Australian Bureau of Statistics

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CAUSES OF DEATH

AUSTRALIA

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CONTENTS

INQUIRIES

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NOTES

IN THIS ISSUE

This publication presents statistics on the number of deaths for reference year by state or territory of Australia, sex, selected age groups, and cause of death classified to the World Health Organization's International Classification of Diseases (ICD). Version 10 of the ICD has been introduced from 1999.

Explanatory Notes and three technical notes describing the impact of Causes of Death revisions and the Queensland retrospective deaths initiative are presented in this publication. Users should read these notes in order to make themselves aware of any changes in ABS processes.

CHANGES IN THIS ISSUE

The Aboriginal and Torres Strait Islander chapter and datacube have been revised to increase and improve the type of analysis provided.

CAUSES OF DEATH REVISIONS

All coroner certified deaths registered after 1 January 2006 are now subject to a revision process. This is a change from previous years where all ABS processing of causes of death data for a particular reference period were finalised approximately 13 months after the end of the reference period. Where insufficient information was available to code a cause of death (e.g. a coroner certified death was yet to be finalised by the Coroner), less specific ICD-10 codes were assigned as required by the ICD-10 coding rules. The revision process enables the use of additional information relating to coroner certified deaths as it becomes available over time. This may result in increased specificity of the assigned ICD-10 codes.

Final data for 2006, 2007 and 2008 and revised data for 2009 is published in this release on a reference year basis. Final 2009 data will also be published in the 2011 Causes of Death release in March 2013. The revisions process only impacts on coroner certified deaths which remain open at the finalisation of ABS processing. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

PERINATAL DEATHS

From 2010, perinatal death statistics have been included in Causes of Death, Australia.

ACKNOWLEDGEMENT

This publication draws extensively on information provided freely by the state and territory Registrars of Births, Deaths and Marriages, and the Victorian Institute of Forensic Medicine who manage the National Coroners Information System (NCIS). Their continued cooperation is very much appreciated: without it, the wide range of vitals statistics published by the ABS would not be available.

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CHAPTER 1 INTRODUCTION

CAUSES OF DEATH

Causes of death statistics are key to understanding Australian society and health. The use of these statistics for demographic and health purposes provides significant information for the formulation and monitoring of health and other social policies. For example, causes of death information provide insights into the diseases and factors contributing to reduced life expectancy.

In Australia causes of death statistics are recorded as both underlying cause i.e. the disease or injury which initiated the train of morbid events leading directly to death; and multiple cause i.e. all causes and conditions reported on the death certificate that contributed, were associated with or were the underlying cause of the death (see Glossary for further details).

Causes of death data in this publication are classified using the 10th revision of the International Classification of Diseases (ICD-10). For further information see Explanatory Notes 30-34.

This data can be presented by using varying types of aggregation depending on the requirements of the data user. In this publication, data are presented in a number of ways to allow different types of analysis.

Chapter 2 of this publication presents data ranked by Leading Causes of Death. The methodology for the listing used is based on research presented in the Bulletin of the World Health Organization, see Explanatory Note 47. Data presented by leading cause is useful when comparing causes of death in different populations and/or over time.

Chapter 3 of this publication presents Underlying Cause of Death data commentary. Data presented in this manner is used to analyse particular causes or groups of similar causes. Information on median age at death and changes over time for selected causes is presented in this chapter with further data presented by ICD-10 chapter in the data cubes associated with this publication.

Chapter 4 presents data on Multiple Causes of Death. Multiple cause of death data is useful in the analysis of all the associated conditions that led to death, rather than the underlying cause alone.

Chapter 5 on Suicides and Chapter 6 on Deaths of Aboriginal and Torres Strait Islander people present summary data on these specific areas of public interest.

Chapter 7 presents Perinatal Deaths data. Perinatal deaths comprise stillbirths (fetal deaths) and deaths of infants within the first 28 days of life (neonatal deaths).

Chapter 8 presents data by Year of Occurrence.

Deaths

In 2010, there were 143,473 deaths registered in Australia, 2,713 (1.9%) more than the number registered in 2009 (140,760). The standardised death rate (SDR) decreased to 5.7 deaths per 1,000 standard population in 2010, down from 5.8 in 2009. Standardised death rates are calculated using the 2001 total population of Australia as the standard population (see Glossary for more information).

In 2010, males accounted for 51.2% (73,484) of registered deaths, a slightly higher proportion than females who accounted for 48.8% of registered deaths (69,989).

The number of deaths for both males and females has increased since 2001 (66,835 and 61,709 respectively), but the increase has been larger for females. In 2001 there were 108 male deaths per 100 females. in 2010 this sex ratio dropped to 105 male deaths per 100 females.

Further details on numbers of deaths registered can be found in Deaths, Australia 2010 (cat. no. 3302.0).

Leading Cause of Death

In 2010, Ischaemic heart disease, defined as ICD-10 codes I20-I25, was the leading underlying cause of death in Australia. Ischaemic heart disease includes angina, blocked arteries (heart) and heart attacks. It was the underlying cause of 15.1% of all registered deaths in Australia. It accounted for 15.9% of all male deaths, and 14.3% of all female deaths registered in 2010. Ischaemic heart disease has been the leading cause of death in Australia since 2000.

Underlying Cause of Death

The table below presents summary causes of death data for each major chapter of the ICD-10. Further information on selected causes for 2010 is presented in Chapter 3 of this publication.

1.1 DEATHS, by ICD-10 CHAPTER LEVEL - 2010(a)(b)

Cause of death and ICD code	Number	Proportion of total deaths	Median Age	Standardised Death Rate(c)
	no.	%	yrs.	rate
Certain infectious and parasitic diseases (A00-B99)	2 148	1.5	80.7	8.5
Neoplasms (C00-D48)	43 298	30.2	75.3	176.1
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50-D89)	408	0.3	82.0	1.6
Endocrine, nutritional and metabolic diseases (E00-E90)	5 704	4.0	81.7	22.5
Mental and behavioural disorders (F00-F99)	7 030	4.9	87.5	26.1
Diseases of the nervous system (G00-G99)	6 206	4.3	82.8	24.3
Diseases of the circulatory system (I00-I99)	45 499	31.7	85.0	173.9
Diseases of the respiratory system (J00-J99)	11 949	8.3	83.2	46.6
Diseases of the digestive system (K00-K93)	5 125	3.6	80.5	20.3
Diseases of the skin and subcutaneous tissue (L00-L99)	399	0.3	86.2	1.5
Diseases of the musculoskeletal system and connective tissue (M00-M99)	1 180	0.8	84.0	4.6
Diseases of the genitourinary system (N00-N99)	3 399	2.4	86.0	12.9
Certain conditions originating in the perinatal period (P00-P96)	616	0.4	0.5	2.8
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	605	0.4	0.9	2.7
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	972	0.7	71.1	3.9
External causes of morbidity and mortality (V01-Y98)	8 918	6.2	52.7	37.8
All Causes(d)	**143 473**	**100.0**	**81.2**	**566.1**

(a) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisoins, 2006 and Causes of Death Revisions, 2008 and 2009

(b) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

(c) Standardised Death Rate per 100,000 persons. See Glossary for further information.

(d) Includes deaths due to Diseases of the eye and adnexa (H00-H59), Diseases of the ear and mastoid processes (H60-H95) and Pregnancy, childbirth and the puerperium (O00-O99).

Multiple Cause of Death

For the 143,473 deaths registered in Australia in 2010, there were 453,319 causes reported giving a mean of 3.2 causes per death. The mean number of causes reported per death varies with age, sex and underlying cause of death. In 18.1% of all deaths, only one cause was reported, while 37.1% of deaths were reported with three or more causes. For further detail on multiple cause, see Chapter 4 of this publication.

Causes of Death Revisions Process

All coroner certified deaths registered after 1 January 2006 are now subject to a revisions process. Where presented, this publication contains final 2006, 2007 and 2008 data and revised 2009 cause of death data. Final 2006, 2007 and 2008 data and revised 2009 data are also presented in the associated data cubes. Data released in this publication for 2010 are preliminary data. All coroner certified deaths registered in 2010 will be subject to the revisions process. For further information, see Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions 2006 and Causes of Death Revisions 2008 and 2009.

CHAPTER 2 LEADING CAUSES OF DEATH

OVERVIEW

Ranking causes of death is a useful method of describing patterns of mortality in a population. It allows comparison over time and between populations. However, different methods of grouping causes of death can result in a vastly different list of leading causes for any given population. For this reason ABS ranks leading causes of death in this publication based on research presented in the Bulletin of the World Health Organization, Volume 84, Number 4, April 2006, 297-304. For further information see Explanatory Notes 46-48.

In 2010, the leading underlying cause of death for all Australians was Ischaemic heart disease (I20-I25), which includes angina, blocked arteries of the heart and heart attacks. Ischaemic heart diseases were identified as the underlying cause of 21,708 deaths, 15.1% of all deaths registered in 2010. While Ischaemic heart diseases have been the leading cause of death in Australia since 2000, the proportion of deaths due to this cause has decreased, from 20.4% (26,234) in 2001 to 15.1% (21,708) in 2010.

Cerebrovascular disease (I60-I69) have remained the second leading underlying cause of death in 2010. Cerebrovascular disease include haemorrhages, strokes, infarctions and blocked arteries of the brain. Over the last 10 years, deaths due to this cause have decreased by 7.8%, from 12,146 deaths in 2001 to 11,204 deaths in 2010.

Dementia and Alzheimer's disease (F01, F03, G30) was the third leading cause of death in 2010. The number of deaths due to this cause has increased 140.7% from 3,740 in 2001 to 9,003 in 2010. This is largely due to an increase in deaths due to Dementia (F01, F03), which increased from 2,133 in 2001 to 6,297 in 2010. For further information see Explanatory Note 90.

Trachea and lung cancers (C33-C34) were the fourth leading cause of death in 2010. Over the last 10 years, deaths due to this cause have increased by 15.1%, from 7,038 in 2001 to 8,099 in 2010.

The top 10 leading causes of death accounted for 52.2% of all deaths registered in 2010, and the top 20 leading causes accounted for 67.3%.

OVERVIEW *continued*

2.1 LEADING CAUSES OF DEATH(a), Australia - Selected years - 2001, 2005, 2010(b)

	2001		2005		2010	
Cause of death and ICD code	no.	Rank	no.	Rank	no.	Rank
Ischaemic heart diseases (I20-I25)	26 234	1	23 570	1	21 708	1
Cerebrovascular diseases (I60-I69)	12 146	2	11 513	2	11 204	2
Dementia and Alzheimer disease (F01, F03, G30)	3 740	6	4 653	5	9 003	3
Trachea, bronchus and lung cancer (C33-C34)	7 038	3	7 399	3	8 099	4
Chronic lower respiratory diseases (J40-J47)	5 916	4	5 428	4	6 122	5
Colon,sigmoid, rectum and anus cancer (C18-C21)	4 745	5	4 171	6	4 056	6
Diabetes (E10-E14)	3 078	9	3 529	8	3 945	7
Blood and lymph cancer (including leukaemia) (C81-C96)	3 660	7	3 614	7	3 933	8
Heart failure (I50-I51)	3 128	8	2 739	12	3 468	9
Diseases of the urinary system (N00-N39)	2 741	10	2 948	10	3 315	10
Prostate Cancer (C61)	2 711	11	2 946	11	3 235	11
Breast cancer (C50)	2 612	13	2 736	13	2 864	12
Pancreatic cancer (C25)	1 809	16	2 018	15	2 434	13
Influenza and pneumonia (J09-J18)	2 702	12	3 034	9	2 364	14
Intentional self-harm (X60-X84)(c)	2 454	14	2 101	14	2 359	15
Skin cancers (C43-C44)	1 458	17	1 678	16	1 897	16
Hypertensive diseases (I10-I15)	1 223	19	1 445	18	1 734	17
Accidental falls (W00-W19)	634	38	996	28	1 648	18
Cirrhosis and other diseases of liver (K70-K77)	1 196	21	1 427	19	1 592	19
Cardiac arrhythmias (I47-I49)	975	24	1 265	20	1 535	20

(a) Causes listed are the leading causes of death for all deaths registered in 2010, based on WHO recommended tabulation of leading causes. See Explanatory Notes 46-48 for further information.
(b) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.
(c) Excludes Sequelae of suicide (Y87.0) as per the WHO recommended tabulation of leading causes. Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

LEADING CAUSES OF DEATH BY GENDER

Ischaemic heart diseases (I20-I25) were the leading cause of death for both males and females in 2010, with 11,704 and 10,004 deaths respectively. This reflects a sex ratio of 117 male deaths per 100 female deaths.

The remaining leading causes of death vary between the sexes, in part due to the incidence of gender-specific causes, such as prostate or ovarian cancer. However, other causes which may not be gender-specific also showed variance between the sexes.

Those causes where a high proportion of deaths were males included:

- Intentional self-harm (Suicide, (X60-X84) - 76.9% and 333 male deaths for every 100 female deaths
- Trachea and lung cancers (C33-C34) - 60.9% and 156 male deaths for every 100 female deaths
- Blood and lymph cancers (including leukaemia) (C81-C96) - 58.1% and 139 male deaths for every 100 female deaths
- Colon and rectum cancers (C18-C21) - 55.3% and 124 male deaths for every 100 female deaths
- Ischaemic heart disease (I20-I25) - 53.9% and 117 male deaths for every 100 female deaths
- Chronic lower respiratory diseases (J40-J47) - 52.7% and 111 male deaths for every 100 female deaths.

LEADING CAUSES OF DEATH BY GENDER *continued*

2.2 LEADING CAUSES OF DEATH(a), Males 2010(b)(c)

Cause of death and ICD-10 code	*Rank*	*Males*	*Total*
Ischaemic heart diseases (I20-I25)	1	11 704	21 708
Trachea, bronchus and lung cancer (C33-C34)	2	4 934	8 099
Cerebrovascular diseases (I60-I69)	3	4 333	11 204
Prostate cancer (C61)	4	3 235	3 235
Chronic lower respiratory diseases (J40-J47)	5	3 224	6 122
Dementia and Alzheimer disease (F01, F03, G30)	6	2 920	9 003
Blood and lymph cancer (including leukaemia) (C81-C96)	7	2 286	3 933
Colon, sigmoid, rectum and anus cancer (C18-C21)	8	2 242	4 056
Diabetes (E10-E14)	9	1 988	3 945
Intentional self-harm (X60-X84)(d)	10	1 814	2 359

(a) Causes listed are the leading causes of death for all deaths registered in 2010, based on WHO recommended tabulation of leading causes. See Explanatory Notes 46-48 for further information.

(b) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(c) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

(d) Excludes Sequelae of suicide (Y87.0) as per the WHO recommended tabulation of leading causes. Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

Those causes where a high proportion of deaths were females included:

- Dementia and Alzheimer disease (F01, F03, G30) - 67.6% and 48 male deaths for every 100 female deaths
- Cerebrovascular diseases (I60-I69) - 61.3% and 63 male deaths for every 100 female deaths
- Heart failure (I50-I51) - 57.5% and 74 male deaths for every 100 female deaths
- Diseases of the kidney and urinary system (N00-N39) - 55.0% and 82 male deaths for every 100 female deaths.

2.3 LEADING CAUSES OF DEATH(a), Females 2010(b)(c)

Cause of death and ICD-10 code	*Rank*	*Females*	*Total*
Ischaemic heart diseases (I20-I25)	1	10 004	21 708
Cerebrovascular diseases (I60-I69)	2	6 871	11 204
Dementia and Alzheimer disease (F01, F03, G30)	3	6 083	9 003
Trachea, bronchus and lung cancer (C33-C34)	4	3 165	8 099
Chronic lower respiratory diseases (J40-J47)	5	2 898	6 122
Breast cancer (C50)	6	2 840	2 864
Heart failure (I50-I51)	7	1 994	3 468
Diabetes (E10-E14)	8	1 957	3 945
Diseases of the urinary system (N00-N39)	9	1 824	3 315
Colon, sigmoid, rectum and anus cancer (C18-C21)	10	1 814	4 056

(a) Causes listed are the leading causes of deaths for all deaths registered in 2010 based on the WHO recommended tabulation of leading causes. See Explanatory Notes 46-48 for further information.

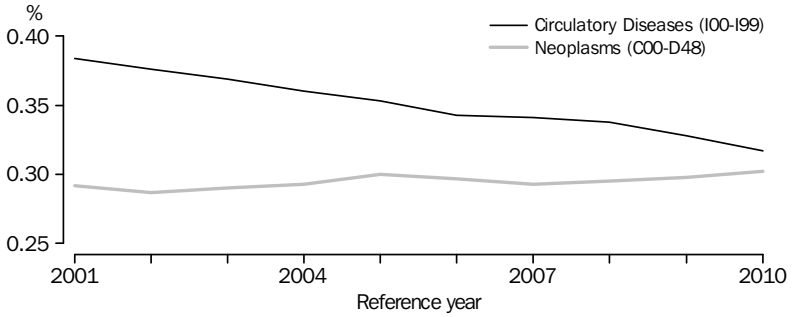
(b) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(c) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

CIRCULATORY DISEASES AND CANCERS

The preceding sections present data based on the international standard of ranking leading causes of death based on research presented by the World Health Organization. It is also useful to present mortality data by the ICD-10 chapter level. As shown in Graph 2.4, over the last 10 years the proportion of deaths due to Circulatory Diseases (I00-I99) has decreased from 38.4% in 2001 to 31.7% in 2010. Deaths due to Neoplasms (C00-D48) have increased from 29.2% in 2001 to 30.2% in 2010.

2.4 CIRCULATORY DISEASES AND NEOPLASMS, PROPORTIONS OF DEATHS: **2001-2010** (a)



(a) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). For further information, see Explanatory Notes 35-39 and Technical Notes Causes of Death Revisions 2006 and Causes of Death Revisions 2008 and 2009.

CHAPTER 3 UNDERLYING CAUSE OF DEATH BY SELECTED ICD-10 CHAPTERS

OVERVIEW

An underlying cause of death is the disease or injury that initiated the train of morbid events leading directly to death. Accidental and violent deaths are classified according to the external cause, that is, to the circumstances of the accident or violence that produced the fatal injury, rather than to the nature of the injury.

Data presented for 2010 is preliminary and subject to a process of revision, with the revisions process only applying to coroner certified deaths. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009 for further information on those cause chapters potentially affected by the revisions process.

Data cubes

The following analysis provides insight into selected ICD-10 chapters and specific causes of death. Further information on underlying causes of death is presented in the data cubes associated with this publication. Included in the data cubes are counts, standardised death rates, years of potential life lost, and changes over time for all causes at the ICD-10 3-character level by sex for Australia and each state/territory of usual residence. Age specific rates are also presented for Australia and each state/territory of usual residence for selected causes of death.

NEOPLASMS (C00-D48)

In 2010, Neoplasms (C00–D48) was the underlying cause of 43,298 registered deaths in Australia. This accounted for 30.2% of all registered deaths. The ratio of male (24,552) to female (18,746) deaths in 2010 remained steady at 131 males per 100 females. The median age of persons dying from Malignant cancers (C00–C97) has continued to rise from 73.7 years in 2001 to 75.2 years in 2010. Deaths due to malignant cancers accounted for 42,330 deaths or 97.8% of all cancers in 2010.

Cancers of the digestive organs (C15–C26) accounted for 11,856 deaths. Of these, Pancreatic cancer (C25) constituted the largest number of deaths with 2,434 deaths. There was a small difference between the numbers of males (1,233) and females (1,201) dying from pancreatic cancer; however, the median age of males dying of pancreatic cancer (72.6) was lower than for females (77.7) dying of the same cause.

Colon cancer (C18) was the second highest contributor to deaths from cancers of the digestive organs, accounting for 2,145 deaths. The median age at death for people dying of colon cancer was 75.8 years for males and 79.8 years for females, with the largest number of deaths occurring between 75 and 84 years of age for both males and females.

There were 8,449 deaths attributed to Cancers of the respiratory system and chest (C30–C39), accounting for 20.0% of all malignant cancers. Lung cancer (C34) was the underlying cause of 8,095 (95.8%) deaths due to cancers of the respiratory system and chest. The male to female ratio of lung cancer deaths has changed from 194 male deaths

NEOPLASMS (C00-D48) *continued*

per 100 females in 2001 to 156 male deaths per 100 females in 2010. Since 2001 the number of female deaths from this cause has increased by 771 while the number of male deaths has increased by 295. Males whose underlying cause of death was lung cancer, had a marginally higher median age at death (73.8 years) than females (73.4 years) with the same underlying cause.

Prostate cancer (C61) was the underlying cause of 4.4% of all male deaths registered in 2010. Male deaths from this underlying cause have increased gradually from 2,711 in 2001 to 3,235 in 2010. The median age at death for prostate cancer has steadily increased from 79.2 years in 2001 to 81.6 years in 2010. The current median age at death for prostate cancer is close to the median age for all deaths (81.2 years).

In females, deaths due to Breast cancer (C50) have risen from 2,612 in 2001 to 2,840 in 2010. The female median age at death due to breast cancer was 69.8 years, 14.4 years lower than the median age for all female deaths (84.2 years).

ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES (E00-E90)

Endocrine, nutritional and metabolic diseases (E00–E90) in 2010 accounted for 4.0% of all registered deaths. Total deaths due to these underlying causes have increased gradually over the last ten years, from 4,314 in 2001 to 5,704 in 2010. The proportion of all deaths due to these causes has also increased over the same period ranging from 3.3% in 2001 to 4.0% in 2010. The median age at death from these causes was 81.7 years, which was comparable with the median age of 81.2 years for all deaths in 2010.

Diabetes (E10–E14) was the underlying cause of death for 3,945 people, or 2.7% of all deaths. The proportion of all deaths represented by this cause increased from 2.4% (3,078) in 2001 to 2.7% (3,945) in 2010.

Obesity (E66) accounted for a total of 221 deaths in 2010. The overall median age at death due to obesity as the underlying cause was 61.6 years, which was 19.6 years less than the median age for all deaths. The median age at death was approximately 4 years lower for males (59.9 years) than females (64.0 years).

MENTAL AND BEHAVIOURAL DISORDERS (F00-F99)

In 2010, Mental and behavioural disorders (F00–F99) were identified as the underlying cause of 7,030 registered deaths, representing 4.9% of all registered deaths in 2010.

There were nearly twice as many female deaths (4,520 or 64.3%) due to mental and behavioural disorders than male deaths (2,510 or 35.7%) registered in 2010. The median age at death was higher for females, at 88.8 years, compared with 84.9 years for males.

Dementia (F01, F03) accounted for 6,297 deaths in 2010. These deaths constitute 89.6% of mental and behavioural disorders in 2010, compared with 78.9% in 2001. The sex ratio of 49 males per 100 female deaths has remained relatively steady since 2001, with 2,079 males and 4,218 females dying of this disease in 2010. The median age at death for persons (87.9 years) dying of dementia was higher than the median age for mental and behavioural disorders (87.5 years) as a whole. See Explanatory Note 90 for further information.

DISEASES OF THE NERVOUS SYSTEM (G00-G99)

Diseases of the nervous system (G00–G99) accounted for 6,206 registered deaths in 2010, representing 4.3% of all registered deaths. This follows a gradual increase in deaths attributable to diseases of the nervous system over time, from 4,204 in 2001. The number of deaths due to diseases of the nervous system was higher for females (3,428) than for males (2,778). The median age at death was 80.3 for males and 84.9 for females.

Deaths from Alzheimer's disease (G30) constituted 43.6% (2,706) of all deaths due to diseases of the nervous system and 1.9% of all registered deaths in 2010. Female deaths (1,865) due to Alzheimer's disease were much higher than male deaths (841), with a ratio of 45 male deaths per 100 female deaths. The median age at death due to Alzheimer's disease was 87.3 years.

Parkinson's disease (G20) accounted for 19.8% of all deaths due to diseases of the nervous system and 0.9% of all deaths registered in 2010. There were 1,230 deaths due to this disease, with a median age at death of 83.3 years. The number of male deaths (757) due to Parkinson's disease was higher than the number of female deaths (473). This was similar to the overall trend for the past 10 years.

DISEASES OF THE CIRCULATORY SYSTEM (I00-I99)

Diseases of the Circulatory System (I00–I99) were identified as the underlying cause of 45,499 registered deaths in 2010. This accounted for 31.7% of all registered deaths. The median age at death for diseases of the circulatory system was 85.0 years, higher than the median age for all deaths (81.2 years).

Female deaths represented 52.5% (23,885) of deaths due to diseases of the circulatory system. The past ten years has seen a consistent pattern of more female than male deaths from these underlying causes. Females dying from these diseases had a higher median age at death (87.5 years) than males (81.7 years) dying from the same cause.

Ischaemic heart diseases and Cerobrovascular disease combined contributed to 72.3% of deaths due to diseases of the circulatory system.

Ischaemic heart diseases (I20-I25) which includes angina, heart attacks and blocked arteries of the heart, represented a substantial proportion (47.7%) of deaths attributable to diseases of the circulatory system, accounting for 21,708 deaths. Males accounted for 53.9% (11,704) of deaths and females accounted for 46.1% (10,004).

Deaths from Cerebrovascular disease (I60-I69) numbered 11,204 in 2010 or 24.6% of all diseases of the circulatory system. The median age at death for females (87.4 years) was higher than males (83.0 years).

DISEASES OF THE RESPIRATORY SYSTEM (J00-J99)

Diseases of the respiratory system (J00-J99), which include diseases that impact on the ability to breathe, accounted for 11,949 registered deaths in 2010, which was 8.3% of all registered deaths. In line with the pattern of previous years where more males than females died of this cause, there were 6,222 male deaths compared to 5,727 female deaths due to diseases of the respiratory system. Over the past ten years, females tended to be older than males for this underlying cause. This trend continued in 2010 with the median age at death for males being 82.0 years while for females the median age was 84.5 years.

DISEASES OF THE RESPIRATORY SYSTEM (J00-J99) *continued*

In 2010, Chronic lower respiratory diseases (J40–J47) were the underlying cause of 6,122 deaths or 4.3% of all registered deaths. Chronic lower respiratory diseases include diseases such as asthma, bronchitis and emphysema. More males than females died from this cause in 2010 (3,224 compared with 2,898). In 2010, the median age at death caused by chronic lower respiratory diseases was 80.5 years for males and 81.8 years for females.

In 2010, Pneumonia (J12-J18) accounted for 2,322 of the 2,364 registered deaths due to Influenza and pneumonia (J09-J18), or 1.6% of all registered deaths in Australia. As in previous years, more females died from pneumonia than males, with 1,303 female deaths compared with 1,019 male deaths. The median age at death for males was also lower, 85.7 years compared with 88.9 years for females.

The number of deaths from Pneumonitis (J69), which is similar to pneumonia but results from complications of inhalation of solids and liquids, has increased substantially over time, from 516 deaths in 2001 to 1,266 in 2010. The increase in deaths due to this cause was mainly in the 60 years and over age group. In 2001, 501 people aged 60 or over died from pneumonitis, whereas in 2010, 1,227 people aged 60 years or over died from this underlying cause.

In 2010, Swine flu (Influenza A - H1N1) was the underlying cause of 19 deaths in Australia, in 2009 there were 77 deaths. The ABS implemented World Health Organization (WHO) guidelines to code all swine flu deaths to the ICD-10 code of Influenza due to certain identified influenza virus (J09). Further information on swine flu deaths within the ABS dataset is provided in Causes of Death, Australia, 2009 Explanatory Note 76.

ILL DEFINED CAUSES (R00-R99)

Ill-defined causes (R00–R99) accounted for 972 deaths registered in Australia in 2010. This represented 0.7% of all registered deaths.

Deaths due to Other ill-defined and unspecified cause of mortality (R99) accounted for 567 deaths, or 58.3% of all deaths due to Ill-defined causes. The number of deaths coded to Ill-defined causes may be affected by the number of open coronial cases remaining on National Coroners Information System (NCIS) at the end of the ABS processing period, as the majority of open cases for which no information was available at the end of processing have been coded to Other ill-defined and unspecified causes (R99). 2010 coroner certified deaths are subject to a revisions process, see Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009

In 2010, there were 81 deaths whose cause was identified as Sudden Infant Death Syndrome (SIDS) (R95). In processing causes of death, the ABS will only code a death to SIDS if specifically mentioned on the death certificate. Open coronial cases could potentially include cases where the cause of death may be determined as SIDS when closed. For further information, see Explanatory Notes 61-73.

For the past 10 years, more males have died from SIDS than females. This trend continued in 2010, with 58 male deaths compared to 23 female deaths. The majority of these deaths occurred in the period between 28 days and 1 year of age, with SIDS identified as the underlying cause of death for 76 (93.8% of SIDS deaths) infant deaths in this age group.

EXTERNAL CAUSES (V01-Y98)

External causes of death relate to cases where the underlying cause of death is determined to be one of a group of causes external to the body (for example suicide, transport accidents, falls, poisoning etc). See Explanatory Note 45 for further information.

In 2010, external causes accounted for 8,918 deaths, or 6.2% of all registered deaths. The standardised death rate was 37.8 per 100,000 population in 2010, a decrease from 40.6 per 100,000 population in 2001. Males were more likely to die from external causes than females in 2010. The standardised death rate for males was 54.0 per 100,000 compared with 22.4 females per 100,000.

In 2010, the median age at death from these causes was 52.7 years. The median age at death for external causes was considerably less than the median age of 81.2 years for all registered deaths in 2010. The median age at death for males dying of external causes was 47.5. years, with the median age at death for females 73.8 years.

Consistent with previous years, close to two-thirds of the total number of deaths resulting from external causes were males (5,888). The difference between the number of male and female deaths was most apparent amongst the 20-44 year age group, with 2,277 male deaths compared to 664 female deaths, with a sex ratio of 343 male deaths per 100 female deaths in this age group.

Transport Accidents (V01-V99, Y85)

Transport accidents (V01–V99, Y85) accounted for 1,503 deaths registered in 2010. This represented 1.0% of all registered deaths in 2010, and 16.9% of all external causes of death. Of these, 706 deaths were of Occupants of a car (V40-V49), 236 deaths were of Motorcycle riders (V20-V29) and 227 deaths were of Pedestrians (V01-V09).

As with most other external causes, more males than females died from transport accidents in 2010 (1,122 compared with 381). For males, 1.5% of deaths registered in 2010 were caused by transport accidents. This was compared with only 0.5% of all female deaths. The median age at death from transport accidents for males was 37.5 years compared to 43.8 years for females. Of all male deaths from external causes, 19.1% were attributed to transport accidents.

For further information on transport accidents, refer to Explanatory Note 95.

Accidental Falls (W00-W19)

Accidental Falls (W00–W19) accounted for 1,648 deaths registered in 2010. This represented 1.1% of all registered deaths in 2010, and 18.5% of all external causes of death. Falls have increased by 28.0% over the last five years (1,288 in 2006).

Falls were the underlying cause of death for more females than males (862 females, compared with 786 males). The median age at death for falls was 85.9 years, which was considerably higher than the median age at death of 52.7 for all external causes. Of all deaths due to falls, 87.4% (1,440) were of people aged 70 years or more.

Accidental Poisoning (X40-X49)

Accidental poisoning (X40–X49) accounted for 864 deaths registered in 2010. This represented 0.6% of all registered deaths in 2010, and 9.7% of all external causes of death. The number of deaths due to accidental poisoning may be affected by the number of open coroner certified cases, as well as changes in coding practices. See Explanatory Notes 61-73 for further information.

Accidental Poisoning (X40-X49) continued

More than twice as many males as females died from accidental poisoning in 2010, with 611 male and 253 female deaths. The median age at death for accidental poisoning was 41.8 years. Median age at death for males was 40.5 years, compared with 45.4 years for females.

Assault (X85-Y09,Y87.1)

Assault (X85–Y09, Y87.1) accounted for 217 deaths in 2010. The deaths from assault represented 0.2% of all registered deaths and 2.4% of all external causes of death in 2010. Twice as many males (145) as females (72) died from assault in 2010, closely following the trend since 2001. The median age at death for assault was 40.6 years. Median age at death for males was 40.5 years, compared with 41.0 years for females.

ABS statistics for deaths due to assault may differ from other sources of data due to differences in scope and coverage, but also due to the impact of open coroner certified cases on data. See Explanatory Notes 11-17 and 61-73 for further information.

Intentional Self-Harm [Suicide] (X60-X84,Y87.0)

Care should be taken in using and interpreting suicide data contained in this publication. For further information refer to Explanatory Notes 98-101.

There were 2,361 deaths coded to Intentional self-harm (X60–X84, Y87.0) in 2010. Deaths from Intentional self-harm represented 1.6% of all registered deaths and 26.5% of all external causes of death in 2010. More than three times as many males as females died from Intentional self-harm in 2010, continuing the trend since 2001. The median age at death for Intentional self-harm was 43.8 years for both males and females.

For more detailed information on deaths due to Intentional self-harm, see Chapter 5 of this publication.

CHAPTER 4 MULTIPLE CAUSES OF DEATH

OVERVIEW

Multiple causes of death include all causes and conditions reported on the death certificate (i.e. both underlying and associated causes; see Glossary for further details). These statistics are valuable in providing an accurate portrayal of mortality in deaths attributable to a number of concurrent disease processes.

When analysing data on multiple causes of death, data can be presented in two ways: by counts of deaths or counts by mentions. For example, an individual may have had Breast cancer (C50) and then developed Secondary lung cancer (C78.0). This individual would be counted once if counts were by the number of deaths, but twice if the counts were by the number of mentions of cancer.

DATA CUBES

Further information on multiple causes of death is presented in the data cubes associated with this publication. These include the number of associated causes for all 3-character underlying causes, as well as the number of mentions of each cause at the 3-character level of ICD-10.

Number of Multiple Causes

For the 143,473 deaths registered in Australia in 2010, there were 453,319 causes mentioned, giving a mean of 3.2 causes per death. In 18.1% of all deaths, only one cause was reported, while 37.1% of deaths were reported with three or more causes. The mean number of causes reported per death varies with age, sex and underlying cause of death.

Selected Multiple Causes

In 2010, Malignant cancers (C00-C97) contributed to 33.6% (48,205) of all deaths as either an underlying or multiple cause. There were mentions of 59,848 malignant cancers reported in 2010.

Ischaemic heart diseases (I20-I25) which includes angina, heart attacks, and blocked arteries of the heart, were found to contribute to 26.0% of all deaths as either an underlying or multiple cause.

The following table lists counts of selected causes of death (as opposed to mentions), both underlying and associated causes, appearing on death certificates for deaths registered in 2010.

4.1 SELECTED MULTIPLE CAUSES OF DEATH: 2010(a)(b)(c)

	UNDERLYING CAUSE		MULTIPLE CAUSE		
	Underlying	*Proportion of total deaths*	*Multiple*	*Proportion of total deaths*	*Mean no. of causes*
Cause of death and ICD code	no.	%	no.	%	no.
All Causes	**143 473**	**n.a.**	**143 473**	**n.a.**	**3.2**
Malignant cancers (C00-C97)	42 330	29.5	48 205	33.6	2.5
Ischaemic heart diseases (I20-I25)	21 708	15.1	37 335	26.0	3.5
Cerebrovascular diseases (I60-I69)	11 204	7.8	20 444	14.2	3.1
Dementia and alzhiemer's disease (F01, F03, G30)	9 003	6.3	20 645	14.4	3.1
Chronic lower respiratory diseases (J40-J47)	6 122	4.3	15 301	10.7	3.5
Diabetes (E10-E14)	3 945	2.7	14 342	10.0	4.3
Diseases of the kidney and urinary system (N00-N39)	3 315	2.3	19 147	13.3	3.7
Heart failure (I50, I51)	3 468	2.4	20 652	14.4	3.2
Suicides (X60-X84, Y87.0)(d)	2 361	1.6	2 365	1.6	2.7
Hypertensive diseases (I10-I15)	1 734	1.2	19 348	13.5	4.4
Influenza and pneumonia (J09-J18)	2 364	1.6	17 763	12.4	2.4
Land transport accidents (V01-V89, Y85.0)	1 436	1.0	1 481	1.0	2.9

(a) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.
(b) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. Cells with a zero value have not been affected by confidentialisation.
(c) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.
(d) Includes ICD-10 codes X60-X84 and Y87.0. Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

Relationships between Multiple Causes

Influenza and pneumonia (J09-J18) was identified as the underlying cause for 2,364 deaths in 2010. In 30.8% of cases, Influenza and pneumonia were reported alone.

In contrast, Diabetes (E10-E14) was reported alone as the underlying cause in only 1.7% of the 3,945 deaths attributed to this cause. It was reported more frequently with the associated causes of Ischaemic heart diseases (I20-I25) including angina, heart attacks and blocked arteries of the heart (50.2%) and Hypertensive diseases (I10-I15, 32.7%).

The following table illustrates relationships between the various causes of death in 2010.

4.2 SELECTED UNDERLYING CAUSES WITH ASSOCIATED CAUSE: 2010(a)(b)(c)

	SELECTED UNDERLYING CAUSE		REPORTED WITH SELECTED ASSOCIATED CAUSE				
Cause of death and ICD code	*Underlying*	*Reported alone*	*Malignant cancers (C00-C97)*	*Ischaemic heart disease (I20-I25)*	*Cerebrovascular diseases (I60-I69)*	*Dementia & alzheimer's disease (F01, F03, G30)*	*Chronic lower respiratory diseases (J40-J47)*
	no.	%	%	%	%	%	%
All Causes	**143 473**	**18.1**	**33.6**	**26.0**	**14.2**	**14.4**	**10.7**
Malignant cancers (C00-C97)	42 330	35.4	100.0	8.6	3.8	3.3	6.6
Ischaemic heart diseases (I20-I25)	21 708	11.6	7.0	100.0	9.2	11.6	10.7
Cerebrovascular diseases (I60-I69)	11 204	15.7	4.9	12.1	100.0	18.1	3.5
Dementia & alzheimer's disease (F01, F03, G30)	9 003	11.9	4.9	12.1	9.7	100.0	3.5
Chronic lower respiratory diseases (J40-J47)	6 122	7.2	8.6	18.3	4.8	8.0	100.0
Diabetes (E10-E14)	3 945	1.7	6.7	50.2	21.8	15.4	6.9
Diseases of the kidney & urinary system (N00-N39)	3 315	7.7	5.0	22.9	7.8	10.0	5.5
Heart failure (I50-I51)	3 468	12.2	5.0	2.6	8.1	10.5	11.7
Hypertensive diseases (I10-I15)	1 734	5.0	6.8	1.4	7.5	22.2	7.7
Influenza and pneumonia (J09-J18)	2 364	30.8	1.3	15.4	1.3	1.1	1.0

(a) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(b) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. Cells with a zero value have not been affected by confidentialisation.

(c) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

4.2 SELECTED UNDERLYING CAUSES WITH ASSOCIATED CAUSE: 2010(a)(b)(c) *continued*

REPORTED WITH SELECTED ASSOCIATED CAUSE *continued*

Cause of death and ICD code	*Diabetes (E10-E14)* %	*Diseases of the kidney & urinary system (N00-N39)* %	*Heart failure (I50-I51)* %	*Hypertensive diseases (I10-I15)* %	*Influenza and pneumonia (J09-J18)* %
All Causes	**10.0**	**13.3**	**14.4**	**13.5**	**12.4**
Malignant cancers (C00-C97)	6.3	7.5	3.9	6.9	6.7
Ischaemic heart diseases (I20-I25)	11.3	12.8	27.3	21.5	5.7
Cerebrovascular diseases (I60-I69)	8.2	6.7	5.4	29.4	11.3
Dementia & alzheimer's disease (F01, F03, G30)	8.1	11.7	7.5	12.1	30.5
Chronic lower respiratory diseases (J40-J47)	6.9	9.5	18.4	9.4	31.1
Diabetes (E10-E14)	100.0	29.4	20.9	32.7	7.8
Diseases of the kidney & urinary system (N00-N39)	10.4	100.0	25.5	5.2	11.7
Heart failure (I50-I51)	7.8	22.7	100.0	7.6	22.5
Hypertensive diseases (I10-I15)	8.7	31.7	38.9	100.0	8.6
Influenza and pneumonia (J09-J18)	6.0	13.2	5.5	5.5	100.0

(a) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(b) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. Cells with a zero value have not been affected by confidentialisation.

(c) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

External Causes

Deaths due to external causes are those which occur as a result of accidents, poisonings and/or violence. They are classified according to the event leading to the fatal injury, such as an accidental fall. Multiple cause data for external causes include the nature of injury or poisoning, as well as any other causes reported on the death certificate. ICD-10 codes in the Injury, poisoning and certain other consequences of external causes (S00-T98) cannot be an underlying cause of death, but can be recorded as an associated cause.

In 2010, there were 13,465 deaths where External causes (V01-Y98) contributed to the death as a multiple cause. There was a mean of 3.5 causes coded for each of the 8,918 deaths with an External cause as the underlying cause of death.

Transport accidents (V01-V99, Y85) accounted for 16.9% of all injuries with an External cause as the underlying cause of death, with 46.3% of these injuries being to the head or thorax (S00-S09, S20-S29). Intentional self-harm (X60-X84, Y87.0) accounted for 26.5% of total injuries with an External cause as the underlying cause of death, and of these, Asphyxiation (T71) was the most common injury (56.1%).

Care should be taken in interpreting numbers of suicide deaths. For further information, see Explanatory Notes 98-101. For more detailed analysis on suicides, see Chapter 6.

CHAPTER 5 SUICIDES

OVERVIEW

In 2010, a senate inquiry *(The Hidden Toll: Suicide in Australia)* highlighted the potential costs of suicide to individuals, families and communities. Suicide can be defined as the deliberate taking of one's life (Butterworths Concise Australian Legal Dictionary, 1997, Butterworths Sydney). To be classified as a suicide, a death must be recognised as being due to other than natural causes. Detailed information on how deaths are classified as suicide by the ABS can be found in Explanatory Notes 98-101.

This chapter contains summary statistics on suicide deaths registered in Australia, where the underlying cause of death was determined as Intentional self-harm (suicide (X60-X84, Y87.0)). Further information on suicides is presented in the data cubes associated with this publication.

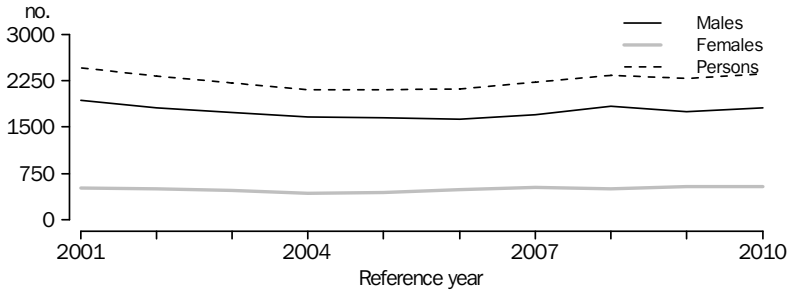
External causes of death are required to be examined by the coroner, who investigates both the mechanism by which a person died, and the intention of the injury (whether accidental, intentional self-harm or assault). For a death to be determined a suicide, it must be established by coronial inquiry that the death resulted from a deliberate act of the deceased with the intention of ending his or her own life (intentional self-harm).

The ABS has invested in improvements to suicide data through both a two-year revisions process and improved coding practices. However, the number of suicide deaths may be affected by the number of open coronial cases with insufficient information available for coding at the time of ABS processing for publication. Therefore care should be taken in using and interpreting suicide data. For further information, see Explanatory Notes 98-101.

Further information on the revisions process the ABS undertakes can be found in Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

OVERVIEW *continued*

5.1 SUICIDES(a), NUMBER OF DEATHS: **2001-2010 (b)**



(a) Includes ICD-10 codes X60-X84 and Y87.0. Care needs to be taken in interpreting figures relating to suicide.. See Explanatory Notes 98-101.
(b) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

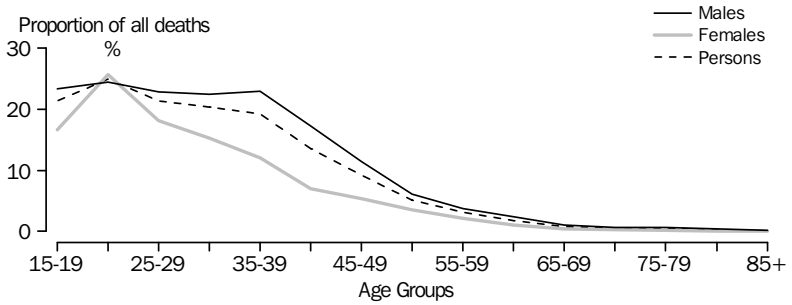
KEY CHARACTERISTICS

There were 2,361 deaths from Intentional self-harm (suicide, (X60-X84, Y87.0)) registered in 2010, resulting in a ranking as the 15th leading cause of all deaths. Over three-quarters (76.9%) of suicides were males, making suicide the 10th leading cause of death for males. Deaths due to suicide occurred at a rate of 10.5 per 100,000 population in 2010.

Suicide as proportion of total deaths

While suicide accounts for only a relatively small proportion (1.6%) of all deaths in Australia, it does account for a greater proportion of deaths from all causes within specific age groups (see graph below). For example, in 2010, 24.0% of all male deaths aged 15-24 years were due to suicide. Similarly for females, suicide deaths comprise a higher proportion of total deaths in younger age groups compared with older age groups.

5.2 SUICIDES(a), BY SELECTED AGE GROUPS: **2010(b)**



(a) Includes ICD-10 codes X60-X84 and Y87.0. Care needs to be taken in interpreting figures relating to suicide.. See Explanatory Notes 98-101.
(b) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

AGE

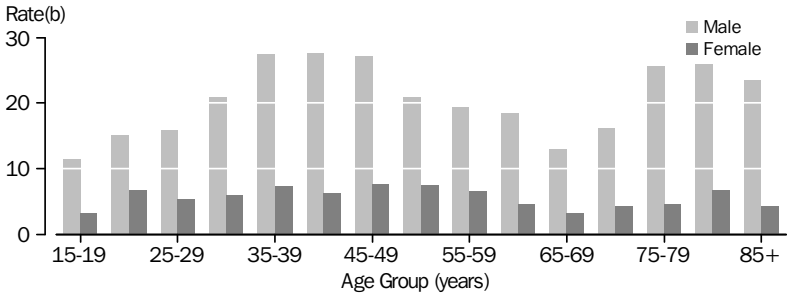
Median age

The median age at death for suicide in 2010 was 43.8 years for males, females and overall. In comparison, the median age for deaths from all causes in 2010 was 78.1 years for males, 84.2 years for females and 81.2 years overall.

Age-specific rates

Age-specific death rates are the number of deaths during the reference year for specific age groups per 100,000 of the estimated resident population of the same age group (see Glossary for further information). The pattern of age-specific rates in 2010 for suicide in males and females is shown in the graph below.

5.3 AGE-SPECIFIC SUICIDE(a) RATES(b): **2010(c)**



(a) Includes ICD-10 codes X60-X84 and Y87.0. Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.
(b) Rate per 100,000 estimated resident population for each age group and sex.
(c) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

The highest age-specific suicide death rate for males in 2010 was observed in the 40-44 age group (27.7 per 100,000 population). As a proportion of total male deaths in this age group, suicide deaths represented 17.3%. The age-specific death rates for the 35-39 years age group was 27.5 per 100,000 males. Suicide as a proportion of total male deaths for this age group was 22.9%. The age-specific suicide rate for males was lowest in the 15-19 year age group (11.4 per 100,000), however, this represented 23.3% of all deaths in this age group.

For females the highest age-specific suicide death rate in 2010 was observed in the 45-49 year age group with 7.6 deaths per 100,000. The lowest age-specific death rate for female deaths was in the 65-69 year age groups (3.3 deaths per 100,000).

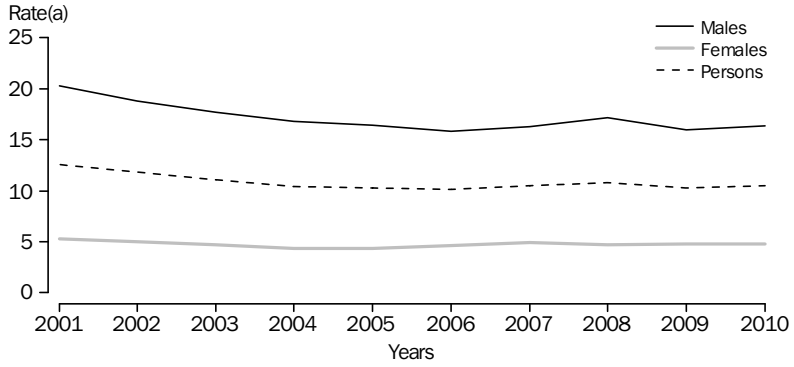
Age-standardised rates

Age standardisation is used to compare death rates over time, as it accounts for any changes in the age-structure of a population over time. The age-standardised suicide rate for persons in 2010 was 10.5 per 100,000. This compares with 12.6 per 100,000 in 2001.

The age-standardised suicide rate in 2010 for males was 16.4 per 100,000 while the corresponding rate for females was 4.8 per 100,000.

Age-standardised rates continued

5.4 AGE-STANDARDISED DEATH RATES(a) FOR SUICIDE(b): 2001-2010(c)



(a) Age-standardised rate per 100,000. Standardised using direct method and the Australian estimated resident population (persons) at 30 June 2001 as standard population.
(b) Includes ICD-10 codes X60-X84 and Y87.0. Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.
(c) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

Suicide by year of occurrence

Chapters 1-7 (including this chapter on suicide deaths) of the Causes of Death, Australia publication are based on year of registration data (e.g. when the death was registered). Chapter 8 is based on year of occurrence (e.g. the year the death actually occurred).

For the 2010 reference year, 5.7% of deaths had a year of occurrence prior to 2010. This compares with the 2009 reference year where 5.2% of deaths occurred prior to 2009 and the 2008 reference year where 6.1% of deaths occurred prior to 2008.

For 2010, the proportion of deaths due to suicide that occurred prior to the reference year was 9.2%. This is higher than the 8.4% for 2009 and the same as that for 2008 (9.2%).

The number of deaths that are registered in any year will be different to the number of deaths that actually occurred in that year. Counts of specific causes of death (including suicide) based on year of occurrence are available for 2000-2009 in the Year of Occurrence datacube.

The proportion of suicide deaths that occur in a previous reference period can impact the overall count of suicide deaths, along with coronial investigations not being finalised and the revisions process undertaken by the ABS.

METHOD OF SUICIDE

In 2010, the most frequent method of suicide was hanging, strangulation and suffocation (X70), a method used in slightly more than half (56.2%) of all suicide deaths. Poisoning by drugs was used in 12.2% of suicide deaths, followed by poisoning by other methods including by alcohol and motor vehicle exhaust (10.0%). Methods using firearms accounted for 6.9% of suicide deaths. The remaining suicide deaths included deaths from drowning, jumping from a high place, and other methods.

Mechanism By Intent - Selected Causes

Coronial processes to determine the intent of a death (whether intentional self-harm, accidental, homicide, undetermined intent) are especially important for statistics on suicide deaths because information on intent is necessary to complete the coding under ICD-10 coding rules. Coroners' practices to determine the intent of a death may vary across the states and territories. In general, coroners may be reluctant to determine suicidal intent (particularly in children and young people). In some cases, no statement of intent will be made by a coroner. The reasons may include legislative or regulatory barriers, sympathy with the feelings of the family, or sensitivity to the cultural practices and religious beliefs of the family. For some mechanisms of death where it may be very difficult to determine suicidal intent (e.g. single vehicle accidents, drownings), the burden of proof required for the coroner to establish that the death was suicide may make a finding of suicide less likely.

The table below presents selected external causes of death by mechanism and intent. It is possible that additional suicide deaths are contained within the Intent categories of Accidental and Undetermined Intent, particularly for the mechanisms of poisoning and hanging, see Explanatory Notes 98-101.

5.5 SELECTED EXTERNAL CAUSES OF DEATH, Mechanism by intent - 2010(a)(b)

Mechanism of death	*Accidental death* no.	*Intentional self-harm*(c) no.	*Assault* no.	*Undetermined intent* no.	*Other intent*(d) no.	*Total* no.
Poisonings (X40-X90, X60-X69, X85-X90, Y10-Y19)	864	521	0	270	0	1 655
Hanging (W75-W84, X70, X91, Y20)	213	1 328	6	79	0	1 626
Drowning and submersion (W65-W74, X71, X92, Y21)	221	36	1	32	0	290
Firearms (W32-W34, X72-X74, X93-X95, Y22-Y24)	10	162	31	28	0	231
Contact with sharp object (W25-W29, X78, X99, Y28)	11	65	95	9	0	180
Falls (W00-W19, X80, Y01,Y30)	1 648	121	0	18	0	1 787
Other(e)	2 415	128	84	247	275	2 874
Total	**5 382**	**2 361**	**217**	**683**	**275**	**8 318**

(a) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(b) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. Cells with a zero value have not been affected by confidentialisation.

(c) Includes ICD-10 codes X60-X84 and Y87.0. Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

(d) Includes Complications of medical and surgical care (Y40-Y84), Legal Intervention and operations of war (Y35-Y36), Sequelae with surgical and medical care as external cause (Y88) and Sequelae of other external causes (Y89).

(e) Includes sequelea, explosives, smoke/fire/flames, blunt object, jumping or lying before moving object, crashing of motor vehicle, other and unspecified means.

Crisis helplines

Lifeline: 13 11 14

Suicide Call Back Service - 1300 659 467

Kids Helpline (for young people aged 5 to 25 years): 1800 55 1800

CHAPTER 6 DEATHS OF ABORIGINAL AND TORRES STRAIT ISLANDER PERSONS

OVERVIEW

There were 2,767 deaths registered across Australia in 2010 where the deceased person was identified as being of Aboriginal and/or Torres Strait Islander origin. This represents 1.9% of all deaths registered. The age standardised death rate for Aboriginal and Torres Strait Islander Australians was approximately twice the rate of non-Indigenous Australians (1206.4 compared to 613.3 per 100,000).

The remainder of this chapter will be focussed on 2,600 deaths recorded in New South Wales, Queensland, Western Australia, South Australia and Northern Territory. Data for Victoria, Tasmania and the Australian Capital Territory have been excluded due to small numbers of registered Aboriginal and Torres Strait Islander deaths.

Closing the Gap

In December 2007, the Council of Australian Governments (COAG) agreed to a partnership between all levels of government to work with Indigenous communities to achieve the target of closing the gap in Indigenous disadvantage. One of the priority area targets was to 'close the gap in life expectancy within a generation.' The ABS provides COAG with mortality data that supports measurement of progress towards targets.

This chapter provides death counts, age standardised death rates (SDRs), and comparisons in numbers and rates between Aboriginal and Torres Strait Islander Australians and non-Indigenous Australians by cause of death. Data on infant mortality is also included.

Data Quality Issues

A variety of measures of mortality (including age-specific death rates, median age at death, and infant mortality rates) indicate that the mortality level of Aboriginal and Torres Strait Islander persons is substantially higher than that of the non-Indigenous population.

The exact scale of difference between the mortality of Aboriginal and Torres Strait Islander persons and non-Indigenous persons is difficult to establish conclusively. This is due to quality issues with Aboriginal and Torres Strait Islander deaths data and the uncertainties inherent with estimating and projecting the size and structure of the Aboriginal and Torres Strait Islander population over time.

Caution should be exercised when undertaking analysis of Aboriginal and Torres Strait Islander deaths and mortality and, in particular, trends in Aboriginal and Torres Strait Islander mortality.

Further care should be taken when interpreting Aboriginal and Torres Strait Islander deaths for Queensland for 2010. An initiative undertaken by the Queensland Registry of Births, Deaths and Marriages resulted in the registration of 374 outstanding deaths from 1992-2006. Of these, approximately 76% were deaths of Aboriginal and Torres Strait Islander persons. For further information see Technical Note: Retrospective Deaths by

Data Quality Issues continued

Causes of Death, Australia, 2010 and the Deaths, Australia, 2010 Technical Note: Registration of Outstanding Deaths, Queensland, 2010.

Some of the issues affecting the reporting of Aboriginal and Torres Strait Islander mortality include misidentification of Aboriginal and Torres Strait Islander deaths, unexplained changes in the number of people recorded as being Aboriginal and/or Torres Strait Islander Australians in different data collections and over time, the incorrect use of a standard Indigenous status question, changes in administrative processes, and not stated Indigenous status. As a result, changes in numbers of registered Aboriginal and Torres Strait Islander deaths over time may not accurately reflect changes in the numbers of Aboriginal and Torres Strait Islander deaths.

DATA CUBES

Further data relating to deaths of Aboriginal and Torres Strait Islander Australians can be found in the data cubes associated with this publication. These include leading causes of death for the Aboriginal and Torres Strait Islander population of Australia, selected states and territories and age groups. Age specific death rates have also been included.

LEADING CAUSES OF ABORIGINAL AND TORRES STRAIT ISLANDER DEATHS

Due to data quality issues with Aboriginal and Torres Strait Islander causes of death data, the following analysis is based on 2,600 deaths which is an aggregate of New South Wales, Queensland, South Australia, Western Australia and Northern Territory data only for the 2010 reference year. Caution should still be taken when interpreting data for Aboriginal and Torres Strait Islander Australians presented in this publication, especially with regard to year to year changes. See Explanatory Notes 74-83 for further information.

Diseases of the circulatory system (I00-I99) (668 or 25.7%), Neoplasms (C00-D48) (495 or 19.0%), External causes of mortality (V01-Y98) (353 or 13.6%) and Endocrine, nutritional and metabolic diseases (E00-E90) (251 or 9.7%) accounted for just over two-thirds (68.0%) of Aboriginal and Torres Strait Islander deaths.

Table 6.1 highlights the leading causes based on the World Health Organization recommendation for leading causes (see Chapter 2, Leading Causes of Death for more information). The top 10 leading causes of death account for just over half (52.3%) of all Aboriginal and Torres Strait Islander deaths.

6.1 WHO LEADING CAUSES(a), NSW, Qld, SA, WA and NT(b)—by Indigenous status—2010(c)

Cause of Death and ICD-10 code	*Aboriginal and Torres Strait Islander* no.	*SDR* rate	*Non-Indigenous* no.	*SDR* rate	*Rate ratio*	*Rate Difference*
Ischaemic heart diseases (I20-I25)	349	179.2	15 066	89.1	2.0	90.1
Diabetes (E10-E14)	218	113.9	2 431	14.4	7.9	99.5
Malignant neoplasm of trachea, bronchus and lung (C33-C34)	120	65.9	5 779	33.9	1.9	31.9
Cerebrovascular diseases (I60-I69)	119	84.5	7 954	47.1	1.8	37.3
Chronic lower respiratory diseases (J40-J47)	115	74.6	4 184	24.8	3.0	49.9
Intentional self-harm ÿ (X60-X84)(d)	110	23.8	1 556	9.9	2.4	13.9
Cirrhosis and other diseases of liver (K70-K76)	95	30.1	1 060	6.3	4.8	23.8
Diseases of the urinary system (N00-N39)	90	52.4	2 159	12.8	4.1	39.6
Land transport accidents (V01-V89)	82	17.4	927	5.9	2.9	11.5
Certain conditions originating in the perinatal period (P00-P96)	63	6.7	400	2.7	2.5	4.0

(a) Causes listed are the leading causes of death for all Aboriginal and Torres Strait Islander deaths registered in 2010, based on WHO recommended tabulation of leading causes. See Explanatory Notes 46-48 for further information.

(b) Data are based on five jurisdictions for which the quality of Indigenous identification in mortality data is considered acceptable (NSW, Qld, SA, WA and NT only). Care should be taken when interpreting Aboriginal and Torres Strait Islander causes of death data for 2010. See Technical Note: Retrospective Deaths by Causes of Death, Queensland, 2010 and Registration of outstanding deaths, Queensland, 2010, from the Deaths, Australia, 2010 publication (cat. no. 3302.0).

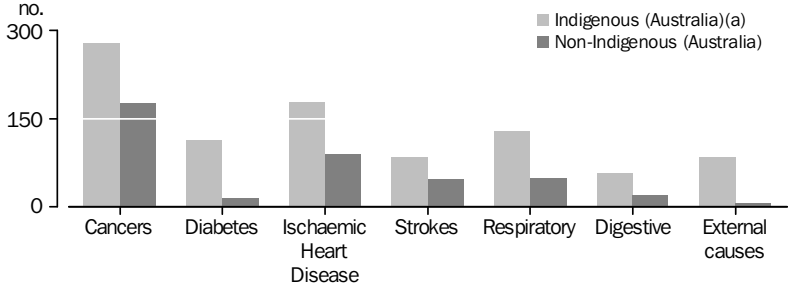
(c) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(d) Excludes Sequelae of suicide (Y87.0) as per the WHO recommended tabulation of leading causes. Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

LEADING CAUSES OF ABORIGINAL AND TORRES STRAIT ISLANDER DEATHS *continued*

Figure 6.2 presents further comparisons of age-standardised rates for specific causes for the Aboriginal and Torres Strait Islander and non-Indigenous populations.

6.2 SELECTED UNDERLYING CAUSES OF DEATH, STANDARDISED DEATH RATE, By Indigenous status 2010 (b)(c)



(a) Includes deaths of persons identified as Aboriginal, Torres Strait Islander or both Aboriginal and Torres Strait Islander.
(b) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.
(c) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

All rate ratios presented in the following sections are based on age standardised death rates (that are per 100,000 persons) comparing the Aboriginal and Torres Strait Islander and non-Indigenous populations.

DISEASES OF THE CIRCULATORY SYSTEM (I00–I99)

Deaths caused by Diseases of the circulatory system (I00–I99) accounted for 668 Aboriginal and Torres Strait Islander deaths in 2010, 25.7% of all Aboriginal and Torres Strait Islander deaths. The two most common types of circulatory system diseases that contributed to Aboriginal and Torres Strait Islander deaths were Ischaemic heart diseases (I20-I25) and Cerebrovascular diseases (I60-I69).

Ischaemic heart diseases which include angina, blocked arteries of the heart and heart attacks, was the leading cause of death of Aboriginal and Torres Strait Islander Australians, accounting for 349 deaths in 2010 with Aboriginal and Torres Strait Islander Australians dying at around twice the rate (2.0) of non-Indigenous Australians (179.2 compared with 89.1).

Cerebrovascular disease (I60–I69), which include haemorrhages, strokes, infarctions and blocked arteries of the brain, accounted for 119 Aboriginal and Torres Strait Islander deaths in 2010, with Aboriginal and Torres Strait Islander Australians dying at 1.8 times the rate of non-Indigenous Australians (84.5 and 47.1).

CANCER (C00-D48)

Cancer (C00–D48) was the underlying cause of one in five (495 or 19%) deaths of Aboriginal and Torres Strait Islander persons, with a rate ratio of 1.6 Aboriginal and Torres Strait Islander deaths compared with non-Indigenous persons (279.1 and 177.3).

Trachea and lung cancers (C33-C34) were the third leading cause of death of Aboriginal and Torres Strait Islander Australians in 2010 with 120 deaths. The sex ratio for Aboriginal and Torres Strait Islander Australians who died from Trachea and lung cancers (C33-C34) in 2010 was 145 males per 100 females. The Trachea and lung cancers (C33-C34) rate ratio for Aboriginal and Torres Strait Islander deaths compared with the non-Indigenous population was 1.9 (65.9 and 33.9).

DIABETES (E10-E14)

Diabetes (E10–E14) was the second leading underlying cause of death of Aboriginal and Torres Strait Islander Australians in 2010 with 218 deaths accounting for 8.4% of deaths. The sex ratio for Aboriginal and Torres Strait Islander deaths due to Diabetes was 91 male deaths per 100 female deaths.

The age standardised death rate for diabetes was eight times higher (rate ratio of 7.9) for Aboriginal and Torres Strait Islander Australians compared to non-indigenous Australians (113.9 and 14.4). The age group with the highest rate ratio was 45-54 year olds where the Aboriginal and Torres Strait Islander rate was 20.3 times higher than the non-indigenous rate (65.0 and 3.2).

RESPIRATORY DISEASES (J00-J99)

Diseases of the Respiratory System (J00-J99) were the underlying cause of death for 194 Aboriginal and Torres Strait Islander persons in 2010, accounting for 7.5% of deaths.

The most common type of respiratory disease that contributed to Aboriginal and Torres Strait Islander deaths were Chronic Lower Respiratory Diseases (J40-J47), which were the underlying cause of death for 115 Aboriginal and Torres Strait Islander persons. The age standardised death rate for Chronic Lower Respiratory Diseases was three times higher (rate ratio of 3.0) for Aboriginal and Torres Strait Islander Australians compared with non-Indigenous Australians (74.6 and 24.8).

DISEASES OF THE DIGESTIVE SYSTEM (K00-K93)

Diseases of the Digestive System (K00-K93) were the underlying cause of death for 145 Aboriginal and Torres Strait Islander Australians in 2010, accounting for 5.6% of deaths.

The most common type of digestive disease that contributed to Aboriginal and Torres Strait Islander deaths were Diseases of the Liver (K70-K76), with 95 deaths in 2010. The age standardised death rate for Diseases of the Liver was almost five times higher (rate ratio of 4.8) for Aboriginal and Torres Strait Islander Australians compared with non-Indigenous Australians (30.1 and 6.3).

EXTERNAL CAUSES (V01–Y98)

There were 353 deaths of Aboriginal and Torres Strait Islander Australians attributed to External causes (V01–Y98) in 2010, with a sex ratio of 253 male deaths per 100 female deaths. Intentional self-harm (Suicide, (X60-X84,Y87.0)) and Land transport accidents (V01-V89, Y85.0) were the two leading External causes of death for Aboriginal and Torres Strait Islanders in 2010.

Suicide was the sixth leading cause of death of Aboriginal and Torres Strait Islander Australians accounting for 110 deaths; of these, 81 were males and 29 were females. The age standardised death rate for suicide was 2.5 and 2.4 times higher for Aboriginal and Torres Strait Islander males and females compared with non-Indigenous males and females.

Land transport accident deaths numbered 82 for Aboriginal and Torres Strait Islander Australians in 2010; 55 were males and 27 were females. The age standardised mortality rate for land transport accidents was almost three times (2.9) higher for the Aboriginal and Torres Strait Islander population compared with non-Indigenous persons.

POTENTIALLY AVOIDABLE MORTALITY

6.3 AVOIDABLE DEATHS(a), NSW, Qld, SA, WA and NT(b)—by Indigenous status: **2010** (c)

	Aboriginal and Torres Strait Islander		*Non-Indigenous*			
	no.	SDR(d)	no.	SDR	Rate ratio	Rate difference
Preventable	588	199.3	8 530.5	51.5	3.9	147.8
Treatable	970	323.0	13 805.5	83.6	3.9	239.4
Avoidable	1 558	522.7	22 336.0	135.0	3.9	387.7

(a) Avoidable deaths comprise of treatable and preventable deaths. See Appendix 3 Avoidable Mortality for more information.

(b) Data are based on five jurisdictions for which the quality of Indigenous identification in mortality data is considered acceptable (NSW, Qld, SA, WA and NT only). Care should be taken when interpreting Aboriginal and Torres Strait Islander causes of death data for 2010. See Technical Notes: Retrospective Deaths by Causes of Death, Queensland, 2010 and Registration of outstanding deaths, Queensland, 2010, from the Deaths, Australia, 2010 publication (cat. no. 3302.0).

(c) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

A potentially avoidable death is one that could have theoretically been avoided given an understanding of causation, the adoption of available disease prevention initiatives and the use of available health care, for persons aged under 75 years. All causes of death that make up a potentially avoidable death are categorised into either a treatable or

POTENTIALLY AVOIDABLE MORTALITY *continued*

preventable category. For a full list of the causes of death that make up potentially avoidable deaths, see Appendix 3. The age-standardised avoidable death rate for Aboriginal and Torres Strait Islander Australians was 522.7, almost four times higher than non-Indigenous Australians (135.0).

INFANT MORTALITY

A high degree of caution should be exercised in regard to interpreting Aboriginal and Torres Strait Islander infant deaths data, as in addition to the data quality issues that impact on Indigenous deaths data generally, data on infant mortality by Indigenous status is subject to the high variability caused by small numbers. To add robustness to the infant mortality counts, data are presented for the current period of 2006-2010 and Western Australia is not included. See Explanatory Notes 74-83 and 104 for further information.

For 2006-2010, the infant mortality rate for Aboriginal and Torres Strait Islander Australians was around twice that of non-Indigenous Australians (8.2 compared with 4.2). Of the 450 Aboriginal and Torres Strait Islander infant deaths (aged under twelve months) registered from 2006-2010, just over half (238) were attributed to Conditions originating in the Perinatal Period (P00–P96).

CHAPTER 7 PERINATAL DEATHS

OVERVIEW

Perinatal deaths comprise stillbirths (fetal deaths) and deaths of infants within the first 28 days of life (neonatal deaths). New scope definitions were applied to the perinatals collection in November 2007 to achieve consistency between ABS collections and other external collections. See Perinatal Deaths, Australia, 2007 (cat. no. 3304.0) for the new scope definitions and historical data for the years 1999-2006 republished based on the new scope.

Causes of Death revisions process

All coroner certified deaths registered after 1 January 2006 are subject to a revisions process. For more information see Explanatory Notes 35-39.

Please note, the revisions process impacts only the causes of death assigned to a record. The revisions process does not impact on the identification of a record as perinatal, fetal or neonatal and therefore total counts will not change due to the application of the revisions process.

Where presented, this publication and associated data cubes contain final 2006, 2007, 2008 and revised 2009 causes of death data. Data for 2010 is preliminary and will be subject to the revisions process.

Trends in registered perinatal deaths

In 2010, there were 2,609 perinatal deaths registered in Australia, compared with 2,671 registered in 2009, a decrease of 2.3%. This was 1.5% higher than the number registered in 2001 (2,571).

The number of fetal deaths in 2010 was 1,767, 0.7% less than the number registered in 2009 (1,780), and representing an increase of 6.8% over the last decade (1,655 in 2001).

842 neonatal deaths were registered in 2010, 5.5% lower than the number registered in 2009 (891), and a 8.0% decrease from registrations in 2001 (916).

In 2010, there were 1,446 male perinatal deaths and 1,163 female perinatal deaths. The sex ratio was 124 male perinatal deaths for every 100 female perinatal deaths, compared with 122 males per 100 females in 2009.

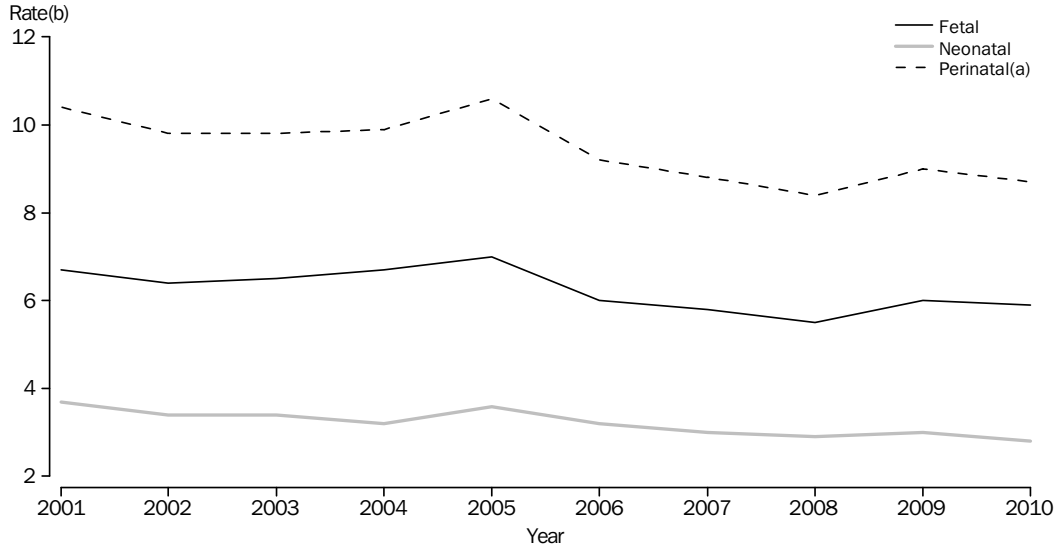
In the 10 year period from 2001 to 2010, the lowest perinatal death rate was recorded in 2008 (8.4 deaths per 1,000 total births), while the highest perinatal death rate was recorded in 2005 (10.6 deaths per 1,000 total births) (see Glossary and Appendix 1: Data used in calculating death rates).

A similar trend was seen for fetal deaths, with 5.5 deaths per 1,000 total births in 2008 compared to 7.0 deaths per 1,000 total births in 2005.

Trends in registered perinatal deaths continued

During the same period the lowest neonatal death rate was recorded in 2010 (2.8 deaths per 1,000 live births), and the highest rate during the period was recorded in 2001 (3.7 deaths per 1,000 live births).

7.1 TRENDS IN PERINATAL(a) DEATHS(c)



(a) Perinatal deaths are all fetal deaths (at least 20 weeks gestation or at least 400 grams birth weight) plus all neonatal deaths (death of a live born baby within 28 days of birth). See Glossary for further information.
(b) Fetal death rates and perinatal death rates are calculated per 1,000 all births for the calendar year. Neonatal death rates are calculated per 1,000 live births for the calendar year. See Glossary for further information.
(c) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 200

Trends in registered perinatal deaths continued

7.2 FETAL, NEONATAL AND PERINATAL DEATHS(a), by sex (b)—Number and death rates(c): **Selected years**(d)

	2001		2007		2008		2009		2010	
	No.	Rate(c)	No.	Rate(c)	No.	Rate(c)	No.	Rate(c)	No.	Rate(c)
Fetal										
Males(b)	868	6.8	874	5.9	877	5.7	960	6.3	948	6.2
Females	787	6.5	802	5.8	771	5.3	820	5.7	819	5.6
Persons	1 655	6.7	1 676	5.9	1 648	5.5	1 780	6.0	1 767	5.9
Neonatal										
Males(b)	526	4.2	461	3.1	487	3.2	510	3.4	498	3.3
Females	390	3.2	395	2.8	366	2.5	381	2.7	344	2.4
Persons	916	3.7	856	3.0	853	2.9	891	3.0	842	2.8
Perinatal										
Males(b)	1 394	11.0	1 335	9.1	1 364	8.9	1 470	9.6	1 446	9.4
Females	1 177	9.7	1 197	8.6	1 137	7.8	1 201	8.3	1 163	8.0
Persons	2 571	10.4	2 532	8.9	2 501	8.4	2 671	9.0	2 609	8.7

(a) Perinatal deaths are all fetal deaths (at least 20 weeks gestation or at least 400 grams birth weight) plus all neonatal deaths (death of a live born baby within 28 days of birth). See Glossary for further information.

(b) Male deaths include those perinatal deaths of sex indeterminate.

(c) Fetal death rates and perinatal death rates are calculated per 1,000 all births for the calendar year. Neonatal death rates are calculated per 1,000 live births for the calendar year. See Glossary for further information.

(d) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

Sources of perinatal death data

The Australian Bureau of Statistics publishes perinatal death data on an annual basis. Data for this publication are sourced from state and territory Registrars of Births, Deaths and Marriages. Care should be taken when comparing data in this publication to other available sources of information on perinatal deaths. For example, the Australian Institute of Health and Welfare (AIHW) publish perinatal death data on an annual basis in the publication "Australia's Mothers and Babies". Data for the AIHW publication are sourced from midwives, and other staff, who collect information from mothers and perinatal administrative and clinical record systems.

MAIN CONDITION IN FETUS/INFANT

Disorders related to length of gestation and fetal growth (P05-P08) accounted for 28.9% (753) of all 2010 perinatal deaths, a slight decrease from 31.3% (837) in 2009.

Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99) accounted for 19.6% (510) in 2010, compared to 16.7% (447) in 2009.

Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29) accounted for 6.9% of perinatal deaths in 2010 (181), up slightly from 6.6% in 2009 (177).

In 2010, over a third (921) of all perinatal deaths were assigned a non-specific cause of death in the fetus/infant (Fetal death of unspecified cause (P95), and Other conditions originating in the perinatal period (P96)). Most of these were fetal deaths, representing 887 of the 921 perinatal deaths assigned a non-specific cause of death. While 50.2% of all fetal deaths registered in 2010 reported no specific cause, the corresponding figure for neonatal deaths was 4.0%.

7.3 PERINATAL DEATHS(a), by main condition in the fetus/infant and sex(b)—Selected years(c)(d)

Cause of death and ICD-10 code	2001			2008(d)			2009(d)			2010(d)		
	Males(b)	Female	Persons	Males(b)	Female	Persons	Males(b)	Female	Persons	Males(b)	Female	Persons
Total Deaths	**1 394**	**1 177**	**2 571**	**1 364**	**1 137**	**2 501**	**1 470**	**1 201**	**2 671**	**1 446**	**1 163**	**2 609**
Certain conditions originating in the perinatal period (P00-P96)	1 028	940	1 968	1 116	929	2 045	1 178	1 012	2 190	1 137	923	2 060
Disorders related to length of gestation and fetal growth (P05-P08)	211	187	398	431	340	771	442	395	837	432	321	753
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	241	216	457	93	73	166	106	71	177	109	72	181
Other disorders originating in the perinatal period (P90-P96)	417	399	816	494	437	931	554	484	1 038	502	460	962
Fetal death of unspecified cause (P95)	141	166	307	435	403	838	517	447	964	458	420	878
Other conditions originating in the perinatal period (P96)	257	224	481	44	18	62	21	17	38	22	21	43
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	325	216	541	213	182	395	275	172	447	278	232	510
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	8	0	8	12	5	17	4	6	7	6	0	6

(a) Perinatal deaths are all fetal deaths (at least 20 weeks gestation or at least 400 grams birth weight) plus all neonatal deaths (death of a live born baby within 28 days of birth). See Glossary for further information.

(b) Male deaths include those perinatal deaths of sex indeterminate.

(c) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. Cells with a zero value have not been affected by confidentialisation.

(d) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

MAIN CONDITION IN MOTHER

Perinatal deaths differ from general deaths because a condition may be reported in the record for the fetus/infant, the mother, or for both.

A maternal condition was reported in 934 (35.8%) of the 2,609 perinatal deaths registered in 2010, compared to 862 (32.3%) of the 2,671 perinatal deaths registered in 2009.

In 2010, Fetus and newborn affected by maternal complications of pregnancy (P01) was the most frequently reported maternal cause, accounting for 341 or 13.1% of perinatal deaths, and comparing closely to the 339 or 12.7% in 2009.

Fetus and newborn affected by complications of placenta, cord and membranes (P02) accounted for 293 or 11.2% of perinatal deaths in 2010, compared to 269 or 10.1% in 2009.

7.4 MAIN CONDITION IN THE MOTHER, PERINATAL DEATHS BY SEX SELECTED YEARS(a)(b)(c)

	2001			2008			2009			2010		
Causes of Death and ICD-10 code	Males(b)	Female	Persons	Males(b)	Female	Persons	Males(b)	Female	Persons	Males(b)	Female	Persons
Total Deaths	**1 394**	**1 177**	**2 571**	**1 364**	**1 137**	**2 501**	**1 470**	**1 201**	**2 671**	**1 446**	**1 163**	**2 609**
Certain conditions originating in the perinatal period (P00-P96)(d)	953	820	1 773	479	373	852	482	380	862	531	403	934
Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04)	953	820	1 773	479	373	852	482	380	862	531	403	934
Fetus and newborn affected by maternal conditions that may be unrelated to present pregnancy (P00)	138	115	253	55	38	93	74	68	142	86	58	144
Fetus and newborn affected by maternal complications of pregnancy (P01)	327	257	584	160	127	287	191	148	339	195	146	341
Fetus and newborn affected by complications of placenta, cord and membranes (P02)	373	370	743	169	150	319	157	112	269	157	136	293
Fetus and newborn affected by other complications of labour and delivery (P03)	108	66	174	92	55	147	58	49	107	89	62	151
Fetus and newborn affected by noxious influences transmitted via placenta or breast milk (P04)	7	12	19	1	1	6	3	1	5	3	2	5
No condition in mother	441	357	798	885	764	1 649	988	821	1 809	915	760	1 675

(a) Perinatal deaths are all fetal deaths (at least 20 weeks gestation or at least 400 grams birth weight) plus all neonatal deaths (death of a live born baby within 28 days of birth). See Glossary for further information.

(b) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. Cells with a zero value have not been affected by confidentialisation.

(c) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(d) These data represent all perinatal deaths with a condition in the mother.

CHAPTER 8 YEAR OF OCCURRENCE

INTRODUCTION

Information contained in the preceding chapters of this publication refer to deaths registered during the 2010 calendar year. In this chapter, death statistics are based on a year of occurrence, that is, the year in which the death actually occurred, rather than the year it was registered. The presentation of year of occurrence data in this publication facilitates international comparisons.

There are a proportion of deaths that occur in a year which are not registered until subsequent years. The international standard for publishing on a year of occurrence basis is to include deaths registered within the relevant occurrence year, and deaths for that same occurrence year which are registered the year immediately following. For example, deaths occuring in 2009 that have been registered in both 2009 and 2010 are presented below.

Analysis of deaths in Australia has shown that the number of deaths registered after the second year are not significant; that is, there is a very small number of deaths registered after the second year.

Year of occurrence data allow for seasonal analysis, and data are not distorted by the effects of late registrations or changes in time lags in processing registrations. In those countries where registration systems are complete and timely, there is not a significant difference between the number of deaths derived on a year of registration basis and those on a year of occurrence basis.

For Australia, approximately 95% of deaths registered in a particular year occurred in that year. However, variations can occur in certain subsets of the population and for particular causes of death. For instance, while 94.8% of the total 140,760 deaths registered in 2009 occurred in the same year, only 86.7% of the 2,405 Indigenous deaths and 91.6% of 9,043 deaths due to External causes registered in 2009 occurred in that year. More detailed data for specific causes or population groups are available from the ABS on request.

Comparison of Year of Occurrence and Year of Registration data for 2009

The following table shows the number of deaths occurring in 2009 which were registered in 2009 and 2010. 11.4% of deaths of Aboriginal and Torres Strait Islander people occurring in 2009 (and registered in either 2009 or 2010) were registered late, in 2010. This compared with 5.4% for the total population.

A late registration is defined as a death which is registered after the end of the year in which the death occurred. For example, a death which occurred in 2009 registered in 2010 or later is classified as a late registration.

8.1 SELECTED CAUSES: 2009 YEAR OF OCCURENCE(a)(b)

Cause of death and ICD-10 code	Registered in 2009	Registered in 2010	Total as at 2010	Late Registrations
	no.	no.	no.	%
INDIGENOUS(c)				
All Causes	2 089	269	2 358	11.4
TOTAL(d)				
All Causes(e)	133 477	7 593	141 070	5.4
Certain infectious and parasitic diseases (A00-B99)	1 704	101	1 805	5.6
Neoplasms (C00-D48)	40 025	2 158	42 183	5.1
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50-D89)	405	18	423	4.3
Endocrine, nutritional and metabolic diseases (E00-E90)	5 570	264	5 834	4.5
Mental and behavioural disorders (F00-F99)	6 187	347	6 534	5.3
Diseases of the nervous system (G00-G99)	5 604	335	5 939	5.6
Diseases of the circulatory system (I00-I99)	43 971	2 373	46 344	5.1
Diseases of the respiratory system (J00-J99)	10 486	579	11 065	5.2
Diseases of the digestive system (K00-K93)	4 750	289	5 039	5.7
Diseases of the skin and subcutaneous tissue (L00-L99)	362	25	387	6.5
Diseases of the musculoskeletal system and connective tissue (M00-M99)	1 022	58	1 080	5.4
Diseases of the genitourinary system (N00-N99)	3 234	165	3 399	4.9
Certain conditions originating in the perinatal period (P00-P96)	555	54	609	8.9
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	591	51	642	7.9
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	687	60	747	8.0
External causes of morbidity and mortality (V01-Y98)	8 310	716	9 026	7.9

(a) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(b) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

(c) Includes deaths of persons identified as Aboriginal, Torres Strait Islander or both Aboriginal and Torres Strait Islander.

(d) Includes total deaths for Australia.

(e) Includes deaths due to Diseases of the eye and adnexa (H00-H59), Diseases of the ear and mastoid processes (H60-H95) and Pregnancy, childbirth and the puerperium (000-099).

EXPLANATORY NOTES

INTRODUCTION

1 This publication contains statistics on causes of death for Australia, together with selected statistics on perinatal deaths.

2 Statistics on perinatal deaths for the 2007-2009 reference years were published separately in Perinatal Deaths, Australia (cat. no. 3304.0).

3 In order to complete a death registration, the death must be certified by either a doctor using the Medical Certificate of Cause of Death, or by a coroner. In 2010, 87.9% of deaths were certified by a doctor. The remainder 12.1% were reported to a coroner.

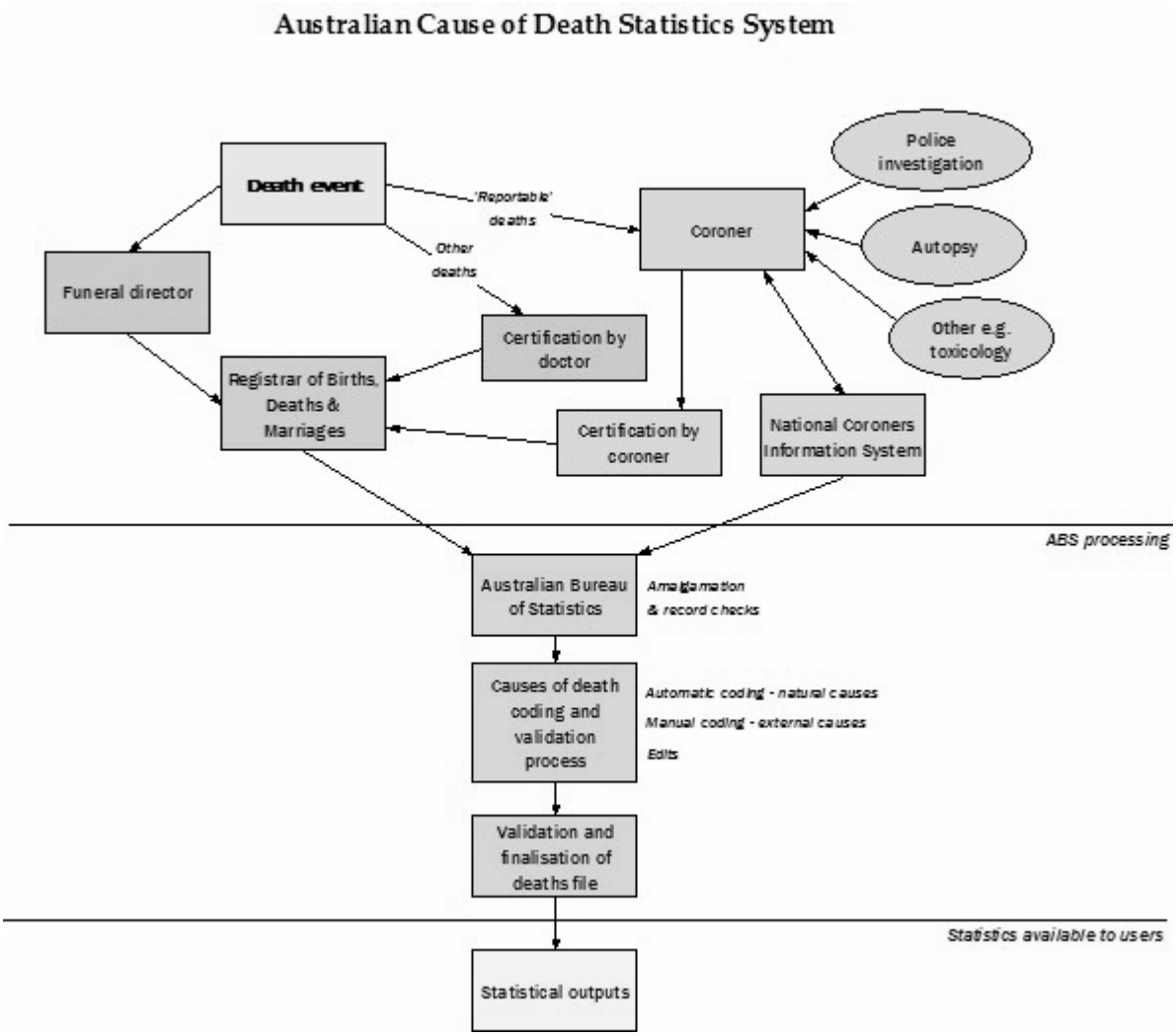
4 In order to complete a perinatal death registration, the death must be certified by either a doctor using the Certificate of Cause of Perinatal Death or by a coroner. In 2010, 96.7% of perinatal deaths were certified by a doctor, with the remaining 3.3% certified by a coroner.

5 Although there is variation across jurisdictions in what constitutes a death that is reportable to a coroner, they are generally reported in circumstances suchas:

- where the person died unexpectedly and the cause of death is unknown
- where the person died in a violent or unnatural manner
- where the person died during or as a result of an anaesthetic
- where the person was 'held in care' or in custody immediately before they died
- where the identity of the person who has died is unknown.

6 Perinatal deaths comprise all fetal deaths (of at least 20 weeks gestation or at least 400 grams birth weight), and all neonatal deaths (all live born babies who die within 28 completed days of birth, regardless of gestation or birth weight). Fetal deaths are only included in the Perinatal deaths section, however, neonatal deaths are included in both the Perintal Deaths and Causes of Death collections.

7 The registration of deaths is the responsibility of the eight individual state and territory Registrars of Births, Deaths and Marriages. As part of the registration process, information about the cause of death is supplied by the medical practitioner certifying the death or by a coroner. Other information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred. The information is provided to the Australian Bureau of Statistics (ABS) by individual Registrars for coding and compilation into aggregate statistics. In addition, the ABS supplements this data with information from the National Coroners Information System (NCIS). The following diagram shows the process undertaken in producing cause of death statistics for Australia.



INTRODUCTION *continued*

8 The data presented in this publication are also included in a series of data cubes that are available on the ABS website.

9 A Glossary is also provided which details definitions of terminology used.

10 These Explanatory Notes provide salient details relevant to the ABS Causes of Death collection.

2010 SCOPE AND COVERAGE

11 The statistics in chapters 1-7 relate to the number of deaths registered, not those which actually occurred, in the years shown. Number of deaths by year of occurrence are published in Chapter 8 and Data Cube 17.

Scope of causes of death statistics

12 The ABS Causes of Death collection includes all deaths that occurred and were registered in Australia, including deaths of persons whose usual residence is overseas. Deaths of Australian residents that occurred outside Australia may be registered by individual Registrars, but are not included in ABS deaths or causes of death statistics.

13 The current scope of the statistics includes:

- all deaths being registered for the first time
- deaths in Australia of temporary visitors to Australia
- deaths occurring within Australian Territorial waters
- deaths occurring in Australian Antarctic Territories or other external territories (excluding Norfolk Island)
- deaths occurring in transit (i.e. on ships or planes) if registered in the State of 'next port of call'

Scope of causes of death statistics continued

- deaths of Australian Nationals overseas who were employed at Australian legations and consular offices (i.e. deaths of Australian diplomats while overseas) where able to be identified
- deaths that occurred in earlier reference periods that have not been previously registered (late registrations).

14 The scope of the statistics excludes:
- repatriation of human remains where the death occurred overseas
- deaths overseas of foreign diplomatic staff (where these are able to be identified)
- deaths occurring on Norfolk Island.
- still births/fetal deaths (these are included in perinatal counts (see Explanatory Notes 18-20 below)). In 2007-2009 these were published separately in Perinatal Deaths, Australia (cat. no. 3304.0), but are now included in the Causes of Death publication (cat. no. 3303.0).

15 The scope for each reference year of the Death Registrations includes:
- deaths registered in the reference year and received by the ABS in the reference year
- deaths registered in the reference year and received by ABS in the first quarter of the subsequent year
- deaths registered in the years prior to the reference year but not received by ABS until the reference year or the first quarter of the subsequent year, provided that these records have not been included in any statistics from earlier periods.

16 Death records received by ABS during the March quarter 2011 which were initially registered in 2010 (but for which registration was not fully completed until 2011) were assigned to the 2010 reference year. Any registrations relating to 2010 which were received by ABS from April 2011 were assigned to the 2011 reference year. Approximately 4% to 6% of deaths occurring in one year are not registered until the following year or later.

17 Prior to 2007, the scope for the reference year of the Death Registrations collection included:
- deaths registered in the reference year and received by ABS in the reference year
- deaths registered in the reference year and received by ABS in the first quarter of the subsequent year
- deaths registered during the two years prior to the reference year but not received by ABS until the reference year.

Scope of perinatal death statistics

18 The scope of the perinatal death statistics includes all fetal deaths (at least 20 weeks gestation or at least 400 grams birth weight) and neonatal deaths (all live born babies who die within 28 completed days of birth, regardless of gestation or birth weight). This scope was adopted for the 2007 Perinatal Deaths collection, and was applied to historical data for 1999-2006. For more information on the changes in scope rules see Perinatal Deaths, Australia, 2007 (cat. no. 3304.0) Explanatory Notes 18-20.

19 Fetal deaths are registered only as a stillbirth, they are not in scope of either the Births, Australia (cat. no. 3301.0) or Deaths, Australia (cat. no. 3302.0) collections. Neonatal deaths are registered first as a birth and then as a death and are in scope of the Births and Deaths collections.

20 For 1996 and previous editions of this publication, data relating to perinatal deaths were based upon the World Health Organization (WHO) recommended definition for compiling national perinatal statistics. The WHO definition of perinatal deaths included all neonatal deaths, and those fetuses weighing at least 500 grams or having a gestational age of at least 22 weeks or body length of 25 centimetres crown-heel. A summary table based on the WHO definition of perinatal deaths is included in this release.

Coverage of causes of death statistics

21 Ideally, for compiling annual time series, the number of events (deaths) should be recorded and reported as those occurring within a given reference period such as a calendar year. However, due to lags in registration of events, not all deaths are registered in the year that they occur. Therefore, the occurrence event is approximated by the ABS through the addition of the event on a state/territory register of deaths. Also, some additions to the register can be delayed in being received by the ABS from a Registrar (processing or data transfer lags).

In effect there are 3 dates attributable to each death registration:

- the date of occurrence (of the death)
- the date of registration or inclusion on the State/Territory register
- the month in which the registered event is lodged with the ABS.

2010 CLASSIFICATIONS

Socio-Demographic Classifications

22 A range of socio-demographic data are available from the ABS Causes of Death collection. Standard classifications used in the presentation of causes of death statistics include age, sex, birthplace, marital status, multiple birth and Indigenous status. Statistical standards for social and demographic variables have been developed by the ABS. Where these are not published in the Causes of Death publication or data cubes, they can be sourced on request from the ABS.

MARITAL STATUS

23 Within ABS causes of death statistics, marital status relates to registered marital status. Registered marital status refers to formally registered marriages or divorces for which the partners hold a certificate.

24 For further information about marital status refer to Family, Household and Income Unit Variables, 2005 (cat. no. 1286.0)

Geographic Classifications

AUSTRALIAN STANDARD GEOGRAPHICAL CLASSIFICATION (ASGC)

25 The ASGC is an hierarchical classification system consisting of six interrelated classification structures. The ASGC provides a common framework of statistical geography and thereby enables the production of statistics which are comparable and can be spatially integrated. ABS causes of death statistics are coded to Statistical Local Area (SLA) and can be produced for aggregates of these, for example, Statistical Division, Statistical Sub-Division and State. For further information about the ASGC refer to Australian Standard Geographical Classification (ASGC) (cat. no. 1216.0).

26 The ABS has developed a new standard classification for geography, the Australian Statistical Geography Standard (ASGS). The ASGS will be implemented for the 2011 Causes of Death reference period. For further information about the ASGS refer to Australian Statistical Geography Standard (ASGS) (cat. no. 1270.0.55.001).

STANDARD AUSTRALIAN CLASSIFICATION OF COUNTRIES (SACC)

27 The SACC groups neighbouring countries into progressively broader geographic areas on the basis of their similarity in terms of social, cultural, economic and political characteristics. ABS causes of death statistics are coded using the SACC, as the collection includes overseas residents whose death occurred while they were in Australia.

28 Birthplaces within Australia are coded to the state/territory level where possible. The supplementary codes contain the relevant state and territory 4-digit codes.

29 For further information about the classification, refer to Standard Australian Classification of Countries (SACC), (Second Edition) (cat. no. 1269.0).

Health Classifications

INTERNATIONAL CLASSIFICATION OF DISEASES (ICD)

30 The International Classification of Diseases (ICD) is the international standard classification for epidemiological purposes and is designed to promote international comparability in the collection, processing, classification, and presentation of causes of death statistics. The classification is used to classify diseases and causes of disease or

Health Classifications continued

injury as recorded on many types of medical records as well as death records. The ICD has been revised periodically to incorporate changes in the medical field. Currently ICD 10th revision is used for Australian causes of death statistics.

31 ICD-10 is a variable-axis classification meaning that the classification does not group diseases only based on anatomical sites, but also on the type of disease. Epidemiological data and statistical data is grouped according to:

- epidemic diseases
- constitutional or general diseases
- local diseases arranged by site
- developmental diseases
- injuries.

32 For example, a systemic disease such as septicaemia is grouped with infectious diseases; a disease primarily affecting one body system, such as a myocardial infarction is grouped with circulatory diseases; and a congenital condition such as spina bifida is grouped with congenital conditions.

33 For further information about the ICD refer to WHO International Classification of Diseases (ICD).

34 The ICD 10th Revision is also available online.

Revisions Process

35 An ongoing issue for the ABS Causes of Death collection has been that the quality of the data can be affected by the length of time required for the coronial process to be finalised and the coroner case closed. For some time, these concerns have been raised by key users of causes of death data regarding the quality of selected causes data (e.g. deaths due to intentional self-harm (suicides), homicides, Sudden Infant Death Syndrome (SIDS) and motor vehicle accidents). The ABS have addressed these data quality concerns in two ways:

- first, by increasing the length of time from the end of the reference period to publication of data from 11 to 15 months to allow for a longer time period to receive information on coroner certified deaths
- second, by introducing a process of revisions to causes of death data.

36 Up to and including deaths registered in 2005, ABS Causes of Death processing was finalised at a point in time. At this point, not all coroners' cases had been investigated, the case closed and relevant information loaded into the National Coroners Information System (NCIS). The coronial process can take several years if an inquest is being held or complex investigations are being undertaken. In these instances, the cases remain open on the NCIS. Coroners' cases that have not been closed can impact on data quality as less specific ICD codes often need to be applied in the absence of a coroners finding.

37 To improve the quality of ICD coding, all coroner certified deaths registered after 1 January 2006 are now subject to a revisions process. The revisions process enables the use of additional information relating to coroner certified deaths either 12 or 24 months after initial processing. This increases the specificity of the assigned ICD-10 codes over time. As 12 or 24 months of time has passed since initial processing, many coronial cases will be closed, with the coroner having determined the underlying cause of death and allowing the ABS to code a more specific cause of death. If the case remains open on the NCIS, ABS will investigate and use additional information from police reports, toxicology reports, autopsy reports and coroners' findings to assign a more specific cause of death to these open cases.

38 In this publication and associated data cubes, in addition to 2010 preliminary data, 2009 revised data and 2008 and 2006 final data have also been published. See See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009..

Revisions Process continued

39 In 2009, an initial review was undertaken into the impact of the overall revisions process. Further analysis of the impact of revisions will be conducted to monitor the efficiency and effectiveness of this process.

2010 MORTALITY CODING

40 The extensive nature of the ICD enables classification of causes of death at various levels of detail. For the purpose of this publication, data is presented according to the ICD at the chapter level, with further disaggregation for major causes of death.

41 To enable the reader to see the relationship between the various summary classifications used in this publication, all tables show in brackets the ICD codes that constitute the causes of death covered.

Updates to ICD-10

42 The Updating and Revision Committee (URC), a WHO advisory group on updates to ICD-10, maintains the cumulative and annual lists of approved updates to the ICD-10 classification. The updates to ICD-10 are of numerous types including addition and deletion of codes, changes to coding instructions and modification and clarification of terms.

43 The cumulative list of ICD-10 updates can be found online.

Automated coding

44 The ABS uses automated cause of death coding software (Medical Mortality Data System (MMDS)). The MMDS applies ICD rules to all death records, diseases and conditions listed on the death certificate. Approximately 70-80% of records can be coded using the MMDS without manual intervention.

External Causes of Death

45 Where an accidental or violent death occurs, the underlying cause is classified according to the circumstances of the fatal injury, rather than the nature of the injury, which is coded separately.

Leading Causes of Death

46 Ranking causes of death is a useful method of describing patterns of mortality in a population and allows comparison over time and between populations. However, different methods of grouping causes of death can result in a vastly different list of leading causes for any given population. A ranking of leading causes of death based on broad cause groupings such as 'cancers' or 'heart disease' does not identify the leading causes within these groups, which is needed to inform policy on interventions and health advocacy. Similarly, a ranking based on very narrow cause groupings or including diseases that have a low frequency, can be meaningless in informing policy.

47 Tabulations of leading causes presented in this publication are based on research presented in the Bulletin of the World Health Organization, Volume 84, Number 4, April 2006, 297-304. The determination of groupings in this list is primarily driven by data from individual countries representing different regions of the world. Other groupings are based on prevention strategies, or to maintain homogeneity within the groups of cause categories.

48 A number of organisations publish lists of leading causes of death. However, the basis for determining the leading causes may vary. For example, many lists are based on Years of Potential Life Lost (YPLL) and are designed to present data based on the burden of mortality and disease to the community. The ABS listing of leading causes is based on the numbers of deaths and is designed to present information on incidence of mortality rather than burden of mortality.

Years of Potential Life Lost (YPLL)

49 Years of Potential Life Lost (YPLL) measures the extent of 'premature' mortality, which is assumed to be any death between the ages of 1-78 years inclusive, and aids in assessing the significance of specific diseases or trauma as a cause of premature death.

Years of Potential Life Lost (YPLL) continued

50 Estimates of YPLL are calculated for deaths of persons aged 1-78 years based on the assumption that deaths occurring at these ages are untimely. The inclusion of deaths under one year would bias the YPLL calculation because of the relatively high mortality rate for that age, and 79 years was the median age at death when this series of YPLL was calculated using 2001 as the standard year. As shown below, the calculation uses the current ABS standard population of all persons in the Australian population at 30 June 2001. This standard is revised every 10 years.

51 YPLL is derived from:

$YPLL = \Sigma_x(D_x(79 - A_x))$

where:

A_x = adjusted age at death. As age at death is only available in completed years the midpoint of the reported age is chosen (e.g. age at death 34 years was adjusted to 34.5).

D_x = registered number of deaths at age x due to a particular cause of death.

YPLL is directly standardised for age using the following formula:

$YPLL_s = \Sigma_x(D_x(79 - A_x)C_x)$

where the age correction factor C_X is defined for age x as:

$C_x = \frac{N_{xs}}{N_s} \cdot \frac{1}{N_x} \cdot N$

where:

N = estimated number of persons resident in Australia aged 1-78 years at 30 June 2009

N_X = estimated number of persons resident in Australia aged x years at 30 June 2009

N_{xs} = estimated number of persons resident in Australia aged x years at 30 June 2001 (standard population)

N_s = estimated number of persons resident in Australia aged 1-78 years at 30 June 2001 (standard population)

52 The data cubes contain directly standardised death rates and YPLL for males, females and persons. In some cases the summation of the results for males and females will not equate to persons. The reasons for this is that different standardisation factors are applied separately for males, females and persons.

Age-Standardised death rates

53 Age-standardised rates, along with infant and child mortality rates, are used to determine whether mortality of Aboriginal and Torres Strait Islander population is declining over time and whether the gap between Aboriginal and Torres Strait Islander and non-Indigenous populations is narrowing. However, there were some inconsistencies in the way different government agencies calculated age-standardised rates in the past. The Australian Bureau of Statistics (ABS) hosted a workshop on age-standardisation on 19 April 2011 to discuss the best method of age-standardisation (direct or indirect) and to produce a clear set of guidelines specifically for the analysis and reporting of COAG "Closing the Gap" indicators. Workshop participants agreed that the direct method is the most preferred method of age-standardisation as it allows for valid comparisons of mortality rates between different study populations and across time.

54 The direct method has been used throughout the publication and data cubes for age standardised death rates. Standardised death rates for specific causes of death with less than a total of 20 deaths are not available for publication.

55 For further information, see Appendix: Principles on the use of age-standardisation, from Deaths, Australia, 2010 (cat. no. 3302.0).

State and Territory Data

56 Causes of death statistics for states and territories in this publication have been compiled in respect of the state or territory of usual residence of the deceased, regardless of where in Australia the death occurred and was registered. Deaths of persons usually resident overseas which occur in Australia are included in the state/territory in which their death was registered.

State and Territory Data continued

57 Statistics compiled on a state or territory of registration basis are available on request.

Perinatals State and Territory Data

58 Given the small number of perinatals death which occur in some states and territories, some data provided on a state/territory basis in this publication have been aggregated for South Australia, Western Australia, Northern Territory, Australian Capital Territory and Other Territories.

Potentially Avoidable Deaths

59 Potentially avoidable deaths data based on the Indigenous status of the deceased has been included in this publication. The progress measure for potentially avoidable deaths comprises potentially preventable deaths and potentially treatable deaths. Potentially preventable deaths are those which are amenable to screening and primary prevention, such as immunisation, and reflect the effectiveness of the current preventive health activities of the health sector. Deaths from potentially treatable conditions are those which are amenable to therapeutic interventions, and reflect the safety and quality of the current treatment system.

60 For further information, see National Healthcare Agreement: PI 20-Potentially avoidable deaths, 2011

DATA QUALITY

Coroner Certified Deaths

61 In compiling causes of death statistics, the ABS employs a variety of measures to improve quality, which include:

- providing certifiers with certification booklets for guidance in reporting causes of death on medical certificates, see Information Paper: Certification of Death (cat. no. 1205.0.55.001)
- seeking detailed information from the National Coroners Information System (NCIS)
- editing checks at the individual record and aggregate levels.

62 The quality of causes of death coding can be affected by changes in the way information is reported by certifiers, by lags in completion of coroner cases and the processing of the findings. While changes in reporting and lags in coronial processes can affect coding of all causes of death, those coded to *Chapter XVIII: Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* and *Chapter XX: External causes of morbidity and mortality* are more likely to be affected because the code assigned within the chapter may vary depending on the coroner's findings (in accordance with ICD-10 coding rules).

63 Over time, improvements have been made to the quality of the causes of death data published by the ABS. Two processing improvements were introduced to the ABS Causes of Death collection in 2008 (the context and details of these improvements are described below). These improvements relate to the way the ABS codes coroner certified deaths and have had the effect of significantly improving the quality of cause of death codes assigned to coroner certified cases.

64 In order to complete a death registration, the death must be certified by either a doctor using the Medical Certificate of Cause of Death, or by a coroner. It is the role of the coroner to investigate the circumstances surrounding all reportable deaths and to establish wherever possible the circumstances surrounding the death, and the cause(s) of death. Generally most deaths due to external causes will be referred to a coroner for investigation; this includes those deaths which are possible instances of Intentional self-harm (suicide).

65 When coronial investigations are complete, causes of death information is passed to the Registrar of Births, Deaths and Marriages, as well as to the NCIS. The ABS uses the NCIS as the only source of data to code coroner certified deaths. Where a case remains open on the NCIS at the time the ABS ceases processing and insufficient information is available to code a cause of death (e.g. a coroner certified death was yet to be finalised by the coroner), less specific ICD codes are assigned as required by the ICD coding rules.

Coroner Certified Deaths continued

66 The specificity with which open cases are able to be allocated an ICD-10 code is directly related to the amount and type of information available on the NCIS. The amount of information available for open cases varies considerably from no information to detailed police, autopsy and toxicology reports. There may also be interim findings of 'intent'.

67 The manner or intent of an injury which leads to death, is determined by whether the injury was inflicted purposefully or not (in some cases, intent cannot be determined) and, when it is inflicted purposefully (intentional), whether the injury was self-inflicted (suicide) or inflicted upon another person (assault).

68 The first of the new processing improvements introduced from 2008 relates to the way that the ABS utilises information on the Medical Certificate of Cause of Death. For both open and closed coroners cases, more time is now taken to investigate the certificate to consistently apply ICD-10 coding rules when a non-specific underlying cause was shown in part 1. Part 2 of the certificate details conditions that may have contributed to the death but were not part of the sequence of events that led to death.

69 The second new processing improvement relates to the use of additional information available on the NCIS. Increased resources and time were spent investigating coroners reports to identify specific causes of death. This involved making increased use of police reports, toxicology reports, autopsy reports and coroners findings for both open and closed cases to increase the specificity of causes and clarity of intents.

70 The introduction of these processes has resulted in improved data quality in relation to assigning unspecified cause codes to coroner certified deaths. There has been a decrease of 656 (56.6%) in the number of coroner certified deaths attributed to Other ill-defined and unspecified causes of mortality (R99) from 1,160 in 2007 (preliminary) to 504 in 2010 (preliminary).

71 As less specific codes are generally associated with open rather than closed coroner certified cases, the new processes have had the effect of significantly improving the quality of cause of death codes assigned to open cases. Additionally, a large number of deaths investigated by coroners are due to external causes, therefore the new processes have also had the effect of improving these data.

72 Prior to 2008, these two processes were not routinely followed in relation to coroner certified cases. However, they have been applied to the revised 2006 and 2007 data and the preliminary and revised 2008 and 2009 data.

73 The 2010 data provided in this publication has not yet been subjected to the revisions process, which will further improve the quality of the data. Therefore, the data on 2010 causes of death is considered preliminary and refers to the point in time when initial 2010 processing was finalised. The 2010 data will go through the revisions process twice, and will be released in the ABS Causes of Death publications in 2013 (2010 revised) and 2014 (2010 final).

Indigenous deaths

74 The ABS Deaths (cat. no. 3302.0) collection identifies a death as being Indigenous where the deceased is identified as being of Aboriginal and/or Torres Strait Islander origin through the death registration process.

75 Identification of the deaths of Indigenous Australians can occur on Death Registration Forms and Medical Certificates of Causes of Death. However it is recognised that not all Indigenous deaths are captured through these processes, leading to under-identification. While data are provided to the ABS for the Indigenous status question for 99.1% of all deaths, there are concerns regarding the accuracy of the data.

Indigenous deaths continued

76 There are several data collection forms on which people are asked to state whether they are of Aboriginal and/or Torres Strait Islander origin. Due to a number of factors, the results are not always consistent. The likelihood that a person will identify, or be identified, as an Aboriginal and/or Torres Strait Islander on a specific form is known as their propensity to identify.

77 Propensity to identify as an Aboriginal and/or Torres Strait Islander is determined by a range of factors, including:

- how the information is collected (e.g. census, survey, or administrative data)
- who provides the information (e.g. the person in question, a relative, a health professional, or an official)
- the perception of why the information is required, and how it will be used
- educational programs about identifying as Indigenous
- cultural aspects and feelings associated with identifying as Aboriginal and Torres Strait Islander Australian.

78 In addition to those deaths where the deceased is identified as an Aboriginal and/or Torres Strait Islander, a number of deaths occur each year where Indigenous status is not stated on the death registration form. In 2010, there were 1,220 deaths registered in Australia for whom Indigenous status was not stated, representing 0.9% of all deaths registered.

79 Data presented in this publication may therefore underestimate the level of Aboriginal and/or Torres Strait Islander deaths and mortality in Australia. Caution should be exercised when interpreting data for Aboriginal and/or Torres Strait Islander Australians presented in this publication, especially with regard to year-to-year changes.

80 Chapter 6 of this publication and data cube 12 provide information on causes of death for Aboriginal and/or Torres Strait Islander Australians. Due to the data quality issues outlined below, detailed disaggregations of deaths of Aboriginal and/or Torres Strait Islander Australians are provided only for New South Wales, Queensland, Western Australia and the Northern Territory.

81 Due to the increased focus on the mortality rates of Aboriginal and/or Torres Strait Islander Australians, a number of projects have been undertaken to investigate the quality of these data. These include:

- Council of Australian Governments (COAG)-funded assessment of Indigenous identification in key data sets, for example, the birth and death registration systems managed by state and territory Registries of Births, Deaths and Marriages
- data integration projects undertaken by several state and territory government departments using health and death records
- follow-up activities conducted by the Australian Capital Territory Registry of Births, Deaths and Marriages in order to reduce the number of registration forms where there was a 'not stated' response to the question on Indigenous status
- ongoing ABS investigations into the unusual volatility in the number of deaths of Aboriginal and/or Torres Strait Islander Australians registered in Western Australia in recent years.

82 The ABS undertakes significant work aimed at improving Indigenous identification. Quality studies conducted as part of the Census Data Enhancement project have investigated the levels and consistency of Indigenous identification between the 2006 Census and death registrations. See Information Paper: Census Data Enhancement - Indigenous Mortality Quality Study, 2006-07 (cat. no. 4723.0), released on 17 November 2008.

Indigenous deaths continued

83 An assessment of various methods for adjusting incomplete Indigenous death registration data for use in compiling Indigenous life tables and life expectancy estimates is presented in Discussion Paper: Assessment of Methods for Developing Life Tables for Aboriginal and Torres Strait Islander Australians, 2006 (cat. no. 3302.0.55.002), released on 17 November 2008.

Perinatal data quality over time

PERINATAL DATA PROCESSING SYSTEM

84 Perinatal deaths (both neonatals and stillbirths) are manually coded within a section of the ABS mortality system. Data quality checks that are run on perinatal deaths (both doctor and coroner certified) ensure closer alignment with perinatal coding requirements (i.e. ensuring that a mother's condition code is not accepted in the fetus/infant's field, and vice versa).

TREATMENT OF 'NOT STATED' DATA IN THE ABS APPLICATION OF PERINATAL SCOPE RULES IN RELATION TO FETAL DEATHS.

85 As all 'live births' are considered in scope of the collection regardless of gestation or birth weight, the increase in 'not stated' data affects the application of scope rules for fetal deaths only.

86 The ABS scope rules include fetal deaths based on gestation of at least 20 weeks or birth weigh of at least 400 grams. This scope is consistent with the legislated requirement for all state and territory Registrars of Births, Deaths and Marriages to register all fetal deaths of at least 20 weeks gestation or 400 grams birth weight. Based on this legislative requirement, in the case of missing gestation and/or birth weight data, the fetal record is considered in scope and included in the dataset. A record is only considered out of scope if both gestation and birth weight data are present, and both fall outside the scope criteria (i.e. 19 weeks or less gestation and 399 grams or less birth weight). This rule has been applied to all perinatal data presented in this publication.

DEATHS BY TYPE OF CERTIFIER

87 For deaths registered in 2010, 12.1% were certified by a coroner. There are variations between jurisdictions in relation to deaths certified by a coroner, ranging from 10.0% deaths certified by a coroner in New South Wales to 30.3% of deaths certified by a coroner in the Northern Territory. The proportion of deaths certified by a coroner in 2010 is comparable to previous years.

88 All causes of death can be grouped to describe the type of death whether it be from a disease or condition, or from an injury or whether the cause is unknown. These are generally described as:

- Natural Causes - deaths due to diseases (for example diabetes, cancer, heart disease etc) (A00-Q99, R00-R98)
- External Causes- deaths due to causes external to the body (for example suicide, transport accidents, falls, poisoning etc) (V01-Y98)
- Unknown Causes - deaths where it is unable to be determined whether the cause was natural or external (R99).

SPECIFIC ISSUES FOR 2010 DATA

89 As outlined below a number of issues should be taken into account by users when analysing the 2010 Causes of Death data.

Dementia (F01,F03)

90 Since 2006, there has been an increase in the number of deaths coded to Dementia (F01,F03). Updates to the coding instructions in ICD-10 has resulted in the assignment of some deaths to Vascular dementia (F01) where previously they may have ben coded to Cerebrovascular diseases (I60-I69). In addition, changes to the *Veterans' Entitlements Act 1986* and *Military Rehabilitation and Compensation Act 2004*, and a subsequent promotional campaign targeted at health professionals, now allow for death from vascular dementia of veterans or members of the defence forces to be related to relevant

Dementia (F01,F03) continued

service. This is believed to have had an effect on the number of deaths attributed to dementia.

Pneumonia, organism unspecified (J18)

91 As part of a collection wide initiative by the ABS to improve specificity of cause of death coding, in the 2008 and 2009 reference years, doctor certified deaths due to Pneumonia, organism unspecified (J18) reduced substantially. This was as a result of ABS manually interrogating conditions located in Part 2 of the medical certificate cause of death (MCCD), reallocating them to a more specific cause of death code.

92 At that time, Pneumonia, organism unspecified was considered a less specific and therefore less preferred underlying cause of death when other more specific causes of death were present on the MCCD. As a result of efforts to improve underlying cause of death specificity, doctor certified deaths assigned to Pneumonia, organism unspecified decreased by over 30% from 2007 to 2008 .

93 In 2010 there has been a shift in this pattern. The number of doctor certified deaths assigned J18 has increased by 690 deaths or 49%. The reason for the 2010 data movement is a more consistent use of coding software decision tables throughout both coding and quality assurance processes. These decision tables provide clear rules for when Pneumonia can be selected as an underlying cause of death, in relation to the information listed in Part 2 of the MCCD.

94 The 2010 increase represents a return to counts observed prior to 2008. In 2007, 2,293 doctor certified deaths were assigned to J18, therefore the 2010 count for this cause of death (2,085) is considered a return to the trend which existed prior to the coding of 2008 and 2009 data.

Transport Accidents (V01-V79, Y32)

95 There were 1,309 deaths attributed to Road traffic accidents (V01-V79) in 2010, and a further 33 deaths coded as Crashing of a motor vehicle, undetermined intent (Y32). When making comparisons between road deaths from the ABS Causes of Death collection and road deaths from other sources, the scope and coverage rules applying to each collection should be considered. It should be noted that the number of road traffic related deaths attributed to transport accidents for 2010 is expected to change (and most likely increase) as data is subject to the revisions process, see Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

Assault (X85-Y09, Y87.1)

96 The number of deaths recorded as Assault (X85-Y09, Y87.1) i.e. murder, manslaughter and their sequelae, published in the ABS Causes of Death publication, differ from those published by the ABS in Recorded Crime - Victims, Australia, 2009 (cat. no. 4510.0). Reasons for the different counts include differences in scope and coverage of the two collections, as well as legal proceedings that are pending finalisation. It is important to note that the number of deaths attributed to assault for 2010 is expected to change (and most likely increase) as Causes of Death data is subject to the revisions process, see Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

97 The following codes may include cases which could potentially have been assaults but for which the intent was determined to be other than Assault (X85-Y09, Y87.1). Such cases cannot be separately identified in the final ABS Causes of Death statistics:

- Events of Undetermined Intent (Y10-Y34)
- Other ill-defined and Unspecified Causes of Mortality (R99).

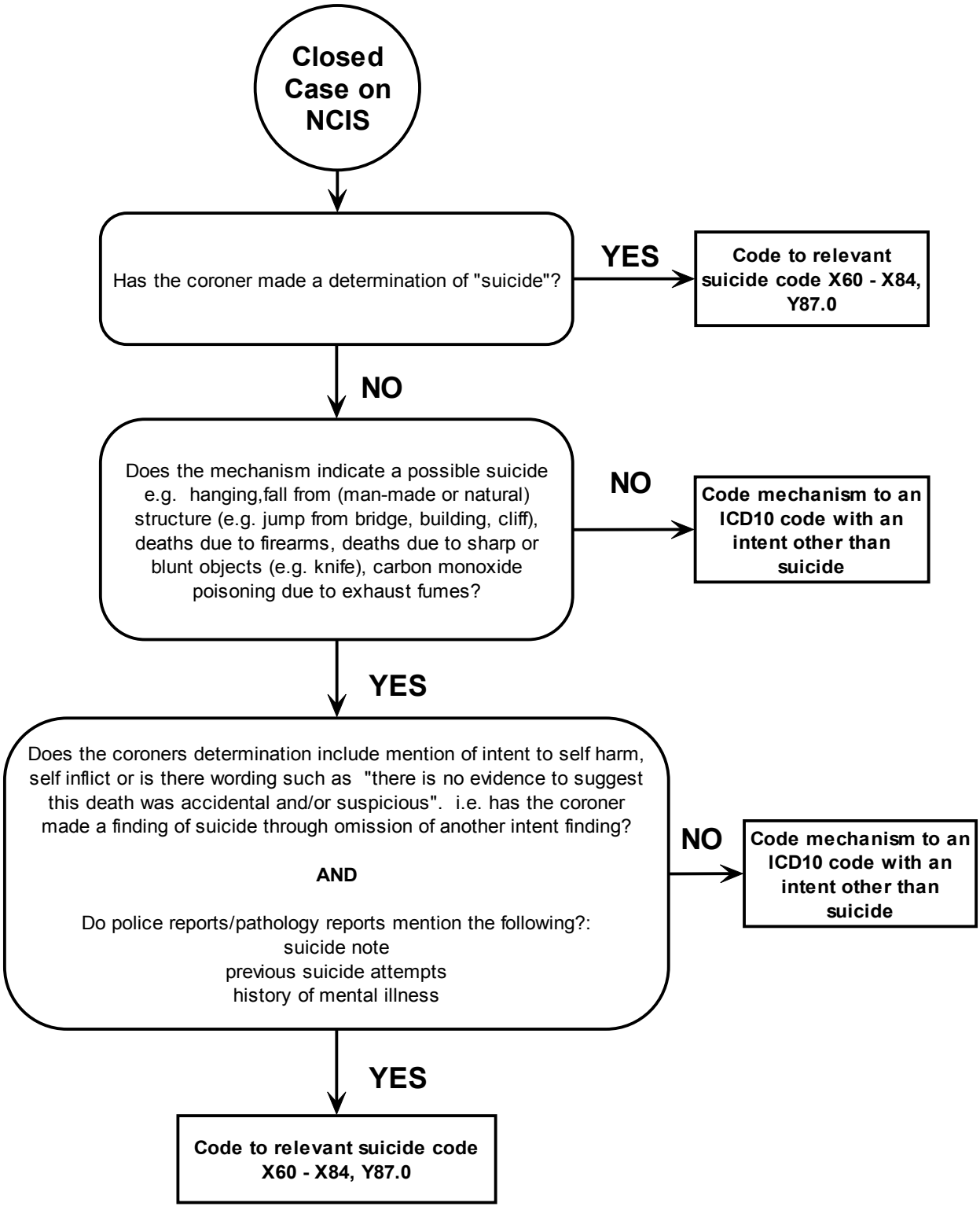
Intentional Self-Harm [Suicide] (X60-X84, Y87.0)

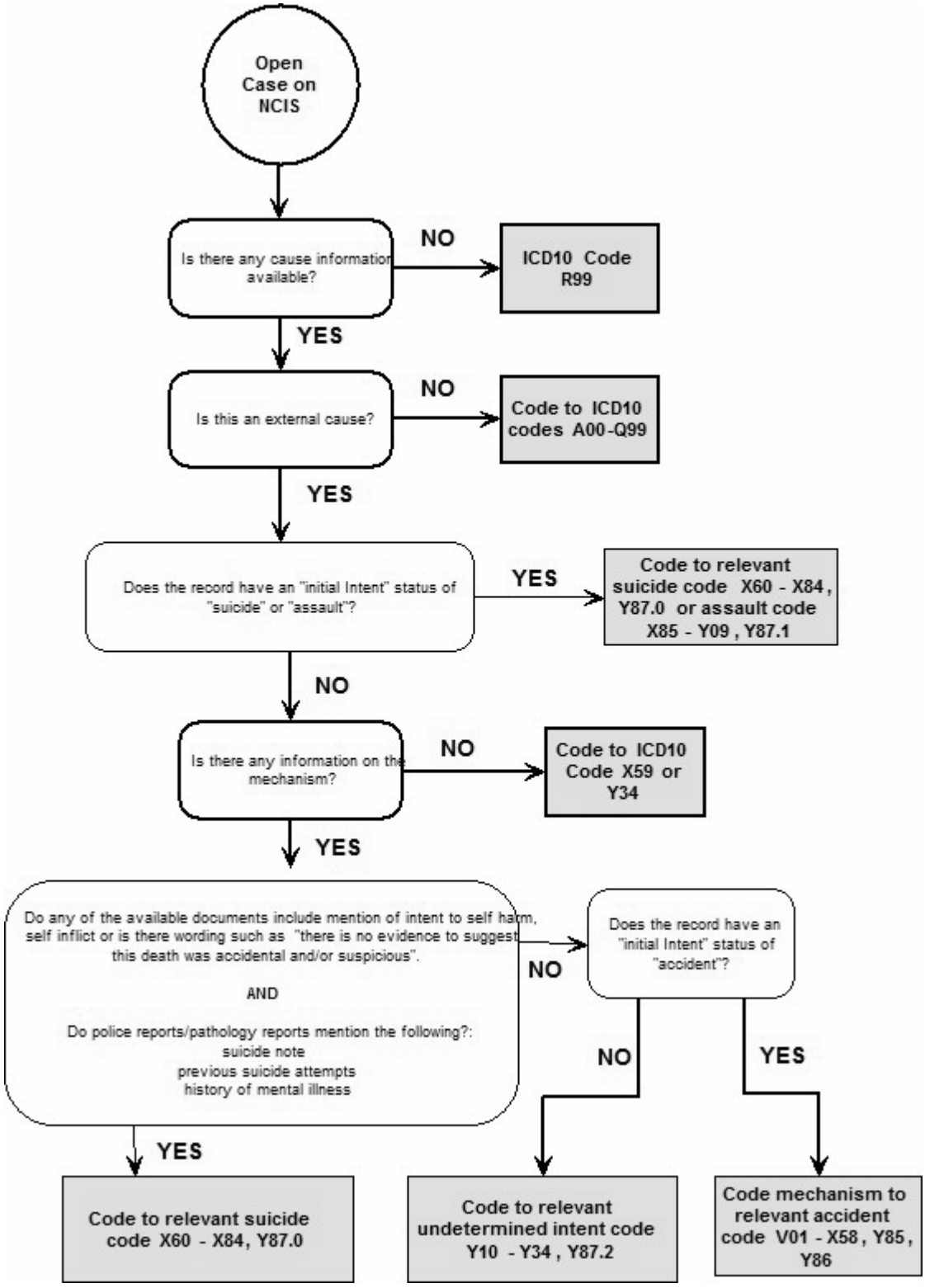
98 The number of deaths recorded as Intentional self-harm (suicide) (X60-X84, Y87.0) has decreased over the last 10 years, from 2,457 in 2001 to 2,361 in 2010. This decrease can be partly attributed to the variances in the way the ABS has coded coroner certified deaths over time. See Explanatory Notes 98-101 for further information. This will have an influence on the number of deaths due to suicide, as the majority of open coroner cases are deaths due to external causes.

99 In addition, the number of deaths attributed to suicide for 2010 is expected to increase as data is subject to the revisions process, see Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

100 Suicide deaths in children are an extremely sensitive issue for families and coroners. The number of child suicides registered each year is low in relative terms and is likely to be underestimated. For that reason this publication does not include detailed information about suicides for children aged under 15 years in the commentary or data cubes.

101 For processing of deaths registered from 1 January 2007, revised instructions for ABS coders were developed in order to ensure consistency in the coding of suicide deaths and compliance with the revised notes for coding to the undetermined intent categories. At the time that the ABS ceases processing, each coroners record on the NCIS will have a status of 'open' or 'closed'. The NCIS case status impacts on how deaths are coded with regard to suicides. With the introduction of the revisions process for all deaths registered from 1 January 2006, additional information received by the ABS may lead to a more specific cause of death code being assigned. Below is a summary of the suicide coding process used by the ABS.


Closed Case on NCIS
Has the coroner made a determination of "suicide"?
YES
Code to relevant suicide code X60 - X84, Y87.0
NO
Does the mechanism indicate a possible suicide e.g. hanging,fall from (man-made or natural) structure (e.g. jump from bridge, building, cliff), deaths due to firearms, deaths due to sharp or blunt objects (e.g. knife), carbon monoxide poisoning due to exhaust fumes?
NO
Code mechanism to an ICD10 code with an intent other than suicide
YES
Does the coroners determination include mention of intent to self harm, self inflict or is there wording such as "there is no evidence to suggest this death was accidental and/or suspicious". i.e. has the coroner made a finding of suicide through omission of another intent finding?
AND
Do police reports/pathology reports mention the following?:
suicide note
previous suicide attempts
history of mental illness
NO
Code mechanism to an ICD10 code with an intent other than suicide
YES
Code to relevant suicide code X60 - X84, Y87.0



Undetermined intent (Y10-Y34, Y87.2)

102 Due to changes in coding rules for ICD-10 in 2007, processing of data up to and including the 2006 reference year assigned a finding of 'Undetermined intent' only where this was the official coronial finding. Other deaths where either intent was 'not known' or 'blank' on the NCIS record, were coded with an intent of 'accidental'. From 2007, a death is coded to an 'Undetermined intent' code where the NCIS intent field is: 'could not be determined'; 'unlikely to be known'; or 'blank'. This change in coding practice has resulted in a significant increase in deaths allocated to these codes from 2006 onwards. However, it is important to note that it is expected that the number of deaths attributed

Undetermined intent (Y10-Y34, Y87.2) continued

to 'Undetermined intent' codes will decrease as revisions of preliminary data are undertaken, see Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

Registration of Outstanding Deaths, Queensland

103 In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians. For further information refer to Technical Note: Retrospective deaths by Causes of Death and Deaths, Australia (cat. no. 3302.0) Technical Note: Registration of Outstanding Deaths, Queensland, 2010.

Indigenous data quality for Western Australia

104 ABS are currently investigating the volatility of Aboriginal and Torres Strait Islander deaths in WA for 2007, 2008 and 2009. WA data by Indigenous status has not been included in this publication where 2006-2010 grouped death counts have been included. Only data for NSW, Qld, SA and NT have been presented. This affects Aboriginal and Torres Strait Islander data cubes 12.4 - 12.5.

SPECIFIC ISSUES FOR PERINATALS DATA

Main and leading condition in the fetus/infant

OTHER DISORDERS ORIGINATING IN THE PERINATAL PERIOD (P90-P96)

105 Coroner certified neonatal deaths with no cause of death information are coded to Other ill-defined and unspecified causes of mortality (R99). Doctor certified neonatal deaths with no cause of death information are coded to Conditions originating in the perinatal period, unspecified (P969).

DISORDERS RELATED TO LENGTH OF GESTATION AND FETAL GROWTH (P05-P08)

106 The number of perinatal deaths with main condition in the fetus/infant coded to Disorders related to length of gestation and fetal growth (P05-P08) has increased since 2006. Prior to 2006, deaths attributed to these causes would have been queried to obtain a more specific cause of death.

BIRTHS DATA

107 Appendix 1 provides details of the number of live births registered which have been used to calculate the fetal, neonatal and perinatal death rates shown in this publication. Appendix 1 also provides data on fetal deaths used in the calculation of fetal and perinatal death rates. These also enable further rates to be calculated.

CONFIDENTIALISATION OF DATA

108 Data cells with small values have been randomly assigned to protect confidentiality. As a result some totals will not equal the sum of their components. Cells with 0 values have not been affected by confidentialisation.

EFFECTS OF ROUNDING

109 Where figures have been rounded, discrepancies may occur between totals and sums of the component items.

ABS PRODUCTS

110 ABS products and publications are available free of charge from the ABS website. Click on Statistics to gain access to the full range of ABS statistical and reference information. For details on products scheduled for release in the coming week, click on the Future Releases link on the ABS homepage.

ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACS	automated coding system
AIDS	Acquired Immune Deficiency Syndrome
AIHW	Australian Institute of Health and Welfare
ANZSCO	Australian and New Zealand Standard Classification of Occupations
ASDR	age-specific death rate
ASGC	Australian Standard Geographical Classification
ASGS	Australian Statistical Geography Standard
Aust.	Australia
cat. no.	Catalogue number
CDR	crude death rate
CM	Clinically Modified
COAD	chronic obstructive airways disease
DRF	death registration form
ERP	estimated resident population
HIV	Human Immunodeficiency Virus
ICD-10	International Classification of Diseases 10th Revision
IHD	ischaemic heart disease
IMR	infant mortality rate
ISDR	indirect standardised death rate
MCCD	medical certificate of cause of death
MMDS	Medical Mortality Data System
no.	number
NCHS	National Centre for Health Statistics
NCIS	National Coroners Information System
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
SA	South Australia
SACC	Standard Australian Classification of Countries
SDR	standardised death rate
SIDS	Sudden Infant Death Syndrome
SLA	statistical local area
Tas.	Tasmania
URC	Updating and Revision Committee
Vic.	Victoria
WA	Western Australia
WHO	World Health Organization
YPLL	years of potential life lost

APPENDIX 1 DATA USED IN CALCULATING DEATH RATES

DATA INPUT

The following tables contain data used in calculating the various rates referred to in this publication.

Table A1.1 presents Estimated Resident Population as at 30 June 2010, published December 2011. These data have been used to calculate Standardised Death Rates, Age-specific death rates and Years of Potential Life Lost for 2010 data.

A1.1 ESTIMATED RESIDENT POPULATION, by age and sex: 30 June 2010

	Males	*Females*	*Persons*
Under 1	148 801	141 018	289 819
1–4	594 931	564 922	1 159 853
5–9	700 912	664 276	1 365 188
10–14	719 691	683 873	1 403 564
15–19	770 312	729 248	1 499 560
20–24	849 204	794 875	1 644 079
25–29	841 720	816 955	1 658 675
30–34	765 647	763 678	1 529 325
35–39	801 230	813 569	1 614 799
40–44	769 736	780 132	1 549 868
45–49	780 305	794 417	1 574 722
50–54	725 360	742 601	1 467 961
55–59	655 235	669 797	1 325 032
60–64	603 338	608 023	1 211 361
65–69	449 634	458 672	908 306
70–74	343 472	366 590	710 062
75–79	256 981	296 139	553 120
80–84	188 994	250 969	439 963
85–89	98 083	167 293	265 376
90–94	31 048	68 911	99 959
95 and over	7 012	22 171	29 183
All ages	**11 101 646**	**11 198 129**	**22 299 775**

Table A1.2 presents the number of live births for Australia for selected years, 2001 to 2010. These data have been used in calculating infant death rates - the number of deaths of children under one year of age per 1,000 live births in the same period.

A1.2 LIVE BIRTHS REGISTERED, Australia: 2001, 2006-2010

	Males	*Females*	*Persons*
2001	126 298	120 096	246 394
2006	136 692	129 257	265 949
2007	146 456	138 757	285 213
2008	152 287	144 334	296 621
2009	152 019	143 719	295 738
2010	152 739	145 164	297 903

Perinatal Death Rate

For comparison and measuring purposes, perinatal deaths in this publication have also been expressed as rates. These rates are defined as follows:

- for fetal deaths and total perinatal deaths, the rates represent the number of deaths per 1,000 all births, which comprises live births and fetal deaths combined (where gestation is at least 20 weeks or birth weight is at least 400 grams).
- for neonatal deaths, the rates represent the number of deaths per 1,000 live births.

20 weeks gestation or 400 grams birth weight

The following tables contain births data used in calculating perinatal death rates. Tables A1.3 and A1.4 are used to calculate perinatal death rates based on the 20 weeks gestation or 400 grams birth weight definition for fetal deaths. In this publication, this definition has been applied to all 2001-2010 reference year data.

A1.3 ALL BIRTHS(a), by sex of child(b)—and state or territory of usual residence of mother(c)

STATE OR TERRITORY OF USUAL RESIDENCE	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.(c)
2010									
Live Births									
Males	49 131	36 139	32 998	10 395	16 063	3 317	2 026	2 661	152 739
Females	46 787	34 429	31 469	9 681	15 361	3 068	1 873	2 488	145 164
Persons	95 918	70 568	64 467	20 076	31 424	6 385	3 899	5 149	297 903
Stillbirths									
Males(b)	271	213	237	39	92	33	18	45	948
Females	228	194	204	39	93	21	13	27	819
Persons	499	407	441	78	185	54	31	72	1 767
Total									
Males(b)	49 402	36 352	33 235	10 434	16 155	3 350	2 044	2 706	153 687
Females	47 015	34 623	31 673	9 720	15 454	3 089	1 886	2 515	145 983
Persons	96 417	70 975	64 908	20 154	31 609	6 439	3 930	5 221	299 670
2009									
Live Births									
Males	47 588	36 281	34 059	10 233	15 896	3 391	1 990	2 573	152 019
Females	45 195	34 639	32 038	9 501	14 982	3 235	1 829	2 285	143 719
Persons	92 783	70 920	66 097	19 734	30 878	6 626	3 819	4 858	295 738
Stillbirths									
Males(b)	255	238	242	35	121	32	19	18	960
Females	240	194	199	40	94	25	20	7	820
Persons	495	432	441	75	215	57	39	25	1 780
Total									
Males(b)	47 843	36 519	34 301	10 268	16 017	3 423	2 009	2 591	152 979
Females	45 435	34 833	32 237	9 541	15 076	3 260	1 849	2 292	144 539
Persons	93 278	71 352	66 538	19 809	31 093	6 683	3 858	4 883	297 518
2008									
Live Births									
Males	48 321	36 781	32 589	10 333	16 317	3 453	2 007	2 469	152 287
Females	46 363	34 394	30 543	9 896	15 533	3 322	1 935	2 335	144 334
Persons	94 684	71 175	63 132	20 229	31 850	6 775	3 942	4 804	296 621
Stillbirths									
Males(b)	254	190	236	46	105	31	10	5	877
Females	214	190	186	49	96	16	11	9	771
Persons	468	380	422	95	201	47	21	14	1 648
Total									
Males(b)	48 575	36 971	32 825	10 379	16 422	3 484	2 017	2 474	153 164
Females	46 577	34 584	30 729	9 945	15 629	3 338	1 946	2 344	145 105
Persons	95 152	71 555	63 554	20 324	32 051	6 822	3 963	4 818	298 269
2007									
Live Births									
Males	45 918	36 115	31 656	9 897	15 021	3 393	2 018	2 428	146 456
Females	43 577	34 198	29 593	9 765	14 143	3 269	1 876	2 325	138 757
Persons	89 495	70 313	61 249	19 662	29 164	6 662	3 894	4 753	285 213

(a) All births consists of all live births, plus all fetal deaths that conform to the 20 weeks gestation or 400 grams birth weight definition.

(b) Male deaths include those perinatal deaths of sex indeterminate.

(c) Including those where it is unknown if heartbeat ceased before or after the delivery.

A1.3 ALL BIRTHS(a), by sex of child(b)—and state or territory of usual residence of mother(c) *continued*

STATE OR TERRITORY OF USUAL RESIDENCE	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.(c)
					2007 *cont.*				
Stillbirths									
Males(b)	253	212	234	33	92	23	10	17	874
Females	243	195	200	45	69	18	19	13	802
Persons	496	407	434	78	161	41	29	30	1 676
Total									
Males(b)	46 171	36 327	31 890	9 930	15 113	3 416	2 028	2 445	147 330
Females	43 820	34 393	29 793	9 810	14 212	3 287	1 895	2 338	139 559
Persons	89 991	70 720	61 683	19 740	29 325	6 703	3 923	4 783	286 889
					2006				
Live Births									
Males	45 099	33 536	27 128	9 369	14 042	3 349	1 855	2 299	136 692
Females	42 237	31 700	25 537	8 891	13 734	3 126	1 841	2 180	129 257
Persons	87 336	65 236	52 665	18 260	27 776	6 475	3 696	4 479	265 949
Stillbirths									
Males(b)	300	173	182	41	86	21	21	27	851
Females	220	174	177	41	78	22	18	14	744
Persons	520	347	359	82	164	43	39	41	1 595
Total									
Males(b)	45 399	33 709	27 310	9 410	14 128	3 370	1 876	2 326	137 543
Females	42 457	31 874	25 714	8 932	13 812	3 148	1 859	2 194	130 001
Persons	87 856	65 583	53 024	18 342	27 940	6 518	3 735	4 520	267 544
					2005				
Live Births									
Males	44 542	32 309	26 702	9 092	13 525	3 230	1 889	2 127	133 428
Females	42 047	30 978	24 959	8 708	12 728	3 078	1 770	2 079	126 363
Persons	86 589	63 287	51 661	17 800	26 253	6 308	3 659	4 206	259 791
Stillbirths									
Males(b)	236	281	205	63	102	25	21	22	955
Females	258	243	182	47	89	28	21	14	882
Persons	494	524	387	110	191	53	42	36	1 837
Total									
Males(b)	44 778	32 590	26 907	9 155	13 627	3 255	1 910	2 149	134 383
Females	42 305	31 221	25 141	8 755	12 817	3 106	1 791	2 093	127 245
Persons	87 083	63 811	52 048	17 910	26 444	6 361	3 701	4 242	261 628
					2004				
Live Births									
Males	44 339	31 925	25 586	8 793	12 968	3 022	1 801	2 156	130 600
Females	41 555	30 492	24 354	8 347	12 327	2 787	1 750	2 018	123 646
Persons	85 894	62 417	49 940	17 140	25 295	5 809	3 551	4 174	254 246
Stillbirths									
Males(b)	244	260	196	71	104	21	15	17	928
Females	229	242	139	52	93	23	11	8	797
Persons	473	502	335	123	197	44	26	25	1 725

(a) All births consists of all live births, plus all fetal deaths that conform to the 20 weeks gestation or 400 grams birth weight definition.

(b) Male deaths include those perinatal deaths of sex indeterminate.

(c) Including those where it is unknown if heartbeat ceased before or after the delivery.

20 weeks gestation or 400 grams birth weight continued

A1.3 ALL BIRTHS(a), by sex of child(b)—and state or territory of usual residence of mother(c) *continued*

STATE OR TERRITORY OF USUAL RESIDENCE	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.(c)
2004 *cont.*									
Total									
Males(b)	44 583	32 185	25 782	8 864	13 072	3 043	1 816	2 173	131 528
Females	41 784	30 734	24 493	8 399	12 420	2 810	1 761	2 026	124 443
Persons	86 367	62 919	50 275	17 263	25 492	5 853	3 577	4 199	255 971
2003									
Live Births									
Males	44 531	31 257	24 847	9 001	12 447	2 982	1 988	2 128	129 193
Females	41 813	29 801	23 495	8 442	11 826	2 770	1 802	2 000	121 968
Persons	86 344	61 058	48 342	17 443	24 273	5 752	3 790	4 128	251 161
Stillbirths									
Males(b)	216	244	156	96	98	31	29	13	883
Females	212	196	146	45	94	25	19	18	755
Persons	428	440	302	141	192	56	48	31	1 638
Total									
Males(b)	44 747	31 501	25 003	9 097	12 545	3 013	2 017	2 141	130 076
Females	42 025	29 997	23 641	8 487	11 920	2 795	1 821	2 018	122 723
Persons	86 772	61 498	48 644	17 584	24 465	5 808	3 838	4 159	252 799
2002									
Live Births									
Males	44 369	31 605	24 454	9 051	12 102	3 018	1 919	2 082	128 623
Females	42 214	29 873	23 317	8 614	11 499	2 985	1 805	2 030	122 365
Persons	86 583	61 478	47 771	17 665	23 601	6 003	3 724	4 112	250 988
Stillbirths									
Males(b)	272	222	175	63	79	33	15	13	872
Females	213	205	152	63	67	29	10	7	746
Persons	485	427	327	126	146	62	25	20	1 618
Total									
Males(b)	44 641	31 827	24 629	9 114	12 181	3 051	1 934	2 095	129 495
Females	42 427	30 078	23 469	8 677	11 566	3 014	1 815	2 037	123 111
Persons	87 068	61 905	48 098	17 791	23 747	6 065	3 749	4 132	252 606
2001									
Live Births									
Males	43 529	29 943	24 377	8 730	12 329	3 376	1 997	1 995	126 298
Females	41 049	28 683	23 301	8 551	11 673	3 054	1 825	1 943	120 096
Persons	84 578	58 626	47 678	17 281	24 002	6 430	3 822	3 938	246 394
Stillbirths									
Males(b)	254	240	192	61	86	11	12	12	868
Females	237	177	170	72	84	14	15	18	787
Persons	491	417	362	133	170	25	27	30	1 655
Total									
Males(b)	43 783	30 183	24 569	8 791	12 415	3 387	2 009	2 007	127 166
Females	41 286	28 860	23 471	8 623	11 757	3 068	1 840	1 961	120 883
Persons	85 069	59 043	48 040	17 414	24 172	6 455	3 849	3 968	248 049

(a) All births consists of all live births, plus all fetal deaths that conform to the 20 weeks gestation or 400 grams birth weight definition.

(b) Male deaths include those perinatal deaths of sex indeterminate.

(c) Including those where it is unknown if heartbeat ceased before or after the delivery.

20 weeks gestation or 400 grams birth weight continued

A1.4 ALL BIRTHS(a), By sex(b)

	LIVE BIRTHS			STILLBIRTHS(c)			TOTAL		
	Males	*Females*	*Persons*	*Males(b)*	*Females*	*Persons*	*Males(b)*	*Females*	*Persons*
2010	152 739	145 164	297 903	948	819	1 767	153 687	145 983	299 670
2009	152 019	143 719	295 738	960	820	1 780	152 979	144 539	297 518
2008	152 287	144 334	296 621	877	771	1 648	153 164	145 105	298 269
2007	146 456	138 757	285 213	874	802	1 676	147 330	139 559	286 889
2006	136 692	129 257	265 949	851	744	1 595	137 543	130 001	267 544
2005	133 428	126 363	259 791	955	882	1 837	134 383	127 245	261 628
2004	130 600	123 646	254 246	928	797	1 725	131 528	124 443	255 971
2003	129 193	121 968	251 161	883	755	1 638	130 076	122 723	252 799
2002	128 623	122 365	250 988	872	746	1 618	129 495	123 111	252 606
2001	126 298	120 096	246 394	868	787	1 655	127 166	120 883	248 049

(a) All births consists of all live births, plus all fetal deaths that conform to the 20 weeks gestation or 400 grams birth weight definition.
(b) Male deaths include those perinatal deaths of sex indeterminate.
(c) Including those where it is unknown if heartbeat ceased before or after the delivery.

22 weeks gestation or 500 grams birth weight

Table A1.5 contains births data used in the calculation of perinatal death rates based on the WHO definition of all neonatal deaths and those fetal deaths of 22 weeks gestation or 500 grams birth weight. This definition was used by the ABS in publications up to and including the 1996 reference year.

A1.5 ALL BIRTHS(a), by sex(b)

	LIVE BIRTHS			STILLBIRTHS(c)			TOTAL		
	Males	*Females*	*Persons*	*Males(b)*	*Females*	*Persons*	*Males(b)*	*Females*	*Persons*
2010	152 739	145 164	297 903	803	721	1 524	153 542	145 885	299 427
2009	152 019	143 719	295 738	908	771	1 679	152 927	144 490	297 417
2008	152 287	144 334	296 621	802	711	1 513	153 089	145 045	298 134
2007	146 456	138 757	285 213	768	713	1 481	147 224	139 470	286 694
2006	136 692	129 257	265 949	721	628	1 349	137 413	129 885	267 298
2005	133 428	126 363	259 791	730	705	1 435	134 158	127 068	261 226
2004	130 600	123 646	254 246	695	628	1 323	131 295	124 274	255 569
2003	129 193	121 968	251 161	705	631	1 336	129 898	122 599	252 497
2002	128 623	122 365	250 988	702	608	1 310	129 325	122 973	252 298
2001	126 298	120 096	246 394	690	631	1 321	126 988	120 727	247 715

(a) All births consists of all live births, plus all fetal deaths that conform to the 22 weeks gestation or 500 grams birth weight definition.
(b) Male deaths include those perinatal deaths of sex indeterminate.
(c) Including those where it is unknown if heartbeat ceased before or after the delivery.

APPENDIX 2 TABULATION OF SELECTED CAUSES OF DEATH ...

INTRODUCTION

There are standard ways for listing causes of death and there are formal recommendations concerning lists for tabulation to assist international comparisons. The World Health Organisation (WHO) provides a number of standard tabulation lists for presentation of causes of death statistics, that assist international comparability. WHO also recommend that when there is not a need for international comparability then lists can be designed to meet local needs. These special lists can be developed for example to monitor progress of local health programmes. The following tabulation lists have been developed, based on those used by the United States National Center for Health Statistics[1], to assist users in examining data for firearm, drug and alcohol related deaths.

FIREARM DEATHS TABULATION LIST

Causes of death attributable to firearm mortality include ICD-10 codes:

W32-W34, Accidental discharge of firearms;
X72-X74, Intentional self-harm (suicide) by discharge of firearms;
X93-X95, Assault (homicide) by discharge of firearms;
Y22-Y24, Discharge of firearms, undetermined intent; and
Y35.0, Legal intervention involving firearm discharge.

Deaths from injury by firearms exclude deaths due to explosives and other causes indirectly related to firearms.

DRUG INDUCED DEATHS TABULATION LIST

Causes of death attributable to drug-induced mortality include ICD-10 codes:

D52.1, Drug-induced folate deficiency anaemia;
D59.0, Drug-induced haemolytic anaemia;
D59.2, Drug-induced nonautoimmune haemolytic anaemia;
D61.1, Drug-induced aplastic anaemia;
D64.2, Secondary sideroblastic anaemia due to drugs and toxins;
E06.4, Drug-induced thyroiditis;
E16.0, Drug-induced hypoglycaemia without coma;
E23.1, Drug-induced hypopituitarism;
E24.2, Drug-induced Cushing's syndrome;
E27.3, Drug-induced adrenocortical insufficiency;
E66.1, Drug-induced obesity;
F11.0-F11.5, Use of opoids causing intoxication, harmful use (abuse), dependence, withdrawal or psychosis
F11.7-F11.9, Use of opoid causing late onset psychosis, other mental and behavioural disorders and unspecified behavioural disorders.
F12.0-F12.5, Use of cannabis causing intoxication, harmful use (abuse), dependence, withdrawal or psychosis
F12.7-F12.9, Use of cannabis causing late onset psychosis, other mental and behavioural disorders and unspecified behavioural disorders.
F13.0-F13.5, Use of sedative or hypnotics causing intoxication, harmful use (abuse), dependence, withdrawal or psychosis
F13.7-F13.9, Use of sedative or hypnotics causing late onset psychosis, other mental and behavioural disorders and unspecified behavioural disorders.
F14.0-F14.5, Use of cocaine causing intoxication, harmful use (abuse), dependence, withdrawal or psychosis
F14.7-F14.9, Use of cocaine causing late onset psychosis, other mental and behavioural disorders and unspecified behavioural disorders.

DRUG INDUCED DEATHS
TABULATION LIST *continued*

F15.0-F15.5, Use of caffeine causing intoxication, harmful use (abuse), dependence, withdrawal or psychosis
F15.7-F15.9, Use of caffeine causing late onset psychosis, other mental and behavioural disorders and unspecified behavioural disorders.
F16.0-F16.5, Use of hallucinogens causing intoxication, harmful use (abuse), dependence, withdrawal or psychosis
F16.7-F16.9, Use of hallucinogens causing late onset psychosis, other mental and behavioural disorders and unspecified behavioural disorders.
F17.0, Use of tobacco causing intoxication
F17.3-F17.5, Use of tobacco causing dependence, withdrawal or psychosis
F17.7-F17.9, Use of tobacco causing late onset psychosis, other mental and behavioural disorders and unspecified behavioural disorders.
F18.0-F18.5, Use of volatile solvents causing intoxication, harmful use (abuse), dependence, withdrawal or psychosis
F18.7-F18.9, Use of volatile solvents causing late onset psychosis, other mental and behavioural disorders and unspecified behavioural disorders.
F19.0-F19.5, Use of multiple drugs and other psychoactive substances causing intoxication, harmful use (abuse), dependence, withdrawal or psychosis
F19.7-F19.9, Use of multiple drugs and other psychoactive substances causing late onset psychosis, other mental and behavioural disorders and unspecified behavioural disorders.
G21.1, Other drug-induced secondary Parkinsonism;
G24.0, Drug-induced dystonia;
G25.1, Drug-induced tremor;
G25.4, Drug-induced chorea;
G25.6, Drug-induced tics and other tics of organic origin;
G44.4, Drug-induced headache, not elsewhere classified;
G62.0, Drug-induced polyneuropathy;
G72.0, Drug-induced myopathy;
I95.2, Hypotension due to drugs;
J70.2, Acute drug-induced interstitial lung disorders;
J70.3, Chronic drug-induced interstitial lung disorders;
J70.4, Drug-induced interstitial lung disorder, unspecified;
L10.5, Drug-induced pemphigus;
L27.0, Generalized skin eruption due to drugs and medicaments;
L27.1, Localized skin eruption due to drugs and medicaments;
M10.2, Drug-induced gout;
M32.0, Drug-induced systemic lupus erythematosus;
M80.4, Drug-induced osteoporosis with pathological fracture;
M81.4, Drug-induced osteoporosis;
M83.5, Other drug-induced osteomalacia in adults;
M87.1, Osteonecrosis due to drugs;
R78.1, Finding of opiate drug in blood;
R78.2, Finding of cocaine in blood;
R78.3, Finding of hallucinogen in blood;
R78.4, Finding of other drugs of addictive potential in blood;
R78.5, Finding of psychotropic drug in blood;
X40-X44, Accidental poisoning by and exposure to drugs, medicaments and biological substances;
X60-X64, Intentional self-poisoning (suicide) by and exposure to drugs, medicaments and biological substances;
X85, Assault (homicide) by drugs, medicaments and biological substances; and

DRUG INDUCED DEATHS TABULATION LIST *continued*

Y10-Y14, Poisoning by and exposure to drugs, medicaments and biological substances, undetermined intent.

Drug-induced causes exclude accidents, homicides, and other causes indirectly related to drug use. Also excluded are newborn deaths associated with mother's drug use.

ALCOHOL INDUCED DEATHS TABULATION LIST

Causes of death attributable to alcohol-induced mortality include ICD-10 codes:

E24.4, Alcohol-induced pseudo-Cushing's syndrome;
F10, Mental and behavioural disorders due to alcohol use;
G31.2, Degeneration of nervous system due to alcohol;
G62.1, Alcoholic polyneuropathy;
G72.1, Alcoholic myopathy;
I42.6, Alcoholic cardiomyopathy;
K29.2, Alcoholic gastritis;
K70, Alcoholic liver disease;
K86.0, Alcohol-induced chronic pancreatitis;
R78.0, Finding of alcohol in blood;
X45, Accidental poisoning by and exposure to alcohol;
X65, Intentional self-poisoning by and exposure to alcohol; and
Y15, Poisoning by and exposure to alcohol, undetermined intent.

Alcohol-induced causes exclude accidents, homicides, and other causes indirectly related to alcohol use. This category also excludes newborn deaths associated with maternal alcohol use.

1. Miniño AM, Heron MP, Murphy SL, Kochankek, KD. Deaths: Final Data for 2004. National vital statistics reports; vol 55 no 19. Hyattsville, MD: National Center for Health Statistics. 2007.

TECHNICAL NOTE 1 CAUSES OF DEATH REVISIONS 2006

OVERVIEW

1 There have been two process improvements implemented by the ABS in recent years which have improved the quality of data, with the biggest improvements seen in the external cause chapter and for coroner certified deaths. These processes were both implemented for the 2008 reference year. The first was a revisions process outlined in Explanatory Notes 35-39 and the second was in relation to the use of additional information stored within reports on the NCIS, see Explanatory Notes 63-73 for further information. The following technical note outlines the impact of the revisions process on 2006 data.

2 Previous publications of the Causes of Death, Australia indicated that all coroner certified deaths registered after 1 January 2007 are now subject to a revisions process. In order to improve the quality of historical data, the 2006 reference year data has also been revised as part of the Causes of Death, Australia, 2010 release. Therefore in the current release, 2006, 2007 and 2008 data is final, 2009 data is revised and 2010 data is preliminary. 2009 and 2010 data is subject to further revisions.

3 The process for revising the 2006 reference year was similar to the standard revisions methodology. Deaths that were reviewed were those that were open or unmatched at the time 2006 data were released. The difference between the process for 2006 and that for subsequent years, was that quality checks were run on all 2006 coroner certified records, not just those that were in scope for revisions. As a result, some additional records were reviewed and potentially revised. Specific codes that were targeted by quality checks included

- records with unspecified codes (e.g. R99, X59, X84, Y09).
- records with certain mechanisms and an intent of accident (e.g. W76 - accidental hanging and strangulation)

PRELIMINARY CODING

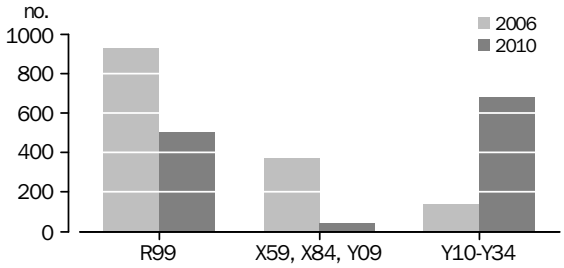
4 This section provides information on preliminary data for the 2006 and 2010 reference years.

5 The number of deaths coded to R99 (other ill-defined and unspecified causes of mortality) was higher in 2006 (930) than in 2010 (504). Similarly the number of deaths coded with unspecified mechanism (X59, X84, Y09) was higher in 2006 (384) than 2010 (93). Preliminary 2006 data was processed prior to the implementation of coding improvements.

6 The number of deaths with an undetermined intent was 0.1% for preliminary 2006 data (135) and 0.5% for 2010 preliminary data (680). Due to changes in coding rules for ICD-10 in 2007, processing of data up to and including the 2006 reference year assigned a finding of 'Undetermined intent' only where this was the official coronial finding. Other deaths where either intent was 'not known' or 'blank' on the NCIS record, were coded with an intent of 'accidental'.

PRELIMINARY CODING *continued*

SELECTED CAUSES OF DEATH, Preliminary data—Australia—2006 & 2010(a)



a) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

IMPACT OF REVISIONS

7 This section provides information on data movements for 2006 associated with the revisions process. Revisions of 2006 data has led to:

- a reduction in the number of Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99) by 610 deaths;
- an increase of 244 deaths in Diseases of the circulatory system (I00-I99);
- an increase of 257 deaths in External causes of morbidity and mortality (V01-Y98).

TABLE 1 - CAUSES OF DEATH REVISIONS (PRELIMINARY, FINAL), by ICD 10 chapter—2006

Cause of death and ICD-10 code	*Preliminary* no.	*Final* no.	*Change (preliminary to final)* no.	%
Certain infectious and parasitic diseases (A00-B99)	1 960	1 969	9	0.5
Neoplasms (C00-D48)	39 753	39 770	17	0.0
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50-D89)	497	495	–2	–0.4
Endocrine, nutritional and metabolic diseases (E00-E90)	5 138	5 158	20	0.4
Mental and behavioural disorders (F00-F99)	5 156	5 139	–17	–0.3
Diseases of the nervous system (G00-G99)	4 903	4 928	25	0.5
Diseases of the circulatory system (I00-I99)	45 670	45 914	244	0.5
Diseases of the respiratory system (J00-J99)	10 863	10 877	14	0.1
Diseases of the digestive system (K00-K93)	4 502	4 534	32	0.7
Diseases of the skin and subcutaneous tissue (L00-L99)	333	333	0	0.0
Diseases of the musculoskeletal system and connective tissue (M00-M99)	1 076	1 081	5	0.5
Diseases of the genitourinary system (N00-N99)	3 295	3 299	4	0.1
Certain conditions originating in the perinatal period (P00-P96)	658	653	–5	–0.8
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	547	553	6	1.1
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	1 525	915	–610	–40.0
External causes of morbidity and mortality (V01-Y98)	7 840	8 097	257	3.3
All causes(a)	**133 739**	**133 739**	**0**	**0.0**

(a) Includes deaths coded to H00-H59, H60-H95 and 000-099.

8 The following table shows the impact of the revisions process on 2006 data at the sub-chapter level with the following notable reductions:

- Other ill-defined and unspecified causes of mortality (632 deaths);
- Accidental exposure to other and unspecified factors (278 deaths);
- Other accidental threats to breathing (155 deaths).

9 and the following notable increases:

- Intentional self-harm (319 deaths);
- Event of undetermined intent (130 deaths);
- Assault (101 deaths);
- Car occupant injured in transport accident (83 deaths).

TABLE 2 - CAUSES OF DEATH REVISIONS (PRELIMINARY, FINAL), by ICD-10 selected causes —2006

			CHANGE FROM PRELIM TO FINAL	
	Preliminary	*Final*		
Cause of death and ICD-10 code	no	no.	no.	%
Sudden infant death syndrome (R95)	66	89	23	34.8
Other ill-defined and unspecified causes of mortality (R99)	1 131	499	–632	–55.9
Pedestrian injured in transport accident (V01-V09)	254	259	5	2.0
Pedal cyclist injured in transport accident (V10-V19)	37	40	3	8.1
Motorcycle rider injured in transport accident (V20-V29)	232	254	22	9.5
Car occupant injured in transport accident (V40-V49)	811	894	83	10.2
Occupant of pick-up truck or van injured in transport accident (V50-V59)	48	56	8	16.7
Occupant of heavy transport vehicle injured in transport accident (V60-V69)	36	49	13	36.1
Other land transport accidents (V80-V89)	152	144	–8	–5.3
Water transport accidents (V90-V94)	36	39	3	8.3
Air and space transport accidents (V95-V97)	36	46	10	27.8
Falls (W00-W19)	1 225	1 288	63	5.1
Exposure to inanimate mechanical forces (W20-W49)	182	119	–63	–34.6
Exposure to animate mechanical forces (W50-W64)	23	20	–3	–13.0
Accidental drowning and submersion (W65-W74)	212	209	–3	–1.4
Other accidental threats to breathing (W75-W84)	409	254	–155	–37.9
Exposure to electric current, radiation and extreme ambient air temperature and pressure (W85-W99)	20	22	2	10.0
Exposure to smoke, fire and flames (X00-X09)	71	68	–3	–4.2
Exposure to forces of nature (X30-X39)	47	50	3	6.4
Accidental poisoning by and exposure to noxious substances (X40-X49)	701	704	3	0.4
Accidental exposure to other and unspecified factors (X58-X59)	795	517	–278	–35.0
Intentional self-harm (X60-X84)(a)	1 799	2 118	319	17.7
Assault (X85-Y09)	155	256	101	65.2
Event of undetermined intent (Y10-Y34)	135	265	130	96.3
Drugs, medicaments and biological substances causing adverse effects in therapeutic use (Y40-Y59)	49	50	1	2.0
Surgical and other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure (Y83-Y84)	225	217	–8	–3.6
Sequelae of external causes of morbidity and mortality (Y85-Y89)	126	132	6	4.8

(a) Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

TECHNICAL NOTE 2 CAUSES OF DEATH REVISIONS 2008 AND 2009 . .

OVERVIEW

1 There have been two process improvements implemented by the ABS in recent years which have improved the quality of data, with the biggest improvements seen in the external cause chapter and for coroner certified deaths. These processes were both implemented for the 2008 reference year. The first was a revisions process outlined in Explanatory Notes 35-39 and the second was in relation to the use of additional information from the medical certificate cause of death and from information stored within reports on the NCIS, see Explanatory Notes 63-73 for further information. The following technical note outlines the impact of these two processes.

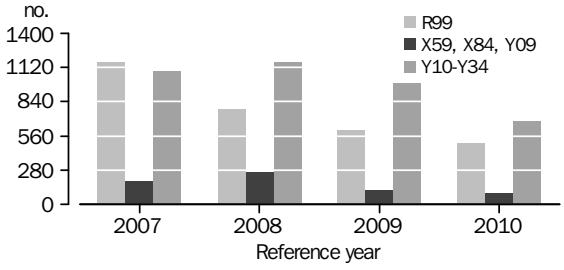
2 Previous publications of the Causes of Death, Australia indicated that all coroner certified deaths registered after 1 January 2007 are now subject to a revisions process. In order to improve the quality of historical data, the 2006 reference year data has also been revised as part of the Causes of Death, Australia, 2010 release. Therefore in the current release 2006, 2007 and 2008 data is final, 2009 data is revised and 2010 data is preliminary. 2009 and 2010 data is subject to further revisions.

PRELIMINARY CODING

3 This section provides preliminary data for the 2007-2010 reference years. Figure 1 provides information on the number of deaths allocated codes which have no specifity of cause (R99), mechanism (X59, X84 and Y09) or intent (Y10-Y34). Over the period from 2007 to 2010 there has been:

- a reduction in the number of deaths coded to R99 (other ill-defined and unspecified causes of mortality) from a high of 0.8% (1160) of all deaths in 2007 to 0.5% (779) in 2008 and 0.4% (605 and 504) in 2009 and 2010 respectively;
- a reduction in the number of deaths coded to unspecified mechanism codes (X59-Accident, X84-Intentional self-harm, Y09-Assault) from 0.2% (262) of all deaths in 2008 to 0.1% of all deaths in 2009 (117) and 2010 (93);
- a reduction in the number of deaths with an undetermined intent from 0.8% in 2007 (1088) to 0.5% (680) in 2010.

SELECTED CAUSES OF DEATH, Preliminary Data—Australia—2007-2010(a)



a) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

IMPACT OF REVISIONS

4 Data for 2007 and 2008 has now been finalised through the Causes of Death revisions process. This section provides information on the impact of the revisions process. Table 1 shows the impact of revisions for the 2008 reference year at the ICD-10 chapter level. Notable changes occurred in the following chapters:

- Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99) - reduction of 390 deaths
- Diseases of the circulatory system (I00-I99) - increase of 217 deaths
- External causes of morbidity and mortality (V01-Y98) - increase of 96 deaths

TABLE 1 - CAUSES OF DEATH REVISIONS , (PRELIMINARY, REVISED, FINAL)—by ICD-10 chapter—2008

	2008			CHANGE (PRELIM TO FINAL)	
	P	*R*	*F*		
Cause of death and ICD-10 code	no	no	no	no	%
Certain infectious and parasitic diseases (A00-B99)	1 935	1 966	1 969	34	1.8
Neoplasms (C00-D48)	42 418	42 421	42 423	5	0.0
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism D50-D89	503	503	504	1	0.2
Endocrine, nutritional and metabolic diseases (E00-E90)	5 900	5 899	5 887	–13	–0.2
Mental and behavioural disorders (F00-F99)	6 406	6 408	6 377	–29	–0.5
Diseases of the nervous system (G00-G99)	5 961	5 971	5 983	22	0.4
Diseases of the circulatory system (I00-I99)	48 456	48 455	48 673	217	0.4
Diseases of the respiratory system (J00-J99)	11 260	11 270	11 275	15	0.1
Diseases of the digestive system (K00-K93)	4 939	4 946	4 970	31	0.6
Diseases of the skin and subcutaneous tissue (L00-L99)	401	401	399	–2	–0.5
Diseases of the musculoskeletal system and connective tissue (M00-M99)	1 179	1 178	1 171	–8	–0.7
Diseases of the genitourinary system (N00-N99)	3 319	3 326	3 333	14	0.4
Certain conditions originating in the perinatal period (P00-P96)	595	597	596	1	0.2
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	609	606	614	5	0.8
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	1 243	1 157	853	–390	–31.4
External causes of morbidity and mortality (V01-Y98)	8 804	8 824	8 900	96	1.1
Total(a)	**143 946**	**143 946**	**143 946**	**0**	**0.0**

(a) Includes deaths coded to H00-H59, H60-H95, and 000-099.

IMPACT OF REVISIONS

continued

5 Table 2 shows a comparison of change, from preliminary to final, for 2007 and 2008. There was a 46.6% decrease in the number of deaths attributed to Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99) for the 2007 reference year, while there was only a 31.4% decrease for the 2008 reference year. This is consistent with previous findings that show more specific codes have been allocated in preliminary coding.

TABLE 2 - CAUSES OF DEATH REVISIONS, by selected ICD-10 chapter—changes from preliminary to final data: **by percentage**—2007 and 2008

	2007	*2008*
Cause of death and ICD-10 code	%	%
Certain infectious and parasitic diseases (A00-B99)	–0.1	1.8
Neoplasms (C00-D48)	0.1	0.0
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism D50-D89	0.8	0.2
Endocrine, nutritional and metabolic diseases (E00-E90)	0.5	–0.2
Mental and behavioural disorders (F00-F99)	–0.4	–0.5
Diseases of the nervous system (G00-G99)	0.3	0.4
Diseases of the circulatory system (I00-I99)	0.7	0.4
Diseases of the respiratory system (J00-J99)	0.4	0.1
Diseases of the digestive system (K00-K93)	0.9	0.6
Diseases of the skin and subcutaneous tissue (L00-L99)	0.6	–0.5
Diseases of the musculoskeletal system and connective tissue (M00-M99)	1.3	–0.7
Diseases of the genitourinary system (N00-N99)	0.2	0.4
Certain conditions originating in the perinatal period (P00-P96)	1.6	0.2
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	3.7	0.8
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	–46.4	–31.4
External causes of morbidity and mortality (V01-Y98)	4.3	1.1

IMPACT OF REVISIONS

continued

6 Table 3 shows the impact of revisions on 2008 data at the sub-chapter level with the following notable reductions

- Other ill-defined and unspecified causes of mortality (406 deaths)
- Event of undetermined intent (671 deaths)
- Accidental exposure to other and unspecified factors (108 deaths).

7 and the following notable increases

- Accidental poisoning by and exposure to noxious substances (254 deaths)
- Intentional self-harm (150 deaths)
- Falls (113 deaths)
- Car occupant injured in transport accident (87 deaths)
- Assault (48 deaths)

TABLE 3: CAUSES OF DEATH REVISIONS (PRELIMINARY, REVISED, FINAL), by ICD-10 selected causes—2008

	2008			CHANGE (PRELIMINARY TO FINAL)	
	Preliminary	*Revised*	*Final*		
Cause of death and ICD-10 code	no.	no.	no.	no	%
Sudden infant death syndrome (R95)	59	67	77	18	30.5
Other ill-defined and unspecified causes of mortality (R99)	874	778	468	–406	–46.5
Pedestrian injured in transport accident (V01-V09)	183	206	228	45	24.6
Pedal cyclist injured in transport accident (V10-V19)	24	26	28	4	16.7
Motorcycle rider injured in transport accident (V20-V29)	226	251	270	44	19.5
Car occupant injured in transport accident (V40-V49)	742	795	829	87	11.7
Occupant of pick-up truck or van injured in transport accident (V50-V59)	34	51	69	35	102.9
Occupant of heavy transport vehicle injured in transport accident (V60-V69)	41	47	52	11	26.8
Other land transport accidents (V80-V89)	54	62	56	2	3.7
Water transport accidents (V90-V94)	32	33	37	5	15.6
Air and space transport accidents (V95-V97)	44	42	48	4	9.1
Falls (W00-W19)	1 348	1 412	1 461	113	8.4
Exposure to inanimate mechanical forces (W20-W49)	85	95	100	15	17.6
Accidental drowning and submersion (W65-W74)	159	169	184	25	15.7
Other accidental threats to breathing (W75-W84)	208	219	224	16	7.7
Exposure to smoke, fire and flames (X00-X09)	72	78	84	12	16.7
Exposure to forces of nature (X30-X39)	58	58	60	2	3.4
Accidental poisoning by and exposure to noxious substances (X40-X49)	622	784	876	254	40.8
Accidental exposure to other and unspecified factors (X58-X59)	878	815	770	–108	–12.3
Intentional self-harm (X60-X84)(a)	2 190	2 281	2 340	150	6.8
Assault (X85-Y09)	203	215	251	48	23.6
Event of undetermined intent (Y10-Y34)	1 162	749	491	–671	–57.7
Drugs, medicaments and biological substances causing adverse effects in therapeutic use (Y40-Y59)	48	49	51	3	6.3
Surgical and other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure (Y83-Y84)	187	181	181	–6	–3.2
Sequelae of external causes of morbidity and mortality (Y85-Y89)	156	153	153	–3	–1.9

(a) Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

IMPACT OF REVISIONS

continued

8 Table 4 shows the percentage change for the 2007 and 2008 data at the sub-chapter level, with the following notable differences:

- Deaths due to intentional self-harm increased by 18.5% (347 deaths) between preliminary and final coding for the 2007 reference year, but only increased by 6.8% (150 deaths) in the 2008 reference year.
- Deaths due to event of undetermined intent decreased by 66.7% (726 deaths) and 57.7% (671 deaths) for the 2007 and 2008 reference years.

TABLE 4 - CAUSE OF DEATH REVISIONS, by ICD-10 selected causes—Percentage change between preliminary and final data—2007 and 2008

Cause of death and ICD-10 code	*2007*	*2008*
Sudden infant death syndrome (R95)	15.5	30.5
Other ill-defined and unspecified causes of mortality (R99)	–68.1	–46.5
Pedestrian injured in transport accident (V01-V09)	26.9	24.6
Pedal cyclist injured in transport accident (V10-V19)	32.4	16.7
Motorcycle rider injured in transport accident (V20-V29)	25.0	19.5
Car occupant injured in transport accident (V40-V49)	20.8	11.7
Occupant of pick-up truck or van injured in transport accident (V50-V59)	39.6	102.9
Occupant of heavy transport vehicle injured in transport accident (V60-V69)	56.3	26.8
Other land transport accidents (V80-V89)	84.5	3.7
Water transport accidents (V90-V94)	16.1	15.6
Air and space transport accidents (V95-V97)	47.2	9.1
Falls (W00-W19)	12.4	8.4
Exposure to inanimate mechanical forces (W20-W49)	30.5	17.6
Accidental drowning and submersion (W65-W74)	4.4	15.7
Other accidental threats to breathing (W75-W84)	4.1	7.7
Exposure to smoke, fire and flames (X00-X09)	24.1	16.7
Exposure to forces of nature (X30-X39)	5.8	3.4
Accidental poisoning by and exposure to noxious substances (X40-X49)	32.7	40.8
Accidental exposure to other and unspecified factors (X58-X59)	–18.2	–12.3
Intentional self-harm (X60-X84)(a)	18.5	6.8
Assault (X85-Y09)	33.3	23.6
Event of undetermined intent (Y10-Y34)	–66.7	–57.7
Drugs, medicaments and biological substances causing adverse effects in therapeutic use (Y40-Y59)	1.7	6.3
Surgical and other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure (Y83-Y84)	–2.1	–3.2
Sequelae of external causes of morbidity and mortality (Y85-Y89)	2.1	–1.9

(a) Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

TECHNICAL NOTE 3 RETROSPECTIVE DEATHS BY CAUSES OF DEATH, QUEENSLAND, 2010

INTRODUCTION

1 In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

Deaths, Australia Technical Note

2 The technical note released as part of Deaths, Australia (cat. no. 3302.0), entitled Registration of Outstanding Deaths, Queensland, 2010 summarised the effects of these extra death registrations on selected mortality indicators. A method was outlined to adjust death registrations for Queensland for 2010 that aimed to minimise the impact on mortality indicators used in various government reports. Further, analysis was presented comparing mortality rates by Indigenous status based on deaths data by: (1) year of registration; (2) year of occurrence and; (3) 'adjusted registration'.

3 Adjusted registrations data has been calculated using an adjustment method that adds together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010, or where the year of death was not known.

4 The analysis of the Deaths, Australia technical note concluded that age-standardised death rates based on:

- Year of registration produces implausibly high rates given the inclusion of retrospective deaths
- Year of occurrence is an underestimate due to a lag in registration of deaths in the year of occurrence (that is, deaths which occurred in 2010 but were not registered until 2011 or later years).
- Adjusted death registration data for Queensland for 2010 maintains a level trend with registrations data from earlier years. As a result, adjusted registration data for Queensland for 2010 are recommended for reporting mortality indicators over time.

5 The scope of the Causes of Death, Australia collection is based on a reference year, that is all deaths **registered** in a given year, see Explanatory Notes 11-17 for further information. The data and analysis reported in the current release is based on this reference year. This technical note provides additional analysis comparing specific ICD-10 chapter and cause mortality rates for the two methods:

- year of registration
- adjusted registration.

6 Analysis is provided for

- 2010 deaths with a usual residence of Queensland
- 2010 deaths with a usual residence of New South Wales, Queensland, South Australia, Western Australia and Northern Territory. This grouping is used throughout the commentary within the Aboriginal and Torres Strait Islander chapter and worksheets 12.1, 12.2 and 12.3 of the associated data cube.
- 2006-2010 deaths with a usual residence of New South Wales, Queensland, South Australia and Northern Territory. This grouping is used for the infant mortality commentary within the Aboriginal and Torres Strait Islander chapter and worksheets 12.4 and 12.5 of the associated data cube.

Analysis by ICD-10 Chapter and Cause

QUEENSLAND, 2010

7 Table 1 provides age-standardised rates and rate ratios for Aboriginal and Torres Strait Islander persons and non-Indigenous persons for 2010 deaths with a usual residence of Queensland. The rates presented are at the ICD-10 chapter level and for all causes.

TABLE 1. STANDARDISED DEATH RATES(a), by Indigenous Status—Qld—2010(b)(c)

	ADJUSTED			REFERENCE YEAR		
	Aboriginal and Torres Strait Islander	*Non-Indigenous*	*Rate Ratio*	*Aboriginal and Torres Strait Islander*	*Non-Indigenous*	*Rate Ratio*
Cause of death and ICD-10 code	Rate	Rate		Rate	Rate	
Certain infectious and parasitic diseases (A00-B99)	19.4	6.2	3.1	31.6	6.4	4.9
Neoplasms (C00-D48)	276.2	179.6	1.5	357.8	179.7	2.0
Endocrine, nutritional and metabolic diseases (E00-E90)	127.3	21.0	6.1	213.4	21.1	10.1
Mental and behavioural disorders (F00-F99)	42.7	25.6	1.7	51.6	25.6	2.0
Diseases of the nervous system (G00-G99)	21.6	23.0	0.9	29.9	23.1	1.3
Diseases of the circulatory system (I00-I99)	317.7	188.5	1.7	454.8	188.6	2.4
Diseases of the respiratory system (J00-J99)	92.2	47.5	1.9	129.8	47.6	2.7
Diseases of the digestive system (K00-K93)	53.2	20.3	2.6	68.3	20.3	3.4
Diseases of the musculoskeletal system and connective tissue (M00-M99)	19.2	5.0	3.8	21.1	5.1	4.1
Diseases of the genitourinary system (N00-N99)	36.8	12.2	3.0	60.0	12.2	4.9
Certain conditions originating in the perinatal period (P00-P96)	6.7	2.9	2.3	8.0	2.9	2.8
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	2.8	2.6	1.1	3.4	2.6	1.3
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	8.9	3.6	2.5	78.6	3.7	21.2
External causes of morbidity and mortality (V01-Y98)	56.2	38.8	1.4	74.4	38.9	1.9
Total deaths(d)	**1 095.6**	**579.9**	**1.9**	**1 596.2**	**580.6**	**2.7**

(a) See Glossary for further information.

(b) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(c) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

(d) Includes deaths coded to D50-D89, H00-H59, H60-H95, L00-L99 and 000-099.

Analysis by ICD-10 Chapter and Cause continued

Queensland, 2010 *continued*

8 Table 2 provides age-standardised rates and rate ratios for Aboriginal and Torres Strait Islander persons and non-Indigenous persons for 2010 deaths with a usual residence of Queensland. The rates presented are the top 10 leading causes for Aboriginal and Torres Strait Islanders based on reference year and the WHO recommended tabulation.

TABLE 2 - WHO LEADING CAUSES(a), Standardised death rates(b)—by Indigenous Status: **Qld**—2010(c)(d)

	ADJUSTED			REFERENCE YEAR		
	Aboriginal and Torres Strait Islander	*Non-Indigenous*	*Rate ratio*	*Aboriginal and Torres Strait Islander*	*Non-Indigenous*	*Rate ratio*
Cause of death and ICD-10 code	Rate	Rate		Rate	Rate	
Ischaemic heart diseases (I20-I25)	165.7	92.6	1.8	234.6	92.7	2.5
Diabetes (E10-E14)	112.3	14.3	7.9	183.0	14.3	12.8
Malignant neoplasm of trachea, bronchus and lung (C33-C34)	71.6	33.9	2.1	89.2	33.9	2.6
Cerebrovascular diseases (I60-I69)	69.4	48.4	1.4	95.3	48.5	2.0
Chronic lower respiratory diseases (J40-J47)	60.8	26.3	2.3	80.9	26.3	3.1
Intentional self-harm (X60-X84)(e)	19.5	11.7	1.7	24.8	11.8	2.1
Diseases of liver (K70-K76)	21.7	5.5	3.9	27.1	5.5	4.9
Diseases of the urinary system (N00-N39)	36.8	11.8	3.1	60.0	11.8	5.1
Land transport accidents (V01-V89)	10.6	6.3	1.7	14.0	6.3	2.2
Certain conditions originating in the perinatal period (P00-P96)	6.7	2.9	2.4	8.0	2.9	2.7
Total deaths	**1 095.6**	**579.9**	**1.9**	**1 596.2**	**580.6**	**2.7**

(a) Causes listed are the leading causes of death for all Aboriginal and Torres Strait Islander deaths registered in 2010, based on WHO recommended tabulation of leading causes. See Explanatory Notes 46-48 for further information.

(b) See Glossary for further information.

(c) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(d) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

(e) Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

Analysis by ICD-10 Chapter and Cause continued

NEW SOUTH WALES, QUEENSLAND, SOUTH AUSTRALIA, WESTERN AUSTRALIA, NORTHERN TERRITORY, 2010

9 Table 3 provides age-standardised rates and rate ratios for Aboriginal and Torres Strait Islander persons and non-Indigenous persons for 2010 deaths with a usual residence of NSW, Qld, SA, WA and NT. The rates presented are at the ICD-10 chapter level and for all causes.

TABLE 3 - STANDARDISED DEATH RATES(a), by Indigenous Status—NSW, Qld, SA, WA, NT—2010(b)(c)

	ADJUSTED			REFERENCE YEAR		
Cause of death and ICD-10 code	*Aboriginal and Torres Strait Islander* Rate	*Non-Indigenous* Rate	*Rate ratio*	*Aboriginal and Torres Strait Islander* Rate	*Non-Indigenous* Rate	*Rate ratio*
Certain infectious and parasitic diseases (A00-B99)	25.0	9.1	2.8	28.6	9.1	3.1
Neoplasms (C00-D48)	255.2	177.2	1.4	279.1	177.3	1.6
Endocrine, nutritional and metabolic diseases (E00-E90)	107.5	21.2	5.1	133.0	21.2	6.3
Mental and behavioural disorders (F00-F99)	50.5	28.1	1.8	53.1	28.1	1.9
Diseases of the nervous system (G00-G99)	27.6	24.9	1.1	30.1	24.9	1.2
Diseases of the circulatory system (I00-I99)	329.5	186.5	1.8	369.9	186.5	2.0
Diseases of the respiratory system (J00-J99)	118.4	48.8	2.4	129.5	48.8	2.7
Diseases of the digestive system (K00-K93)	52.9	20.2	2.6	57.4	20.2	2.8
Diseases of the musculoskeletal system and connective tissue (M00-M99)	13.0	4.5	2.9	13.6	4.5	3.0
Diseases of the genitourinary system (N00-N99)	46.7	13.2	3.6	53.5	13.2	4.1
Certain conditions originating in the perinatal period (P00-P96)	6.3	2.7	2.4	6.7	2.7	2.5
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	3.0	2.6	1.1	3.2	2.6	1.2
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	11.2	4.5	2.5	31.6	4.5	7.0
External causes of morbidity and mortality (V01-Y98)	78.1	36.8	2.1	83.8	36.9	2.3
Total deaths(d)	**1 133.2**	**583.6**	**1.9**	**1 281.3**	**583.8**	**2.2**

(a) See Glossary for further information.

(b) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(c) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

(d) Includes deaths coded to D50-D89, H00-H59, H60-H95, L00-L99 and 000-099.

Analysis by ICD-10 Chapter and Cause continued

New South Wales, Queensland, South Australia, Western Australia, Northern Territory, 2010 *continued*

10 Table 4 provides age-standardised rates and rate ratios for Aboriginal and Torres Strait Islander persons and non-Indigenous persons for 2010 deaths with a usual residence of NSW, Qld, SA, WA and NT. The rates presented are the top 10 leading causes for Aboriginal and Torres Strait Islanders based on reference year and the WHO recommended tabulation.

TABLE 4 - WHO LEADING CAUSES(a), Standardised death rates(b)—by Indigenous Status: **NSW, Qld, SA, WA, NT**—2010(c)(d)

	ADJUSTED			REFERENCE YEAR		
	Aboriginal and Torres Strait Islander	*Non-Indigenous*	*Rate ratio*	*Aboriginal and Torres Strait Islander*	*Non-Indigenous*	*Rate ratio*
Cause of death and ICD-10 code	Rate	Rate		Rate	Rate	
Ischaemic heart diseases (I20-I25)	158.8	89.1	1.8	179.2	89.1	2.0
Diabetes mellitus (E10-E14)	93.0	14.4	6.5	113.9	14.4	7.9
Malignant neoplasm of trachea, bronchus and lung (C33-C34)	60.7	33.9	1.8	65.9	33.9	1.9
Cerebrovascular diseases (I60-I69)	76.9	47.1	1.6	84.5	47.1	1.8
Chronic lower respiratory diseases (J40-J47)	68.7	24.8	2.8	74.6	24.8	3.0
Intentional self-harm (X60-X84)(e)	22.1	9.9	2.2	23.8	9.9	2.4
Diseases of liver (K70-K76)	28.5	6.3	4.5	30.1	6.3	4.8
Diseases of urinary system (N00-N39)	45.5	12.8	3.6	52.4	12.8	4.1
Land Transport accidents (V01-V89)	16.3	5.9	2.8	17.4	5.9	2.9
Certain conditions originating in the perinatal period (P00-P96)	6.3	2.7	2.4	6.7	2.7	2.5
Total deaths	**1 133.2**	**583.6**	**1.9**	**1 281.3**	**583.8**	**2.2**

(a) Causes listed are the leading causes of death for all Aboriginal and Torres Strait Islander deaths registered in 2010, based on WHO recommended tabulation of leading causes. See Explanatory Notes 46-48 for further information.

(b) See Glossary for further information.

(c) Causes of death data for 2010 are preliminary and subject to a revisions process. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(d) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

(e) Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

Analysis by ICD-10 Chapter and Cause continued

NEW SOUTH WALES, QUEENSLAND, SOUTH AUSTRALIA, NORTHERN TERRITORY, 2006-2010

11 Table 5 provides age-standardised rates and rate ratios for Aboriginal and Torres Strait Islander persons and non-Indigenous persons for 2010 deaths with a usual residence of NSW, Qld, SA and NT. The rates presented are at the ICD-10 chapter level and for all causes.

TABLE 5 - STANDARDISED DEATH RATES(a), by Indigenous Status—NSW,Qld,SA,NT(b)—2006-2010(c)(d)

	ADJUSTED			REFERENCE YEAR		
Cause of death and ICD-10 code	*Aborignal and Torres Strait Islander* Rate	*Non-Indigenous* Rate	*Rate ratio*	*Aborignal and Torres Strait Islander* Rate	*Non-Indigenous* Rate	*Rate ratio*
Certain infectious and parasitic diseases (A00-B99)	24.9	8.9	2.8	25.8	9.0	2.9
Neoplasms (C00-D48)	242.1	178.3	1.4	248.2	178.3	1.4
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50-D89)	4.9	1.9	2.6	4.9	1.9	2.6
Endocrine, nutritional and metabolic diseases (E00-E90)	109.6	21.6	5.1	116.0	21.6	5.4
Mental and behavioural disorders (F00-F99)	42.4	25.6	1.7	43.0	25.6	1.7
Diseases of the nervous system (G00-G99)	23.8	23.4	1.0	24.4	23.4	1.0
Diseases of the circulatory system (I00-I99)	341.1	203.9	1.7	351.4	203.9	1.7
Diseases of the respiratory system (J00-J99)	110.9	49.6	2.2	113.7	49.6	2.3
Diseases of the digestive system (K00-K93)	55.4	20.4	2.7	56.5	20.4	2.8
Diseases of the musculoskeletal system and connective tissue (M00-M99)	7.6	4.5	1.7	7.8	4.5	1.7
Diseases of the genitourinary system (N00-N99)	44.4	14.1	3.1	46.1	14.1	3.3
Certain conditions originating in the perinatal period (P00-P96)	6.2	3.0	2.1	6.3	3.0	2.1
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	4.0	2.8	1.4	4.1	2.8	1.5
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	10.4	4.2	2.5	15.6	4.2	3.7
External causes of morbidity and mortality (V01-Y98)	74.8	36.6	2.0	76.3	36.6	2.1
Total deaths(e)	**1 105.5**	**600.7**	**1.8**	**1 143.1**	**600.8**	**1.9**

(a) See Glossary for further information.

(b) ABS are currently investigating the volatility of Aboriginal and Torres Strait Islander deaths in WA for 2007, 2008 and 2009. WA data has not been included at this time.

(c) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

(d) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). For further information, see Explanatory Notes 35-39 and Technical Notes Causes of Death Revisions 2006 and Causes of Death Revisions 2008 and 2009.

(e) Includes deaths coded to H00-H59, H60-H95, L00-L99 and 000-099.

Analysis by ICD-10 Chapter and Cause continued

New South Wales, Queensland, South Australia, Northern Territory, 2006-2010 *continued*

12 Table 6 provides age-standardised rates and rate ratios for Aboriginal and Torres Strait Islander persons and non-Indigenous persons for 2010 deaths with a usual residence of NSW, Qld, SA and NT. The rates presented are the top 10 leading causes for Aboriginal and Torres Strait Islanders based on reference year and the WHO recommended tabulation.

TABLE 6 - WHO LEADING CAUSES(a), Standardised death rates(b)—by Indigenous Status: **NSW,Qld,SA,NT**(c)—2006 - 2010(d)(e)

	ADJUSTED			REFERENCE YEAR		
	Aboriginal and Torres Strait Islander	*Non-Indigenous*	*Rate ratio*	*Aboriginal and Torres Strait Islander*	*Non-Indigenous*	*Rate ratio*
Cause of death and ICD-10 code	Rate	Rate		Rate	Rate	
Ischaemic heart diseases (I20-I25)	172.8	99.2	1.7	178.0	99.2	1.8
Diabetes (E10-E14)	94.4	15.0	6.3	99.7	15.0	6.7
Malignant neoplasm of trachea, bronchus and lung (C33-C34)	59.6	33.4	1.8	61.0	33.4	1.8
Cerebrovascular diseases (I60-I69)	72.7	52.0	1.4	74.6	52.0	1.4
Chronic lower respiratory diseases (J40-J47)	74.5	25.0	3.0	76.0	25.0	3.0
Intentional self-harm (X60-X84)(f)	18.2	9.7	1.9	18.6	9.7	1.9
Diseases of liver (K70-K76)	28.4	6.3	4.5	28.8	6.3	4.6
Diseases of the urinary system (N00-N39)	42.0	13.7	3.1	43.7	13.7	3.2
Land transport accidents (V01-V89)	17.2	6.6	2.6	17.4	6.6	2.6
Certain conditions originating in the perinatal period (P00-P96)	6.2	3.0	2.1	6.3	3.0	2.1
Total deaths	**1 105.5**	**600.7**	**1.8**	**1 143.1**	**600.8**	**1.9**

(a) Causes listed are the leading causes of death for all Aboriginal and Torres Strait Islander deaths registered in 2010, based on WHO recommended tabulation of leading causes. See Explanatory Notes 46-48 for further information.

(b) See Glossary for further information.

(c) ABS are currently investigating the volatility of Aboriginal and Torres Strait Islander deaths in WA for 2007, 2008 and 2009. WA data has not been included at this time.

(d) See Explanatory Notes 89-104 for further information on specific issues relating to 2010 data.

(e) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). For further information, see Explanatory Notes 35-39 and Technical Notes Causes of Death Revisions 2006 and Causes of Death Revisions 2008 and 2009.

(f) Care needs to be taken in interpreting figures relating to suicide. See Explanatory Notes 98-101.

GLOSSARY

Age-specific death rate — Age-specific death rates (ASDRs) are the number of deaths (occurred or registered) during the reference year at a specified age per 100,000 of the estimated resident population of the same age at the mid-point of the year (30 June). Pro rata adjustment is made in respect of deaths for which the age of the deceased is not given. ASDR for deaths under 1 year of age are calculated based on 1,000 live births for that year.

All Births — All births comprises all live births plus all fetal deaths (gestation at least 20 weeks or birth weight at least 400 grams) for a specific year. This is the denominator used in calculating perinatal and fetal death rates in this publication. See Appendix 1 for further information.

Associated causes — All causes listed on a death certificate other than the underlying cause.

Australian Standard Geographical Classification (ASGC) — The ASGC provides a common framework of statistical geography and thereby enables the production of statistics which are comparable and can be spatially integrated. See Explanatory Notes 25-29 for more information.

Avoidable Mortality — A death that, theoretically, could have been avoided given an understanding of causation, the adoption of available disease prevention initiatives and the use of available health care. See Explanatory Notes 59-60 for more information.

Cause of death — The causes of death to be entered on the medical certificate of cause of death are all those diseases, morbid conditions or injuries that either resulted in or contributed to death and the circumstances of the accident or violence that produced any such injuries.

Certifier type — Deaths may be certified by either a medical practitioner, using the Medical Certificate of Cause of Death, or a coroner. Natural causes are predominantly certified by doctors, whereas external and unknown causes are usually certified by a coroner. However, some deaths for natural causes are referred to coroners for investigation, for example unaccompanied deaths.

Confidentialised — From 2006 data cells with small values have been randomly assigned to protect confidentiality. As a result some totals will not equal the sum of their components. It is important to note that cells with 0 values have not been affected by confidentialisation.

Coroner certified deaths — Deaths which were certified by a coroner. Deaths certified by a coroner represent 10-15% of all deaths each year. Coroner cases remain open while cause of death investigations are undertaken and are closed when coronial investigations are complete. Following completion, causes of death information is passed to the Registrar of Births, Deaths and Marriages, as well as to the National Coroners Information System (NCIS). All coroner certified deaths registered after 1 January 2006 will be subject to a revision process. For more information see Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

Country of birth — The classification of countries used is the Standard Australian Classification of Countries (SACC). For more detailed information refer to the Standard Australian Classification of Countries (SACC) (cat. no. 1269.0).

Crude death rate — The crude death rate (CDR) is the number of deaths registered during the reference year per 100,000 estimated resident population at 30 June.

Datacubes — Are a series of spreadsheets which present Causes of Death data. Causes of Death datacubes can be found on the web page under the Downloads tab. See iNote for Datacubes for more information on Cause of Death datacubes.

Death Death is the permanent disappearance of all evidence of life after birth has taken place. The definition excludes all deaths prior to live birth. For the purposes of the Deaths and Causes of Death collections of the Australian Bureau of Statistics (ABS), a death refers to any death which occurs in, or en route to, Australia and is registered with a state or territory Registry of Births, Deaths and Marriages.

Doctor certified deaths Deaths which were certified by a doctor or medical practitioner, which were not required to be referred on to a coroner. Deaths certified by a doctor represent 85-90% of all deaths each year. Doctor certified deaths are not subject to the revisions process.

Early neonatal death Death of a live born baby within seven days of birth.

Estimated resident population (ERP) The official measure of the population of Australia is based on the concept of residence. It refers to all people, regardless of nationality or citizenship, who usually live in Australia, with the exception of foreign diplomatic personnel and their families. It includes usual residents who are overseas for less than 12 months. It excludes overseas visitors who are in Australia for less than 12 months.

External causes of death Deaths due to causes external to the body (for example suicide, transport accidents, falls, poisoning etc). ICD-10 codes V01-Y98.

External territories Australian external territories include Australian Antarctic Territory, Coral Sea Islands Territory, Norfolk Island, Territory of Ashmore and Cartier Islands, and Territory of Heard and McDonald Islands.

Fetal death A fetal death is death prior to the complete expulsion or extraction from its mother as a product of conception of at least 20 completed weeks of gestation or with a birth weight of at least 400 grams. The death is indicated by the fact that after such separation the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. See Explanatory Notes 18-21 for further information.

Fetal death rate The number of fetal deaths in a calendar year per 1,000 all births (live births plus fetal deaths of at least 20 weeks gestation or at least 400 grams birth weight) in the same calendar year. See 'All births' above.

ICD International Statistical Classification of Diseases and Related Health Problems. The purpose of the ICD is to permit the systematic recording, analysis, interpretation and comparison of mortality and morbidity data collected in different countries or areas and at different times. The ICD, which is endorsed by the World Health Organisation (WHO), is primarily designed for the classification of diseases and injuries with a formal diagnosis. The ICD-10 is the current classification system, which is structured using an alphanumeric coding scheme. Each disease or health problem is assigned a 3-digit identification code, which is assigned to the deceased by a doctor or coroner. Cause of death statistics can be produced for aggregates of these, for example, chapter level (letter), 2-digit code (first two numbers of the assigned code), and 3-digit code (three numbers of the assigned code). See Explanatory Notes 30-34 for more information on ICD. Further information also is available from the WHO website www.who.int

Indigenous Persons who identify themselves as being of Aboriginal and/or Torres Strait Islander origin.

Indigenous death The death of a person who is identified as being of Aboriginal and/or Torres Strait Islander (Indigenous) origin on the Death Registration Form (DRF). From 2007, Indigenous origin for deaths registered in South Australia, Western Australia, Tasmania, the Northern Territory and the Australian Capital Territory is also derived from the Medical Certificate of Cause of Death (MCCD).

Indirect standardised death rate (ISDR) See Standardised death rate (SDR).

Infant death An infant death is the death of a live born child who dies before reaching his/her first birthday.

Infant death rate The number of deaths of children under one year of age in a calendar year per 1,000 live births in the same calendar year.

Intent The manner or 'intent' of an injury which leads to death, is determined by whether the injury was inflicted purposefully or not (in some cases, intent cannot be determined). The determination of "intent" for each death is essential for determining the appropriate ICD-10 code to use for a death. See Explanatory Notes 61-73 for more information.

Late neonatal death Death of a live born baby after seven completed days and within 28 completed days of birth.

Leading causes of death Ranking causes of death is a useful method of describing patterns of mortality in a population and allows comparison over time and between populations. The ranking of leading causes of death in this publication is based on research presented in the Bulletin of the World Health Organisation, Volume 84, Number 4, April 2006, 297-304 (see Explanatory Notes 46-48 for further information).

Live births Live birth is the complete expulsion or extraction from its mother as a product of conception, irrespective of the duration of pregnancy, which after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live born. This is the denominator used in calculating neonatal death rates in this publication. See Explanatory Note 107.

Mechanism of death Mechanism of external cause of death by which a person may die include: poisoning; hanging and other threats to breathing; drowning and submersion; firearms; contact with sharp object; and falls.

Median age at death This refers to the age at death at the 50th percentile for the relevant demographic group.

Morbid train of events The events and diseases which lead to death.

Mortality Death.

Multiple causes of death All morbid conditions, diseases and injuries entered on the death certificate. These include those involved in the morbid train of events leading to death which were classified as either the underlying cause, the immediate cause, or any intervening causes, and those conditions which contributed to death but were not related to the disease or condition causing death. For deaths where the underlying cause was identified as an external cause (for example, injury or poisoning, etc) multiple causes include circumstances of injury and the nature of injury as well as any other conditions reported on the death certificate.

National Coroners Information System (NCIS) The NCIS is a national data storage system which contains information about all deaths referred to a coroner since July 2000 (January 2001 for Queensland).

Natural cause of death Deaths due to diseases (for example diabetes, cancer, heart disease etc) which are not external or unknown.

Neonatal death A neonatal death is death of a live born baby within 28 completed days of birth.

Neonatal death rate The number of deaths in a calendar year of live born babies within 28 completed days of birth per 1,000 live births in the same calendar year.

Neonatal period The neonatal period commences at birth and ends 28 completed days after birth.

Other Territories Following the 1992 amendments to the Acts Interpretation Act to include the Indian Ocean Territories of Christmas Island and the Cocos (Keeling) Islands as part of geographic Australia, another category at the state and territory level has been created, known as Other Territories. Other Territories include Jervis Bay Territory, previously

Other Territories *continued*	included with the Australian Capital Territory, as well as Christmas Island and the Cocos (Keeling) Islands.
Perinatal death	A death that is either a fetal death (i.e. a death prior to the complete expulsion or extraction from its mother as a product of conception of 20 completed weeks of gestation or with a birth weight of at least 400 grams), or a neonatal death (i.e. death of a live born baby within 28 completed days of birth).
Perinatal death rate	For comparison and measuring purposes, perinatal deaths in this publication have also been expressed as rates. Perinatal death rates are the number of perinatal deaths in a calendar year (i.e. fetal and neonatal deaths) per 1,000 all births in the same calendar year. See 'All births'.
Perinatal period	The perinatal period commences at 20 weeks of gestation and ends within 28 completed days of birth.
Period of gestation	Period of gestation is measured from the first day of the last normal menstrual period to the date of birth and is expressed in completed weeks.
Post neonatal death	Death of a live born baby after 28 days and within one year of birth.
Rate ratio	Rate ratio is calculated by dividing the standardised death rate for one group (such as all persons with a usual residence of Queensland) by the standardised death rate for the total relevant population (such as all persons with a usual residence of Australia).
Reference year	The year that presented data refers to. For example, this publication presents data for the 2010 reference year, as well as some historical data for the 2001 to 2009 reference years. From 2007, data for a particular reference year includes all deaths registered in Australia for the reference year that are received by the ABS by the end of the March quarter of the subsequent year. For example, data for the 2010 reference year includes all deaths registered in Australia for 2010 that were received by the ABS by the end of March 2011. See Explanatory Notes 11-17 for more information about scope and coverage.
Registration year	Data presented on a year of registration basis relate to the date the death was registered with the relevant state or territory Registrar of Births, Deaths and Marriages. In most cases the year of registration and year of occurrence for a particular death will be the same, but in some cases there may be a delay between occurrence and registration of death.
Registry of Births, Deaths and Marriages	Each state and territory has a Registry of Births, Deaths and Marriages. It is a legal requirement that all deaths are recorded by the relevant Registry for the state or territory in which the death occurred.
Reportable deaths	Deaths which are reported to a coroner. See Explanatory Note XX for further information on what constitutes a reportable death.
Revisions process	When additional information about an 'open' coroner certified death is received by the ABS, a more specific ICD-10 code may be applied, thereby 'revising' the cause of death. See Explanatory Notes 35-39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009. for further information on the revisions process and the impact on specific years' data.
Sex indeterminate	Perinatal deaths where sex is indeterminate are included in male totals where applicable.
Sex ratio	The number of males per 100 females. The sex ratio is defined for total population, at birth, at death and among age groups by appropriately selecting the numerator and denominator of the ratio.
Standardised death rate (SDR)	Standardised death rates (SDRs) enable the comparison of death rates between populations with different age structures by relating them to a standard population. The ABS standard populations relate to the years ending in 1 (e.g. 2001). The current standard population is all persons in the Australian population at 30 June 2001. SDRs are

Standardised death rate (SDR) *continued*

expressed per 1,000 or 100,000 persons. There are two methods of calculating standardised death rates:

- The direct method - this is used when the populations under study are large and the age-specific death rates are reliable. 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.
- The indirect method - this is used when the populations under study are small and the age-specific death rates are unreliable or not known. It is an adjustment to the crude death rate of the standard population to account for the variation between the actual number of deaths in the population under study and the number of deaths which would have occurred if the population under study had experienced the age-specific death rates of the standard population.

SDRs throughout this publication have been produced according to principles outlined in Appendix 1 Principles on the use of direct Age-standardisation, in the Deaths, Australia , 2010 (cat. no. 3302.0).

State or territory of registration

State or territory of registration refers to the state or territory in which the death was registered. It is the state or territory in which the death occurred, but is not necessarily the deceased's state or territory of usual residence.

State or territory of usual residence

State or territory of usual residence refers to the state or territory in which the person has lived or intended to live for a total of six months or more in a given reference year.

Stillbirth

See fetal death.

Underlying cause of death

The disease or injury which initiated the train of morbid events leading directly to death. Accidental and violent deaths are classified according to the external cause, that is, to the circumstances of the accident or violence which produced the fatal injury rather than to the nature of the injury.

Unknown cause of death

Deaths for which it is not possible to determine between a natural and an external cause.

Usual residence

Usual residence within Australia refers to that address at which the person has lived or intended to live for a total of six months or more in a given reference year.

Year of occurrence

Data presented on a year of occurrence basis relate to the date the death occurred rather than when it was registered with the relevant state or territory Registrar of Births, Deaths and Marriages. See Explanatory Note 21 and Chapter 8 Year of Occurrence for more information.

Years of potential life lost (YPLL)

YPLL measures the extent of 'premature' mortality, where 'premature' mortality is assumed to be any death at ages of 1-78 years inclusive. By estimating YPLL for deaths of people aged 1-78 years it is possible to assess the significance of specific diseases or trauma as a cause of premature death. See Explanatory Notes 49-52 for an explanation of the calculation of YPLL.

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