Australian Bureau of Statistics

2006

3303.0

CAUSES OF DEATH

AUSTRALIA

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CONTENTS

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070.

NOTES

REVISIONS OF CAUSES OF DEATH DATA

Coding of Causes of Death is currently undertaken within a specific timeframe using all information available at the time. However, not all relevant information is available to the ABS at cessation of processing (i.e. open coronial cases). The ABS currently does not revise Causes of Deaths death data, even if additional information becomes available.

The ABS is investigating possible options for introducing a revisions process for causes of death commencing with the 2007 reference year. A revision process would allow use of information to become available after the initial publication.

Initial consultation with major users has commenced. An information paper will be released prior to the publication of 2007 Causes of Death to inform users of the proposed strategy.

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Australian Statistician

ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACS	automated coding system
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
ASDR	age-specific death rate
ASGC	Australian Standard Geographical Classification
Aust.	Australia
cat. no.	Catalogue number
ERP	estimated resident population
ICD-10	International Classification of Diseases 10th Revision
IMR	infant mortality rate
ISDR	indirect standardised death rate
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
SDR	standardised death rate
Tas.	Tasmania
Vic.	Victoria
WA	Western Australia
WHO	World Health Organization
YPLL	years of potential life lost

CHAPTER 1 OVERVIEW OF FINDINGS

DEATHS

As the Australian population continues to both increase in size and to age, the number of deaths registered each year continues to slowly increase. In the period 1997 to 2006, the population of Australia has increased 11.8%, and people aged 65 years and over made up 13.0% of Australia's population, compared to 12.1% in 1997.

There were 133,739 deaths registered in Australia in 2006, approximately 3,000 (2.3%) more than the number registered in 2005 (130,714). The standardised death rate in 2006 (6.0 deaths per 1,000 standard population) was the lowest on record, reflecting a steady decline in the standardised death rate over the past decade from 7.6 deaths per 1,000 in 1997.

Males accounted for 68,556 (51.3%) deaths registered in 2006, a similar number to the 67,752 deaths recorded in 1997 (52.4%). Females accounted for 65,183 deaths (48.7%) registered in 2006, an increase over the past decade from 61,598 (47.6%) deaths in 1997. The sex ratio (male deaths per 100 female deaths) has been gradually declining over the past decade, down from 110.0 in 1997 to 105.2 in 2006.

Further details on numbers of deaths registered can be found in 3302.0 Deaths, Australia 2006

CAUSES OF DEATH

Causes of Death statistics, and the use of these statistics for demographic and health purposes, are key to understanding current and future pictures of Australian society and formulation and monitoring of policies. Causes of death information provide insights into the diseases and factors contributing to reduced life expectancy. Causes of death statistics are one of the oldest and most comprehensive set of health statistics available in Australia.

Causes of death data in this publication are classified using the 10th revision of the International Classification of Diseases (ICD) (see Explanatory Notes 30-33 for further information). This classification allows data to be presented at various levels 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.

In this section, deaths are aggregated to present broad information about national health priority areas. This is followed by an analysis of leading causes of death at a more detailed level of ICD-10.

Underlying and Multiple Cause of Death

Causes of death statistics in Australia 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 or was the underlying cause of the death (see Glossary for further details).

Underlying and Multiple Cause of Death continued

For the 133,739 deaths registered in Australia in 2006, there were 424,796 causes reported giving a mean of 3.2 causes per death. In 18.4% of all deaths, only one cause was reported, whereas 37.2% 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.

NATIONAL HEALTH PRIORITY AREAS

Australia's National Health Priority Areas are diseases and conditions given focused attention because of their significant contribution to the burden of illness and injury in the Australian community.

The seven priority areas are arthritis and musculoskeletal conditions, asthma, cancer control, cardiovascular health, diabetes mellitus, injury prevention and control, and mental health. In 2006, deaths associated with the seven National Health Priority Areas accounted for 77.4% of all underlying causes of death and were either associated with or the underlying cause of 90.8% of deaths.

Arthritis and Musculoskeletal Disease (M00-M99)

Arthritis and Musculoskeletal Diseases are conditions in which there is inflammation of the joints that can cause pain, stiffness, disability and deformity. It also includes other joint problems and disorders of the bones, muscles and their attachments. Diseases of the muscles, bones and tendons (M00–M99) was the underlying cause for 1,076 registered deaths in Australia in 2006. The prevalence of these diseases as an underlying cause has risen by 284 registered deaths from 1997, with an increase of 44 deaths from 2005. They have contributed to a total of 5,940 registered deaths in Australia in 2006.

Of all deaths due to these diseases in 2006, 747 or 69% were females, predominantly in the 75 - 94 year age group.

Arthritis (M00–M25) attributed to 35% of all deaths due to these diseases, with the most common age group for both males and females being 75-84 years.

The standardised death rates for Diseases of the muscles, bones and tendons were 3.6 per 100,000 for males, 5.6 per 100,000 for females and 4.8 per 100,000 for persons.

Asthma (J45-J46)

Asthma is a disease which causes narrowing of the airways into the lung causing breathing difficulties. In 2006, Asthma (J45–J46) was the underlying cause for 402 registered deaths. The number of deaths in which Asthma is the underlying cause has declined by 19.4% since 1997. The proportion of deaths due to Asthma has also declined over the last 10 years from 0.4% in 1997 to 0.3% in 2006. Asthma was identified as either an underlying cause or associated cause of death for 1,255 deaths registered in 2006.

Further analysis of registered deaths where Asthma was the underlying cause revealed that 99% of these were not specified as to whether or not they were attributed to allergic or non allergic asthma. It was the underlying cause of death for almost twice as many females as males in 2006 with 53 male deaths for every 100 female deaths.

The standardised death rates for Asthma were 1.5 per 100,000 for males, 2.0 per 100,000 for females and 1.8 per 100,000 for persons.

Cancer (C00-D48)

Cancer refers to a diverse group of diseases in which abnormal cells develop and divide uncontrollably and have the ability to infiltrate and destroy normal body tissue. Cancer can spread throughout the body causing further damage. In 2006 cancer was the underlying cause of death for 39,753 registered deaths in Australia. This accounted for 30% of all registered deaths. Cancer contributed to a total of 45,625 deaths as an underlying or associated cause of death.

More males than females died of cancer with 129 males deaths per 100 females deaths for the 2006 registration year. The median age of persons dying from cancer has continued to rise from 72.4 years in 1997 to 74.9 years in 2006.

Prostate cancer (C61) was the underlying cause of 4.3% of all male deaths registered in 2006. The median age at death for prostate cancer is 80.4 years. This is close to the median age for all deaths (80.3 years). Breast cancer (C50) was the underlying cause of 4.0% of all female deaths. The female median age at death was 68.3 years, which is 14.9 years lower than the median age for all female deaths (83.3 years). Years of potential life lost due to Prostate Cancer for males was 10,129 and due to Breast Cancer for females was 32,133 (see Technical Note for further information).

Seven of the top 20 leading underlying causes of death in 2006 were attributable to some form of malignant cancer. These seven causes accounted for 24,218 deaths or 18% of all registered deaths in 2006. Cancer of the digestive organs accounted for over a quarter of all cancer deaths (10,900 deaths).

The standardised death rates for Cancer were 231.7 per 100,000 for males, 143.2 per 100,000 for females and 180.9 per 100,000 for persons. The years of potential life lost were 181,412 for males and 148,035 for females.

Cardiovascular Disease (I00-I99)

Cardiovascular health relates to the health of the heart and blood vessels. The major underlying causes of death relating to cardiovascular health are coronary heart disease, stroke, heart failure and peripheral vascular disease. Diseases of the heart and blood vessels were the underlying cause for 45,670 registered deaths in Australia during 2006, of which, 47% were male and 53% were female. The median age at death for Diseases of the heart and blood vessels was 84.0 years, slightly higher than the median age for all deaths (80.3 years). These diseases contributed to a total of 76,928 deaths as an underlying or associated cause of death.

While this was the largest contributor (34%) to all deaths registered in the same year, the number of deaths due to this cause have continued to steadily decrease. In 1997, there were 53,636 registered deaths attributed to Diseases of the heart and blood vessels as the underlying cause, reflecting a decrease of 7,966 deaths over the past 10 years, and a decrease of 464 registered deaths from 2005.

The standardised death rates for these diseases were 236.9 per 100,000 for males, 171.5 per 100,000 for females and 201.9 per 100,000 for persons. The years of potential life lost were 118,382 for males and 48,705 for females.

Diabetes (E10-E14)

Diabetes is a disorder caused by the inability of the body to control the amount of sugar in the blood. If left untreated, diabetes can severely damage organs in the body. Diabetes (E10–E14) was the underlying cause for 3,662 registered deaths in Australia in 2006. This represented an increase of 133 registered deaths from the previous year, an increase of 543 over the past five years, and an increase of 631 deaths from 1997.

In 2006, Diabetes accounted for 2.7% of all registered deaths, an increase from 2.3% in 1997. Diabetes contributed to 12,832 deaths as an underlying or associated cause of death.

Type II diabetes (Non-insulin related diabetes) accounted for 1,519 or 42% of all diabetes deaths. This particular type of diabetes experienced the largest increase, rising by 424 deaths from 2001, and 642 deaths from 1997. It was more predominant in the 75-84 year age group for males, and the 85-94 year age group for females. These age groups also accounted for the largest increase in the number of deaths from the previous year. In 2006, the number of males aged 75-84 years who died due to Type II diabetes increased by 132 compared with 2005, and the number of females aged 85-94 years increased by 196 compared with 2005.

The standardised death rates for Diabetes were 19.5 per 100,000 for males, 14.0 per 100,000 for females and 16.4 per 100,000 for persons. The years of potential life lost were 10,593 for males and 6,782 for females.

Injuries (V01-Y98)

Injuries due to 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).

In 2006, External causes accounted for 7,840 deaths, or 5.9% of all registered deaths. The standardised death rate was 36.7 per 100,000 of population in 2006, a decrease from 38.4 in 2005 and from 43.3 per 100,000 population in 1997. Males were more likely to die from external causes than females in 2006. The standardised death rates for External Causes were 52.5 for males and 21.7 for females. The years of potential life lost were 161,807 for males and 50,871 for females.

Compared to women, more men at younger ages have died from External causes over time. Consistent with previous years, just over two-thirds of the total number of deaths resulting from External causes were males. The difference between the number of male and female deaths was most apparent amongst the 25-34 year age group, with 831 male deaths compared to 198 female deaths in 2006.

Transport accidents (V01–V99, Y85) accounted for 1,668 deaths, 21% of all deaths due to external causes. Of these, 1,262 (76%) were males and the remaining 406 (24%) were females. Transport accidents presented a younger profile in comparison to all external causes deaths, with a median age at death of 34.6 years for males, 41.4 years for females.

There were 1,799 deaths due to Intentional self-harm [suicide] (X60–X84, Y87.0) in 2006, which accounted for 23% of all deaths due to External causes. Of these deaths, 1,398 (78%) were of males and 401 (22%) were of females. The age-standardised suicide rate in 2006 was 13.6 per 100,000 males, 3.8 per 100,000 females and 8.6 per 100,000 people. The median age at death for Intentional self-harm was 43.9 years. Median age at death for males was 43.6 years, compared with 45.1 years for females.

Injuries (V01-Y98) continued

Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57–58 and 74–75.

Mental Health Disorders (F00-F99)

Deaths due to Mental health disorders relate to behaviours and conditions which interfere with social functioning and capacity to negotiate daily life. Deaths due to Mental and behavioural disorders (F00–F99) were identified as the underlying cause of 5,156 registered deaths, representing 3.9% of all registered deaths in Australia during 2006. This was an increase of 1,789 (53%) when compared with 2005. The prevalence of Mental Health and behavioural disorders as an underlying cause has increased significantly since 1997, with an increase of 2,271 (79%) deaths. In 2006, 18,943 deaths were due to, or associated with, Mental and behavioural disorders.

In 2006, more than twice as many females died due to Mental and behavioural disorders than males, with 64% of deaths (3,296) being of females. The median age at death was higher for females at 88.6 years, compared with 84.0 years for males.

Dementia (F01–F03) accounted for 89% of Mental and behavioural disorders in 2006. The sex ratio of 48.1 males per 100 female deaths has remained relatively steady since 1997 with 1,486 males and 3,090 females dying of this disease in 2006. The median age at death for persons (87.9 years) was higher than the median age for Mental and behavioural disorders (80.3 years) as a whole. For further information regarding Dementia, see Explanatory Note 66.

The standardised death rates for Mental and behavioural disorders were 21.4 per 100,000 males, 22.5 per 100,000 females and 22.4 per 100,000 persons. The years of potential life lost were 6,653 for males and 3,571 for females.

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. However, different methods of grouping causes of death can result in a vastly different list of leading causes for any given population. The ranking of leading causes of death in this publication are based on research presented in the Bulletin of the World Health Organisation, Volume 84, Number 4, April 2006, 257-336 (see Explanatory Notes 46-48 for further information).

In 2006, the leading underlying cause of death for all Australians was Ischaemic heart diseases, which include angina, blocked arteries of the heart and heart attacks. Ischaemic heart diseases accounted for 18% of all male deaths, and 17% of all female deaths registered in 2006.

Ischaemic Heart Diseases have been the leading cause of death in Australia over the last 10 years, however the proportion of deaths attributed to Ischaemic heart diseases has declined from 23% in 1997 to 17% in 2006. The number of deaths due to this cause has also decreased (by 22% since 1997), down to 22,985 deaths in 2006 from 29,457 in 1997.

Cerebrovascular diseases, which include haemorrhages, strokes, Infarctions and blocked arteries of the brain has remained as the second leading underlying cause of death over the last 10 years. Deaths due to this cause have decreased marginally from 12,403 deaths in 1997 to 11,466 deaths in 2006. This represents a decline of 7.6% over that period. The

LEADING CAUSES OF DEATH *continued*

proportion of all underlying deaths due to this cause has also declined from 9.6% in 1997 to 8.6% in 2006.

Lung cancer remains the third leading underlying cause of death since 1997. Deaths due to Lung cancer have increased in number from 6,588 deaths in 1997 to 7,348 deaths registered in 2006. This represents an 12% increase. These deaths accounted for 5.5% of all registered deaths (up from 5.1%).

Dementia and Alzheimer's disease related deaths have experienced the highest increase both numerically and proportionally, having risen by 3,249 deaths or 99% since 1997, when 3,294 registered deaths were attributed to this underlying cause. In 2006 this cause accounted for 6,543 deaths in 2006, has lead to it becoming Australia's 4th leading cause of death, up from 8th ranking in 1997.

1.1 LEADING CAUSES OF DEATH(a), Australia—Selected years

	1997		*2001*		*2006*	
Cause of death and ICD code	no.	Rank	No.	Rank	No.	Rank
Ischaemic heart diseases – angina, heart attacks, and blocked arteries of the heart (I20-I25)	29 457	1	26 234	1	22 983	1
Strokes (I60-I69)	12 403	2	12 146	2	11 465	2
Trachea and lung cancer (C33-C34)	6 588	3	7 038	3	7 348	3
Dementia and Alzheimer's disease (F01-F03, G30)	3 294	8	3 740	6	6 542	4
Chronic lower respiratory diseases – asthma, bronchitis and emphysema (J40-J47)	6 545	4	5 916	4	5 443	5
Colon and rectum cancer (C18-C21)	4 676	5	4 745	5	3 858	6
Blood and lymph cancer (including leukaemia) (C81-C96)	3 484	6	3 660	7	3 693	7
Diabetes (E10-E14)	3 031	9	3 078	9	3 662	8
Diseases of the kidney and urinary system (N00-N39)	2 500	12	2 741	10	3 192	9
Prostate cancer (C61)	2 446	13	2 711	11	2 952	10
Heart failure (I50-I51)	3 456	7	3 128	8	2 892	11
Influenza and pneumonia (J10-J18)	2 244	14	2 702	12	2 715	12
Breast cancer (C50)	2 628	11	2 612	13	2 643	13
Pancreatic cancer C25)	1 589	16	1 809	16	2 076	14
Suicides (X60-X84, Y87.0)(b)	2 720	10	2 454	14	1 799	15
Skin cancers (C43-C44)	1 250	19	1 458	17	1 648	16
Land transport accidents (V01-V89)	1 940	15	1 894	15	1 580	17
Hypertensive diseases (I10-I15)	1 223	21	1 223	19	1 495	18
Cirrhosis and other diseases of liver (K70-K77)	1 320	18	1 196	21	1 400	19
Cardiac arrhythmias (I47-I49)	858	26	975	24	1 270	20

(a) Based on research presented in the Bulletin of the World Health Organisation, Volume 84, Number 4, April 2006, pp. 257-336. For further information, see Explanatory Notes 46-48.

(b) Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57-58 and 74-75.

The top 10 leading causes of death accounted for 53.2% of all deaths registered in 2006.

Leading causes of death by gender

Ischaemic heart diseases were the leading cause of death for both males and females in 2006, with 12,187 and 10,798 deaths respectively, which reflects a sex ratio of 113 male deaths per 100 female deaths.

The leading underlying causes of death vary between the sexes. Many of the largest differences between genders are commonly attributed to the fact that the cause is gender-specific, eg. ovarian cancer, however, other causes which may not be gender-specific also experienced variances between the sexes.

Leading causes of death by gender continued

Examples of these included:

- Lung cancer, where there were 174 male deaths for every 100 females deaths;
- Strokes, where there were 64 male deaths for every 100 females deaths;
- Chronic lower respiratory diseases, where there were 118 male deaths for every 100 females deaths; and
- Dementia and Alzheimer's disease, where there were 46 male deaths for every 100 females deaths.

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

- prostate cancer deaths - 100%
- intentional self-harm deaths - 78%
- land transport accident deaths - 75%
- cirrhosis and other diseases of liver deaths - 69%
- skin cancer deaths - 64%, and
- lung cancer deaths - 64%

1.2 LEADING CAUSES OF DEATH(a)—Males—2006

Underlying Cause of Death	*Rank*	*Males*	*Total*
Ischaemic heart diseases – angina, heart attacks, and blocked arteries of the heart (I20-I25)	1	12 186	22 983
Trachea and lung cancer (C33-C34)	2	4 665	7 348
Strokes (I60-I69)	3	4 480	11 465
Prostate cancer (C61)	4	2 952	2 952
Chronic lower respiratory diseases – asthma, bronchitis and emphysema (J40-J47)	5	2 943	5 443
Colon and rectum cancer (C18-C21)	6	2 149	3 858
Blood and lymph cancer (including leukaemia) (C81-C96)	7	2 084	3 693
Dementia and Alzheimer's disease (F01-F03, G30)	8	2 072	6 542
Diabetes (E10-E14)	9	1 825	3 662
Diseases of the kidney and urinary system (N00-N39)	10	1 453	3 192

(a) Based on research presented in the Bulletin of the World Health Organisation, Volume 84, Number 4, April 2006, pp. 257-336. For further information, see Explanatory Notes 46-48.

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

- ovarian and uterine cancer deaths - 100%
- breast cancer deaths - 99%
- all Dementia and Alzheimer's disease deaths - 68%
- all stroke deaths - 61%
- heart failure deaths - 63%, and
- Influenza and pneumonia deaths - 55%

Leading causes of death by gender continued

1.3 LEADING CAUSES OF DEATH(a)—Females—2006

Underlying Cause of Death	*Rank*	*Females*	*Total*
Ischaemic heart diseases - angina, heart attacks, and blocked arteries of the heart (I20-I25)	1	10 797	22 983
Strokes (I60-I69)	2	6 985	11 465
Dementia and Alzheimer disease (F01-F03, G30)	3	4 470	6 542
Trachea and lung cancer (C33-C34)	4	2 683	7 348
Breast cancer (C50)	5	2 618	2 643
Chronic lower respiratory diseases - asthma, bronchitis and emphysema (J40-J47)	6	2 500	5 443
Diabetes (E10-E14)	7	1 837	3 662
Heart failure (I50-I51)	8	1 778	2 892
Diseases of the kidney and urinary system (N00-N39)	9	1 739	3 192
Colon and rectum cancer (C18-C21)	10	1 709	3 858

(a) Based on research presented in the Bulletin of the World Health Organisation, Volume 84, Number 4, April 2006, pp. 257-336. For further information, see Explanatory Notes 46-48.

DATACUBES

Further information on Causes of Deaths 2006 is presented in the datacubes associated with this publication.

CHAPTER 2 UNDERLYING CAUSE OF DEATH

INTRODUCTION

An underlying cause of death is 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.

All deaths registered in 2006 have been coded using the tenth revision of the International Classification of Diseases and Related Health Problems (ICD–10) as released by the World Health Organization (WHO).

In 2006, 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, both new and old. It represented 17% of all registered deaths in Australia. It accounted for 18% of all male deaths, and 17% of all female deaths registered in 2006.

The table below presents summary data for causes of death for each major chapter of the ICD-10. Further information on those causes at the 3-character level where 20 of more deaths were attritbuted to the cause in 2006 is presented in the section below.

2.1 DEATHS, BY ICD10 CHAPTER LEVEL, 2006

Cause of death and ICD code	*Number* no.	*Proportion of total deaths* %	*Median Age* yrs.	*Standardised Death Rate* rate
CHAPTER I Certain infectious and parasitic diseases (A00-B99)	1 960.0	1.5	78.4	8.8
CHAPTER II Neoplasms (C00-D48)	39 753.0	29.7	74.9	180.9
CHAPTER III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50-D89)	497.0	0.4	81.1	2.2
CHAPTER IV Endocrine, nutritional and metabolic diseases (E00-E90)	5 138.0	3.8	80.5	23.1
CHAPTER V Mental and behavioural disorders (F00-F99)	5 156.0	3.9	87.0	22.4
CHAPTER VI Diseases of the nervous system (G00-G99)	4 903.0	3.7	81.7	21.9
CHAPTER IX Diseases of the circulatory system (I00-I99)	45 670.0	34.1	84.0	201.9
CHAPTER X Diseases of the respiratory system (J00-J99)	10 863.0	8.1	82.6	48.4
CHAPTER XI Diseases of the digestive system (K00-K93)	4 502.0	3.4	79.2	20.2
CHAPTER XII Diseases of the skin and subcutaneous tissue (L00-L99)	333.0	0.2	85.1	1.5
CHAPTER XIII Diseases of the musculoskeletal system and connective tissue (M00-M99)	1 076.0	0.8	83.4	4.8
CHAPTER XIV Diseases of the genitourinary system (N00-N99)	3 295.0	2.5	84.8	14.5
CHAPTER XVI Certain conditions originating in the perinatal period (P00-P96)	658.0	0.5	0.5	3.2
CHAPTER XVII Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	547.0	0.4	1.0	2.6
CHAPTER XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	1 525.0	1.1	60.4	7.1
CHAPTER XX External causes of morbidity and mortality (V01-Y98)	7 840.0	5.9	50.3	36.7
All Causes	133 739.0	100.0	80.3	600.3

Datacubes

Further information on Underlying Causes of Death is presented in the datacubes associated with this publication.

INFECTIOUS DISEASES (A00-B99)

In 2006, Infectious diseases (A00–B99) were the underlying cause of 1,960 registered deaths or 1.5% of all deaths registered in 2006. More males died from Infectious diseases than females in 2006, with 1,037 deaths registered for males and 923 deaths registered for females.

The median age at death from Infectious diseases in 2006 was 78.4 years, slightly less than the median age for total number of deaths which was 80 years. The median age at death from this cause has marginally increased over time, with the median age at death for females consistently recorded as being older than that for males. This trend continued in 2006, with the median age at death 81.6 years for females and 75.4 years for males.

Of those deaths due to Infectious diseases, 1,205 (62%) recorded Septicaemia as the underlying cause of death. The number of deaths attributable to Septicaemia has almost doubled in the 10 years since 1997, when 690 registered deaths contained Septicaemia as the underlying cause of death. Over the same period, Septicaemia has increased from 45% of all Infectious diseases in 1997 to 62% in 2006.

Human Immunodeficiency Virus [HIV] disease (B20–B24) accounted for 100 deaths in total in 2006. The number of deaths with HIV as the underlying cause have gradually decreased over the past ten years, dropping from 229 in 1997. In 2006, more males (90) than females (10) have died from HIV, which is consistent with data from previous years. While still substantial, the disparity between the number of men and women dying from HIV has reduced in the 10 years since 1997. This has been driven by the reduction in the number of males with this underlying cause of death, which has fallen from 214 in 1997 to 90 in 2006. In comparison, the number of females has remained relatively consistent over this period. The median age at death due to HIV was 45.3 years in 2006, slightly less than the median age of 46.2 years in 2005. The median age at death for males was 45.5 years and for females it was 42.0 years.

2.2 SELECTED UNDERLYING CAUSES, Infectious Diseases (A00–B99)—2006

Cause of Death and ICD Code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER I Certain infectious and parasitic diseases (A00-B99)	**1 037**	**923**	**1 960**	**1.5**
Intestinal infectious diseases (A00-A09)	***33***	***52***	***85***	***0.1***
Other bacterial intestinal infections (A04)	11	12	23	—
Viral and other specified intestinal infections (A08)	13	22	35	—
Diarrhoea and gastroenteritis of presumed infectious origin (A09)	6	16	22	—
Tuberculosis (A15-A19)	***30***	***20***	***50***	—
Respiratory tuberculosis, not confirmed bacteriologically or histologically (A16)	24	13	37	—
Other bacterial diseases (A30-A49)	***628***	***653***	***1 281***	***1.0***
Streptococcal septicaemia (A40)	8	13	21	—
Other septicaemia (A41)	572	612	1 184	0.9
Bacterial infection of unspecified site (A49)	19	11	30	—
Viral infections of the central nervous system (A80-A89)	***22***	***26***	***48***	—
Slow virus infections of central nervous system (A81)	16	17	33	—
Viral hepatitis (B15-B19)	***73***	***23***	***96***	***0.1***
Acute hepatitis B (B16)	18	7	25	—
Other acute viral hepatitis (B17)	26	6	32	—
Chronic viral hepatitis (B18)	26	10	36	—
Human immunodeficiency virus (HIV) disease (B20-B24)	***90***	***10***	***100***	***0.1***
Other viral diseases (B25-B34)	***11***	***23***	***34***	—
Viral infection of unspecified site (B34)	5	15	20	—
Sequelae of infectious and parasitic diseases (B90-B94)	***97***	***65***	***162***	***0.1***
Sequelae of other and unspecified infectious and parasitic diseases (B94)	86	54	140	0.1

— nil or rounded to zero (including null cells)

CANCER (C00-D48)

In 2006, Cancer (C00–D48) was the underlying cause of 39,753 registered deaths in Australia. This accounted for 30% of all registered deaths. The ratio of male (22,387) to female (17,366) deaths in 2006 remained at 128.9 males per 100 females. The median age of persons dying from Malignant cancers (C00–C97) has continued to rise from 72 years in 1997 to 74.9 years in 2006. Deaths due to Malignant cancers account for 38,721 deaths or 98% of all cancers.

Cancers of the digestive organs (C15–C26) accounted for 10,885 deaths. Of these, Colon cancer constituted the largest number of deaths with 2,432. This represented a decrease of 7.8% from 2005 (2,637). The median age at death for people dying of colon cancer was 74.2 years for males and 79.3 for females, with the largest number of deaths occurring between 75 and 84 years of age for both males and females.

Pancreatic cancer (C25) was the second highest contributor to deaths from Cancers of the digestive organs, accounting for 2,076 deaths. There is little difference between the number of males (1,047) and females (1,029) with pancreatic cancer as the underlying cause of death however, the median age of males dying of Pancreatic cancer (72.9) is lower than for females (77.7) dying of the same cause.

CANCER (C00-D48)
continued

There were 7,623 deaths attributed to Cancers of the respiratory system and heart (C30–C39), accounting for 20% of all malignant cancers. Lung cancer (C34) was the underlying cause of 7,342 (96%) deaths due to cancers of the respiratory system and heart. The male to female ratio of deaths with Lung cancer as the underlying cause of death, has dropped from 221.2 male deaths per 100 females in 1997 to 173.7 male deaths per 100 females in 2006. However, since 1997 the number of female deaths from this cause has increased by 635 while the number of male deaths has increased by 128. Males whose underlying cause of death was Lung cancer, had a higher median age at death (73.4) than females (72.8) with the same underlying cause.

Prostate cancer (C61) was the underlying cause of 4.3% of all male deaths registered in 2006. Male deaths with this underlying cause have increased gradually from 2,446 in 1997 to 2,946 in 2005, remaining consistent at 2,952 in 2006. The median age at death for Prostate cancer is 80.4 years. This is close to the median age for all deaths (80.3 years) and continues to follow the steady upward trend from 78.5 years in 1997.

In females, Breast cancer (C50) have fallen from 2,719 in 2005 to 2,618 in 2006. The 2006 figure has brought data close to 1997 levels when the number of female deaths due to Breast cancer was 2,609. The female median age at death was 68.3 years, 7.9 years lower than males (76.3) and 14.9 years lower than the median age for all female deaths (83.3 years).

2.3 SELECTED UNDERLYING CAUSES, Cancer (C00–D48)—2006

Cause of Death and ICD Code	MALES no.	FEMALES no.	PERSONS no.	PROPORTION OF ALL DEATHS %
CHAPTER II Neoplasms (C00-D48)	**22 387**	**17 366**	**39 753**	**29.7**
Malignant neoplasms (C00-C97)	***21 858***	***16 863***	***38 721***	***29.0***
Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)	***451***	***162***	***613***	***0.5***
Malignant neoplasm of other and unspecified parts of tongue (C02)	95	49	144	0.1
Malignant neoplasm of other and unspecified parts of mouth (C06)	38	22	60	—
Malignant neoplasm of tonsil (C09)	48	10	58	—
Malignant neoplasm of other and ill-defined sites in the lip, oral cavity and pharynx (C14)	69	18	87	0.1
Malignant neoplasms of digestive organs (C15-C26)	***6 161***	***4 724***	***10 885***	***8.1***
Malignant neoplasm of oesophagus (C15)	812	359	1 171	0.9
Malignant neoplasm of stomach (C16)	669	448	1 117	0.8
Malignant neoplasm of small intestine (C17)	46	45	91	0.1
Malignant neoplasm of colon (C18)	1 298	1 134	2 432	1.8
Malignant neoplasm of rectosigmoid junction (C19)	390	279	669	0.5
Malignant neoplasm of rectum (C20)	438	262	700	0.5
Malignant neoplasm of anus and anal canal (C21)	23	34	57	—
Malignant neoplasm of liver and intrahepatic bile ducts (C22)	720	352	1 072	0.8
Malignant neoplasm of gallbladder (C23)	43	113	156	0.1
Malignant neoplasm of other and unspecified parts of biliary tract (C24)	30	52	82	0.1
Malignant neoplasm of pancreas (C25)	1 047	1 029	2 076	1.6
Malignant neoplasm of other and ill-defined digestive organs (C26)	645	617	1 262	0.9
Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	***4 899***	***2 724***	***7 623***	***5.7***
Malignant neoplasm of larynx (C32)	184	20	204	0.2
Malignant neoplasm of bronchus and lung (C34)	4 659	2 683	7 342	5.5
Malignant neoplasms of bone and articular cartilage (C40-C41)	***50***	***35***	***85***	***0.1***
Malignant neoplasm of bone and articular cartilage of other and unspecified sites (C41)	41	30	71	0.1
Melanoma and other malignant neoplasms of skin (C43-C44)	***1 062***	***586***	***1 648***	***1.2***
Malignant melanoma of skin (C43)	786	452	1 238	0.9
Other malignant neoplasms of skin (C44)	276	134	410	0.3
Malignant neoplasms of mesothelial and soft tissue (C45-C49)	***520***	***262***	***782***	***0.6***
Mesothelioma (C45)	401	85	486	0.4
Malignant neoplasm of retroperitoneum and peritoneum (C48)	10	62	72	0.1
Malignant neoplasm of other connective and soft tissue (C49)	107	110	217	0.2
Malignant neoplasm of breast (C50)	***25***	***2 618***	***2 643***	***2.0***
Malignant neoplasm of breast (C50)	25	2 618	2 643	2.0
Malignant neoplasms of female genital organs (C51-C58)	—	***1 454***	***1 454***	***1.1***
Malignant neoplasm of vulva (C51)	—	63	63	—
Malignant neoplasm of cervix uteri (C53)	—	224	224	0.2
Malignant neoplasm of corpus uteri (C54)	—	186	186	0.1
Malignant neoplasm of uterus, part unspecified (C55)	—	158	158	0.1
Malignant neoplasm of ovary (C56)	—	795	795	0.6
Malignant neoplasms of male genital organs (C60-C63)	***2 993***	—	***2 993***	***2.2***
Malignant neoplasm of prostate (C61)	2 952	—	2 952	2.2
Malignant neoplasms of urinary tract (C64-C68)	***1 196***	***652***	***1 848***	***1.4***
Malignant neoplasm of kidney, except renal pelvis (C64)	542	327	869	0.6
Malignant neoplasm of bladder (C67)	610	286	896	0.7
Malignant neoplasms of eye, brain and other parts of central nervous system (C69-C72)	***644***	***465***	***1 109***	***0.8***
Malignant neoplasm of brain (C71)	622	434	1 056	0.8
Malignant neoplasms of thyroid and other endocrine glands (C73-C75)	***80***	***97***	***177***	***0.1***
Malignant neoplasm of thyroid gland (C73)	49	64	113	0.1

— nil or rounded to zero (including null cells)

2.3 SELECTED UNDERLYING CAUSES, Cancer (C00–D48)—2006 *continued*

Cause of Death and ICD Code	MALES no.	FEMALES no.	PERSONS no.	PROPORTION OF ALL DEATHS %
Malignant neoplasms (C00-C97)	***21 858***	***16 863***	***38 721***	***29.0***
Malignant neoplasms of ill-defined, secondary and unspecified sites (C76-C80)	***1 344***	***1 298***	***2 642***	***2.0***
Malignant neoplasm of other and ill-defined sites (C76)	48	97	145	0.1
Secondary malignant neoplasm of respiratory and digestive organs (C78)	72	85	157	0.1
Secondary malignant neoplasm of other sites (C79)	np	39	np	np
Malignant neoplasm without specification of site (C80)	1 165	1 077	2 242	1.7
Malignant neoplasms of lymphoid, haematopoietic and related tissue (C81-C96)	***2 084***	***1 609***	***3 693***	***2.8***
Hodgkin's disease (C81)	32	21	53	—
Diffuse non-Hodgkin's lymphoma (C83)	122	48	170	0.1
Peripheral and cutaneous T-cell lymphomas (C84)	50	37	87	0.1
Other and unspecified types of non-Hodgkin's lymphoma (C85)	609	541	1 150	0.9
Multiple myeloma and malignant plasma cell neoplasms (C90)	399	320	719	0.5
Lymphoid leukaemia (C91)	247	170	417	0.3
Myeloid leukaemia (C92)	521	375	896	0.7
Leukaemia of unspecified cell type (C95)	53	56	109	0.1
Malignant neoplasms of independent (primary) multiple sites (C97)	***349***	***177***	***526***	***0.4***
Malignant neoplasms of independent (primary) multiple sites (C97)	349	177	526	0.4
Other Neoplasms (D00-D48)	***529***	***503***	***1 032***	***0.8***
Benign neoplasms (D10-D36)	***51***	***77***	***128***	***0.1***
Benign neoplasm of meninges (D32)	31	44	75	0.1
Neoplasms of uncertain or unknown behaviour (D37-D48)	***475***	***422***	***897***	***0.7***
Neoplasm of uncertain or unknown behaviour of oral cavity and digestive organs (D37)	28	25	53	—
Neoplasm of uncertain or unknown behaviour of brain and central nervous system (D43)	90	78	168	0.1
Myelodysplastic syndromes (D46)	218	177	395	0.3
Other neoplasms of uncertain or unknown behaviour of lymphoid, haematopoietic and related tissue (D47)	70	72	142	0.1

— nil or rounded to zero (including null cells)

np not available for publication but included in totals where applicable, unless otherwise indicated

BLOOD AND IMMUNITY DISORDERS (D50-D89)

Blood and immunity disorders (D50–D89) accounted for 497 registered deaths in 2006. This represented 0.4% of all registered deaths in 2006 and has remained stable over the last 10 years. These deaths were most likely to occur amongst older people, with 70% of males and 79% of females who died from Blood and immunity disorders aged 65 years and over.

The median age at death for females from this cause has historically been higher than the median age at death for males. This trend continued in 2006, with a median age at death for females of 82.7 years and 77.7 years for males.

Anaemias (D5–D64) accounted for 223 deaths, or 45% of deaths due to Blood and immunity disorders. The number of deaths due to Anaemias have remained stable over the last 10 years. The number of Anaemias as a proportion of all Blood and immunity disorders has been steadily falling over the last decade from 57% in 1997 to 45% in 2006. The number of females (138) dying from Anaemias is higher than the number of males (85) dying from the same cause. This pattern has been consistent over the 10 years since 1997.

2.4 SELECTED UNDERLYING CAUSES, Diseases of the Blood and Immunity Disorders (D50-D89)—2006

Cause of death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50-D89)	**228**	**269**	**497**	**0.4**
Nutritional anaemias (D50-D53)	***8***	***34***	***42***	—
Iron deficiency anaemia (D50)	6	26	32	—
Aplastic and other anaemias (D60-D64)	***67***	***93***	***160***	***0.1***
Other aplastic anaemias (D61)	30	34	64	—
Other anaemias (D64)	37	59	96	0.1
Coagulation defects, purpura and other haemorrhagic conditions (D65-D69)	***56***	***47***	***103***	***0.1***
Other coagulation defects (D68)	21	17	38	—
Purpura and other haemorrhagic conditions (D69)	25	19	44	—
Other diseases of blood and blood-forming organs (D70-D77)	***30***	***29***	***59***	—
Agranulocytosis (D70)	20	12	32	—
Certain disorders involving the immune mechanism (D80-D89)	***57***	***55***	***112***	***0.1***
Other immunodeficiencies (D84)	32	27	59	—
Sarcoidosis (D86)	12	9	21	—
Other disorders involving the immune mechanism, not elsewhere classified (D89)	6	14	20	—

— nil or rounded to zero (including null cells)

ENDOCRINE, NUTRIONAL AND METABOLIC DISEASES (E00-E90)

Endocrine, nutritional and metabolic diseases (E00–E90) in 2006 accounted for 5,138 registered deaths, representing 3.8% of all registered deaths. Total deaths due to these underlying causes has increased gradually over the last ten years, from 4,096 in 1997 to 5,138 in 2006. The proportion of all deaths due to these causes has also increased slightly over the same period ranging from 3.2% in 1997 to 3.8% in 2006. The median age at death from this cause was 80.5 years, which was very close to the median age of 80.3 years for all deaths in 2006.

Diabetes (E10–E14) was the underlying cause of death for 3,662 people, or 2.7% of all deaths. 2006 has the highest number of deaths resulting from Diabetes over the past ten years, with the proportion of all deaths represented by this cause increasing (2.3% to 2.7%) over this period. For the first time since 1997, more females than males died from Diabetes in 2006.

Obesity (E66) accounted for a total of 172 deaths in 2006. The overall median age at death due to Obesity as the underlying cause was 64.3 years, which was 16 years less than the median age for all deaths. At 59.4 years for males and 67.0 years for females, the median age at death resulting from Obesity for males was almost ten years lower than it was for females. This is consistent with the median age at death, with Obesity as an underlying cause, reported for males and females from previous years.

2.5 SELECTED UNDERLYING CAUSES, Endocrine, Nutritional and Metabolic Diseases (E00-E90)—2006

Cause of death and ICD10 code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER IV Endocrine, nutritional and metabolic diseases (E00-E90)	**2 516**	**2 622**	**5 138**	**3.8**
Disorders of thyroid gland (E00-E07)	***20***	***97***	***117***	***0.1***
Other hypothyroidism (E03)	12	57	69	0.1
Thyrotoxicosis (hyperthyroidism) (E05)	7	35	42	—
Diabetes mellitus (E10-E14)	***1 825***	***1 837***	***3 662***	***2.7***
Insulin-dependent diabetes mellitus (E10)	168	174	342	0.3
Non-insulin-dependent diabetes mellitus (E11)	755	764	1 519	1.1
Unspecified diabetes mellitus (E14)	902	899	1 801	1.3
Malnutrition (E40-E46)	***39***	***31***	***70***	***0.1***
Unspecified protein-energy malnutrition (E46)	33	29	62	—
Obesity and other hyperalimentation (E65-E68)	***86***	***86***	***172***	***0.1***
Obesity (E66)	86	86	172	0.1
Metabolic disorders (E70-E90)	***508***	***528***	***1 036***	***0.8***
Disorders of lipoprotein metabolism and other lipidaemias (E78)	293	243	536	0.4
Disorders of mineral metabolism (E83)	15	15	30	—
Cystic fibrosis (E84)	8	13	21	—
Amyloidosis (E85)	49	37	86	0.1
Volume depletion (E86)	68	126	194	0.1
Other disorders of fluid, electrolyte and acid-base balance (E87)	37	56	93	0.1
Other metabolic disorders (E88)	19	26	45	—

— nil or rounded to zero (including null cells)

MENTAL AND BEHAVIOURAL DISORDERS (F00-F99)

In 2006, Mental and behavioural disorders (F00–F99) were identified as the underlying cause of 5,156 registered deaths, representing 3.9% of all registered deaths during 2006. This is an increase of 1,789, a 53% increase when compared with 2005.

There were more than twice as many female deaths (3,296, 64%) due to Mental and behavioural disorders than male deaths (1860, 36%) registered in 2006. The median age at death was higher for females at 88.6 years, compared with 84.0 years for males.

Dementia (F01–F03) accounted for 89% of Mental and behavioural disorders in 2006, compared with 83% in 2005. Tthe number of deaths due to Dementia increased substantially from 2,788 in 2005 to 4,576 in 2006. This increase is the main contributor to the increase in the total number of deaths due to Mental and behavioural disorders from 2005 to 2006. The sex ratio of 48 males per 100 female deaths has remained relatively steady since 1997 with 1,486 males and 3,090 females dying of this disease in 2006. The median age at death for persons (87.9 years) was higher than the median age for Mental and behavioural disorders (80.3 years) as a whole. See Explanatory Note 66 for a more detailed explanation of the increase in deaths due to Dementia.

Mental and behavioural disorders due to the use of alcohol (F10) was the underlying cause of 286 (5.6%) deaths from Mental and behavioural disorders in 2006. Four times more males than females died from this cause, with 229 male deaths compared with 57 female deaths. The median age at death of persons with Mental and behavioural disorders due to the use of alcohol as the underlying cause of death was 61.9 years. This

MENTAL AND BEHAVIOURAL DISORDERS (F00-F99) *continued*

is almost twenty years lower than the median age of all causes of death (80.3 years). The median age at death of females was 56.6 years, compared with 62.6 years for males. The trends for males and females differ also, with female deaths remaining steady since 1997 and male deaths fluctuating over time, ranging between 167 in 1998 and 229 in 2006.

2.6 SELECTED UNDERLYING CAUSES, Mental and Behavioural Disorders (F00-F99)—2006

Cause of death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER V Mental and behavioural disorders (F00-F99)	**1 860**	**3 296**	**5 156**	**3.9**
Organic, including symptomatic, mental disorders (F00-F09)	***1 518***	***3 116***	***4 634***	***3.5***
Vascular dementia (F01)	300	524	824	0.6
Unspecified dementia (F03)	1 186	2 566	3 752	2.8
Delirium, not induced by alcohol and other psychoactive substances (F05)	24	22	46	—
Mental and behavioural disorders due to psychoactive substance use (F10-F19)	***292***	***93***	***385***	***0.3***
Mental and behavioural disorders due to use of alcohol (F10)	229	57	286	0.2
Mental and behavioural disorders due to use of tobacco (F17)	52	29	81	0.1
Schizophrenia, schizotypal and delusional disorders (F20-F29)	***18***	***29***	***47***	—
Schizophrenia (F20)	17	28	45	—
Mood (affective) disorders (F30-F39)	***23***	***37***	***60***	—
Depressive episode (F32)	19	30	49	—

— nil or rounded to zero (including null cells)

DISEASES OF THE NERVOUS SYSTEM (G00-G99)

Diseases of the nervous system (G00–G99) accounted for 4,903 registered deaths in 2006, representing 3.7% of all registered deaths. This follows a gradual increase in deaths attributable to Diseases of the nervous system over time, from 3,706 in 1997. The number of deaths due to Diseases of the nervous system is higher for females (2,715) than for males (2,188). The median age at death is 78.7 for males, 84.0 for females.

Deaths from Alzheimer's Disease (G30) constitute 40% (1,966) of all deaths due to Diseases of the nervous system and 1.5% of all registered deaths in 2006. Female deaths (1,380) due to Alzheimer's Disease are much higher than male deaths (586), with a ratio of 43 male deaths per 100 female deaths. The median age at death due to Alzheimer's Disease is 86.7 years.

Parkinson's Disease (G20) accounts for 20% of all deaths due to Diseases of the nervous system and 0.7% of all deaths registered in 2006. There were 994 deaths due to this disease, with a median age at death of 83.0 years.

The number of male deaths (569) due to this disease was higher than the number of female deaths (425). This is similar to the overall trend for the past 10 years.

2.7 SELECTED UNDERLYING CAUSES, Diseases of the Nervous System (G00-G99)—2006

Cause of death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER VI Diseases of the nervous system (G00-G99)	**2 188**	**2 715**	**4 903**	**3.7**
Systemic atrophies primarily affecting the central nervous system (G10-G13)	***340***	***294***	***634***	***0.5***
Huntington's disease (G10)	31	34	65	—
Spinal muscular atrophy and related syndromes (G12)	305	250	555	0.4
Extrapyramidal and movement disorders (G20-G26)	***591***	***441***	***1 032***	***0.8***
Parkinson's disease (G20)	569	425	994	0.7
Other degenerative diseases of basal ganglia (G23)	14	8	22	—
Other degenerative diseases of the nervous system (G30-G32)	***682***	***1 461***	***2 143***	***1.6***
Alzheimer's disease (G30)	586	1 380	1 966	1.5
Other degenerative diseases of nervous system, not elsewhere classified (G31)	96	81	177	0.1
Demyelinating diseases of the central nervous system (G35-G37)	***52***	***88***	***140***	***0.1***
Multiple sclerosis (G35)	46	81	127	0.1
Episodic and paroxysmal disorders (G40-G47)	***192***	***148***	***340***	***0.3***
Epilepsy (G40)	164	104	268	0.2
Status epilepticus (G41)	11	14	25	—
Transient cerebral ischaemic attacks and related syndromes (G45)	8	21	29	—
Diseases of myoneural junction and muscle (G70-G73)	***60***	***42***	***102***	***0.1***
Myasthenia gravis and other myoneural disorders (G70)	11	10	21	—
Primary disorders of muscles (G71)	43	28	71	0.1
Cerebral palsy and other paralytic syndromes (G80-G83)	***79***	***68***	***147***	***0.1***
Infantile cerebral palsy (G80)	40	34	74	0.1
Hemiplegia (G81)	8	16	24	—
Paraplegia and tetraplegia (G82)	28	15	43	—
Other disorders of the nervous system (G90-G99)	***135***	***126***	***261***	***0.2***
Disorders of autonomic nervous system (G90)	27	23	50	—
Other disorders of brain (G93)	83	80	163	0.1
Other diseases of spinal cord (G95)	9	12	21	—

— nil or rounded to zero (including null cells)

DISEASES OF THE EYE AND EAR (H00-H95)

In 2006, Diseases of the eye and ear (H00–H95) accounted for a total of 13 registered deaths, of which 6 were male and 7 were female. Of these 13 deaths, 10 were older persons aged 65 years and over.

Since 1997, a total of 120 deaths have been attributed to Diseases of the eye and ear. Of these, 48 (44%) were male and 62 (56%) were female.

Diseases of the middle ear and mastoid (H65–H75) have accounted for a total of 64 deaths since 1997. Visual disturbances and blindness (H53–H54) have accounted for a total of 16 deaths.

DISEASES OF THE EYE AND EAR (H00-H95) *continued*

2.8 SELECTED UNDERLYING CAUSE, Diseases of the eye and ear (H00-H95)—1997–2006

Cause of death and ICD10 code	*1997-2006*
CHAPTERS VII and VIII - Eyes and Ears	**120**
CHAPTER VIII Diseases of the ear and mastoid process (H60-H95)	76
Diseases of the middle ear and mastoid (H65-H75)	64
Suppurative and unspecified otitis media (H66)	43
CHAPTER VII Diseases of the eye and adnexa (H00-H59)	44
Visual disturbances and blindness (H53-H54)	16

DISEASES OF THE HEART AND BLOOD VESSELS (I00-I99)

Diseases of the Heart and Blood Vessels (I00–I99) were identified as the underlying cause of 45,670 registered deaths in 2006. This accounts for 34% of all registered deaths. The median age at death for Diseases of the Heart and Blood Vessels is 84.0 years, slightly higher than the median age for all deaths (80.3 years).

53% (24,108) of deaths due to these diseases were females. The pattern of more female than male deaths for these underlying causes is consistent over the last 10 years. Females (86.5 years) dying from these diseases have a higher median age at death than males (80.6 years) dying from the same cause.

Ischaemic heart diseases (I20–I25) which includes angina, heart attacks, blocked arteries of the heart, represented a substantial proportion of deaths attributable to Diseases of the Heart and Blood Vessels, accounting for 22,983 deaths or 50%. Of deaths from Ischaemic heart disease, 12,186 (53%) were males, and 10,797 (47%) were females. Ischaemic heart disease accounts for twice the number of deaths than the next highest contributor to Diseases of the Heart and Blood Vessels (Heart attack 11,500).

Heart attack (I21) represented 11,500 deaths or 25% of all Diseases of the Heart and Blood Vessels, and a total of 8.6% of all causes. There is little difference in the number of male and female deaths due to this cause with 5,810 and 5,690 deaths respectively. The median age at death for females from Heart attack as their underlying cause of deaths was 86.2 years while the male figure was lower at 80.3 years.

Deaths from Strokes (I60–I69) numbered 11,465 in 2006 or 25% of all Diseases of the Heart and Blood Vessels, almost the exact number mentioned in relation to Heart attacks. In contrast to Heart attacks, there are considerably less males 4,480 (39%) with Strokes as the underlying cause of death than females 6,985 (61%). Females at 86.4 years, have a higher median age at death than males at 82.0 years.

2.9 SELECTED UNDERLYING CAUSES, Diseases of the Heart and Blood Vessels (I00-I99)—2006

Cause of death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER IX Diseases of the circulatory system (I00-I99)	**21 562**	**24 108**	**45 670**	**34.1**
Chronic rheumatic heart diseases (I05-I09)	***87***	***193***	***280***	***0.2***
Rheumatic mitral valve diseases (I05)	43	97	140	0.1
Multiple valve diseases (I08)	22	38	60	—
Hypertensive diseases (I10-I15)	***515***	***980***	***1 495***	***1.1***
Essential (primary) hypertension (I10)	106	255	361	0.3
Hypertensive heart disease (I11)	180	373	553	0.4
Hypertensive renal disease (I12)	197	291	488	0.4
Hypertensive heart and renal disease (I13)	32	61	93	0.1
Ischaemic heart diseases (I20-I25)	***12 186***	***10 797***	***22 983***	***17.2***
Acute myocardial infarction (I21)	5 810	5 690	11 500	8.6
Other acute ischaemic heart diseases (I24)	118	np	np	np
Chronic ischaemic heart disease (I25)	6 246	4 944	11 190	8.4
Pulmonary heart disease and diseases of pulmonary circulation (I26-I28)	***214***	***296***	***510***	***0.4***
Pulmonary embolism (I26)	133	171	304	0.2
Other pulmonary heart diseases (I27)	np	np	np	np
Other forms of heart disease (I30-I52)	***2 791***	***3 636***	***6 427***	***4.8***
Acute and subacute endocarditis (I33)	35	31	66	—
Nonrheumatic mitral valve disorders (I34)	76	126	202	0.2
Nonrheumatic aortic valve disorders (I35)	364	422	786	0.6
Endocarditis, valve unspecified (I38)	85	101	186	0.1
Cardiomyopathy (I42)	527	269	796	0.6
Cardiac arrest (I46)	49	68	117	0.1
Atrial fibrillation and flutter (I48)	383	689	1 072	0.8
Other cardiac arrhythmias (I49)	87	99	186	0.1
Heart failure (I50)	868	1 484	2 352	1.8
Complications and ill-defined descriptions of heart disease (I51)	246	294	540	0.4
Cerebrovascular diseases (I60-I69)	***4 480***	***6 985***	***11 465***	***8.6***
Subarachnoid haemorrhage (I60)	205	302	507	0.4
Intracerebral haemorrhage (I61)	614	744	1 358	1.0
Other nontraumatic intracranial haemorrhage (I62)	190	219	409	0.3
Cerebral infarction (I63)	396	516	912	0.7
Stroke, not specified as haemorrhage or infarction (I64)	1 942	3 356	5 298	4.0
Other cerebrovascular diseases (I67)	204	305	509	0.4
Sequelae of cerebrovascular disease (I69)	929	1 543	2 472	1.8
Diseases of arteries, arterioles and capillaries (I70-I79)	***1 197***	***1 050***	***2 247***	***1.7***
Atherosclerosis (I70)	93	119	212	0.2
Aortic aneurysm and dissection (I71)	743	519	1 262	0.9
Other aneurysm (I72)	38	22	60	—
Other peripheral vascular diseases (I73)	270	320	590	0.4
Other disorders of arteries and arterioles (I77)	np	np	81	0.1
Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified (I80-I89)	***87***	***165***	***252***	***0.2***
Phlebitis and thrombophlebitis (I80)	66	131	197	0.1

— nil or rounded to zero (including null cells)

np not available for publication but included in totals where applicable, unless otherwise indicated

DISEASES OF THE

Diseases of the respiratory system (J00-J99) which include diseases that impact on the ability to breathe accounted for 10,863 registered deaths in 2006, which was 8.1% of all

RESPIRATORY SYSTEM (J00-J99)

registered deaths. This is a 0.4% increase in deaths caused by Diseases of the respiratory system from 2005. In line with the pattern of previous years where more males than females died of this cause, there were 5,708 male deaths compared to 5,155 female deaths due to Diseases of the respiratory system. Over the past ten years, females tended to be slightly older than males for this underlying cause. This trend continued in 2006 with the median age at death for males at 81.2 years and for females at 84.2 years.

In 2006, Chronic lower respiratory diseases (J40–J47) were the underlying cause of 5,443 deaths or 4.1% 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 2006 (2,943 compared with 2,500). Males also tended to be slightly younger than females dying from this cause over time. In 2006, the median age at death caused by Chronic lower respiratory diseases was 80.0 years for males and 80.6 years for females.

In 2006, Pneumonia accounted for 2,699 registered deaths, or 2.0% of all registered deaths in Australia. As in previous years, more females died from Pneumonia than males, with 1,487 female deaths compared with 1,212 male deaths. The median age at death for males was also lower than for females, 84.6 years compared with 89.1 years for females.

The number of deaths from Pneumonia due to the complications of inhalation of solids and liquids (J69) has increased substantially over time, from 99 deaths in 1997 to 893 in 2006. In 2006, this type of pneumonia accounted for 33% of all deaths due to Pneumonia, a substantial increase from the 1997 figure of 4.9%. The increase in deaths due to this cause are mainly in the over 60 years age group. In 1997, 87 people over the age of 60 died from Pneumonia due to the complications of inhalation of solids and liquids whereas in 2006, 856 people over 60 years of age died from the same underlying cause.

2.10 SELECTED UNDERLYING CAUSES, Diseases of the Respiratory System (J00–J99)—2006

Cause of death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER X Diseases of the respiratory system (J00-J99)	**5 708**	**5 155**	**10 863**	**8.1**
Influenza and pneumonia (J10-J18)	***1 220***	***1 495***	***2 715***	***2.0***
Bacterial pneumonia, not elsewhere classified (J15)	39	24	63	—
Pneumonia, organism unspecified (J18)	1 159	1 450	2 609	2.0
Other acute lower respiratory infections (J20-J22)	***50***	***58***	***108***	***0.1***
Unspecified acute lower respiratory infection (J22)	38	53	91	0.1
Chronic lower respiratory diseases (J40-J47)	***2 943***	***2 500***	***5 443***	***4.1***
Bronchitis, not specified as acute or chronic (J40)	22	26	48	—
Unspecified chronic bronchitis (J42)	19	16	35	—
Emphysema (J43)	377	253	630	0.5
Other chronic obstructive pulmonary disease (J44)	2 305	1 789	4 094	3.1
Asthma (J45)	134	256	390	0.3
Bronchiectasis (J47)	80	152	232	0.2
Lung diseases due to external agents (J60-J70)	***604***	***412***	***1 016***	***0.8***
Pneumoconiosis due to asbestos and other mineral fibres (J61)	np	np	91	0.1
Pneumonitis due to solids and liquids (J69)	491	402	893	0.7
Other respiratory diseases principally affecting the interstitium (J80-J84)	***498***	***330***	***828***	***0.6***
Pulmonary oedema (J81)	15	20	35	—
Other interstitial pulmonary diseases (J84)	np	np	771	0.6
Other diseases of pleura (J90-J94)	***37***	***31***	***68***	***0.1***
Pleural effusion, not elsewhere classified (J90)	30	26	56	—
Other diseases of the respiratory system (J95-J99)	***308***	***312***	***620***	***0.5***
Respiratory failure, not elsewhere classified (J96)	28	24	52	—
Other respiratory disorders (J98)	280	288	568	0.4

— nil or rounded to zero (including null cells)

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DISEASES OF THE DIGESTIVE SYSTEM (K00-K99)

Diseases of the digestive system (K00–K99) accounted for 4,502 registered deaths in Australia in 2006 or 3.4% of all registered deaths. The number and proportion of all deaths due to diseases of the digestive system have remained consistent since 1997. Slightly more males (2,305) than females (2,197) died from diseases of the digestive system in 2006. The median age at death for males (74.1 years) dying from these diseases is considerably lower than for females (83.5 years).

Alcoholic liver disease (K70) accounted for 712 deaths, 16% of all deaths due to diseases of the digestive system. More males than females died of alcoholic liver disease, with a ratio of 318.8 males per 100 females. The age at death ranged from the 25-34 to 85-94 age groups. Median age at death for males was 58.5 years, while for females it was 56.3 years.

Diseases of the intestine (K50–K63) has increased slightly from 1,133 deaths in 1997 to 1,464 deaths in 2006. There was an increase in male deaths from 545 in 2005 to 594 in 2006. Female deaths however, decreased with 870 deaths in 2006, compared with 906 in 2005. The majority of deaths (1,051) occurred in the 75 to 94 age group with a median age of 83.9 years.

DISEASES OF THE DIGESTIVE SYSTEM (K00-K99) *continued*

Diseases of the oesophagus, stomach and duodenum (K20–K31) was the underlying cause of 566 deaths. The median age at death was 84.0 years which is 3.7 years higher than the median age for all causes of death (80.3). The sex ratio for this underlying cause of death is 94.5 males per 100 females.

2.11 SELECTED UNDERLYING CAUSES, Diseases of the Digestive System (K00–K99)—2006

Cause of death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER XI Diseases of the digestive system (K00-K93)	**2 305**	**2 197**	**4 502**	**3.4**
Diseases of oesophagus, stomach and duodenum (K20-K31)	***275***	***291***	***566***	***0.4***
Oesophagitis (K20)	9	13	22	—
Gastro-oesophageal reflux disease (K21)	21	33	54	—
Other diseases of oesophagus (K22)	59	59	118	0.1
Gastric ulcer (K25)	35	48	83	0.1
Duodenal ulcer (K26)	62	56	118	0.1
Peptic ulcer, site unspecified (K27)	56	45	101	0.1
Gastritis and duodenitis (K29)	10	21	31	—
Other diseases of stomach and duodenum (K31)	21	15	36	—
Hernia (K40-K46)	***49***	***83***	***132***	***0.1***
Inguinal hernia (K40)	17	5	22	—
Diaphragmatic hernia (K44)	14	25	39	—
Unspecified abdominal hernia (K46)	np	np	22	—
Noninfective enteritis and colitis (K50-K52)	***79***	***109***	***188***	***0.1***
Other noninfective gastroenteritis and colitis (K52)	67	88	155	0.1
Other diseases of intestines (K55-K63)	***515***	***761***	***1 276***	***1.0***
Vascular disorders of intestine (K55)	152	253	405	0.3
Paralytic ileus and intestinal obstruction without hernia (K56)	208	262	470	0.4
Diverticular disease of intestine (K57)	68	133	201	0.2
Other functional intestinal disorders (K59)	11	14	25	—
Other diseases of anus and rectum (K62)	10	12	22	—
Other diseases of intestine (K63)	62	82	144	0.1
Diseases of peritoneum (K65-K67)	***40***	***56***	***96***	***0.1***
Peritonitis (K65)	28	44	72	0.1
Other disorders of peritoneum (K66)	12	12	24	—
Diseases of liver (K70-K77)	***969***	***431***	***1 400***	***1.0***
Alcoholic liver disease (K70)	542	170	712	0.5
Hepatic failure, not elsewhere classified (K72)	99	65	164	0.1
Fibrosis and cirrhosis of liver (K74)	190	117	307	0.2
Other inflammatory liver diseases (K75)	np	19	np	np
Other diseases of liver (K76)	116	54	170	0.1
Disorders of gallbladder, biliary tract and pancreas (K80-K87)	***233***	***265***	***498***	***0.4***
Cholelithiasis (K80)	45	50	95	0.1
Cholecystitis (K81)	42	56	98	0.1
Other diseases of gallbladder (K82)	13	11	24	—
Other diseases of biliary tract (K83)	49	59	108	0.1
Acute pancreatitis (K85)	70	77	147	0.1
Other diseases of pancreas (K86)	14	12	26	—
Other diseases of the digestive system (K90-K93)	***128***	***169***	***297***	***0.2***
Other diseases of digestive system (K92)	125	164	289	0.2

— nil or rounded to zero (including null cells)

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DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (L00-L98)

Diseases of the skin and subcutaneous tissue (L00-L98) accounted for 333 deaths in Australia in 2006. Of these, 193 (58%) were female, and 140 (42%) were male. There were 144 (43%) deaths due to diseases of the skin and subcutaneous tissue aged between 85 and 94 years, and a further 107 (32%) aged between 75 and 84 years. The median age at death for all persons was 85.1 years, while the male and female median age at death were 82.5 years and 87.2 years respectively.

The key cause contributing to the increase over the last 10 years in the number of registered deaths from Diseases of the skin and subcutaneous tissue is Cellulitis (L03) which has increased from 78 registered deaths in 1997 to 142 registered deaths in 2006. Of these, 57% were female and 43% were male. The female median age at death of 85.4 years, is 6.2 years higher than the male median age at death of 79.2 years. Persons aged 65 years and over attributed to 94% of these deaths due to Cellulitis.

Skin ulcers (L89 and L97) were the underlying cause of 93 registered deaths in 2006, representing a decrease from 128 in 2005. Of these, 59% were female and 41% were male. The median age at death for males dying from Skin ulcers was 82.7 years, 7.2 years lower than the female median age at death of 89.9 years.

2.12 SELECTED UNDERLYING CAUSES, Diseases of the Skin and Subcutaneous Tissue (L00–L98)—2006

Cause of death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no	*no*	*no*	*%*
CHAPTER XII Diseases of the skin and subcutaneous tissue (L00–L99)	**140**	**193**	**333**	**0.2**
Infections of the skin and subcutaneous tissue (L00-L08)	***74***	***97***	***171***	***0.1***
Cellulitis (L03)	61	81	142	0.1
Other local infections of skin and subcutaneous tissue (L08)	10	14	24	—
Other disorders of the skin and subcutaneous tissue (L80-L99)	***54***	***81***	***135***	***0.1***
Decubitus ulcer (L89)	17	21	38	—
Ulcer of lower limb, not elsewhere classified (L97)	21	34	55	—
Other disorders of skin and subcutaneous tissue, not elsewhere classified (L98)	14	24	38	—

— nil or rounded to zero (including null cells)

DISEASES OF THE MUSCLES, BONES AND TENDONS (M00-M99)

Diseases of the Muscles,Bones and Tendons (M00–M99) in 2006 attributed to 1,076 registered deaths, which represented 0.8% of all deaths registered in Australia. Over the last ten years, the number of deaths from this cause has increased steadily from 792 in 1997 to 1,076 in 2006, representing an increase from 0.6% of all deaths in 1997 to 0.8% of all deaths in 2006. In 2006, the number of female deaths (747) was more than twice the

DISEASES OF THE MUSCLES, BONES AND TENDONS (M00-M99) *continued*

number of male deaths (329) from this cause and continued the trend shown by data recorded previously.

The median age at death has gradually increased over the last decade for both males and females. Male median age at death for this cause has increased from 75.8 in 1997 to 80.8 years in 2006. The female median age at death has risen from 80.2 years in 1997 to 84.4 years in 2006.

Osteoporosis (M80–M85) accounted for 250 registered deaths in Australia for 2006, with a median age at death of 88.9 years. More than four times more females than males died from Osteoporosis in 2006, which was a continuation of the pattern displayed from previous years' data. The median age at death from this cause for females has historically been higher than the median age at death for males. This trend persisted in 2006 with the median age at death for females at 89.3 years and for males at 87.9 years.

2.13 SELECTED UNDERLYING CAUSES, Diseases of the Muscles, Bones and Tendons (M00–M99)—2006

Causes of Death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER XIII Diseases of the musculoskeletal system and connective tissue (M00-M99)	**329**	**747**	**1 076**	**0.8**
Arthropathies (M00-M25)	***130***	***246***	***376***	***0.3***
Infectious arthropathies (M00-M03)	***32***	***32***	***64***	—
Pyogenic arthritis (M00)	32	32	64	—
Inflammatory polyarthropathies (M05-M14)	***75***	***151***	***226***	***0.2***
Other rheumatoid arthritis (M06)	41	112	153	0.1
Gout (M10)	22	10	32	—
Other arthritis (M13)	7	18	25	—
Arthrosis (M15-M19)	***19***	***58***	***77***	***0.1***
Other arthrosis (M19)	17	49	66	—
Systemic connective tissue disorders (M30-M36)	***64***	***168***	***232***	***0.2***
Other necrotizing vasculopathies (M31)	18	19	37	—
Systemic lupus erythematosus (M32)	3	39	42	—
Dermatopolymyositis (M33)	4	16	20	—
Systemic sclerosis (M34)	25	73	98	0.1
Other systemic involvement of connective tissue (M35)	10	18	28	—
Soft tissue disorders (M60-M79)	***29***	np	np	np
Disorders of muscles (M60-M63)	np	np	***36***	—
Other disorders of muscle (M62)	11	12	23	—

— nil or rounded to zero (including null cells)

np not available for publication but included in totals where applicable, unless otherwise indicated

2.13 SELECTED UNDERLYING CAUSES, Diseases of the Muscles, Bones and Tendons (M00–M99)—2006 *continued*

Causes of Death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
Soft tissue disorders (M60-M79)	***29***	np	np	np
Osteopathies and chondropathies (M80-M94)	***83***	***262***	***345***	***0.3***
Disorders of bone density and structure (M80-M85)	***39***	***211***	***250***	***0.2***
Osteoporosis with pathological fracture (M80)	17	89	106	0.1
Osteoporosis without pathological fracture (M81)	11	82	93	0.1
Disorders of continuity of bone (M84)	11	38	49	—
Other osteopathies (M86-M90)	np	***51***	np	np
Osteomyelitis (M86)	40	47	87	0.1

— nil or rounded to zero (including null cells)

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DISEASES OF THE KIDNEY AND URINARY SYSTEM (N00-N99)

Diseases of the Kidney and Urinary system (N00–N99) accounted for 3,295 registered deaths in Australia in 2006, which was 2.5% of all registered deaths. The median age at death was 84.8 years. More females (1,763) than males (1,532) died of these diseases.

Of these causes, 2,160 (66%) were due to Kidney failure (N17–N19), which increased 15% from 2005 to 2006. The rise in Kidney failure is due to a decrease in the specificity of certification on the Medical Certificate of Cause of Death. Kidney failure is a non-specific cause of death and is generally due to another more serious condition. More males died from this cause than females in 2006, for the first time in 10 years, although the difference was small (1,083 males compared with 1,077 females). The median age at death for Kidney failure was 84.5 years, 4.2 years higher than the median age for all deaths.

2.14 SELECTED UNDERLYING CAUSES, Diseases of the Kidney and Urinary System (N00–N99)—2006

Cause of Death and ICD Code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER XIV Diseases of the genitourinary system (N00-N99)	**1 532**	**1 763**	**3 295**	**2.5**
Glomerular diseases (N00-N08)	***36***	***37***	***73***	***0.1***
Chronic nephritic syndrome (N03)	10	10	20	—
Unspecified nephritic syndrome (N05)	15	17	32	—
Renal tubulo-interstitial diseases (N10-N16)	***45***	***77***	***122***	***0.1***
Tubulo-interstitial nephritis, not specified as acute or chronic (N12)	10	15	25	—
Obstructive and reflux uropathy (N13)	28	30	58	—
Drug- and heavy-metal-induced tubulo-interstitial and tubular conditions (N14)	np	np	20	—
Renal failure (N17-N19)	***1 083***	***1 077***	***2 160***	***1.6***
Acute renal failure (N17)	167	225	392	0.3
Chronic renal failure (N18)	619	552	1 171	0.9
Unspecified renal failure (N19)	297	300	597	0.4
Urolithiasis (N20-N23)	***12***	***15***	***27***	—
Calculus of kidney and ureter (N20)	np	15	np	np
Other disorders of kidney and ureter (N25-N29)	***21***	***19***	***40***	—
Other disorders of kidney and ureter, not elsewhere classified (N28)	18	16	34	—
Other diseases of urinary system (N30-N39)	***256***	***514***	***770***	***0.6***
Other disorders of urinary system (N39)	235	505	740	0.6
Diseases of male genital organs (N40-N51)	***79***	—	***79***	***0.1***
Hyperplasia of prostate (N40)	58	—	58	—

— nil or rounded to zero (including null cells)

np not available for publication but included in totals where applicable, unless otherwise indicated

PREGNANCY AND CHILDBIRTH (000-099)

Pregnancy and childbirth (O00–O99), as an underlying cause of death, accounted for the deaths of six females in Australia in 2006.

Since 1997, these have accounted for a total of 107 registered deaths. From 1997 to 2006, Complications of labour and delivery (O60–O75) and Complications within 6 weeks of delivery (O85–O92) accounted for most of deaths related to pregnancy and childbirth. Due to small numbers, it is difficult to make comparisons over time.

These deaths are spread across the childbearing age range, and cannot be attributed to any one smaller age group.

2.15 SELECTED UNDERLYING CAUSES, Pregnancy and Childbirth (000–099)—1997–2006

Cause of death and code	1997-2006
Chapter XV Pregnancy, childbirth and the puerperium (O00-O99)	**107**
Complications predominantly related to the puerperium (O85-O92)	38
Complications of labour and delivery (O60-O75)	27
Obstetric embolism (O88)	21

CONDITIONS ORIGINATING IN THE PERINATAL PERIOD (P00-P96)

Certain conditions originating in the perinatal period (P00–P96) were identified as the underlying cause of 658 deaths registered in 2006. Of these, 363 (55%) were males, and 295 (45%) were females. The number of deaths due to these causes, as well as the proportion of males and females, has remained relatively stable over the past 10 years.

Although the majority of deaths attributed to this cause occur in the neonatal period (within 28 days of birth), this is not always the case. In 2006, 95% of deaths due to Certain conditions originating in the perinatal period occurred in the perinatal period, while 5.3% of these deaths were in older age groups. Further information on deaths occurring during the perinatal period can be found in Chapter 4.

Of note, deaths attributed to Other conditions originating in the perinatal period (P96) increased from 6 in 2005 to 48 in 2006. This is largely a residual code, and the increase reflects a decline in the specificity of certification. Similarly, Disorders related to short gestation and low birth weight, not elsewhere classified (P07) also increased from 92 in 2005 to 129 in 2006, continuing a gradual increase over the last 10 years.

2.16 SELECTED UNDERLYING CAUSES, Conditions Originating in the Perinatal Period (P00–P96)—2006

Cause of death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER XVI Certain conditions originating in the perinatal period (P00-P96)	**363**	**295**	**658**	**0.5**
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour, and delivery (P00-P04)	***155***	***111***	***266***	***0.2***
Foetus and newborn affected by maternal conditions that may be unrelated to present pregnancy (P00)	22	15	37	—
Foetus and newborn affected by maternal complications of pregnancy (P01)	73	54	127	0.1
Foetus and newborn affected by complications of placenta, cord and membranes (P02)	56	39	95	0.1
Disorders related to length of gestation and foetal growth (P05-P08)	***71***	***61***	***132***	***0.1***
Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	70	59	129	0.1
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	***55***	***49***	***104***	***0.1***
Birth asphyxia (P21)	13	13	26	—
Infections specific to the perinatal period (P35-P39)	***15***	***8***	***23***	—
Bacterial sepsis of newborn (P36)	14	7	21	—
Haemorrhagic and haematological disorders of foetus and newborn (P50-P61)	***19***	***15***	***34***	—
Intracranial nontraumatic haemorrhage of foetus and newborn (P52)	17	11	28	—
Other disorders originating in the perinatal period (P90-P96)	***33***	***29***	***62***	—
Other conditions originating in the perinatal period (P96)	25	23	48	—

— nil or rounded to zero (including null cells)

CONGENITAL AND CHROMOSOMAL ABNORMALITIES (Q00-Q99)

Congenital and chromosomal abnormalities such as Down's Syndrome, Edward's syndrome, Cerebal Palsy and congenital heart malformations (Q00–Q99) accounted for 547 deaths in 2006, of which 305 (56%) were deaths of males and 242 (44%) were of females.

The majority of these deaths occurred within the first year of life (283 or 52%), however, the remainder were spread relatively evenly over other age groups. Median age at death due to Congenital and chromosomal abnormalities was 1.0 years. This is 79.3 years lower than the median for all deaths (80.3 years).

Congenital malformations of the heart and blood vessels (Q20–Q28) accounted for 194 deaths or 36% of all deaths due to Congenital and chromosomal abnormalities. The median age for this cause was 28.0 years.

2.17 SELECTED UNDERLYING CAUSES, Congenital and Chromosomal Abnormalities (Q00–Q99)—2006

Cause of Death and ICD code	MALES	FEMALES	PERSONS	PROPORTION OF ALL DEATHS
	no.	*no.*	*no.*	*%*
CHAPTER XVII Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	**305**	**242**	**547**	**0.4**
Congenital malformations of the nervous system (Q00-Q07)	***41***	***30***	***71***	***0.1***
Other congenital malformations of brain (Q04)	12	13	25	—
Congenital malformations of the circulatory system (Q20-Q28)	***101***	***93***	***194***	***0.1***
Congenital malformations of cardiac septa (Q21)	22	15	37	—
Congenital malformations of aortic and mitral valves (Q23)	16	10	26	—
Other congenital malformations of heart (Q24)	36	32	68	0.1
Other congenital malformations of peripheral vascular system (Q27)	8	16	24	—
Congenital malformations of the urinary system (Q60-Q64)	***35***	***18***	***53***	—
Cystic kidney disease (Q61)	24	15	39	—
Congenital malformations and deformations of the musculoskeletal system (Q65-Q79)	***21***	***16***	***37***	—
Congenital malformations of the musculoskeletal system, not elsewhere classified (Q79)	15	8	23	—
Chromosomal abnormalities, not elsewhere classified (Q90-Q99)	***58***	***48***	***106***	***0.1***
Down's syndrome (Q90)	32	19	51	—
Edwards' syndrome and Patau's syndrome (Q91)	8	17	25	—

— nil or rounded to zero (including null cells)

ILL DEFINED CAUSES (R00-R99)

Ill defined causes (R00–R99) accounted for 1,525 deaths registered in Australia in 2006. This represents 1.1% of all registered deaths. This is an increase of 480 (46%) compared with 2005 and more than any other year over the past 10 years.

This increase can be attributed to the number of open coronial cases remaining on National Coronial Information System (NCIS) at the end of the ABS processing period. The majority of open cases for which no information is available at the end of processing have been coded to R99 Other ill-defined and unspecified causes. Deaths coded to this cause have increased 636 (129%) compared with 2005. For further information, see Technical Note Coroner Certified Deaths .

Deaths coded to Unattended Death (R98) decreased from 231 in 2005 to 57 in 2006. For further information, see Explanatory Notes 67.

In 2006, there were 66 deaths identified as being due to Sudden Infant Death Syndrome (SIDS) (R95). This was fewer than in 2005, when 87 deaths were attributed to SIDS. The decrease in the number of SIDS deaths is in part due to the increase in the number of deaths due to Other ill-defined and unspecified causes (R99). There are 64 deaths in 2006 under the age of 1 year with Other ill-defined and unspecified causes (R99) as the underlying cause of death. In 2005 there were 38 deaths under 1 year of age with the same underlying cause. In processing Causes of Death, the ABS will only code a death to SIDS if specifically mentioned on the death certificate. The number of open coronial cases could potentially include deaths which would be determined as SIDS deaths when closed. For further information, see Technical Note Coroner Certified Deaths.

ILL DEFINED CAUSES (R00-R99) *continued*

For the past 10 years, more males have died from SIDS than females. This has continued in 2006, with 41 male deaths compared to 25 female deaths. The majority of these deaths occurred in the period between 28 days and 1 year of age, with 57 deaths infants in this age range with SIDS as the underlying cause of death in 2006. Again, this is consistent with previous years.

2.18 SELECTED UNDERLYING CAUSES, Ill Defined Causes (R00–R99)—2006

Cause of death and ICD code	Males	Females	Persons	Proportion of all deaths
	no.	no.	no.	%
Chapter XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	**858**	**667**	**1 525**	**1.1**
Symptoms and signs involving the circulatory and respiratory systems (R00-R09)	***15***	***30***	***45***	—
Other symptoms and signs involving the circulatory and respiratory systems (R09)	13	27	40	—
General symptoms and signs (R50-R69)	***63***	***149***	***212***	***0.2***
Malaise and fatigue (R53)	5	18	23	—
Senility (R54)	32	88	120	0.1
Other general symptoms and signs (R68)	14	20	34	—
Ill-defined and unknown causes of mortality (R95-R99)	np	np	np	np
Sudden infant death syndrome (R95)	41	25	66	—
Unattended death (R98)	31	26	57	—
Other ill-defined and unspecified causes of mortality (R99)	703	428	1 131	0.8

— nil or rounded to zero (including null cells)

np not available for publication but included in totals where applicable, unless otherwise indicated

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 Notes 44 and 45 for further information.

In 2006, External causes accounted for 7,840 deaths, or 5.9% of all registered deaths. This was a slight decrease from 2005 when 8,015 deaths (6.1%) were attributed to External causes. The standardised death rate was 36.7 per 100,000 of population in 2006, a decrease from 38.4 in 2005 and from 43.3 per 100,000 population in 1997. Males were more likely to die from external causes than females in 2006. The standardised death rate for males was 52.5 per 100,000 compared with 21.7 females per 100,000.

In 2006, the median age at death from these causes was 50.3 years, which was slightly older than the median age of 49.5 years recorded in 2005. Despite this slight increase, the median age at death for External causes was considerably less than the median age of 80.3 years for all registered deaths in 2006. The median age at death for males dying of external causes is 45.5, with the median age at death for females is 71.3 years.

Consistent with previous years, just over two-thirds of the total number of deaths resulting from External causes were males. The difference between the number of male and female deaths was most apparent amongst the 25-34 year age group, with 831 male deaths compared to 198 female deaths.

2.19 SELECTED UNDERLYING CAUSES, External Causes (V01–Y98)—2006

Cause of death and ICD code	*Males*	*Females*	*Persons*	*% all deaths*
CHAPTER XX External causes of morbidity and mortality (V01-Y98)	**5 232**	**2 608**	**7 840**	**5.9**
Transport accidents (V01-V99, Y85)(a)	***1 262***	***406***	***1 668***	***1.2***
Other external causes of accidental injury (W00-X59)	***2 191***	***1 507***	***3 698***	***2.8***
Falls (W00-W19)	***582***	***643***	***1 225***	***0.9***
Exposure to inanimate mechanical forces (W20-W49)	***153***	***29***	***182***	***0.1***
Contact with knife, sword or dagger (W26)	42	16	58	—
Accidental drowning and submersion (W65-W74)	***162***	***50***	***212***	***0.2***
Drowning and submersion while in natural water (W69)	51	5	56	—
Unspecified drowning and submersion (W74)	67	24	91	0.1
Other accidental threats to breathing (W75-W84)	***283***	***126***	***409***	***0.3***
Other accidental hanging and strangulation (W76)	141	38	179	0.1
Inhalation and ingestion of other objects causing obstruction of respiratory tract (W80)	66	40	106	0.1
Exposure to smoke, fire and flames (X00-X09)	***39***	***32***	***71***	***0.1***
Accidental poisoning by and exposure to noxious substances (X40-X49)	***476***	***225***	***701***	***0.5***
Accidental exposure to other and unspecified factors (X58-X59)	***430***	np	np	np
Exposure to unspecified factor (X59)	430	364	794	0.6
Other external causes of mortality (X60-Y36)	np	np	np	np
Intentional self-harm (X60-X84, Y87.0)(b)	1 398	401	1 799	1.3
Assault (X85-Y09, Y87.1)(c)	98	57	155	0.1
Event of undetermined intent (Y10-Y34, Y87.2)(d)	87	48	135	0.1
Complications of medical and surgical care (Y40-Y84, Y88)(e)	***126***	***148***	***274***	***0.2***
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)	108	117	225	0.2
Surgical operation and other surgical 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)	89	106	195	0.1
Sequelae of external causes of morbidity and mortality (Y85-Y89)	np	np	np	np
Sequelae of other accidents (Y86)	52	33	85	0.1

— nil or rounded to zero (including null cells)
np not available for publication but included in totals where applicable, unless otherwise indicated
(a) Includes Y85 Sequelae of transport accidents.
(b) Includes Y87.0 Sequelae of intentional self-harm.
(c) Includes Y87.1 Sequelae of assault.
(d) Includes Y87.2 Sequelae of events of undetermined intent.
(e) Includes Y88 Sequelae with surgical and medical care as external causes.

Transport Accidents(V01-V99)

Transport accidents (V01–V99, Y85) accounted for 1,668 deaths registered in 2006. This represented 1.3% of all registered deaths in 2006, and 21% of all External causes of death. Of these, 811 deaths were of occupants of a car, 254 deaths were of pedestrians and 232 deaths were of motorcycle riders.

As with most other external causes, more males than females died from Transport accidents in 2006 (1,262 compared with 406). For males, 1.8% of total male deaths registered in 2006 were caused by Transport accidents. This was compared with only 0.6% of all female deaths. Males also had a lower median age at death than females, with a median age of 34.6 years for males compared with 41.4 years for females. Specifically amongst males aged 15-44, 15% of all male deaths from external causes were attributed to Transport accidents, and males in this age group accounted for 63% of all male deaths due to transport accidents.

For information on quality of data on Transport accidents, refer to Explanatory Note 61

2.20 SELECTED UNDERLYING CAUSES, Transport Accidents (V01–V99, Y85)—2006

Cause of death and ICD code	*Males*	*Females*	*Persons*	*% all deaths*
Transport accidents (V01-V99, Y85)	**1 250**	**402**	**1 652**	**1.2**
Pedestrian injured in transport accident (V01-V09)	***168***	***86***	***254***	***0.2***
Pedestrian injured in collision with car, pick-up truck or van (V03)	105	63	168	0.1
Pedestrian injured in collision with heavy transport vehicle or bus (V04)	23	6	29	—
Pedestrian injured in collision with railway train or railway vehicle (V05)	22	12	34	—
Pedal cyclist injured in transport accident (V10-V19)	***34***	***3***	***37***	—
Motorcycle rider injured in transport accident (V20-V29)	***221***	***11***	***232***	***0.2***
Motorcycle rider injured in collision with car, pick-up truck or van (V23)	81	6	87	0.1
Motorcycle rider injured in collision with fixed or stationary object (V27)	78	3	81	0.1
Motorcycle rider injured in noncollision transport accident (V28)	np	np	20	—
Motorcycle rider injured in other and unspecified transport accidents (V29)	24	—	24	—
Car occupant injured in transport accident (V40-V49)	***559***	***252***	***811***	***0.6***
Car occupant injured in collision with car, pick-up truck or van (V43)	115	92	207	0.2
Car occupant injured in collision with heavy transport vehicle or bus (V44)	42	23	65	—
Car occupant injured in collision with fixed or stationary object (V47)	271	87	358	0.3
Car occupant injured in noncollision transport accident (V48)	71	26	97	0.1
Car occupant injured in other and unspecified transport accidents (V49)	48	19	67	0.1
Occupant of pick-up truck or van injured in transport accident (V50-V59)	***38***	***10***	***48***	—
Occupant of heavy transport vehicle injured in transport accident (V60-V69)	***32***	***4***	***36***	—
Other land transport accidents (V80-V89)	***126***	***26***	***152***	***0.1***
Occupant of special all-terrain or other motor vehicle designed primarily for off-road use, injured in transport accident (V86)	15	5	20	—
Motor or nonmotor vehicle accident, type of vehicle unspecified (V89)	71	15	86	0.1
Water transport accidents (V90-V94)	***33***	***3***	***36***	—
Air and space transport accidents (V95-V97)	***32***	***4***	***36***	—
Accident to powered aircraft causing injury to occupant (V95)	25	4	29	—

— nil or rounded to zero (including null cells)

np not available for publication but included in totals where applicable, unless otherwise indicated

Falls (W00-W19)

Falls (W00–W19) accounted for 1,225 deaths registered in 2006. This represented 0.9% of all registered deaths in 2006, and 16% of all External causes of death. Falls have increased 95% over the past 5 years from 629 in 2002. This increase is largely due to stronger focus by the Victorian government to refer all cases where a medical certificate mentions falls to the coroner for verification. See Explanatory Note 69 for further information.

Falls was one of the few categories within external causes with more females than males (643 females, compared with 582 males). This has been the case for the past three years. The median age at death for Falls was 84.8 years, which was considerably higher than the median age at death of 50.3 for all External causes. Of all deaths due to Falls, 83% were of people aged 70 years or more.

Falls (W00-W19) continued

2.21 SELECTED UNDERLYING CAUSES, Falls (W00–W19)—2006

Cause of Death and 10 code	*Males*	*Females*	*Persons*	*% all deaths*
Falls (W00-W19)	**582**	**643**	**1 225**	**0.9**
Fall on same level from slipping, tripping and stumbling (W01)	92	117	209	0.2
Fall involving bed (W06)	14	14	28	—
Fall on and from stairs and steps (W10)	19	21	40	—
Fall on and from ladder (W11)	np	np	24	—
Fall from, out of or through building or structure (W13)	20	10	30	—
Other fall from one level to another (W17)	34	12	46	—
Other fall on same level (W18)	29	33	62	—
Unspecified fall (W19)	324	415	739	0.6

— nil or rounded to zero (including null cells)
np not available for publication but included in totals where applicable, unless otherwise indicated

Accidental Poisoning (X40-X49)

Accidental poisoning (X40–X49) accounted for 701 deaths registered in 2006. This represented 0.5% of all registered deaths in 2006, and 8.9% of all External causes of death. Accidental poisoning have decreased 5.3% compared with 2005. More than twice as many males as females died from accidental poisoning in 2006, continuing the trend of the past 10 years since 1997. The median age at death for Accidental poisoning was 41.9 years. Median age at death for males was 40.4 years, compared with 45.9 years for females.

2.22 SELECTED UNDERLYING CAUSES, Accidental Poisoning (X40–X49)—2006

Cause of Death and ICD code	*Males*	*Females*	*Persons*	*% all deaths*
Accidental poisoning by and exposure to noxious substances (X40-X49)	**476**	**225**	**701**	**0.5**
Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified (X41)	47	39	86	0.1
Accidental poisoning by and exposure to narcotics and psychodysleptics ÿ, not elsewhere classified (X42)	113	31	144	0.1
Accidental poisoning by and exposure to other and unspecified drugs, medicaments and biological substances (X44)	211	119	330	0.2
Accidental poisoning by and exposure to alcohol (X45)	30	11	41	—
Accidental poisoning by and exposure to other gases and vapours (X47)	56	9	65	—

— nil or rounded to zero (including null cells)

Assault (X85-Y09,Y87.1)

Assault (X85–Y09, Y87.1) accounted for 155 deaths in 2006, which is the lowest number of deaths recorded for this cause since 1997. The deaths from Assault represented 0.1% of all registered deaths and 2.0% of all External causes of death in 2006. More than twice as many males as females died from Assault in 2006, continuing the trend of the 10 years since 1997. The median age at death for Assault was 35.7 years. Median age at death for males was 35.4 years, compared with 37.5 years for females.

Cause of Death 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 coroners cases on ABS data. See Explanatory Notes 72 – 73 for further information.

Assault (X85-Y09,Y87.1) continued

2.23 SELECTED UNDERLYING CAUSES, Assault (X85–Y09, Y87.1)—2006

Cause of Death and ICD code	*Males*	*Females*	*Persons*	*% all deaths*
Assault (X85-Y09, Y87.1)	**98**	**57**	**155**	**0.1**
Assault by rifle, shotgun and larger firearm discharge (X94)	5	6	11	—
Assault by other and unspecified firearm discharge (X95)	6	4	10	—
Assault by sharp object (X99)	44	17	61	—
Assault by bodily force (Y04)	10	11	21	—

— nil or rounded to zero (including null cells)

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

Care should be taken in using and interpreting suicide data contained in this publication due to concerns regarding data quality. For further information refer to Explanatory Notes 57–58 and 74–75.

There were 1,799 deaths coded to Intentional self-harm [suicide] (X60–X84, Y87.0) in 2006, less than the 2,101 deaths in 2005. Deaths from Intentional self-harm represented 1.4% of all registered deaths and 23.0% of all External causes of death in 2006. More than three times as many males as females died from Intentional self-harm in 2006, continuing the trend of the 10 years since 1997. The median age at death for Intentional self-harm was 43.9 years. Median age at death for males was 43.6 years, compared with 45.1 years for females.

Care should be taken in using and interpreting suicide data contained in this publication due to limitations on data quality. For further information refer to Explanatory Notes 57–58 and 74–75.

2.24 SELECTED UNDERLYING CAUSES, Intentional Self Harm (X60–X84, X87.0)(a)—2006

Cause of Death and ICD code	*Males*	*Females*	*Persons*	*% all deaths*
Intentional self-harm (X60-X84, Y87.0)	**1 398**	**401**	**1 799**	**1.3**
Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified (X61)	24	36	60	—
Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances (X64)	46	55	101	0.1
Intentional self-poisoning by and exposure to other gases and vapours (X67)	188	36	224	0.2
Intentional self-harm by hanging, strangulation and suffocation (X70)	763	177	940	0.7
Intentional self-harm by drowning and submersion (X71)	21	20	41	—
Intentional self-harm by rifle, shotgun and larger firearm discharge (X73)	120	5	125	0.1
Intentional self-harm by other and unspecified firearm discharge (X74)	20	—	20	—
Intentional self-harm by sharp object (X78)	29	9	38	—
Intentional self-harm by jumping from a high place (X80)	54	19	73	0.1
Intentional self-harm by jumping or lying before moving object (X81)	48	12	60	—
Intentional self-harm by other specified means (X83)	17	6	23	—

— nil or rounded to zero (including null cells)

(a) Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57-58 and 74-75.

CHAPTER 3 MULTIPLE CAUSES OF DEATH

INTRODUCTION

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). 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.

Number of Multiple Causes

For the 133,739 deaths registered in Australia in 2006, there were 424,796 causes mentioned, giving a mean of 3.2 causes per death. In 18% of all deaths, only one cause was reported, while 37% 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 2006, Cancers represented 29% of all underlying causes of death. For multiple causes, cancer accounted for 23% of all causes reported in 2006, and contributed to 33% of all deaths as an underlying or multiple cause.

A further 17% of all deaths had Ischaemic heart diseases as the underlying cause, but it was found to contribute to 28% of all deaths as either an underlying or multiple cause.

The following table lists selected causes of death, both underlying and associated causes, appearing on death certificates for deaths registered in 2006.

3.1 SELECTED MULTIPLE CAUSES OF DEATH(a)—2006

	UNDERLYING CAUSE		MULTIPLE CAUSE		
Cause of death and ICD code	*Number of deaths*	*% of total deaths*	*Number of deaths*	*% of total deaths*	*Mean no. of causes*
All Causes	**133 739**	—	**133 739**	—	**3.2**
Malignant cancers (C00-D48)	38 721	29.0	44 054	32.9	2.5
Ischaemic heart diseases (I20-I25) include angina, heart attacks, blocked arteries of the heart	22 983	17.2	37 658	28.2	3.5
Strokes (I60-I69)	11 465	8.6	20 491	15.3	3.1
Dementia and Alzheimer's disease (F01-F03, G30)	6 542	4.9	17 165	12.8	3.0
Chronic lower respiratory diseases (J40-J47) includes diseases such as asthma, bronchitis, and emphysema	5 443	4.1	13 687	10.2	3.6
Diabetes (E10-E14)	3 662	2.7	12 832	9.6	4.3
Diseases of the kidney and urinary system (N00-N39)	3 192	2.4	17 647	13.2	3.8
Heart failure (I50, I51))	2 892	2.2	19 549	14.6	3.1
Influenza and pneumonia (J10-J18)	2 715	2.0	17 369	13.0	2.5
Hypertensive diseases (I10-I15)	1 495	1.1	17 296	12.9	4.5
Suicides (X60-X84)(b)	1 799	1.3	1 809	1.4	2.6
Land transport accidents (V01-V89)	1 580	1.2	1 626	1.2	2.8

— nil or rounded to zero (including null cells)

(a) Number of deaths and percentages may add to more than totals because a death certificate can report more than one multiple cause.

(b) Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57-58 and 74-75.

Relationships between Multiple Causes

Cancer was identified as the underlying cause for 38,721 deaths. In 36% of cases, cancers were reported alone and was the least likely of the selected causes to be reported with other associated causes.

In contrast, Diabetes was reported alone as the underlying cause in only 1% of the 3,662 deaths attributed to this cause. It was reported more frequently with the associated causes of Ischaemic heart diseases including angina, heart attacks and blocked arteries of the heart (53%) and Hypertensive diseases (30%).

The following table illustrates relationships between the various causes of death in 2006.

3.2 SELECTED UNDERLYING CAUSES WITH ASSOCIATED CAUSE(a)—2006

	SELECTED UNDERLYING CAUSE		REPORTED WITH SELECTED ASSOCIATED CAUSE(b)				
Cause of death and ICD code	*Total Deaths*	*Reported alone*	*Cancers (C00-D48)*	*Ischaemic heart diseases (I20-I25)* (c)	*Strokes (I60-I69)*	*Dementia & Alzheimer's disease (F01-F03, G30)*	*Chronic lower respiratory diseases (J40-J47)* (d)
	no.	%	%	%	%	%	%
All Causes	133 739	18.4	—	—	—	—	—
Cancers (C00-D48)	38 721	36.2	—	6.6	5.2	5.0	7.4
Ischaemic heart diseases (I20-I25) (c)	22 983	10.3	8.4	—	12.3	9.9	19.8
Strokes (I60-I69)	11 465	13.6	3.9	9.7	—	10.9	5.4
Dementia & Alzheimer's disease (F01-F03, G30)	6 542	12.8	2.8	10.5	16.7	—	8.2
Chronic lower respiratory diseases (J40-J47)(d)	5 443	7.0	6.2	10.4	4.0	2.9	—
Diabetes (E10-E14)	3 662	1.0	5.8	10.8	8.1	6.5	7.3
Diseases of the kidney & urinary system (N00-N39)	3 192	6.9	7.1	13.0	5.7	9.4	10.3
Heart failure (I50-I51)	2 892	13.3	3.9	27.5	6.3	7.7	17.2
Influenza and pneumonia (J10-J18)	2 715	27.2	7.4	5.4	13.3	35.6	33.5
Hypertensive diseases (I10-I15)	1 495	3.9	5.7	20.7	28.2	10.3	8.7

— nil or rounded to zero (including null cells)

(a) This table presents data for selected causes only. Therefore numbers of deaths do not add to total deaths.

(b) Percentages may add to more than 100% because a death certificate can report more than one multiple cause.

(c) Includes angina, heart attacks, and blocked arteries of the heart.

(d) Includes asthma, bronchitis and emphysema.

3.2 SELECTED UNDERLYING CAUSES WITH ASSOCIATED CAUSE(a)—2006 *continued*

REPORTED WITH SELECTED ASSOCIATED CAUSE(b) *continued*

Cause of death and ICD code	*Diabetes (E10-E14)*	*Diseases of the kidney & urinary system (N00-N39)*	*Heart failure (I50-I51)*	*Influenza and pneumonia (J10-J18)*	*Hypertensive diseases (I10-I15)*
	%	%	%	%	%
All Causes	—	—	—	—	—
Cancers (C00-D48)	6.8	4.8	6.1	0.9	7.3
Ischaemic heart diseases (I20-I25) (c)	52.6	26.6	0.9	18.0	1.5
Strokes (I60-I69)	21.8	9.8	9.6	1.8	8.3
Dementia & Alzheimer's disease (F01-F03, G30)	13.7	14.3	12.1	8.7	19.3
Chronic lower respiratory diseases (J40-J47)(d)	6.3	6.3	9.7	1.1	7.4
Diabetes (E10-E14)	—	9.2	6.3	6.7	10.4
Diseases of the kidney & urinary system (N00-N39)	29.3	—	20.8	12.9	35.7
Heart failure (I50-I51)	21.8	23.2	—	11.5	40.6
Influenza and pneumonia (J10-J18)	8.0	11.1	19.6	—	8.6
Hypertensive diseases (I10-I15)	30.3	5.5	6.7	5.7	—

— nil or rounded to zero (including null cells)

(a) This table presents data for selected causes only. Therefore numbers of deaths do not add to total deaths.

(b) Percentages may add to more than 100% because a death certificate can report more than one multiple cause.

(c) Includes angina, heart attacks, and blocked arteries of the heart.

(d) Includes asthma, bronchitis and emphysema.

External Causes

In 2006, there were 7,840 deaths due to External causes, with a mean of 3.4 causes coded for each of these deaths.

Transport accidents accounted for 23% of all injuries due to External causes, with 42% of these injuries being to the head or thorax. Intentional self-harm[1] accounted for 22% of total injuries due to External causes, and of these, Asphyixiation was the most common injury (41%).

[1] Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57-58 and 74-75.

CHAPTER 4 PERINATAL DEATHS

INTRODUCTION

Perinatal deaths comprise stillbirths, known as foetal deaths, and deaths of infants within the first 28 days of life, known as neonatal deaths. In this publication, and in previous editions since 1997, these deaths are defined to include infants and fetuses weighing at least 400 grams or having a gestational age of 20 weeks.

Care should be taken in using and interpreting perinatal deaths data contained in this publication due to the small numbers. In addition, only limited data is available for perinatal deaths in 2006. For further information refer to Explanatory Notes 59 and 70.

TRENDS IN PERINATAL DEATHS

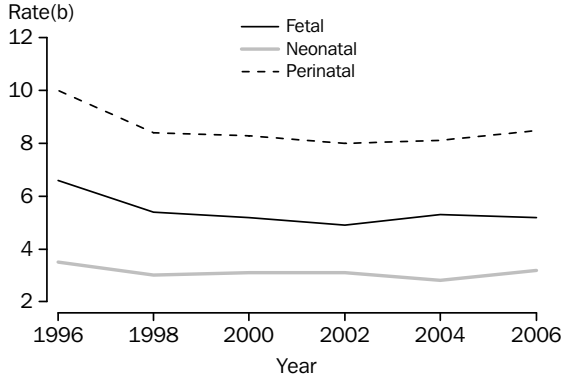
The perinatal death rate has remained at 8.5 deaths per 1,000 total relevant births from 2005 to 2006 (see Glossary, death rates for further information).

In 2006, there were 2,258 perinatal deaths registered in Australia, compared with 2,213 registered in 2005. The number of foetal deaths in 2006 was 1,394, a decrease of 1.2% on the number registered in 2005 (1,411). Neonatal deaths have increased 7.7% from 802 in 2005 to 864 in 2006. Compared with 1997, the number of registered perinatal deaths is 2.7% higher (63).

In 2006, there were 1,239 male perinatal deaths and 1,019 female perinatal deaths. The sex ratio was 121 male perinatal deaths for every 100 female perinatal deaths, compared with 117 males per 100 females in 2005.

The perinatal death rate was higher ten years ago in 1997 at 9.2 per 1,000 total relevant births. From 1997 to 2006, the foetal rate decreased from 6.0 to 5.2 per 1,000 total relevant births and the neonatal rate increased from 3.2 to 3.3 deaths per 1,000 total relevant births.

4.1 TRENDS IN PERINATAL DEATHS (a)



(a) Based on 400 grams/20 weeks.
(b) Per 1,000 total relevant births.

CONDITION IN FOETUS/INFANT

In 2006, one in three (33%) of all perinatal deaths were not assigned a specific cause of death in the foetus/infant. Most of these were foetal deaths. While 47% of all foetal deaths registered in 2006 reported no specific cause, the corresponding figure for neonatal deaths was 21%.

Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99) accounted for 15% of perinatal deaths, while Respiratory and cardiovascular disorders specific to the perinatal period (P20–P29) contributed a further 8.6% and Disorders related to length of gestation and foetal growth (P05–P08) contributed 30%.

CONDITION IN THE 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 1,670 (74%) of the 2,258 perinatal deaths registered in 2006. Maternal complications of pregnancy (P01) was the most frequently reported maternal cause, accounting for 859 or 38% of all perinatal deaths, followed by Complications of placenta, cord and membranes (P02) which accounted for 205 or 9.1% of perinatal deaths.

4.2 FOETAL, NEONATAL AND PERINATAL DEATHS, 400 grams/20 weeks(a)—1997–2006

	FOETAL DEATHS			NEONATAL DEATHS			PERINATAL DEATHS		
Year	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
				NUMBER					
1997	829	687	1 516	443	362	805	1 272	1 049	2 321
1998	707	629	1 336	435	319	754	1 142	948	2 090
1999	682	602	1 284	510	339	849	1 192	941	2 133
2000	692	611	1 303	443	330	773	1 135	941	2 076
2001	686	604	1 290	484	318	802	1 170	922	2 092
2002	682	558	1 240	426	353	779	1 108	911	2 019
2003	701	587	1 288	414	318	732	1 115	905	2 020
2004	732	615	1 347	418	283	701	1 150	898	2 048
2005	741	670	1 411	453	349	802	1 194	1 019	2 213
2006	747	647	1 394	492	372	864	1 239	1 019	2 258
				RATES (b)					
1997	6.4	5.6	6.0	3.4	3.0	3.2	9.8	8.6	9.2
1998	5.5	5.2	5.4	3.4	2.6	3.0	8.9	7.8	8.4
1999	5.4	5.0	5.2	4.0	2.8	3.4	9.4	7.7	8.6
2000	5.4	5.0	5.2	3.5	2.7	3.1	8.9	7.7	8.3
2001	5.4	5.0	5.2	3.8	2.6	3.3	9.3	7.7	8.5
2002	5.3	4.6	4.9	3.3	2.9	3.1	8.6	7.4	8.0
2003	5.4	4.8	5.1	3.2	2.6	2.9	8.6	7.4	8.0
2004	5.6	5.0	5.3	3.2	2.3	2.8	8.8	7.3	8.1
2005	5.6	5.3	5.4	3.4	2.8	3.1	9.0	8.1	8.5
2006	5.5	5.0	5.2	3.6	2.9	3.3	9.1	7.9	8.5

(a) See Explanatory notes, paragraphs 6-10 for further information

(b) Rates are per 1,000 total relevant births. See Glossary for further information.

DATACUBES

Further information on perinatal deaths is presented in the datacubes associated with this publication.

CHAPTER 5 SUICIDES

INTRODUCTION

Care should be taken in using and interpreting suicide data contained within this publication due to limitations in data quality. For further information refer to Explanatory Notes 57–58 and 74–75.

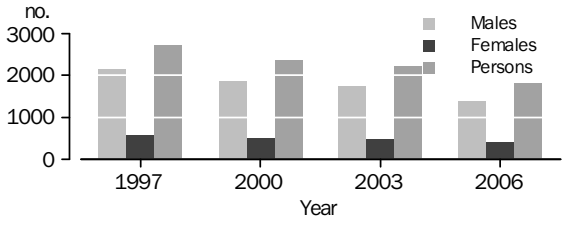
Suicide continues to be a major public health issue. In terms of leading causes, Intentional self-harm (X60–X84, Y87.0) or suicide, was ranked 15th of all deaths registered in Australia in 2006. Males accounted for over three-quarters of all suicide deaths in 2006, resulting in a ranking as the 11th leading cause of death of males in 2006. Although death by suicide is a relatively uncommon event (occurring at a rate of about 1 per 10,000 population per year), the human and economic costs are substantial.

Suicide can be defined as the deliberate taking of one's life[1]. To be classified as a suicide, a death must be recognised as being due to other than natural causes. It must also be established by coronial enquiry that the death resulted from a deliberate act of the deceased with the intention of ending his or her own life.

This chapter contains summary statistics on deaths registered in Australia between 1997 and 2006 (the most recent year for which data are available), where the underlying cause of death was determined as intentional self-harm (X60–X84) or suicide. Data on deaths from suicide are presented disaggregated by sex, age, method of suicide and state or territory of usual residence.

Overall Trends

5.1 SUICIDES, NUMBER OF DEATHS, 1997–2006 (a)



(a) Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57-58 and 74-75.

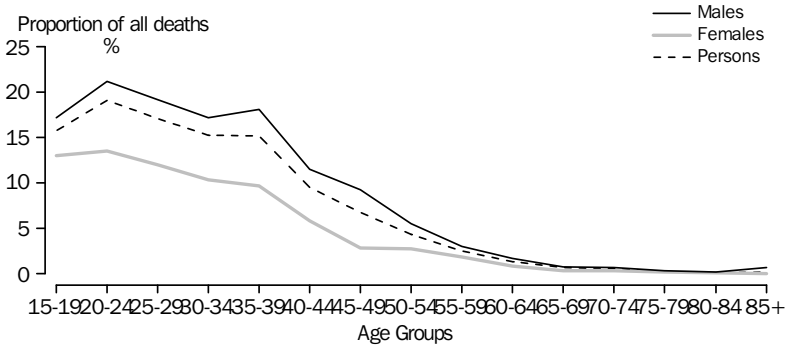
There were 1,799 deaths from suicide registered in 2006. Over three-quarters (78%) of suicides were males.

It is important to note that 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 further information, see Explanatory Notes 57-58 and 74-75.

Suicide as proportion of total deaths

While suicide accounts for only a relatively small number (1.3%) of all deaths in Australia, it does account for a much greater proportion of deaths from all causes within specific age groups (see graph below). For example, in 2006, more than 1 in every 5 deaths of males aged 20–25 years was due to suicide. Similarly for females, suicide deaths comprise a much higher proportion of total deaths in younger age groups compared with older age groups.

5.2 SUICIDES (a), BY SELECTED AGE GROUPS, 2006



(a) Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57-58 and 74-75.

AGE

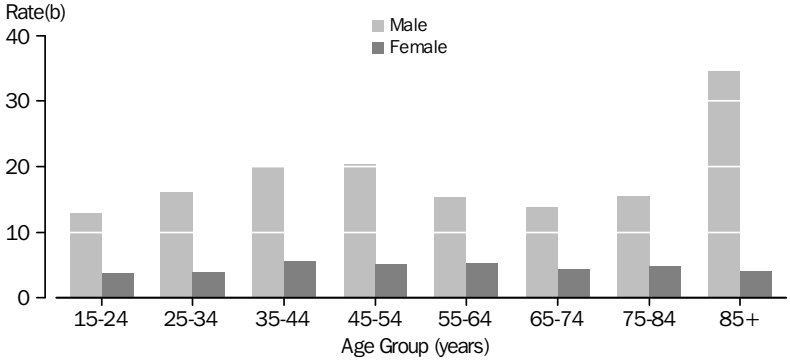
Median age

The median age at death for suicide in 2006 was 43.7 years for males and 45.1 years for females. In comparison, the median age for deaths from all causes in 2006 was 76.8 for males and 82.9 years for females.

Age-specific rates

Age-specific death rates are the number of deaths during the calendar year at a specified age per 1,000,000 of the estimated resident population of the same age (see Glossary for further information). The pattern of age-specific rates in 2006 for suicide in males and females is shown in the graph below.

5.3 AGE-SPECIFIC SUICIDE RATES, 2006 (a)



(a) Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57-58 and 74-75.
(b) Rate per 100,000 estimated resident population.

Age-specific rates continued

The highest age-specific suicide death rate for males in 2006 was observed in the 85 years and over age group (35 per 100,000). However, this number is inflated by the small population, and the relatively high number of deaths in this age group. As a proportion of total deaths in this age group, suicide deaths were relatively low (0.7%). The age-specific death rates for the 45-54 years age group was 20.4 per 100,000 males, and 20.1 per 100,000 males in the 35-44 year age group. Suicide as a proportion of total deaths for these age groups were 17% and 34% respectively. The age-specific suicide rate for males was lowest in the 15-19 years age group (8.8 per 100,000).

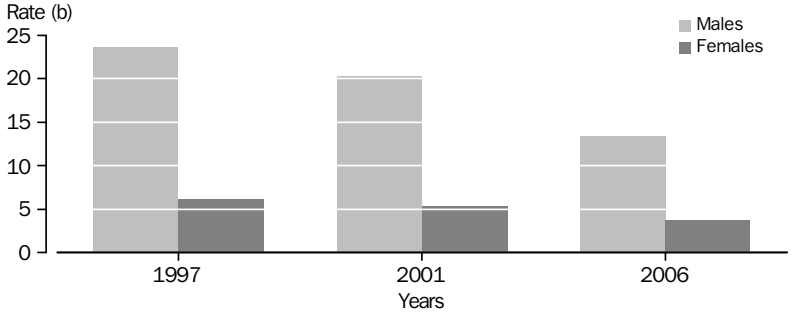
For females the highest age-specific suicide death rate in 2006 was observed in the 35-44 years age group (5.4 per 100,000) and the lowest in the 15-24 years age group (3.8 per 100,000).

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 2006 was 8.6 per 100,000. This compares with 14.7 per 100,000 in 1997.

The age-standardised suicide rate in 2006 for males was 13.6 per 100,000 while the corresponding rate for females was 3.8 per 100,000. Throughout the period 1997 to 2006 the male age-standardised suicide death rate was approximately four times higher than the corresponding female rate, as can be seen in the following graph.

5.4 AGE-STANDARDISED DEATH RATES FOR SUICIDE (a)



(a) Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57-58 and 74-75.
(b) Age-standardised rate per 100,000. Standardised using direct method and the Australian estimated resident population (persons) at 30 June 2001 as standard population.

METHOD OF SUICIDE

In 2006 the most frequent method of suicide was hanging (X70), which was used in half (52%) of all suicide deaths. Poisoning by drugs was used in 10.3% and poisoning by other methods (including by motor vehicle exhaust) was used in 14% of suicide deaths. Methods using firearms accounted for 8.6% of suicide deaths. The remaining suicide deaths included deaths from drowning, jumping from a high place, and other methods.

MECHANISM BY INTENT - SELECTED CAUSES

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

MECHANISM BY INTENT - SELECTED CAUSES *continued*

For deaths registered in 2006, 704 deaths were the subject of ongoing coronial investigations at the time ABS data was finalised, and had insufficient information recorded on NCIS in order to be able to determine any cause of death. These records will have been coded to R99 Other ill-defined and unspecified causes of mortality. Some of these deaths may be determined a suicide after further investigation.

Further, 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 paragraph 57).

5.5 SELECTED EXTERNAL CAUSES OF DEATH BY MECHANISM AND INTENT—2006

	INTENT					
Mechanism	*Accidental death*	*Intentional self-harm* (a)	*Assault*	*Undetermined intent*	*Other intent* (b)	*Total*
Poisonings (X40-X49, X60-X69, X85-X90, Y10-Y19)	701	434	5	70	—	1 210
Hanging and other threats to breathing (W75-Y84, X70, X91, Y20)	409	940	7	7	—	1 363
Drowning and submersion (W65-W74, X71, X92, Y21)	212	41	—	13	—	266
Firearms (W32–34, X72-X74, X93-X95, Y22-Y24)	56	155	29	—	—	240
Contact with sharp object (W25-W29, X78, X99, Y28)	65	38	61	4	—	168
Falls (W00-W19, X80, Y01, Y30)	1 225	73	—	3	—	1 301
Other(c)	2 790	118	53	38	293	3 292
Total	5 458	1 799	155	135	293	7 840

— nil or rounded to zero (including null cells)

(a) Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57-58 and 74-75.

(b) Includes Complications of medical and surgical care (Y40-Y84) and Legal intervention and operations of war (Y35-Y36).

(c) Includes sequelae deaths.

DATACUBES

Further information on suicides is presented in the datacubes associated with this publication.

1. *Butterworths Concise Australian Legal Dictionary*, 1997, Butterworths Sydney.

CHAPTER 6 DEATHS OF ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

DEATHS OF ABORIGINAL AND TORRES STRAIT ISLANDER PERSONS

There were 2,279 deaths registered across Australia in 2006 where the deceased person was identified as being of Aboriginal or Torres Strait Islander origin, or both. The coverage of deaths of Indigenous Australians remains incomplete due to differential levels of recording of Indigenous status on death registrations across jurisdictions. The implied coverage of Indigenous deaths for the period 2002 to 2006 is 56% Australia wide.

The ABS continues to work with state and territory Registrars of Births, Deaths and Marriages and other stakeholders to improve the level of coverage in each jurisdiction. For more information on the data quality of Indigenous deaths identification, refer to Explanatory Notes 52–54. A more detailed analysis of Indigenous mortality data will be available in this year's publication of The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples 2007 (ABS cat.no. 4704.0).

The jurisdictions assessed as having a sufficient level of coverage of Indigenous deaths were Queensland, South Australia, Western Australia and the Northern Territory. The total registered deaths in these jurisdictions in 2006 were 1,603. The three major causes of deaths in the Indigenous population of these jurisdictions were Diseases of the Heart and Blood vessels, Cancer and External Causes.

Diseases of the Heart and Blood Vessels (I00–I99)

Deaths caused by Diseases of the Heart and Blood Vessels (I00–I99) accounted for 24% of all Indigenous deaths in 2006 in Queensland, South Australia, Western Australia and the Northern Territory. The two most common types of circulatory system diseases that contributed to Indigenous deaths were Ischaemic heart diseases and Cerebrovascular diseases.

Ischaemic heart diseases (I20–I25), which include angina, blocked arteries of the heart and heart attacks, were the underlying cause of death for 209 (13%) deaths of Indigenous people in Queensland, South Australia, Western Australia and Northern Territory. Ischaemic heart diseases were the leading cause of death of non-Indigenous people in 2006, accounting for 17% of deaths throughout Australia. Median age at death for Indigenous people in Queensland, South Australia, Western Australia and the Northern Territory who died from Ischaemic heart diseases in 2006 was 58.1 years, compared with 83.4 years for non-Indigenous people throughout Australia. The sex ratio for Indigenous people who died from Ischaemic heart diseases in 2006 was 155 males per 100 females.

Cerebrovascular diseases (I60–I69), which include haemorrhages, strokes, infarctions and blocked arteries of the brain, accounted for 4.5% of deaths of people identified as of Indigenous origin in the jurisdictions assessed as having a sufficient level of coverage of Indigenous deaths in 2006. Median age at death was 67.5 years, compared with 84.8

Diseases of the Heart and Blood Vessels (I00–I99) continued

years for non-Indigenous people throughout Australia. The same number of male and female deaths were attributed to Cerebrovascular diseases.

Cancer (C00-D48)

Cancers (C00–D48) were the main underlying cause of 261 (16%) deaths of Indigenous people in Queensland, South Australia, Western Australia and the Northern Territory, of which 51% were male and 49% were female. Of total non-Indigenous deaths throughout Australia, 30% were attributed to Cancers. The median age of deaths with an underlying cause of cancer was 60.7 years for Indigenous people, and 75.1 years for non-Indigenous people throughout Australia.

Of all Indigenous deaths in these jurisdictions due to Cancers, Cancer of the respiratory system and heart (C30–C39) and Cancer of digestive organs (C15–C26) each accounted for 3.7% and 4.2% respectively, of total Indigenous deaths.

External Causes (V01–Y98)

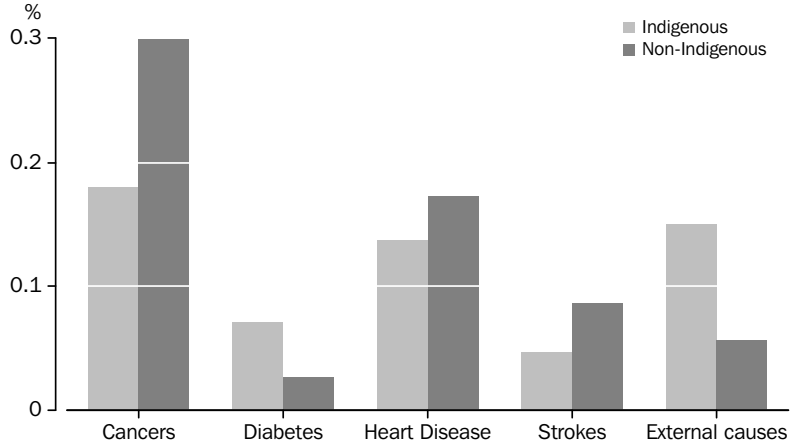
The proportion of deaths attributed to External Causes (V01–Y98) was 16% of registered Indigenous deaths in jurisdictions assessed as having a sufficient level of coverage of Indigenous deaths, compared with 5.7% of registered non-Indigenous deaths throughout Australia. External causes accounted for 260 Indigenous deaths, of which 69% were male and 32% were female. The median age at death for External causes was 31.3 years for Indigenous people and 52.1 years for non-Indigenous people throughout Australia.

Transport accidents (V01–V99, Y85) accounted for 31% (80) of all Indigenous deaths due to External Causes in these jurisdictions - 56 were males and 24 were females.

Diabetes (E10-E14)

In Queensland, South Australia, Western Australia and the Northern Territory, Diabetes (E10–E14) was the underlying cause of death for 8.4% of Indigenous deaths. This is compared with 2.7% of deaths of Non-Indigenous people throughout Australia. The median age at death of Indigenous people who died from Diabetes in 2006 was 64.5 years, whereas for Non-Indigenous people, it was 80.9 years. The sex ratio for Indigenous deaths due to Diabetes was 86 males per 100 females.

6.1 SELECTED UNDERLYING CAUSES OF DEATH AS PROPORTION OF TOTAL DEATHS, By Indigenous status



Infant Mortality

Infant mortality rates for Indigenous Australians are around twice the rates for all Australians. A high degree of caution should be exercised in regard to interpreting Indigenous infant deaths data, as in addition to the data quality issues that impact on Indigenous deaths data generally (see Explanatory Notes 52– 54), data on infant mortality by Indigenous status is subject to the high variability caused by small numbers.

Of all Indigenous infant deaths (aged under twelve months) registered in Queensland, South Australia, Western Australia and the Northern Territory in 2006, over half (53.9%) were attributed to Conditions originating in the Perinatal Period (P00–P96), which was similar to non-Indigenous infant deaths (52%). The proportion of Indigenous infant deaths with Other ill-defined and unspecified causes (R99) as their underlying cause was more than three times the proportion of non-Indigenous infant deaths recording the same cause of death (15% compared with 4.0%).

CHAPTER 7 YEAR OF OCCURRENCE

INTRODUCTION

Information contained in the preceding chapters of this publication refer to deaths registered during the 2006 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.

Although some deaths can be registered many years after their date of occurrence, the international standard for publishing on a year of occurrence basis is to include deaths registered within the relevant occurrence year and the year immediately following.

Accordingly, this practice has been adopted for the presentation of year of occurrence data in this publication to facilitate international comparisons. Analysis of deaths in Australia has shown that the number of deaths registered after the second year are not significant.

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 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 96% of the total 130,714 deaths registered in 2005 occurred in the same year, only 89% of the 2,141 Indigenous deaths and 93% of deaths due to External causes registered in 2005 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 2005

The following table shows the number of deaths occurring in 2005 registered in 2005 and 2006. As seen in this table, 13% of deaths of Aboriginal and Torres Strait Islander people occurring in 2005 (and registered in either 2005 or 2006) were registered late, in 2006. This compared with 4.5% for the total population.

Comparison of Year of Occurrence and Year of Registration data for 2005 continued

7.1 SELECTED CAUSES, 2005 Year of Occurrence

	REGISTRATION YEARS			
	2005(b)	*2006*(c)	*Total as at 2006*(a)	*Late registrations*
Cause of death and ICD code	no.	no.	no.	%
INDIGENOUS				
All Causes	**1 901**	**273**	**2 174**	**12.6**
TOTAL				
All Causes	**125 351**	**5 972**	**131 323**	**4.5**
Malignant cancers (C00-C97)	36 955	1 683	38 638	4.4
Ischaemic heart diseases - angina, heart attacks, blocked arteries of the heart (I20-I25)	22 590	1 028	23 618	4.4
Strokes (I60-I69)	11 069	486	11 555	4.2
Chronic lower respiratory diseases - asthma, bronchitis, and emphysema (J40-J47)	5 206	216	5 422	4.0
Accidents (V01-X59)	4 914	336	5 250	6.4
Diabetes (E10-E14)	3 383	170	3 553	4.8
Influenza and pneumonia (J10-J18)	2 923	93	3 016	3.1
Diseases of arteries, arterioles and capillaries (I70-I79)	2 297	101	2 398	4.2
Heart failure (I50)	2 154	94	2 248	4.2
Intentional self-harm (suicide) (X60-X84)(d)	1 938	120	2 058	5.8
External causes of morbidity and mortality (V01-Y98)	7 443	490	7 933	6.2

(a) Deaths occurring in 2005 and registered in 2005 and 2006.
(b) Deaths occurring in 2005, registered in 2005.
(c) Deaths occurring in 2005, registered in 2006.
(d) Care should be taken in interpreting numbers of suicide deaths due to limitations in the data. For further information, see Explanatory Notes 57-58 and 74-75.

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 years prior to 1994 were published separately in Perinatal Deaths, Australia (cat. no. 3304.0).

3 Statistics on suicide deaths for years prior to 2006 were published separately in Suicides, Australia (cat. no. 3309.0).

4 The data presented in this publication are also included in a series of spreadsheets that are available on the ABS website. Any references to tables in the Explanatory Notes also refers to these spreadsheets.

5 A glossary is provided in the Explanatory Notes tab detailing definitions of terminology used.

SCOPE AND COVERAGE

6 The statistics in chapters 1–6 relate to the number of deaths registered, not those which actually occurred, in the years shown. Statistics in chapter 7 relate to deaths by year of occurrence.

Scope of causes of death statistics

7 The ABS causes of death statistics 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.

8 The 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".
- 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)

9 The scope of the statistics excludes:

- Still births/ foetal deaths (these are accounted for in perinatal deaths).
- Repatriation of human remains of decedents whose death occurred overseas.
- Deaths overseas of foreign diplomatic staff (where these are able to be identified).
- Deaths occurring on Norfolk Island.

10 The scope of the collection is all deaths registered in Australia for the reference year, two years prior to the current year and the first quarter of the subsequent year. As an example: records received by the ABS during the March quarter of 2007 which were initially registered in 2006 (but not fully completed until 2007) are assigned to the 2006 processing year. Any registrations relating to 2006 which are received by the ABS after the end of the March quarter are assigned to the 2007 processing year.

Coverage of Causes of Death Statistics

11 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 and the provision of that information to the ABS, this ideal is unlikely to be met under the current legislation and registration business processes. Therefore, the occurrence event is approximated by 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 the 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.

12 About 4% to 6% of deaths occurring in one year are not registered until the following year or later.

Scope of Perinatal Death Statistics

13 The perinatal death statistics contained in this publication, unless otherwise stated, include all foetuses and infants delivered weighing at least 400 grams or (when birth weight is unavailable) the corresponding gestational age (20 weeks), whether alive or dead. In this definition, the ABS has adopted the legal requirement for registration of a perinatal death as the statistical standard. This definition recognises the availability of reliable 400 grams/20 weeks data from all state and territory Registrars of Births, Deaths and Marriages, and also meets the requirements of major users in Australia.

14 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 infants and foetuses weighing at least 500 grams or having a gestational age of 22 weeks or body length of 25 centimetres crown-heel.

15 The birth statistics used to calculate the perinatal and neonatal death rates in this publication are shown in Appendix 1. Appendix Table A1.3 details registered live birth statistics and stillbirth statistics adjusted to exclude infants who are known to have weighed under 400 grams. Such births are identified from the medical certificate of perinatal death, which records birth weight.

16 The adjusted birth statistics differ from the birth statistics used to derive the infant death rates in this publication. The statistics used to calculate infant death rates include all registered live births regardless of birth weight. These statistics are shown in table A1.2 of Appendix 1.

17 The adjusted birth statistics also differ from the statistics published in Births, Australia (cat. no. 3301.0), which are unadjusted for birth weight, i.e. births known to have weighed less than 400 grams are included in that publication. For years 1993 to 1996, births which occurred in Other Territories were excluded from adjusted live births used in calculating perinatal rates.

CLASSIFICATIONS

Socio-Demographic Classifications

18 A range of socio-demographic data is available from the causes of death collection. Standard classifications used in the presentation of causes of death statistics include age, sex, birthplace, marital status, multiple birth, occupation and Indigenous status. Statistical standards for social and demographic variables have been developed by the ABS.

MARITAL STATUS

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

Socio-Demographic Classifications continued

20 For further information about Marital Status refer to 1286.0 - Family, Household and Income Unit Variables, 2005

INDIGENOUS STATUS

21 The term Indigenous is used to refer to Australian Aboriginal people and Torres Strait Islanders. Those who are identified as being of Aboriginal and/or Torres Strait Islander origin through the death registration process are classified as Indigenous persons.

22 For further information about Indigenous Status refer to 1289.0 - Standards for Statistics on Cultural and Language Diversity, 1999

OCCUPATION

23 The occupation classification used in ABS causes of death statistics is the Australian and New Zealand Standard Classification of Occupations (ANZSCO) First Edition 2006. The ABS however has not published causes of death data with an occupation variable since the 2002 reference year. The ABS considers the quality of the data able to be produced for this variable to be insufficient for reasonable analysis.

24 For further information on ANZSCO First Edition, refer to ANZSCO: Australian and New Zealand Standard Classification of Occupation, First Edition (cat. no. 1220.0).

Geographic Classifications

AUSTRALIAN STANDARD GEOGRAPHICAL CLASSIFICATION (ASGC)

25 The ASGC is a 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. These provide causes of Death statistics with a 'where' dimension.

26 For further information about the ASGC refer to 1216.0 - Australian Standard Geographical Classification (ASGC), Jul 2007.

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. The SACC is the revised edition of the Australian Standard Classification of Countries for Social Statistics (ASCCSS). The SACC also incorporates previous revisions to the ASCCSS.

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 SACC refer to 1269.0 - Standard Australian Classification of Countries (SACC), 1998 (Revision 2.03)

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 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 the epidemiological data and statistical data is grouped as follows:

- epidemic diseases
- constitutional or general diseases
- local diseases arranged by site

Health Classification continued

- developmental diseases injuries

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

33 An online version of the ICD 10th Revision can be found by following this link ICD-10:

DATA SOURCES

34 The registration of deaths is the responsibility of the individual state and territory Registrars of Births, Deaths and Marriages. As part of the registration process, information about the causes 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. This information is provided to the Australian Bureau of Statistics (ABS) by individual Registrars for coding and compilation into aggregate statistics shown in this publication. In addition, the ABS supplements this data with information from the National Coroners Information Service (NCIS). Further information regarding causes of death data sources can be obtained from:

35 3317.0.55.001 - Information Paper: Causes of Death, Data Quality, 2005

36 3317.0.55.002 - Information Paper: ABS Causes of Death Statistics: Concepts, Sources, and Methods, 2008

MORTALITY CODING

37 The tenth revision of the International Classification of Diseases and Health Related Problems (ICD-10) was adopted for Australian use for deaths registered from 1 January 1999. However, to identify changes between the ninth and tenth revisions, deaths for 1997 and 1998 were coded to both revisions. See Appendix 2 for concordances.

38 The extensive nature of the ICD enables classification of causes of death at various levels of detail. For the purpose of this publication, two summary classifications are used. They are:

- the ICD at the chapter level (with further disaggregation for major causes of death)
- selected causes of death for age groups.

39 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 which constitute the causes of death covered.

Updates to ICD-10

40 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.

41 The cumulative list of ICD-10 updates can be found here Updates to ICD-10

Acquired Immune Deficiency Syndrome (AIDS)

42 As ICD-9 did not directly accommodate the coding of Acquired Immune Deficiency Syndrome (AIDS) and AIDS-related deaths, cases where AIDS was the underlying cause were coded to ICD-9 deficiency of cell-mediated immunity (279.1), from 1988 to 1995. In 1996, ABS adopted ICD-9 Clinically Modified (CM) for coding of AIDS and AIDS-related deaths. Hence, for 1996 to 1998, all AIDS-related deaths (i.e. deaths where AIDS was mentioned in any place on the death certificate) were coded to HIV infection (042-044). ICD-10 adopted from 1999 allows for the coding of AIDS and AIDS-related deaths (B20-B24).

Perinatal statistics

43 For perinatal deaths, both the main condition in the fetus/infant, and the main condition in the mother are coded to the full four-digit level of the tenth revision of ICD. Causes selected for publication in this issue are those categories which were responsible for a significant proportion of perinatal deaths.

External Causes of Death

44 Deaths that are classified to External Causes are generally of the kind that are reported to Coroners for investigation. Although what constitutes a reportable death varies across jurisdictions, they are generally reported in circumstances such as:

- 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; and
- Where the identity of the person who has died is unknown.

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 The Australian Bureau of Statistics, from the 2006 reference year, publishes leading causes of death tabulations based on research presented in the Bulletin of the World Health Organisation, Volume 84, Number 4, April 2006, 257-336. The determination of groupings in this list is primarily driven by data from individual countries representing different regions of the world. Other groupings were 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 basis of 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.

State and Territory Data

49 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. The state or territory of usual residence for a perinatal death is determined by the state or territory of usual residence of the mother.

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

Births Data

51 Appendix 1 provides details of the number of live births registered which have been used to calculate the infant death rates shown in this publication. Appendix 1 provides data on adjusted births used for calculating perinatal death rates. These also enable further rates to be calculated.

DATA QUALITY

52 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

DATA QUALITY *continued*

- seeking additional information, where necessary, from medical practitioners. The type and number of death records which are queried varies each processing year. The development of a query strategy for each particular processing year will take into consideration issues such as the resources available to undertake the query action and particular types of deaths which have in previous years been reported with lower levels of specificity on the Medical Certificate of Cause of Death.
- seeking detailed information from the National Coroners Information Service (NCIS), and if resources allow from coroners directly; and
- editing checks at the individual record and aggregate levels.

53 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.

54 Care should be taken in interpreting results in recent years for several groups of causes within Chapter XX: External causes of morbidity and mortality. See Causes of Death, Australia 2005 (cat. no. 3303.0) Explanatory Notes for further information. See also Information Paper: Causes of Death Statistics, 2006 (3317.0.55.001)

55 Further detail on issues regarding deaths certified by a Coroner can be found in Technical Note: Coroner Certified Deaths.

56 One measure of causes of death statistics quality is the proportion of deaths coded to Chapter XVIII; Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (ICD-10 codes R00-R99). Although deaths occur for which the underlying causes are impossible to determine, this proportion indicates the specific causes of death which are listed on the Medical certificate of causes of Death as completed by the certifier (i.e. Doctor or Coroner). The proportion of deaths coded to Chapter XVIII has increased steadily over the last 10 years from 0.4% (474 deaths) in 1997 to 1.1% (1518) in 2006. A major reasons for the increase in the number of deaths coded to non-specific causes relate to a change in ABS processes for obtaining information regarding coroner certified deaths. For 2006 deaths the ABS relied totally on information available on the National Coronial Information System(NCIS) for information related to deaths certified by a Coroner. In previous years, the ABS had sought additional information on coroner certified deaths were information was not available on NCIS by undertaking personal visits to Coroner offices to extract information from paper records.

Suicide (X60-X84)

57 Coding of suicide (intentional self harm) is undertaken by the ABS according to the coding rules of ICD-10. In order for a death to be coded as a suicide by the ABS, the intent notification on the National Coronial Information System must be "Intentional Self Harm". Where a case is closed on NCIS, the ABS codes the causes of death details using the final determination of intent. Where a case remains open on the NCIS at the time that the ABS ceases processing, the "intent at notification" which is recorded on NCIS is utilised by the ABS to code the causes of death. The causes of death statistics are not revised once a coronial enquiry is finalised.

58 The specificity with which cases are able to be allocated to a code for an external causes of death depends on the amount of information available at the point in time at which coding is being undertaken. The following codes may include cases which could potentially have been suicides but for which the intent was determined to be other than Intentional Self Harm. Such cases cannot be separately identified in the final causes of death statistics.

Suicide (X60-X84) continued

- Pedestrian injured in collision with railway train or railway vehicle (V05)
- Motorcycle rider injured in noncollision transport accident (V28)
- Occupant of three-wheeled motor vehicle injured in noncollision transport accident (V38)
- Car Occupant injured in noncollision transport accident (V48)
- Occupant of pick up truck or van injured in noncollision transport accident (V58)
- Occupant of heavy transport vehicle injured in noncollision transport accident (V68)
- Person injured in other specified noncollision transport accidents involving motor vehicle (traffic) (V878)
- Firearm discharge (W32, W33, W34)
- Accidental drowning (W65, W67, W69 ,W73, W74)
- Accidental strangulation/hanging/suffocation (W75, W76, W83, W84)
- Accidental falls (W13, W15, W16, W17, W19)
- Contact with sharp glass (W25)
- Contact with knife, sword or dagger (W26)
- Contact with nonpowered hand tool (W27)
- Contact with other powered hand tools and household machinery (W29)
- Exposure to unspecified electric current (W87)
- Exposure to ignition of highly flammable material (X04)
- Exposure to unspecified smoke, fire and flames (X09)
- Exposure to unspecified factor (X59)
- Accidental poisoning by and exposure to noxious substances (X40-X49 especially X47 - carbon monoxide, X48 - herbicides, X49 - chemicals)
- Events of Undetermined Intent (Y20-Y34)
- Other ill-defined and Unspecified Causes of Mortality (R99)

Perinatal Deaths (P00-P96)

59 There is some variability over time across a range of the perinatal death categories and where the numbers are small, caution should be applied in drawing inferences about change over time.

Indigenous deaths

60 While it is considered likely that most deaths of Indigenous Australians are registered, a proportion of these deaths are not identified as Indigenous by the family, health worker or funeral director during the death registration process. That is, whilst data is provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always being directly asked of relatives and friends of the deceased by the funeral director

61 The ABS publishes two statistical series that provide counts of annual number of Indigenous deaths. Each is based on a different collection, with a different propensity to identify as Indigenous. The first is a count of the number and characteristics of registered deaths which have been identified as Indigenous. The second, Experimental population Estimates and Projections, is derived from the previous Census, adjusted for undercount, and also uses registered deaths information. The most recent published data in this series is published in Experimental Estimates and Projections of Aboriginal and Torres Strait Islander Australians, 1991 to 2009 (cat. no. 3238.0). In this publication the level of mortality is presented in the 1996-2001 experimental life tables. There are two estimates of the number of Indigenous deaths each year.

62 The ratio of the number of Indigenous deaths registered to the number of expected deaths compiled from population projections is referred to as the 'implied coverage rate' and is used to assess the extent to which identification of Indigenous people occurs in the deaths collection. Given the experimental nature of the base populations, any estimates of coverage are only indicative. The assessment of the completeness of

Indigenous deaths continued

coverage of Indigenous deaths should be interpreted with caution. The table below provides current estimates of implied coverage rates for each of the states and territories.

63 This publication presents in Table 6.1 Indigenous deaths data for 2006 for all states and territories except Victoria, Tasmania and the Australian Capital Territory, which are not separately published due to a combination of comparatively small numbers, and relatively low coverage of reported Indigenous deaths.

INDIGENOUS DEATHS(a), Implied coverage—2002–2006

	Deaths registered as Indigenous	*Projected Indigenous deaths*	*Implied coverage of Indigenous deaths*(b)
State or territory	no.	no.	%
New South Wales	2 528	5 563	45
Victoria	382	1 204	32
Queensland	2 841	5 560	51
South Australia	641	1 040	62
Western Australia	1 958	2 726	72
Tasmania	111	np	(c)np
Northern Territory	2 252	2 490	90
Australian Capital Territory	48	np	(c)np
Australia(d)	**10 771**	**19 411**	**55**

np not available for publication but included in totals where applicable, unless otherwise indicated
(a) See ABS cat.no. 3302.0 (Deaths, Australia) 2006 Explanatory Notes Paragras 13 to 18 for more information.
(b) Calculated as the ratio of deaths registered as Indigenous to projected Indigenous deaths.
(c) Not calculated due to small numbers of Indigenous deaths.
(d) Includes other territories.

SPECIFIC ISSUES FOR 2006 DATA

64 A number of issues should be taken into account by users when analysing the 2006 causes of death data

Coding Changes

65 The ABS implemented a new version of the MMDS for 2006 data. The new version of the MMDS coding software includes new coding algorithms to ensure that updates to ICD-10 are implemented in the production of the statistics.

Dementia

66 There has been a significant increase in the number of deaths coded to Dementia (FO1–FO3). Updates to the coding instructions in ICD-10 has resulted in the assignment of some deaths shifting from Cerebrovascular diseases to Vascular Dementia (ICD-10 code F01). 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 service. No changes to ABS coding or query practices were made with regard to 2006 data which would impact on the number of deaths coded as Dementia.

Unspecified Causes of Mortality

67 The introduction of a new version of the MMDS software has corrected a previous coding error. Prior to 2006, deaths due to natural causes with no further information were coded to R98 Unattended Death. From 2006 these records are now coded to R99 Other ill-defined and Unspecified Causes of Mortality.

Unspecified Causes of Mortality continued

68 Information regarding coroner certified deaths prior to 2002 was obtained by ABS staff visiting coronial offices and investigating case files in order to determine causes of death. In 2003, in order to make most effective and efficient use of ABS resources, the National Coronial Information System (NCIS) was progressively introduced as the main source of information on coroner certified deaths, however visits by ABS staff continued to be made in a number of jurisdictions. From 2006, the NCIS is the only source of data used by the ABS for coroner certified deaths. This has resulted in an increase in the number of deaths assigned to R99 Other ill-defined and Unspecified Causes of Mortality due to the unavailability of information on the NCIS, particularly for New South Wales and Queensland. For further information see Coroner Certified Deaths: Technical Note.

Falls (W00–W19)

69 To reduce risk factors for falls in nursing homes in Victoria, all deaths where the medical certificate mentions falls are now referred to the coroner for verification, and the Coroner Clinical Liaison Service implemented a falls awareness campaign mid 2003. The number of deaths due to falls recorded in Victoria increased significantly in 2003 (up 50%), 2004 (over 100%) and 2005 (14.1%) and in 2006 (2.8%) whereas in previous years the deaths may have been attributed to other causes such as hypostatic pneumonia.

Perinatal Deaths

70 Only limited data is available for Perinatals for 2006. Additional data for 2006 will be published in the 2007 Causes of Death publication.

Transport Accidents

71 The Australian Transport Safety Bureau has published data in Road Deaths Australia 2006, Statistical Summary for the number of deaths due to road traffic accidents in 2006 (1,601 deaths). 2006 Causes of Death data records 1,497 deaths due to road traffic accidents. The differences in the numbers (104 deaths) between the two collections are explained by the different scope and coverage rules for each collection. In addition a number of road traffic-related deaths may be coded to R99 Other ill-defined and Unspecified Causes of Mortality due to the unavailability of information on the NCIS, particularly for New South Wales and Queensland.

Assault

72 The number of deaths recorded as assault (murder) have decreased significantly over the last 10 years, from 300 in 1997 to 155 in 2006. The number of deaths due to murder published in the Causes of Death publication vary from those previously published by the ABS in Recorded Crime - Victims, Australia, 2006 (cat. no. 4510.0). Whilst there are differences in the scope and coverage of the two collections, this is not sufficient to explain the differences in numbers. A reluctance by Coroners to make a final determination of Assault until legal proceedings have been finalised and the high number cases with a status of "open" on the NCIS may also impact on the causes of death statistics.

COMPARISON OF DEATHS CAUSED BY ASSAULT—2006

	NSW	*Vic*	*Qld*	*SA*	*WA*	*Tas*	*NT*	*ACT*	*Australia*
Recorded Crime – Victims	107	63	68	18	36	7	17	3	319
Causes of Death	65	14	23	16	19	np	13	np	155

np not available for publication but included in totals where applicable, unless otherwise indicated

73 The following codes may include cases which could potentially have been assaults but for which the intent was determined to be other than Assault. Such cases cannot be separately identified in the final causes of death statistics;

- Falls (W13, W15, W17)
- Striking, contact and exposure (W20-W22, W25, W27, W40, W49, W50, W51, W81)
- Firearm discharge (W32, W33, W34)
- Accidental strangulation/hanging/suffocation (W75, W76, W83, W84)

Assault continued

- Contact with knife, sword or dagger (W26)
- Exposure to unspecified factor (X59)
- Events of Undetermined Intent (Y20-Y34)
- Other ill-defined and Unspecified Causes of Mortality (R99)

Suicide

74 The number of deaths recorded as intentional self harm (suicide) has decreased over the last 10 years, from 2720 in 1997 to 1799 in 2006. A reluctance by Coroners to make a determination of "suicide" and the high number cases with a status of "open" on the NCIS have impacted on the 2006 suicide data. Where coroners' cases are not finalised and the findings are not available to the ABS in time for publication of causes of death statistics, deaths are coded to other accidental, ill-defined or unspecified causes rather than suicide. See paragraph 50 for further details. The causes of death statistics are not revised once a coronial enquiry is finalised.

75 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. There was an average of 10.3 suicide deaths per year of children under 15 years over the period 1997 to 2006; the highest number was registered in 1999 (17), the lowest in 2006 (7). For boys the average number of suicides per year was 6.7, while for girls the average number was 3.6. These correspond to rates of approximately 0.3 per 100,000 boys and 0.2 per 100,000 girls in this age group over this period.

EFFECTS OF ROUNDING

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

ACKNOWLEDGEMENT

77 The ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available.

RELATED PRODUCTS

78 Other ABS publications which may be of interest are outlined below. Please note, older publications may no longer be available through ABS bookshops but are available

RELATED PRODUCTS *continued*

through ABS libraries. All publications released from 1998 onwards are available on the ABS website <http://www.abs.gov.au>

- ABS Directions in Aboriginal and Torres Strait Islander Statistics, Jun 2007, cat. no. 4700.0
- Australian Demographic Statistics, cat no. 3101.0
- Australian Social Trends, cat. no. 4102.0
- Births, Australia, cat. no. 3301.0
- Causes of Deaths, Australia: Summary Tables, cat. no. 3303.0.55.001
- Causes of Infant and Child Deaths, Australia, 1982-96, cat. no. 4398.0
- Deaths, Australia, cat. no. 3302.0
- Deaths due to Diseases and Cancers of the Respiratory System, Australia, 1979-1994, cat. no. 3314.0
- Deaths From External Causes, Australia - 1998 to 2002, cat. no. 3320.0
- Demography Working Paper 2004/3 - Calculating Experimental Life Tables for Use in Population Estimates and Projections of Aboriginal and Torres Strait Islander Australians, 1991 to 2001, cat. no. 3106.0.55.003
- Drug Induced Deaths, cat. no. 3321.0.55.001
- Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 1991 to 2009, cat. no. 3238.0
- Information Paper: External Causes of Death, Data Quality, 2005, cat. no. 3317.0.55.001
- Information Paper: ABS Causes of Death Statistics: Concepts, Sources, and Methods, 2008, cat.no.3317.0.55.002
- Mortality Atlas, Australia, 1997 to 2000, cat. no. 3318.0
- Multiple Cause of Death Analysis, 1997-2001, cat. no. 3319.0.55.001
- Population Projections, Australia, 2005 to 2101, cat. no. 3222.0
- Recent Developments in the Collection of Aboriginal and Torres Strait Islander Health and Welfare Statistics, 2005, cat. no. 4704.0.55.001
- Suicides, Australia, 2005, cat. no. 3309.0
- Suicides: Recent Trends, Australia, 1993 to 2003, cat. no. 3309.0.55.001
- The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples, 2005, cat. no. 4704.0
- Trends in Mortality by Causes of Death in Australia, the States and Territories During 1971-92, and in Statistical Divisions and Sub-divisions During 1991-92, cat. no.3313.0

79 ABS products and publications are available free of charge from the ABS website <http://www.abs.gov.au>. 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.

ADDITIONAL STATISTICS AVAILABLE

80 As well as the statistics included in this and related products, additional information is available from the ABS web site at <http://www.abs.gov.au> by accessing the topics listed at Themes>People. The ABS may also have other relevant data available on request. Inquiries should be made to the National Information and Referral Service on 1300 135 070 or by sending an email to client.services@abs.gov.au.

APPENDIX 2 DATA USED IN CALCULATING DEATH RATES

DATA INPUT

The following tables contain data used in calculating the various rates referred to in this publication. The first table is used to calculate infant death rates.

A2.1 ESTIMATED RESIDENT POPULATION, by age and sex—30 June 2006

	Males	*Females*	*Persons*
Under 1	137 879	131 032	268 911
1–14	1 940 919	1 840 313	3 781 232
15–24	1 474 193	1 409 905	2 884 098
25–34	1 451 762	1 447 857	2 899 619
35–44	1 522 122	1 540 018	3 062 140
45–54	1 420 169	1 438 799	2 858 968
55–64	1 132 795	1 126 611	2 259 406
65–74	688 004	720 303	1 408 307
75–84	418 158	538 658	956 816
85–94	99 572	200 582	300 154
95 and over	4 765	17 072	21 837
All ages	10 290 338	10 411 150	20 701 488

INFANT DEATH RATE

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

A2.2 LIVE BIRTHS REGISTERED(a), Australia(b)— 1997–2006

Years	*Males*	*Females*	*Persons*
1997	129 179	122 663	251 842
2002	128 623	122 365	250 988
2003	129 193	121 968	251 161
2004	130 600	123 646	254 246
2005	133 428	126 363	259 791
2006	136 692	129 257	265 949

(a) Used to calculate infant death rates
(b) Includes other territories.

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 foetal deaths and total perinatal deaths, the rates represent the number of deaths per 1,000 total relevant births which comprises live births and fetal deaths combined (where birthweight was at least 400 grams).
- for neonatal deaths, the rates represent the number of deaths per 1,000 live births (where birthweight was at least 400 grams).

400 GRAMS/20 WEEKS GESTATION

The following table contain births data used in calculating perinatal death rates. It is used to calculate perinatal death rates based on the 400 grams/20 weeks gestation definition for foetal deaths. This definition has been predominantly used since 1997 and will be used in future issues.

400 GRAMS/20 WEEKS GESTATION *continued*

A2.3 ADJUSTED BIRTHS(a), By sex—Australia(b)—1997–2006

	LIVE BIRTHS			STILLBIRTHS(c)			TOTAL		
Years	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
1997	129 143	122 631	251 774	829	687	1 516	131 459	124 012	255 471
2002	128 613	122 350	250 963	682	558	1 240	129 295	122 908	252 203
2003	129 175	121 951	251 126	701	587	1 288	129 876	122 538	252 414
2004	130 582	123 630	254 212	732	615	1 347	131 314	124 245	255 559
2005	133 348	126 296	259 644	741	670	1 411	134 089	126 966	261 055
2006	136 627	129 183	265 810	747	647	1 394	137 374	129 830	267 204

(a) Registered births adjusted to conform to 400 grams/20 weeks definition for the calculation of perinatal death rates. See Glossary and Explanatory notes, paragraphs 13–17 for further information.

(b) Includes other territories.

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

APPENDIX 1 COMPARABILITY OF STATISTICS OVER TIME

INTRODUCTION

Comparability of mortality statistics over time is affected by a number of factors. These include issues relating to the collection, classification and processing of the data. In the late 1990's, there were two major changes within Australia, namely, the introduction of the tenth revision of the International Classification of Diseases (ICD-10) for classifying deaths registered from 1 January 1999 and the introduction of the Automated Coding System (ACS) for processing deaths registered from 1 January 1997.

A1.1 INTRODUCTION OF AUTOMATED CODING AND ICD-10

Years	*Coding Method*	*ICD revision*	COMMENTS
1979–1996	Manual	ICD-9	Prior to 1979, manual coding under relevant ICD revisions.
1997–1998	Automated	ICD-9	Comparability factors between manual and automated ICD-9 coding were produced, based on a sample of dual coded 1997 data.
1997–1998	Automated	ICD-10	1997 and 1998 data coded to ICD-10 following its introduction.
1999-	Automated	ICD-10 only	Comparability factors between ICD-9 (manually coded) and ICD-10 (automatically coded) based on 1997 backcoded data.

TIMES SERIES

As a consequence of the coding of deaths registered in 1997 and 1998 to ICD-10 as well as ICD-9, there is now a single break in time series outlined in table A4.2.

A1.2 TIME SERIES

Years	*Coding method*	*ICD revision*
1979–1996	Manual	ICD-9
1997-onwards	Automated	ICD-10

To support this single break in series table A4.3 provides concordances and comparability factors for all groupings in this publication. The concordance illustrates the conceptual differences between ICD-9 and ICD-10 classifications. The comparability factors are derived from the movements in the underlying causes of death coded in ICD-9 compared to ICD-10. Groupings with very small numbers have been annotated with an asterisk (*). Caution should be exercised when comparing the two versions of ICD for these groupings.

Additional concordance tables at the three and four digit level between records coded to ICD-9 and ICD-10 are available on request. Further information or clarification on the concordance between these revisions is available from the ABS on 1800 620 963.

COMPARISON OF NINTH AND TENTH REVISIONS OF ICD

The introduction of ICD-10 has resulted in changes to the interpretation and resultant coding of a number of causes, as outlined in the WHO publication *International Statistical Classification of Diseases and Related Health Problems Tenth Revision, Volume 2*. Causes most affected are Asthma, Mental and behavioural disorders and Diseases of the nervous system.

COMPARISON OF NINTH AND TENTH REVISIONS OF ICD *continued*

Under ICD-10, Asthma more clearly links with Chronic lower respiratory diseases, especially Bronchitis and Emphysema. Where these conditions are present, Chronic lower respiratory diseases takes precedence, resulting in a decrease in the reporting of asthma as the underlying cause.

The Chapters covering Mental and behavioural disorders and Diseases of the nervous system have undergone compensatory changes between ICD-9 and ICD-10 mainly due to Alzheimer's disease and certain dementias moving between these Chapters.

A1.3 CONCORDANCE AND COMPARABILITY FACTORS

Cause of Death	*ICD-10 Code*	*ICD-9 Code*	*Comparability factor*
All causes	***A00-Y98***	**001-999**	**1.00**
Chapter I Certain infectious and parasitic diseases	***A00-B99***	**001-139**	**1.25**
Septicaemia	A40, A41	038	1.28
Human immunodeficiency virus (HIV) disease	B20-B24	042-044	1.03
Chapter II Neoplasms	***C00-D48***	**140-239**	**1.00**
Malignant neoplasms	C00-C97	140-208	1.00
Digestive organs	C15-C26	150-157,159	0.99
Oesophagus	C15	150	1.00
Stomach	C16	151	0.99
Colon	C18	153	0.98
Rectosigmoid junction, rectum, anus and anal canal	C19-C21	154	0.98
Liver and intrahepatic bile ducts	C22	155	1.07
Pancreas	C25	157	0.99
Respiratory and intrathoracic organs	C30-C39	160-165	0.94
Trachea, bronchus and lung	C33, C34	162	0.97
Melanoma of skin	C43	172	0.98
Breast	C50	174,175	0.98
Female genital organs	C51-C58	179-184	0.99
Ovary	C56	1 830	0.98
Male genital organs	C60-C63	185-187	0.99
Prostate	C61	185	0.98
Urinary tract	C64-C68	188, 189	0.96
Kidney, except renal pelvis	C64	1 890	0.96
Bladder	C67	188	0.95
Eye, brain and other parts of central nervous system	C69-C72	190-192	0.97
Brain	C71	191	0.97
Lymphoid, haematopoietic and related tissue	C81-C96	200-208	0.97
Leukaemia	C91-C95	204-208	0.94
In situ and benign neoplasms and neoplasms of uncertain or unknown behaviour	D00-D48	210-239	1.18
Chapter III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	***D50-D89***	**279,280-289**	**1.07**
Chapter IV Endocrine, nutritional and metabolic diseases	***E00-E90***	**240-278**	**1.01**
Diabetes mellitus	E10-E14	250	0.99
Chapter V Mental and behavioural disorders	***F00-F99***	**290-319**	**0.78**
Psychoactive substance use	F10-F19	291,292, 303,304,305	1.09
Organic, including symptomatic, mental disorders	F00-F09	290	0.69
Chapter VI Diseases of the nervous system	***G00-G99***	**320-359**	**1.20**
Extrapyramidal and movement disorders	G20-G26	332-333	0.95
Alzheimer's disease	G30	3 310	1.48

A1.3 CONCORDANCE AND COMPARABILITY FACTORS *continued*

Cause of Death	*ICD-10 Code*	*ICD-9 Code*	*Comparability factor*
Chapter VII Diseases of the eye and adnexa	***H00-H59***	**360-379**	*
Chapter VIII Diseases of the ear and mastoid process	***H60-H95***	**380-389**	*
Chapter IX Disease of the circulatory system	***I00-I99***	**390-459**	**1.00**
All heart disease	I05-I09,I11, I13,I20-I25, I26,I27, I30-I52	393-398,402, 404,410-414, 415,416, 420-429	1.01
Acute rheumatic fever and chronic rheumatic heart diseases	I00-I09	390-398	0.69
Hypertensive diseases	I10-I15	401-405	1.00
Ischaemic heart diseases	I20-I25	410-414	1.01
Acute myocardial infarction	I21	410	0.96
Pulmonary heart disease and diseases of pulmonary circulation and other forms of heart disease	I26-I52	415-429	1.06
Cerebrovascular diseases	I60-I69	430-438	0.97
Diseases of arteries, arterioles and capillaries	I70-I79	440-448	0.97
Atherosclerosis	I70	440	0.98
Aortic aneurysm	I71	441	0.97
Chapter X Diseases of the respiratory system	***J00-J99***	**460-519**	**0.91**
Influenza and pneumonia	J10-J18	480-487	0.87
Chronic lower respiratory diseases	J40-J47	490-496	0.91
Emphysema	J43	492	0.86
Asthma and status asthmaticus	J45, J46	493	0.75
Chapter XI Diseases of the digestive system	***K00-K93***	**520-579**	**1.05**
Diseases of oesophagus, stomach and duodenum	K20-K31	530-537	1.04
Gastric and duodenal ulcer	K25-K27	531-533	0.99
Diseases of liver	K70-K77	570-573	1.02
Chapter XII Diseases of the skin and subcutaneous tissue	***L00-L99***	**680-709**	**1.06**
Chapter XIII Diseases of the musculoskeletal system and connective tissue	***M00-M99***	**710-739**	**1.15**
Arthropathies and systemic connective tissue disorders	M00-M36	710-719	1.19
Chapter XIV Diseases of the genitourinary system	***N00-N99***	**580-629**	**1.14**
Renal failure	N17-N19	584-586	1.05
Chapter XV Pregnancy, childbirth and the puerperium	***O00-O99***	**630-676**	*
Chapter XVI Certain conditions originating in the perinatal period	***P00-P96***	**760-779**	**0.96**
Disorders related to short gestation and low birthweight, not elsewhere classified	P07	765	*
Infections specific to the perinatal period	P35-P39	771	*
Haemorrhagic and haematological disorders of fetus and newborn	P50-P61	772-774,776	*

A1.3 CONCORDANCE AND COMPARABILITY FACTORS *continued*

Cause of Death	*ICD-10 Code*	*ICD-9 Code*	*Comparability factor*
Chapter XVII Congenital malformations, deformations and chromosomal abnormalities	***Q00-Q99***	**740-759**	**1.03**
Congenital malformations of the nervous system	Q00-Q07	740-742	1.00
Congenital malformations of the circulatory system	Q20-Q28	745-747	1.12
Congenital malformations of the respiratory system	Q30-Q34	748	0.90
Chapter XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	***R00-R99***	**780-799**	**0.76**
Sudden infant death syndrome	R95	7 980	0.94
Chapter XX External causes of morbidity and mortality	***V01-Y98***	**E800-E999**	**1.06**
Accidents	V01-X59	E800-E949	1.05
Transport accidents	V01-V99	E800-E848	1.03
Falls	W00-W19	E880-E886,E888	1.10
Accidental drowning and submersion	W65-W74	E910	1.03
Intentional self-harm	X60-X84	E950-E959	0.97
Hanging, strangulation and suffocation	X70	E953	0.97
Assault	X85-Y09	E960-E969	1.02

APPENDIX 3 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 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 2 YEARS OF POTENTIAL LIFE LOST

YEARS OF POTENTIAL LIFE LOST

1 YPLL measures the extent of 'premature' mortality, which is assumed to be any death at ages of 1–78 years inclusive, and aids in assessing the significance of specific diseases or trauma as a cause of premature death.

2 Estimates of YPLL were 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 a standard population which is the 2001 census. This standard is revised every 10 years.

3 Several variables are used in calculating YPLL.
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 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 2006
N_x = estimated number of persons resident in Australia aged x years at 30 June 2006
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 30 June 2001 (standard population)

TECHNICAL NOTE 1 CORONER CERTIFIED DEATHS

INTRODUCTION

1 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. For information regarding the types of deaths certified by a Coroner, please refer to Explanatory Note 35.

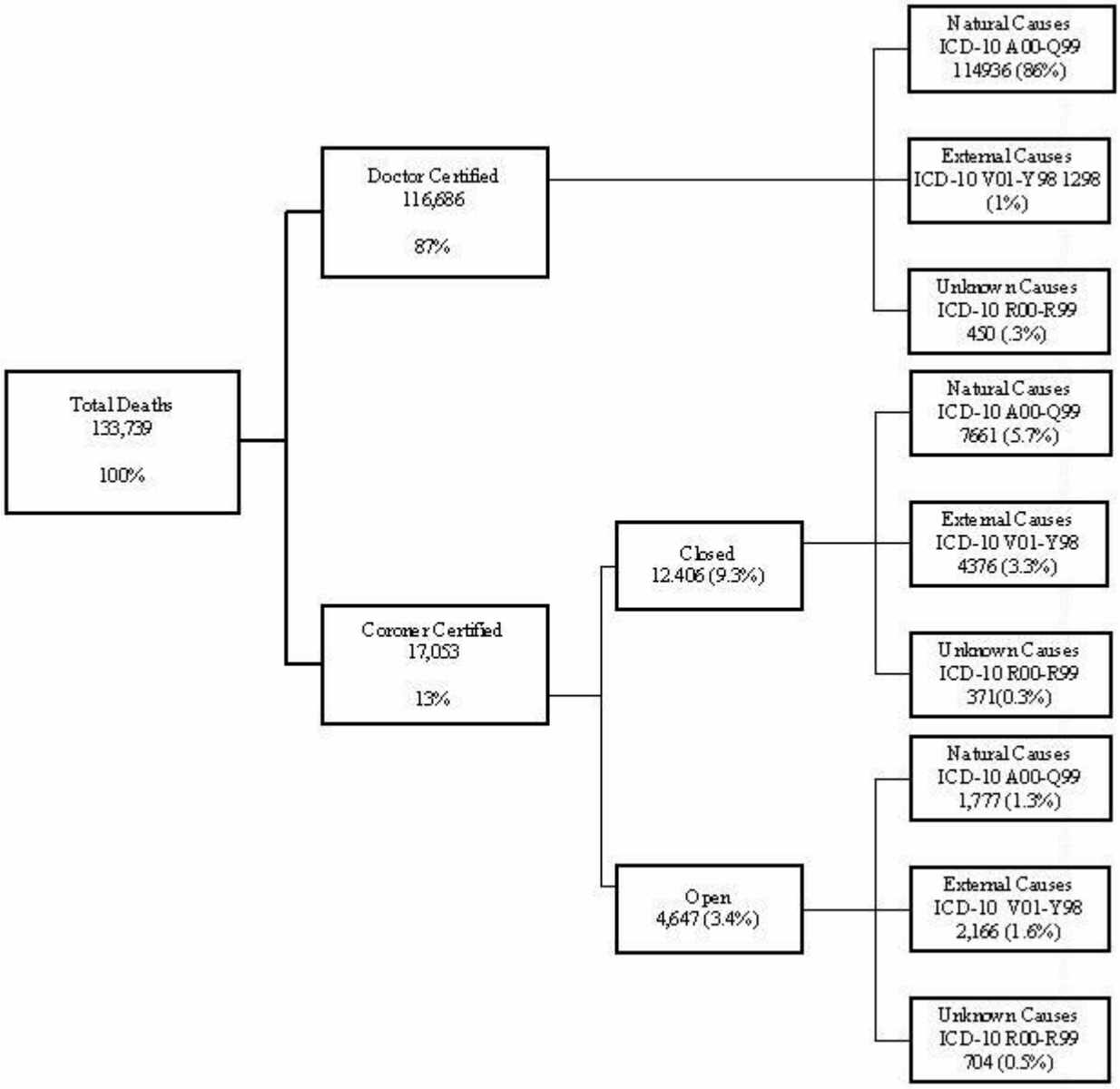
2 Further information on coronial certified deaths and ABS processing can be obtained in Information Paper: External Causes of Death, Data Quality and Information Paper: Overview of ABS Causes of Death Collection (cat. no. 3317.0.55.002).

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

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

4 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. When coronial investigations are complete, causes of death information is passed to the Registrar of Births, Deaths and Marriages, as well as to the National Coronial Information System (NCIS). The ABS accesses information on the NCIS in order to code coroner certified deaths. Where a case remains open on the NCIS at the time that the ABS ceases processing, all available information is used by the ABS to code the cause of death.

5 The following diagram describes registered deaths in 2006 with regard to the type of certifier, the "type" of death and whether information was available on the NCIS at the end of the ABS 2006 Causes of Death processing period.



TYPE OF CERTIFIER

6 ABS Causes of death processing is finalised at a point in time. This may mean that not all deaths registered in the reference year which were referred to the coroner, have been investigated, the case closed and relevant information loaded to the NCIS. The coronial process can take several years if an inquest is being held or complex investigations are being undertaken. However, any general increase in the length of coronial investigations (or in the workload of coroners) or, the timeliness of input of coronial findings to the NCIS, has the potential to affect data quality in terms of specificity given that the need for timely information limits the amount of time available to wait for the findings of the longer cases. The fact that a case is still open limits the amount of information available to the ABS in order to be able to code causes of death, and may result in a less specific code being allocated consistent with ICD-10 coding rules.

7 For deaths registered in 2006, 12.7% were certified by a Coroner. There are variations between jurisdictions, from 11.3% in New South Wales to 32.2% in the Northern Territory.

TYPE OF CERTIFIER *continued*

DEATHS, by Type of Certifier—2006

	Doctor		Coroner		Total	
	no.	%	no.	%	no.	%
NSW	40 510	88.7	5 160	11.3	45 670	100.0
Vic.	28 813	86.5	4 513	13.5	33 326	100.0
Qld	21 729	88.2	2 915	11.8	24 644	100.0
SA	10 070	84.3	1 876	15.7	11 946	100.0
WA	10 139	85.0	1 523	15.0	11 662	100.0
Tas.	3 454	88.3	460	11.7	3 914	100.0
NT	624	67.8	297	32.2	921	100.0
ACT	1 347	81.4	309	18.6	1 656	100.0
Aust.	**116 686**	**87.3**	**17 053**	**12.7**	**133 739**	**100.0**

OPEN AND CLOSED CASES ON NCIS

8 Of those deaths which were certified by a Coroner, 73% had a status of "closed" on NCIS and had full information available to the ABS in order to undertake cause of death coding. The proportion of cases which have a status of "open" on the NCIS varies significantly between jurisdictions. At an Australian level 17% of cases had a status of open at the cessation of ABS processing , with a low of 10% in Victoria to a high of 65% in Queensland. The ABS contacted all Coronial Registrars seeking information on any finalised coronial investigations which were not as yet finalised on the NCIS. Both New South Wales and Queensland provided information which indicates that of the cases with a status of "open" on NCIS for those jurisdiction, approximately 80% have been finalised by the Coroner but had not yet been loaded to the NCIS. No other jurisdiction indicated any significant backlog. Taking into account any apparent administrative backlog in loading data to the NCIS, it appears that approximately 10 - 20% of coronial cases are still under investigation 1 year after the end of the reference period.

9 Open cases accounted for 3.4% of all deaths registered in 2006. The cases with a status of "open" on the NCIS, were investigated with regard to whether the cases were of an unknown cause, natural cause or external cause. Nearly a third (29%) of external causes and two thirds of unknown causes (65%) remained open on the NCIS at the close of processing. A small proportion of natural cause deaths (1.4%) also remained open.

OPEN CORONER'S CASES, by type of cause—2006

	NSW	Vic.	QLD	SA	WA	Tas.	NT	ACT	Aust.
External Cause	691	313	748	121	220	36	26	11	2 166
Natural Cause	775	127	703	86	42	12	10	22	1 777
Unknown Cause	153	12	450	8	61	5	8	7	704
Total	**1 619**	**452**	**1 901**	**215**	**323**	**53**	**44**	**40**	**4 647**

10 704 open cases (15%) had insufficient information recorded on NCIS in order to be able to determine any cause of death. These records have been coded to R99 Other ill-defined and unspecified causes of mortality.

11 1777 open cases (38%) had enough information to determine that the cause of death was a natural cause i.e. would be coded to Chapters I to XVII. Of these cases, 459 (26%) were cases relating to chronic heart disease and 228 (13%) related to acute myocardial infarction (heart attack). Overall 1173 (66%) of open cases which were identified as natural causes related to Chapter IX Circulatory Diseases. The remaining 604 (38%) cases were related to a range of other Chapters.

12 Nearly half of all open cases (47%) 2,166 related to external causes. Of the 7,840 deaths attributed to external causes in 2006, 29% were open cases on the NCIS.

ISSUES FOR OPEN CASES ON NCIS

13 Further analysis has been completed of open cases on NCIS to consider mechanism of injury for those cases that were coded to external causes.

OPEN CASES ON NCIS AT END OF ABS PROCESSING WHICH RELATE TO EXTERNAL CAUSES—2006

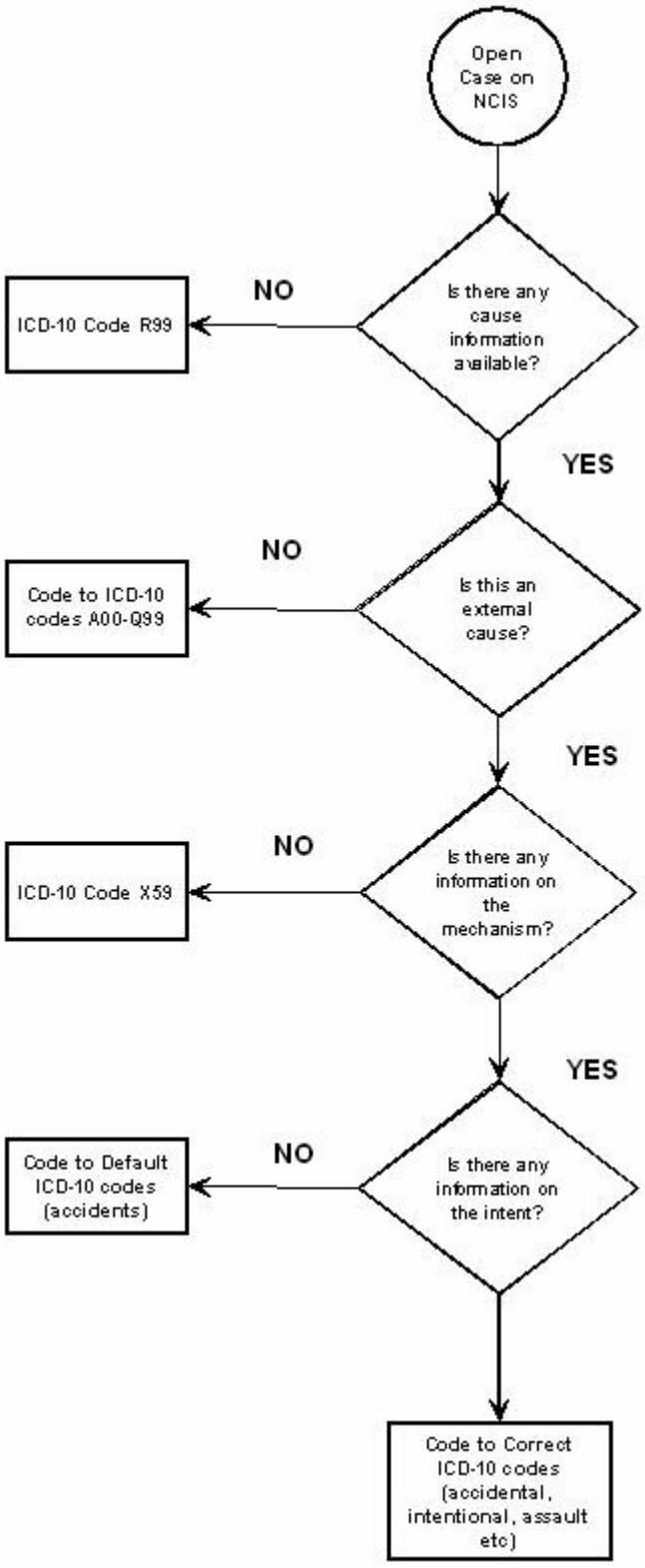
	NSW	*Vic.*	*QLD*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Hanging	83	24	136	16	34	8	3	—	304
Falls	37	25	53	11	19	3	—	1	149
Poisoning	128	56	67	24	41	7	1	3	327
Drowning	37	6	43	2	5	—	—	—	93
Transport accidents	92	114	267	21	81	10	9	3	597
Firearms	25	8	35	1	8	1	1	2	81
Sharp objects	20	27	25	5	5	3	6	2	93
Other external causes	62	43	64	23	15	3	4	—	214
Unspecified external cause	207	10	58	18	12	1	2	—	308
Total	**691**	**313**	**748**	**121**	**220**	**36**	**26**	**11**	**2 166**

— nil or rounded to zero (including null cells)

14 Cases related to Transport Accidents accounted for 27% of all open external cause cases, with Poisonings and Hangings accounting for 15% and 14% respectively at a national level. Unspecified causes accounted for 14% of cases. The types of cases still open on NCIS at the cessation of ABS processing vary in proportion across the states and territories, with no discernible pattern.

15 The specificity with which open cases are able to be allocated an ICD-10 code will be 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. If no information is available about the death on NCIS. The diagram below represents the decision flow for treatment of open cases on NCIS when assigning ICD-10 codes.

ISSUES FOR OPEN CASES ON NCIS *continued*



16 The causes of death statistics are not currently revised once a coronial enquiry is finalised, even if additional information subsequently becomes available. At the cessation of ABS causes of death processing, ICD-10 coding occurs using whatever information is available on the NCIS.

ISSUES FOR OPEN CASES ON NCIS *continued*

17 The results of this study are currently being considered by the ABS with regard to possible introduction of a "revisions" process for causes of death commencing with regard to the 2007 reference year. Initial consultation with major users has commenced. An information paper will be released prior to the publication of 2007 Causes of Death which will inform users of the ABS proposed strategy, processes and data implications for a revisions process.

ISSUES FOR CLOSED CASES ON NCIS

Intent

18 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).

19 The determination of "intent" for each death (whether intentional self harm, accidental, homicide, undetermined intent) is essential for determining the appropriate ICD-10 code to use for a death.. However, 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. There also may be a reluctance by Coroners to make a final determination of Assault until legal proceedings have been finalised

20 The NCIS records intent on both open and closed cases. Where a case is closed, the ABS codes the cause of death details using the final determination of intent. Where a case remains open on the NCIS at the time that the ABS ceases processing, the "intent at notification" which is recorded on NCIS is utilised by the ABS to code the cause of death.

21 The table below indicates ICD-10 codes that will be allocated according to the intent notification which appears on the NCIS.

CONCORDANCE OF NCIS INTENT CODES AND ICD10 CODES

ICD-10	*NCIS "Intent" Responses*
Transport Accidents (V01–V99)	Unintentional
Other external causes of accidental injury '(W00–W99)	Unintentional
Sequelae of transport and other accidents (Y85–Y86)	Unintentional
Sequelae of other external causes and supplementary factors (Y89–Y98)	Unintentional
Intentional self-harm (X60–X84, Y87)	Intentional self-harm
Assault (X85–Y09,Y87)	Assault
Legal intervention (Y35)	Legal intervention
Operations of war (Y36)	Operations of war, civil conflict and acts of terrorism
Complications of medical or surgical care (Y40–Y84, Y88)	Complications of medical or surgical care
Undetermined intent (Y10–Y34, Y87)	Undetermined intent
Transport Accidents (V01–V99)	Still enquiring
Other external causes of accidental injury (W00–W59)	Still enquiring
Sequelae of transport and other accidents (Y85–Y86)	Still enquiring
Sequelae of other external causes and supplementary factors (Y89–Y98)	Still enquiring Sequelae of other external causes and supplementary factors
Undetermined intent (Y10–Y34), Y87	Unlikely to be known

22 A coronial case may be closed and all information be uploaded to the NCIS, however not have any record of "intent" on the closed case. At the time of the cessation of ABS processing of 2006 causes of death data, 273 deaths which were registered in 2006, had a status of "closed" on NCIS, however there was no intent specified. This

Intent continued

represents 3.6% of all external causes. The majority (60%) of these type of records were in Victoria with a mechanism of injury of "falls".

REGISTERED DEATHS WHICH HAD A STATUS OF "CLOSED" ON NCIS, by mechanism—by State or Territory—2006

	NSW	*Vic*	*QLD*	*SA*	*WA*	*TAS*	*NT*	*ACT*	*AUST*
Hanging	1	2	1	—	2	—	—	—	6
Falls	2	161	2	2	1	1	—	—	169
Poisoning	19	38	13	2	3	—	—	—	75
Other external Cause	3	8	5	4	3	—	—	—	23
Total	**25**	**209**	**21**	**8**	**9**	**1**	—	—	**273**

— nil or rounded to zero (including null cells)

23 These 273 records have been coded to the following codes:

ICD10 CODES ASSIGNED, by cause of death

	ICD10 Codes
Hanging	W76
Falls	W00-W19
Poisoning	X40 - X49
Other external Cause	V01 - V99, W20 - W75, W77- W99, X00 - X39, X50- X59,X85 - X99, Y00-Y09, Y35- Y98

GLOSSARY

Adjusted births Registered births adjusted by removing all stillbirths and neonatal deaths where birthweight was known to be less than 400 grams. This is the denominator used in calculating perinatal death rates in this publication. This adjustment is made in order to enable meaningful perinatal death rates to be calculated. See Explanatory Notes, paragraph 6.

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

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

Death rates Three forms of death rate are shown in the general deaths section in this publication. These are standardised death rates, age-specific death rates and infant death rates, as defined below:

- *Standardised death rates* enable the comparison of death rates between populations with different age structures by relating them to a standard population, in this case all persons in the 2001 Australian population. They are expressed per 100,000 persons. The standardised death rate 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 — see tables 1.3, 1.8 and 1.9. The standardised death rates in this publication are calculated using both the *direct method* and *indirect method*.
  - 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.
- *Age-specific death* rates relate to deaths for age groups other than under one year and are the number of deaths per 100,000 of the mid-year estimated resident population as at 30 June of that year in a particular age/sex group — see table 1.2.
- *Infant death rates* relate to deaths of children under one year of age and are the number of deaths per 1,000 live births in the year — see table 1.2.

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 total relevant births which comprises live births and fetal deaths combined (where birthweight was at least 400 grams).
- for neonatal deaths, the rates represent the number of deaths per 1,000 live births (where birthweight was at least 400 grams).

Fetal death A fetal death is the delivery of a child, who did not, at any time after delivery, breathe or show any other evidence of life such as a heartbeat. (A birthweight criterion applies. See Explanatory Notes, paragraphs 6-10).

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. See Explanatory Notes, paragraphs 15-21 and Appendix 4 for more information on ICD. Further information also is available from the WHO website<<www.who.int>>.
Infant death	The death of a child before its first birthday.
Live births	A live birth is the birth of a child, who, after delivery, breathes or shows any other evidence of life such as a heartbeat. (A birthweight criterion applies. See Explanatory Notes, paragraphs 8-10).
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 (injury or poisoning) multiple causes include circumstances of injury, the nature of injury as well as any other conditions reported on the death certificate.
Neonatal death	A neonatal death is the death within 28 days of birth of any child who, after delivery, breathed or showed any other evidence of life such as a heartbeat. (A birthweight criterion applies. See Explanatory Notes, paragraphs 6-8).
Perinatal death	A perinatal death is a fetal death or neonatal death. (A birthweight criterion applies. See Explanatory Notes, paragraphs 6-8).
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.
Total Relevant Births	Total Relevant Births comprises live births and fetal deaths combined (where birthweight was at least 400 grams)
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.
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 Technical Note for an explanation of the calculation of YPLL.

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