of circumstances surrounding the death. In 2023:

- almost three-quarters (72%) of suicide deaths mentioned at least one psychosocial factor
- more than one-third (37%) of accidental poisoning deaths mentioned at least one psychosocial factor (Table S8.12).

Figure 8.4 Leading psychosocial factors by underlying cause of death and sex, 2023



Notes:
1. Causes of death for 2023 are preliminary and are subject to revision. Interpret deaths due to suicide, accidental poisoning and falls with caution.
2. Each death can involve one or more psychosocial factors. As a result, the sum of the number and per cent of factors involved can sum to more than the number of deaths by the underlying cause.
Source: AIHW National Mortality Database; Table S8.8.
https://www.aihw.gov.au

The types of psychosocial factors involved in a person's death vary depending on their sex, underlying cause of death and age.

Personal history of self-harm was more commonly mentioned in female (23%) than male deaths (16%) as was care needs (for example, needs with assistance for daily living) (22% and 15%, respectively). In contrast, issues related to intimate partner relationships (for example, separation or divorce) were proportionately higher among male (22%) compared with female (17%) deaths. Policing & justice issues and employment issues were also more commonly mentioned in male than female deaths (Figure 8.4).

For males who died in 2023, the most common psychosocial factors mentioned were:

- suicide ideation, intimate partner issues and support systems (40%, 35% and 32% respectively) for those who died by suicide.
- individual health status, policing and justice issues, and support systems (31%, 25% and 21% respectively) for those who died due to accidental poisoning.

For females who died in 2023, the most common psychosocial factors mentioned were:

- suicide ideation, personal history of self-harm and support systems (45%, 42% and 34% respectively) for those who died by suicide.
- individual health status, support systems and intimate partner issues (31%, 27% and 20% respectively) for those who died due to accidental poisoning (Table S8.8).

Figure 8.5: Leading psychosocial factors, by sex and age group, 2023

Notes:
1. The year refers to year of registration of death. Deaths registered in 2023 are based on the preliminary version and are subject to further revision by the Australian Bureau of Statistics (ABS).
2. For examples of factors and circumstances included in each psychosocial group, see 'Psychosocial factors contribute to death' in What do Australians die from?
3. Psychosocial factors with a number of deaths less than 10 are not presented.
Source: AIHW National Mortality Database; Table S8.9.
https://www.aihw.gov.au

Issues related to intimate partner relationships were among the most commonly identified factors in deaths of those aged 15 to 64, while care needs were more common factors identified in deaths at older ages (65 years or older). Policing & justice issues were among the leading psychosocial factors identified in male deaths between the ages of 15 and 54 years (Figure 8.5).

References

ABS (Australian Bureau of Statistics) (2019) *Psychosocial risk factors as they relate to coroner-referred deaths in Australia*, ABS, Australian Government, accessed 11 March 2025.

AIHW (Australian Institute of Health and Welfare) (2022) *Social determinants of health*, AIHW, Australian Government, accessed 11 March 2025.

WHO (World Health Organization) (2024) *Social determinants of health*, WHO, accessed 11 March 2025.

Multiple causes of death by socioeconomic area

Figure 8.6: Most common causes of death, by cause type and socioeconomic area, 2021–2023

Cause type: (●) Multiple ( ) Underlying ( ) Direct ( ) Contributory

Rank	Socioeconomic area: 1 (most disadvantaged)	2	3	4	5 (least disadvantaged)
1	Coronary heart disease (21.2%)	Coronary heart disease (20.3%)	Coronary heart disease (19.7%)	Coronary heart disease (19.5%)	Dementia including Alzheimer's disease (20.3%)
2	Dementia including Alzheimer's disease (15.1%)	Dementia including Alzheimer's disease (16.0%)	Dementia including Alzheimer's disease (17.8%)	Dementia including Alzheimer's disease (19.1%)	Coronary heart disease (18.5%)
3	Hypertension (13.6%)	Hypertension (12.8%)	Hypertension (12.2%)	Hypertension (12.3%)	Cerebrovascular diseases (12.3%)
4	Diabetes (13.4%)	Diabetes (12.0%)	Cerebrovascular diseases (11.1%)	Cerebrovascular diseases (11.5%)	Hypertension (11.3%)
5	COPD (12.7%)	Chronic kidney disease (11.4%)	Diabetes (10.9%)	Chronic kidney disease (10.7%)	Chronic kidney disease (10.1%)
6	Chronic kidney disease (12.1%)	COPD (11.1%)	Chronic kidney disease (10.7%)	Diabetes (10.5%)	Lower respiratory infections (10%)
7	Cerebrovascular diseases (10.8%)	Cerebrovascular diseases (11.0%)	Lower respiratory infections (9.3%)	Lower respiratory infections (9.6%)	Atrial fibrillation (9.7%)
8	Atrial fibrillation (9.3%)	Atrial fibrillation (9.8%)	COPD (9.2%)	Atrial fibrillation (9.6%)	Diabetes (9.0%)
9	Lower respiratory infections (9.3%)	Lower respiratory infections (9.3%)	Atrial fibrillation (9.1%)	COPD (8.0%)	Heart failure (specified) (7.3%)
10	Sepsis (7.7%)	Heart failure (specified) (7.9%)	Heart failure (specified) (7.1%)	Heart failure (specified) (7.5%)	Sepsis (7.0%)

Cause group
Cardiovascular · Endocrine · Infectious · Kidney & urinary · Neurological · Respiratory

Notes:

1. Year refers to year of registration of death. Deaths registered in 2021 are based on the revised version of cause of death data; deaths registered in 2022 and 2023 are based on the preliminary version. Revised and preliminary versions are subject to further revision by the Australian Bureau of Statistics (ABS).
2. Cause groups and specific causes are based on the cause list used for reporting on multiple causes of death as described in the Technical notes.
3. Geography is based on area of usual residence—Statistical Local Area Level 2 (SA2)—classified into population-based quintiles by using the Socio-Economic Indexes for Areas (SEIFA) 2021 Index of Relative Socio-Economic Disadvantage (IRSD).

Source: AIHW National Mortality Database; Table S8.10

During 2021–2023, coronary heart disease was the most common cause involved in deaths in all socioeconomic areas except the highest (least disadvantaged) socioeconomic areas where dementia was the leading cause. Coronary heart disease was involved in 21% of deaths in the lowest socioeconomic areas compared with 18% in the highest socioeconomic areas. Dementia was involved in 15% of deaths in the lowest and 20% in the highest socioeconomic areas.

Considering risk factor-related conditions, hypertension (the leading contributor in all socioeconomic areas) contributed to 9% of deaths in the lowest socioeconomic areas compared with 7% in the highest socioeconomic areas. The contribution of diabetes ranged from 8% in the lowest to 6% in the highest socioeconomic areas.

Lower respiratory infections, sepsis and cardiac/respiratory arrest were the 3 leading direct causes of death in all socioeconomic areas. Chronic kidney disease was proportionally more common as a direct cause of death in the lowest socioeconomic areas, while pneumonitis was proportionally more common as a direct cause of death in the highest socioeconomic areas.

Analysis of psychosocial factors by socioeconomic areas shows that the leading factors were largely the same across areas for males and females. One exception was policing and justice issues which featured among the 5 most commonly mentioned psychosocial factors among male deaths in the lowest socioeconomic areas. For females, issues related to support systems and individual health status ranked higher in the lowest areas, and care needs was among the 5 most common factors in the highest socioeconomic areas (Table S8.11).

Technical notes

In this section

Deaths data

Information about deaths is collected on death certificates and certified by either a medical practitioner or a coroner. Registration of deaths is compulsory in Australia and is the responsibility of each state and territory Registrar of Births, Deaths and Marriages (RBDM) under jurisdiction-specific legislation. Additional information about coroner-certified deaths is maintained by the National Coronial Information System (NCIS). On behalf these agencies (RBDM & NCIS), deaths data are assembled, coded and published by the Australian Bureau of Statistics. Causes of death are coded by the ABS to the International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10). The Australian Coordinating Registry undertakes the coordination and management of the data on behalf of the RBDMs, and supplies the AIHW with the Cause of Death Unit Record File. The data are maintained by the AIHW in the National Mortality Database (NMD).

For more information about Australian mortality data, including scope and coverage of the collection and a quality declaration, please refer to Deaths, Australia and Causes of death, Australia available from the ABS website.

The data used in this report was extracted from the NMD. The NMD comprises two sets of causes:

- record data – which has causes of death that have been coded to an ICD-10 code based on the standard international coding rules. These data contain the underlying cause and the associated causes (that is, all conditions that were not the underlying cause).
- entity data – which has the causes of death in the order and location that they were recorded on the Medical Certificate of Cause of Death. These data contain information about the location (Part I or Part II) on the Medical Certificate of Cause of Death. The location of the cause can be used to identify whether the cause was in the chain of events leading directly to death (Part I) or whether it was a cause that significantly contributed to the death (Part II).

For more information on how deaths data is derived, see Where do death statistics come from? in What do Australians die from?

Year of occurrence and year of registration

Trends may be presented by year of occurrence of death or year of registration of death.

Using year of occurrence of death is common when the exact time period of the death is important (for example, seasonal deaths) however the latest data available underestimates the occurrence of recent deaths due to a lag in registration.

For this reason, year of registration of death is often used to allow the latest year of data to be compared to previous years.

In both cases the latest year of data are coded with preliminary causes of death information and may underestimate causes of death that are usually certified by a coroner (for example, external causes of death including suicide).

Unless otherwise specified, deaths statistics presented here are based on year of registration of death. Previously data were presented by the reference year in which the death was received and processed by the Australian Bureau of Statistics. As a result, historical data in this report may not equal previously published data for these years. For more detail, refer to the ABS Data collection: Presentation of mortality data in Causes of death, Australia, methodology, 2022.

For more information on how deaths are registered, coded and updated, see About deaths data.

Cause of death terminology

Death statistics are often based on the underlying cause of death only – that is, the disease or injury that initiated the train of events leading directly to death, or the circumstances of the accident or violence that produced the fatal injury. Analysis of the underlying cause of death is important because it points to where interventions can be targeted.

Multiple cause of death statistics are based on all the causes, conditions and health events listed on the Medical Certificate of Cause of Death (MCCD). Using the information supplied on the MCCD, causes involved in death can be considered as direct (health events that arise from the underlying cause) or contributory (conditions that significantly contributed to the death but were not in the chain of events leading to death). From a public health perspective, understanding the different roles played by common causes of death highlights the extent of their involvement in causing death. This can inform different ways to target prevention strategies in addition to what is known about the underlying causes of death.

For more information on how these causes are derived, see Where do death statistics come from? in What do Australians die from?

Further descriptions of cause of death terminology are available in the Life expectancy & deaths glossary.

Classifying causes of death

Leading causes of death are determined by grouping specific causes of death and counting the number of deaths assigned to each cause group. Over 14,000 specific causes of illness, injury and death are presented in the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10). Grouping causes of death in a meaningful way is a useful measure of population health. It is of most value when making

comparisons over time or between population groups. Changes in the pattern of causes of death can result from changes in behaviours, exposures to disease or injury, and social and environmental circumstances, as well as from data coding practices.

Cause lists for different purposes

There is no standard method for grouping causes to identify leading underlying causes of death, however, the AIHW follows the recommendations of the World Health Organization (WHO) (Becker et al. 2006) with minor modifications to suit the Australian context. This grouping is a mix of ICD chapters, blocks and specific diseases to maximise information, separate out ill-defined causes and highlight health priority areas. The leading underlying causes of death presented in this report are classified using an AIHW-modified version of Becker et al (2006).

For the analyses of multiple causes of death, the ICD-10 codes for each cause (underlying, direct and contributory) in each death were mapped to the specifically developed multiple cause of death cause list (see Cause list). The cause list was designed to incorporate common acute direct causes and risk-factor related causes. Due to different purposes, these cause groupings can differ to the modified Becker cause list which is designed to elicit the leading underlying causes of death in a manner that lends to international comparability. The purposes and examples of differences between the classification for identifying the leading underlying causes and leading multiple causes is described below.

Differences in cause of death analytical groupings

Methods for identifying the leading underlying causes of death are well established and internationally consistent. The AIHW for example, uses a classification (suggested by Becker and colleagues) to identify the leading underlying causes of death. Aside of minor modifications by the AIHW to enable reporting relevant to the Australian public health context, this approach largely facilitates international comparisons of causes of death. An example AIHW modification is asthma. Given the public health importance of asthma, the codes for identifying deaths due to asthma are specifically extracted from the broader Becker grouping of chronic respiratory conditions.

Using a multiple cause approach to identify causes of death provides a more complete picture of the health status of Australians. However, these methods require a finely detailed cause list to identify, in addition to the underlying causes, conditions that commonly occur as consequences of the underlying cause (direct causes) or which are coexisting or contextual causes (contributory causes). Identifying the direct and contributory causes highlights a broader range of conditions which can be used to

- emphasise the involvement of potentially preventable complications of the underlying cause, such as sepsis, to inform strategies to minimise their occurrence.
- show the contribution of preventable causes and modifiable risk factor-related conditions, such as hypertension, to provide additional focus for prevention strategies.

It is important to note that the 'Becker' classification is specifically designed to identify the leading underlying causes of death. A more detailed grouping of conditions is required to identify common direct and contributory causes.

Some conditions, for example, sepsis, hypertension and pneumonitis, are not considered valid underlying causes of death. Theoretically, there is another (underlying) condition that led to sepsis or pneumonitis. Therefore, in assessing only the underlying cause, there is little need to draw out these sorts of conditions.

For assessment of the multiple causes, a detailed cause list was developed to facilitate identification of the common direct and contributory causes. Lower respiratory infections, pneumonitis and acute renal failure are common conditions that arise as consequences of disease and injuries, while hypertension (a preventable condition) and chronic kidney disease, commonly occur as significant contributors to death.

For example, influenza and lower respiratory infections were each extracted from the broader Becker grouping of Influenza and pneumonia to identify common direct causes. Similarly, acute renal failure and chronic kidney disease were extracted from the broader Becker grouping of diseases of the urinary system to identify these as direct and contributory causes, respectively.

The multiple cause of death cause list has undergone some modification since reporting What do Australians die from? This has resulted in greater consistency between the leading underlying cause and the multiple cause reporting. Some examples of changes in the classification of health conditions include refining the cause codes for:

- Cerebrovascular diseases from G45, I60–I69 to I60–I69
- Diabetes to include the codes related to renal complications (previously aligned to chronic kidney disease)
- Dementia to align with Deaths in Australia reporting (by excluding G31).

A new cause has been included — Other degenerative neurological diseases defined by the ICD10 codes F02, G31, G32.

Cause list: Cause group and cause name, International Classification of Disease (ICD-10) code inclusions for Multiple Cause of Death analysis

Infectious

Cause name	ICD-10 codes
HIV/AIDS	B20–B24, O987
Tuberculosis	A15–A199, B90–B909, N330, N740–N741, O980, P370
Other respiratory infections	J00–J069, J987
Lower respiratory infections	J12–J129, J14–J22, J85–J869
Influenza	J09–J118
Urinary tract infections	N30–N309, N34–N343, N390
COVID-19	U071–U109

Sepsis	A40–A402, A408–A419
Hepatitis	B15–B179, B19–B199, B942
Gastrointestinal infections	A00–A099, D593
Other infectious diseases	A20–A399, A403, A42–A449, A48–B07, B080, B082–B083, B085–B09, B25–B854, B87–B89, B91–B92, B940–B941, B948–B99, G00–G07, H65–H669, H68–H681, H70–H709, J13, N290, N742–N744, O981–O986, O988–O989, P350, P373–P374, U049

Infant & congenital

Cause name	ICD-10 codes
Infant & congenital (excluding SIDS)	G80–G809, P00–P299, P351–P369, P371–P372, P375–Q999
Sudden infant death syndrome (SIDS)	R95–R959

Cancer

Cause name	ICD-10 codes
Laryngeal cancer	C32–C329
Oesophageal cancer	C15–C159
Stomach cancer	C16–C169
Colorectal cancer	C18–C20, C260
Liver cancer	C22–C229
Gallbladder cancer	C23–C249
Pancreatic cancer	C25–C259
Lung cancer	C33–C349
Mesothelioma	C45–C459
Melanoma of the skin	C43–C439
Non-melanoma skin cancer	C44–C449
Breast cancer	C50–C509
Cervical cancer	C53–C539
Uterine cancer	C54–C559
Ovarian cancer	C56
Prostate cancer	C61
Bladder cancer	C67–C679
Kidney cancer	C64–C649
Brain cancer	C70–C729
Thyroid cancer	C73
Non-Hodgkin lymphoma	C82–C866
Hodgkin lymphoma	C81–C819
Myeloma	C90–C903
Other blood cancers	C88–C889, C96–C969, D45–D469, D471, D473–D475
Cancer unknown primary	C76–C768, C80–C809, C97
Benign/uncertain brain tumour	D32–D339, D42–D439
Acute myeloid leukaemia	C920, C923–C926, C928, C930, C940, C942, C944–C945
Chronic myeloid leukaemia	C921
Acute lymphoblastic leukaemia	C910
Chronic lymphocytic leukaemia	C911

Other leukaemias	C912–C919, C922, C927, C929, C931–C939, C941, C943, C946–C959
Oral cancers	C00–C148
Cancer of secondary site	C77–C799
Other malignant cancers	C17–C179, C21–C218, C261–C319, C37–C419, C46–C499, C51–C52, C57–C609, C62–C639, C65–C66, C68–C699, C74–C759
Other benign cancers	D00–D24, D26–D319, D34–D419, D44–D449, D470, D472, D477–D489

Cardiovascular

Cause name	ICD-10 codes
Coronary heart disease	I20–I259
Cerebrovascular diseases	I60–I698
Rheumatic heart disease	I00–I069, I080–I081, I083, I09–I099
Non-rheumatic valvular disease	I07–I079, I082, I088–I089, I34–I398
Atrial fibrillation	I48–I489
Inflammatory heart disease	I30–I339, I40–I418
Cardiomyopathy	I42–I438
Aortic aneurysm	I71–I719
Peripheral vascular disease	I700–I708, I72–I749
Arrythmias	I47–I479, I49–I499
Pulmonary embolism	I26–I269
Cardiomegaly	I517
Hypertension	I10
Hypertensive heart & renal disease	I13–I139, I150
Heart failure (specified)	I500–I501
Other cardiovascular diseases	G45–G459, I11–I119, I158–I159, I27–I289, I44–I459, I460, I51–I516, I518–I528, I709, I77–I849, I86–I959, I98–I99

Respiratory

Cause name	ICD-10 codes
Asthma	J45–J46
COPD	J40–J449
Interstitial lung disease	J84–J849
Upper respiratory conditions	J30–J339, J341–J399
Asbestosis	J61
Respiratory failure	J96–J969
Pulmonary oedema	J81
Pleural effusion	J90
Pneumonitis	J69–J698
Other respiratory diseases	D860, D862, D869, J47–J60, J62–J689, J70–J80, J82, J91–J949, J98–J986, J988–J998

Gastrointestinal

Cause name	ICD-10 codes
Gastroduodenal disorders	K221, K25–K279, K29–K299
Abdominal wall hernia	K40–K439, K45–K469

Vascular disorders of intestine	K55–K559
Intestinal obstruction without hernia	K56–K567
Inflammatory bowel disease	K50–K529
Diverticulitis	K57–K579
Chronic liver disease	B18–B189, I85–I859, K70–K709, K710–K711, K713–K769
Gallbladder diseases	K80–K839
Pancreatitis	K85–K869
Gastro-oesophageal reflux	K20–K219, K44–K449
Gastrointestinal haemorrhage (unspecified)	K631, K922
Peritonitis	K65–K669
Other gastrointestinal disorders	K22–K220, K222–K238, K28–K289, K30–K389, K58–K621, K624–K630, K632–K649, K67–K678, K712, K77–K778, K87–K909, K92–K921, K928–K938

Neurological

Cause name	ICD-10 codes
Epilepsy	G40–G419
Dementia including Alzheimer's disease	F00–F019, F03, G30–G309
Parkinson disease	G20–G200
Multiple sclerosis	G35
Motor neurone disease	G122
Other degenerative neurological diseases	F02–F028, G31–G328
Other neurological conditions	G08–G121, G128–G14, G21–G26, G36–G379, G43–G448, G46–G737, G81–G969, G98–G998

Mental & behavioural

Cause name	ICD-10 codes
Depressive disorders	F32–F339, F341–F349, F39
Anxiety disorders	F40–F439
Bipolar affective disorder	F30–F319, F340
Alcohol use disorders	F10–F109, R780
Drug use disorders	F11–F169, F18–F199, R781–R788
Schizophrenia	F20–F29
Intellectual disability	F70–F799
Delirium	F05–F059
Tobacco use disorders	F17–F179
Other mental & behavioural disorders	F04, F06–F09, F38–F388, F44–F69, F80–F99

Endocrine

Cause name	ICD-10 codes
Diabetes	E10–E149
Obesity	E66–E669
Volume depletion	E86
Hypothyroidism (unspecified)	E039
Hyperthyroidism	E05–E059

Other endocrine disorders	E030–E038, E04–E049, E06–E079, E15–E279, E280–E281, E283–E358, E853–E859, E87–E878, I152

Kidney & urinary

Cause name	ICD-10 codes
Chronic kidney disease	I12–I129, N02–N088, N13–N168, N18–N19, N391–N392
Enlarged prostate	N40
Kidney stones	N20–N219
Interstitial nephritis	N10–N12
Acute renal failure	N17–N179
Other kidney & urinary diseases	I151, N00–N019, N22–N289, N291–N298, N31–N329, N338, N35–N378, N393–N399, N41–N429

Reproductive & maternal

Cause name	ICD-10 codes
Reproductive & maternal conditions	D25–D259, E282, K622–K623, N43–N739, N748–N989, O00–O239, O240–O979, O99–O998

Musculoskeletal

Cause name	ICD-10 codes
Osteoarthritis	M15–M199
Gout	M10–M109
Rheumatoid arthritis	M05–M069, M08–M089
Back pain & problems	M40–M419, M45–M549, M99–M999
Osteoporosis	M80–M828
Other arthropathies	M00–M036, M07–M076, M09–M098, M11–M148, M20–M259
Other osteopathies	M83–M908
Other musculoskeletal conditions	M30–M368, M42–M439, M60–M799, M91–M959

Hearing & vision

Cause name	ICD-10 codes
Hearing & vision diseases	H001–H588, H602–H628, H67–H678, H69–H699, H71–H948

Skin

Cause name	ICD-10 codes
Ulcers	L89–L899, L97, L984
Skin infections	A46, B081, B084, H000, H600–H601, J340, L00–L039, L08–L089
Other skin disorders	B86, L04–L059, L10–L88, L90–L959, L980–L983, L985–L998

Oral

Cause name	ICD-10 codes
Oral disorders	K00–K149

Blood & metabolic

Cause name	ICD-10 codes
Haemolytic anaemias	D55–D589
Iron-deficiency anaemia	D501–D509
Protein-energy deficiency	E40–E46

High cholesterol	E780, E785
Acquired & other anaemia	D500, D59–D592, D594–D649
Other blood & metabolic disorders	D51–D539, D65–D849, D861, D863–D868, D89–E02, E50–E65, E67–E779, E781–E784, E786–E849, E850–E852, E88–E889, E90

External

Cause name	ICD-10 codes
Accidental poisoning	X40–X499
Falls	W00–W199
Drowning	V90–V909, V92–V929, W65–W749
Other unintentional injuries	V91–V919, V93–V99, W20–W641, W75–W779, W81–W99, X20–X399, X50–X589, Y35–Y369, Y86–Y862, Y890–Y891
Suicide	X60–X849, Y870
Homicide & violence	X85–Y099, Y871
Unspecified external factors	X59–X599
Inhalation & choking	W78–W809
Undetermined intent	Y10–Y349
Road traffic injuries	V011–V019, V021–V029, V031–V039, V041–V049, V051–V059, V061–V069, V092–V099, V103–V109, V113–V119, V123–V129, V133–V139, V143–V149, V153–V159, V163–V169, V173–V179, V183–V189, V194–V199, V203–V209, V213–V219, V223–V229, V233–V239, V243–V249, V253–V259, V263–V269, V273–V279, V283–V289, V294–V299, V304–V309, V314–V319, V324–V329, V334–V339, V344–V349, V354–V35
Medical events (external)	U129, Y40–Y849, Y88–Y883
Other external causes	U070, U831, V010, V020, V030, V040, V050, V060, V090–V091, V100–V102, V110–V112, V120–V122, V130–V132, V140–V142, V150–V152, V160–V162, V170–V172, V180–V182, V190–V193, V200–V202, V210–V212, V220–V222, V230–V232, V240–V242, V250–V252, V260–V262, V270–V272, V280–V282, V290–V293, V300–V303, V310–V313, V320–V323, V330–V333, V340–V343, V350–V353, V360–V363, V370

Injury

Cause name	ICD-10 codes
Traumatic brain injury	S020–S021, S027, S029, S06–S069, T902, T905
Spinal cord injuries	S097–S099, S140–S141, S147, S197–S199, S240–S241, S247, S340–S341, S347, T060–T061, T093, T903, T913
Internal & crush injury	S07–S079, S110, S17–S18, S224–S225, S25–S281, S297, S35–S379, S380–S381, S396–S397, S47, S57–S579, S67–S678, S77–S772, S87–S878, S97–S978, T04–T049, T065, T147, T914–T915
Substances & drugs	T36–T659, T96–T97
Drowning/submersion injuries	T751
Hip fracture	S72–S729, T931
Other fractures	S022–S026, S028, S12–S129, S220–S223, S228–S229, S32–S328, S42–S429, S497, S52–S529, S597, S62–S628, S697, S82–S829, S92–S929, T02–T029, T08–T081, T10–T101, T12–T121, T142, T911–T912, T921–T922, T932
Burn injuries	T20–T329, T95–T959
Multiple (unspecified) injuries	T07
Asphyxiation	T71
Foreign body - respiratory tract	T17–T179
Medical events (complications)	E89–E899, G97–G979, H59–H599, H95–H959, I97–I979, J95–J959, K91–K919, M96–M969, N99–N999, T80–T890, T983

Other injuries	S00–S019, S03–S059, S08–S092, S10–S11, S111–S119, S13–S136, S142–S146, S15–S16, S19, S20–S219, S23–S235, S242–S246, S290, S298–S318, S33–S337, S342–S346, S348, S382–S383, S390, S398–S418, S43–S469, S48–S489, S498–S519, S53–S568, S58–S589, S598–S619, S63–S669, S68–S689, S698–S718, S73–S767, S78–S819, S83–S869, S88–S918, S93–S969, S98–T019, T03–T039, T05–T059,

Ill-defined

Cause name	ICD-10 codes
Cardiac/respiratory arrest	I461–I469, R092
Heart failure (unspecified)	I509
Gangrene	R02
Asphyxia	R090
Dysphagia	R13
Somnolence, stupor & coma	R40–R402
Disorientation/amnesia	R41–R418
Ill-defined pain	R07–R074, R10–R104, R14, R30–R309, R51–R529
Frailty	R53
Senility	R54
Convulsions	R56–R568
Septic shock	R572
Haemorrhage	R04–R049, R58–R580
Food/fluid intake issues	R63–R638
Cachexia	R64
Multiple-organ failure	R688
Immobility/bed-bound	R263
Tendency to fall	R296
Ill-defined urinary	R31–R398
Cardiogenic shock	R570
All other ill-defined	R00–R012, R03–R031, R05–R068, R091, R093–R098, R11–R12, R15–R258, R260–R262, R268–R278, R290–R294, R298, R42–R448, R450–R457, R46–R509, R55, R571, R578–R579, R59–R629, R65–R659, R680–R683, R69–R779, R789–R948, R96–R98

Unspecified/undetermined

Cause name	ICD-10 codes
Unspecified/undetermined	R99

Psychosocial

Cause name	ICD-10 codes
Support systems	Z593, Z602, Z604, Z620, Z631–Z634, Z636–Z641, Z735, Z742–Z749, Z811–Z813, Z818
Childhood events	Z353, Z381, Z588, Z601, Z610–Z619, Z622–Z629
Experience of violence/trauma	Z654, Z914, Z916–Z918
Intimate partner	Z630, Z635
Policing & justice	Z650–Z653
Economic & education	Z550–Z553, Z558–Z559, Z596–Z598
Employment	Z560–Z567, Z659

Housing	Z590–Z591, Z599
Environment	Z570–Z587, Z589, Z655
Care needs	Z515, Z736, Z740–Z741
Personal	Z031–Z032, Z038, Z282, Z312, Z411, Z418, Z465, Z502, Z518–Z531, Z538–Z539, Z594, Z600, Z644, Z715, Z730–Z733, Z738–Z739, Z751–Z754, Z759–Z768
Individual health status	Z004, Z026, Z033, Z039–Z229, Z313–Z351, Z364–Z371, Z391, Z412, Z428, Z501, Z513, Z532, Z643, Z711, Z721–Z729, Z758, Z850–Z913, Z921–Z999
Suicide ideation	R458
Other community & safety issues	Z024–Z025, Z290–Z299, Z554, Z592, Z603, Z605–Z609, Z658, Z734, Z800–Z809, Z814, Z820–Z848
Personal history self-harm	Z915

Abbreviations and symbols

Abbreviation or symbol	In full or meaning
ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
COPD	Chronic obstructive pulmonary disease
HALE	Health-adjusted life expectancy
ICD	International Statistical Classification of Diseases and Related Health Problems
ICD-10	International Statistical Classification of Diseases and Related Health Problems, 10th Revision
OECD	Organisation for Economic Co-operation and Development
PYLL	Potential years of life lost
WHO	World Health Organization
%	Per cent

Glossary

Glossary

This glossary provides definitions for specific terms included in Multiple causes of death in the Deaths in Australia report.

For definition of standard terms used throughout the rest of this report, see Life expectancy & deaths: Glossary

Contributory causes of death

The conditions that significantly contributed to the death but were not in the chain of events leading to death. Typically, these causes relate to prior or co-existing long-term health conditions, and social and other circumstances that were involved in the death. They highlight additional health conditions that could be the focus of prevention strategies, for example, the causes that contribute to chronic disease deaths.

Direct causes of death

The health events that arise from the underlying cause. They can relate to consequences and complications of the underlying cause. Some direct causes reflect the health events experienced at the end of life, or conditions experienced for lengthy periods before death.

Medical Certificate of Cause of Death (MCCD)

The international standard form for collecting cause of death information. The MCCD comprises of two parts. Part I is used for describing the underlying cause and the direct causes (the health events arising from the underlying cause) in the chain of events that led to death. In Part II, the certifier describes all other significant medical conditions and other circumstances that contributed to the death (that is, the contributory causes).

Multiple causes of death

All the causes involved in causing the death (underlying, direct, and contributory). When assessed in combination these describe the most common conditions involved in causing deaths.

Underlying cause of death

The disease or injury that initiated the train of events leading directly to death, or the circumstances of the accident or violence that produced the fatal injury. It provides a significant point in the sequence of events where an intervention, if available, could take place to prevent the death from occurring.

Notes

Data quality statement

For more information on the AIHW National Mortality Database see Deaths data at AIHW.

The data quality statements underpinning the AIHW National Mortality Database can be found in the following ABS publications:

- ABS quality declaration summary for Deaths, Australia (ABS cat. no. 3302.0)
- ABS quality declaration summary for Causes of death, Australia (ABS cat. no. 3303.0)