

**Monograph No. 10**

# **Causes of Death**

**ACT**

**1998**



**Peter Luke  
Olivia Phongkham  
Population Health Information Unit  
Health Information Service  
August 2000**

# Causes of Death ACT, 1998

## CONTENTS

<b>1</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>3</b>
<b>2</b>	<b>INTRODUCTION .....</b>	<b>4</b>
<b>3</b>	<b>UNDERLYING CAUSES BY PRINCIPAL DIAGNOSTIC GROUPS.....</b>	<b>4</b>
3.1	DISEASES OF THE CIRCULATORY SYSTEM .....	5
3.2	NEOPLASMS.....	5
3.3	DISEASE OF THE RESPIRATORY SYSTEM.....	6
3.4	ACCIDENTS, POISONING AND VIOLENCE.....	6
<b>4</b>	<b>AGE-SPECIFIC DEATH RATE, UNDERLYING CAUSES.....</b>	<b>6</b>
4.1	CAUSES OF DEATH BY AGE GROUP .....	6
<b>5</b>	<b>MULTIPLE CAUSES OF DEATH .....</b>	<b>7</b>
5.1	RATIO OF MULTIPLE CAUSES TO UNDERLYING CAUSES.....	7
5.2	LEADING MULTIPLE CAUSES .....	8
<b>6</b>	<b>COMPARISON LEADING CAUSES OF DEATH WITH AUSTRALIA .....</b>	<b>9</b>
	<b>TECHNICAL NOTE.....</b>	<b>17</b>
	<b>ABBREVIATIONS .....</b>	<b>17</b>
	<b>REFERENCES.....</b>	<b>17</b>

## LIST OF TABLES

TABLE 1: UNDERLYING CAUSE OF DEATH, BY AGE AND SEX, ACT, 1998 .....	11
TABLE 2: AGE-SPECIFIC DEATH RATES (A), UNDERLYING CAUSES, ACT, 1998.....	12
TABLE 3: UNDERLYING AND MULTIPLE CAUSES OF DEATH, NUMBER AND RATIOS, ACT, 1998 .....	13
TABLE 4: UNDERLYING AND MULTIPLE CAUSES OF DEATH, CRUDE DEATH RATES (A), ACT, 1998.....	14
TABLE 5: UNDERLYING CAUSES OF DEATH AND NUMBER OF OTHER CAUSES RECORDED, ACT, 1998 .....	15

## LIST OF FIGURES

FIGURE 1: ACT MAJOR UNDERLYING CAUSES OF DEATH BY PRINCIPAL DIAGNOSTIC GROUPS.....	5
FIGURE 2: DEATHS, SELECTED CAUSES BY AGE GROUP.....	7
FIGURE 3: RATIO OF MULTIPLE TO UNDERLYING CAUSES OF DEATH.....	8
FIGURE 4: ACT LEADING MULTIPLE AND UNDERLYING CAUSES OF DEATH -1998.....	9
FIGURE 5: SELECTED UNDERLYING CAUSES, CRUDE DEATH RATES, ACT & AUSTRALIA, 1998 .....	9
FIGURE 6: SELECTED MULTIPLE CAUSES, CRUDE DEATH RATES, ACT & AUSTRALIA, 1998.....	10
FIGURE 7: PROPORTION OF TOTAL DEATHS, ACT AND AUSTRALIA, 1998 .....	10

# 1 Executive Summary

In 1998 there were 1,272 people who died in the Australian Capital Territory (ACT). This represents a crude death rate of 4.1 per 1,000 population and is the lowest of all States and Territories. The main reason for this is the ACT has a younger population than the national average with a median age of 32.1.

Historically<sup>i</sup>, the ACT standardised death rates, with the exception of two years for females (1990, 1994), were consistently below those for Australia. In 1998, the death rates in the ACT were lower than national rates for all leading causes except motor vehicle accidents. The motor vehicle accident's death rate in the ACT is 10 per 100,000 compared with 9.3 nationally.

The following points are the major findings from analysing the 1998 deaths data which was supplied by the Australian Bureau of Statistics (ABS)

- The ACT's age-standardised death rate continues to fall in line with the national trends.
- In 1998 the median<sup>ii</sup> ages for death in the ACT were 72.7 years for males and 78.9 for females, which is below the national average. The median age for death in Australia was 74.5 years for males and 81.0 years for females.
- The ACT infant mortality rate in 1998 was 6.0 per 1,000 live births compared to 5.0 for Australia.
- The major causes of death in the ACT (by Principal diagnostic group) , as in the rest of Australia, are circulatory system and malignant neoplasms (cancers).
- The number of suicide deaths which were the highest (42 deaths) on record in 1997 decreased to 31 deaths in 1998. However, the decrease mainly occurred in females (down from 13 in 1997 to 3 in 1998). The number of male suicide deaths in 1998 was 28 compared with 29 deaths in 1997.

## 2 Introduction

In 1999, the Australian Bureau of Statistics (ABS) first published<sup>iii</sup> both underlying and multiple causes of death for Australia. This is the second edition of the monograph that provided data for the 1998 causes of death in the ACT. According to the ABS<sup>iv</sup>, the definition of:

- ***Underlying cause*** 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 circumstance of the accident or violence, which produced the fatal injury, rather than to the nature of the injury.
- ***A multiple cause*** is  
All morbid conditions, diseases and injury 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. 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.

For example, if a person was involved in a motor vehicle traffic accident and suffered a fatal brain injury, the underlying cause of death would be 'motor vehicle traffic accident', because it was that event that caused the brain injury. The brain injury, although being the immediate cause of death, would be recorded as a multiple cause. The distribution of deaths attributed to particular causes varies according to whether we consider underlying or multiple causes of death (refer Table 1 and Table 2).

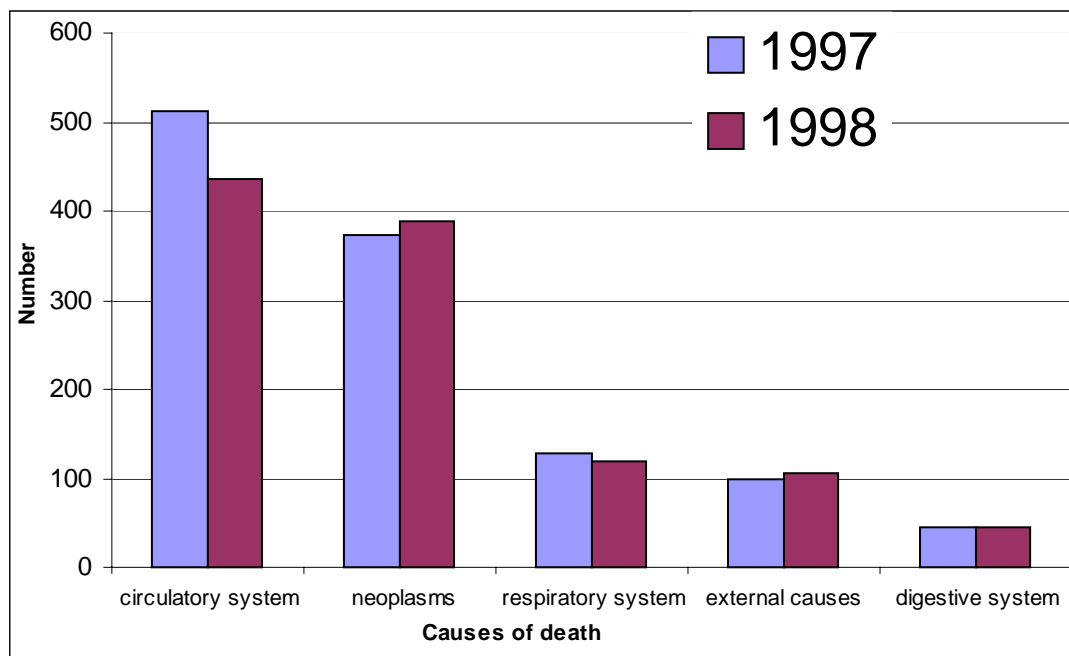
## 3 Underlying causes by principal diagnostic groups

In 1998, there were 1,272 deaths in the ACT compared with 1,334 deaths in 1997. The age standardised death rate also decreased from 4.33 per 1,000 persons in 1997 to 4.13 in 1998. During 1998, there were 646 male and 626 female deaths in the ACT. Similar to 1997, 65 percent of male deaths and 77 per cent of female deaths involved people aged 65 years or more. Table 1 details deaths due to underlying causes for ACT residents in 1998.

The leading causes of death in 1998 (by principal diagnostic group) were circulatory diseases (435 deaths); neoplasms (383 deaths); respiratory diseases (118 deaths); accidents, poisonings and violence (106 deaths) and digestive system diseases (45 deaths). The corresponding figures for 1997 were 512 death from diseases of the circulatory system, 374 deaths from neoplasms, 128 deaths from diseases of the respiratory system, 99 deaths from accidents, poisonings and violence and 45 deaths from diseases of the digestive system (refer Figure 1). These two set of numbers are similar except for the disease of the circulatory system. The number of deaths caused by the diseases of the circulatory system in 1998 was 18 percent less than in 1997. For

leading causes of death, males predominated in external causes, neoplasms and digestive system diseases.

**Figure 1: ACT major underlying causes of death by Principal diagnostic Groups**



Source: ABS Causes of Death ACT 1997, & 1998, Confidentialised unit record file

### 3.1 Diseases of the circulatory system

The largest group of underlying causes of death in the ACT was from diseases of the circulatory system. The number of deaths in 1998 was 435 persons. The majority (86%) was aged 65 and over. Males dominate up to age 84. However, females represent 73 percent of deaths caused by diseases of the circulatory system for 85 and over age group. Within the diseases of the circulatory system, ischaemic heart disease (with 217 deaths) and cerebrovascular (stroke) disease (with 166 deaths) were the major diseases.

### 3.2 Neoplasms

Neoplasms were the second major group of underlying causes of death in the ACT during 1998. Nearly all of them (98%) were from malignant neoplasms (cancer). The most common parts of the human body affected by the malignant neoplasms (cancer) were:

Respiratory and intrathoracic organs	83 deaths (52 males and 31 females)
Breast	40 deaths (1 male and 39 females)
Colon	37 deaths (18 males and 19 females)
Lymphatic & haematopoietic tissue	33 deaths (16 males and 17 females).

Malignant neoplasms (cancer) was the leading cause of death in 1998, accounting for 30 percent of all deaths compared with 27 percent in Australia (refer to Table 1).

### **3.3 Disease of the respiratory system**

The third major underlying causes of death was disease of the respiratory system. During 1998, there were 118 deaths (128 deaths in 1997) caused by diseases of the respiratory system, 89 percent of them were aged 65 and over. The majority were due to chronic obstructive pulmonary disease and allied conditions (60 deaths) and pneumonia and influenza (36 deaths).

### **3.4 Accidents, poisoning and violence**

There was a marked sex difference in deaths due to accidents, poisonings and violence. In 1998, the external causes (accidents, poisoning and violence) for males were 3 times higher than females. The majority of males (76%) who died because of accidents, poisonings and violence were aged between 15 and 54. Most deaths due to accidental falls involved people aged 65 years or more, and the majority (58%) was women. In 1998, there were 28 males in the ACT who committed suicide compared with only 3 females. Most (76%) of these males were aged between 15 and 54.

## **4 Age-specific death rate, underlying causes**

Table 2 reveals that age specific death rates for males for all causes of deaths exceeded those for females except in the age group under one year and 1-14 years. Male death rates exceeded those for females for infectious and parasitic diseases, diseases of the blood-forming organs, diseases of the digestive system and external causes of injury. Female death rates were higher on endocrine, nutritional and metabolic diseases, diseases of the circulatory system, disease of the respiratory system, diseases of the genitourinary system and diseases of the musculoskeletal system and connective tissue.

In 1998, male deaths due to external causes were 3 times higher than females. The number of males who died due to suicide, was 9 times higher than females. However, females in 75-84 age group are twice as likely to have a death due to an accidental fall than males.

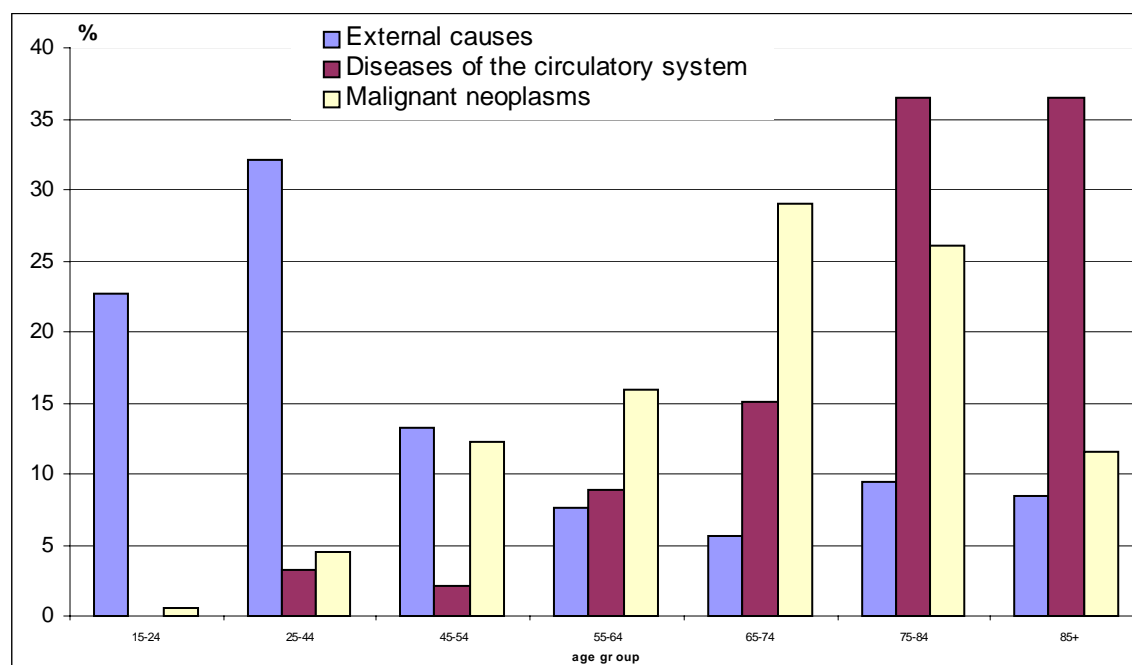
The ACT infant mortality rate in 1998 was 6.0 per 1,000 live births compared to 5.0 for Australia.

### **4.1 Causes of Death by age group**

Many causes and conditions of death tend to be age specific. A condition or event that is dominant in a specific age group may be minor when looked at in terms of the entire population. External causes (particularly motor vehicle accidents) are the leading causes of death in the 15-24 and 25-44 age group. Diseases of the circulatory system (particularly ischaemic heart disease) accounted for more than half the deaths for the age group 85 and over. Cancers (malignant neoplasms) is the leading cause of death for age

groups 55-64 and 65-74, while the leading causes of death for the age group 75-84 are cancers and heart disease. Figure 2 shows the percentage of deaths for a few selected causes which highlights the differences between different age groups.

**Figure 2: Deaths, Selected Causes By Age Group**



Source: ABS, Deaths in the ACT 1998, Confidentialised unit record file

## 5 Multiple causes of death

Multiple causes of death include all causes and conditions reported on the death certificate. Deaths that occur due to external causes (accidents, poisoning and violence) are classified according to the event leading to fatal injury (eg accidental fall). Multiple cause data for external causes include the nature of injury or poisoning, as well as any other conditions reported on the death certificate.

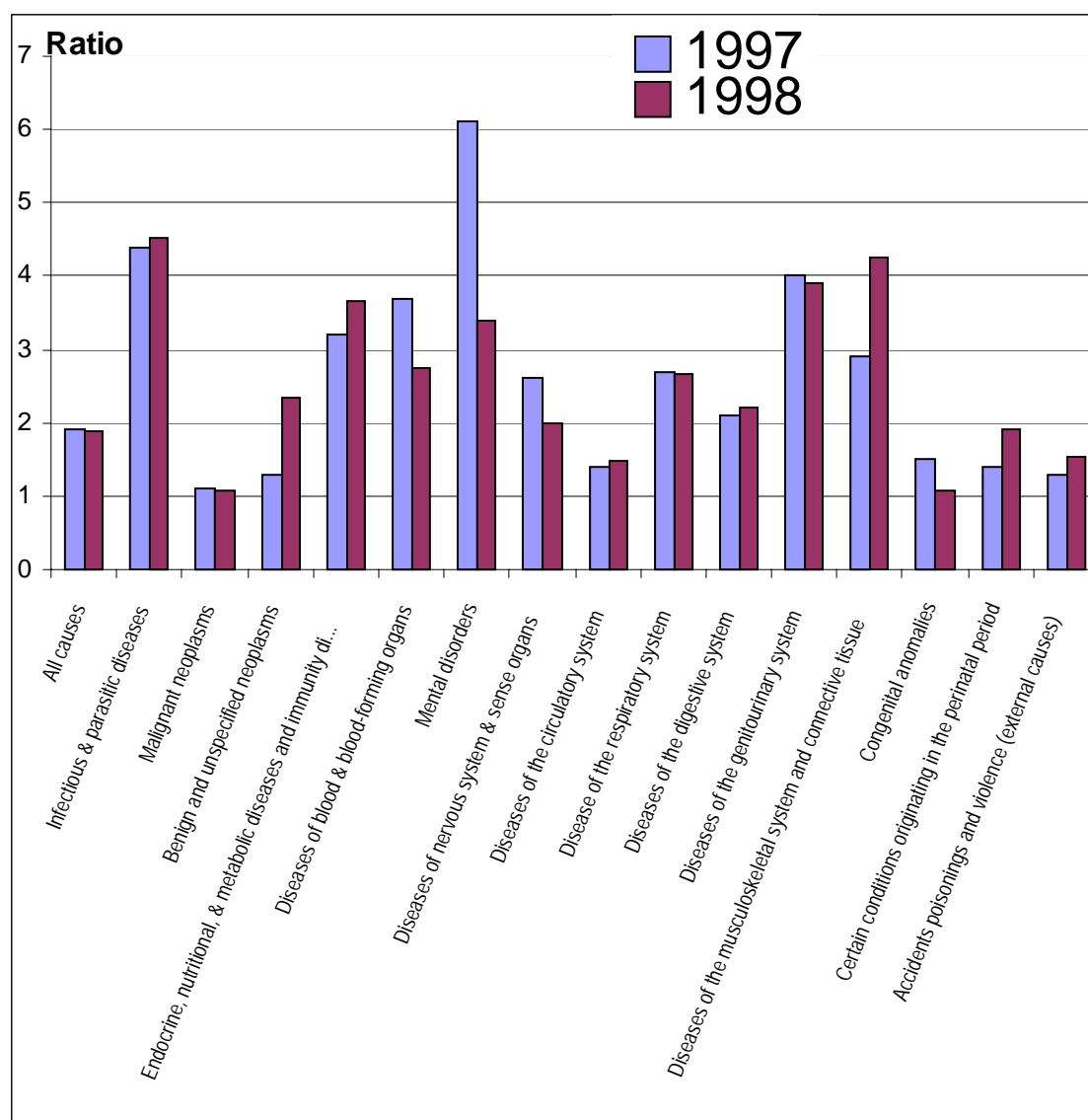
In 1998, a total of 3,331 (this include 935 injuries) causes were coded for the 1,272 deaths registered in the ACT giving an average of 2.6 causes per death. More than one cause was coded for more than 77 percent of deaths. 46 percent of deaths involved two or more causes. The details of causes of death and their corresponding International Classification of Diseases, 9<sup>th</sup> Revision (ICD9) code are listed in Table 4.

### 5.1 Ratio of multiple causes to underlying causes

The ratio of multiple causes to underlying causes of death shows whether a cause is more likely to be a contributing cause of death than an underlying cause (refer Table 4). For example, mental disorders had a ratio of 3.4 indicating that they were more likely to be multiple causes of death. Some conditions, such as hypertensive disease, had a very high ratio (26.3) of underlying to multiple causes. Such conditions may rarely be fatal on their own, but increase the risk of death when combined with other conditions. In the

ACT, these large ratios could vary substantially by chance from year to year because of the small number of deaths for which these conditions are underlying causes (refer to Figure 3). The high ratio (34.7) for ‘symptoms, signs and ill-defined conditions’ is the result of two factors. Coding rules only permit this group of conditions as an underlying cause when no other specific cause appears on the death certificate, which is rarely the case. However, many individuals will have vague symptoms, signs and conditions apart from the clear underlying cause of death. Coding rules specify that when such events appear on death certificates they are multiple causes. Therefore, for this category, the ratio of multiple to underlying causes will be large.

**Figure 3: Ratio of multiple to underlying causes of death**



Source: ABS Causes of Death ACT 1997 and 1998, Confidentialised unit record file

## 5.2 Leading Multiple Causes

In 1998 the four leading underlying causes (malignant neoplasms, diseases of the circulatory system, respiratory system and external causes) of death were also the four leading multiple causes. The ranking was also the same for both underlying and



multiple causes, however, the percentage (to total) was different due to multiple causes being contributory factors as well.

**Figure 4: ACT Leading Multiple and Underlying Causes Of Death -1998**

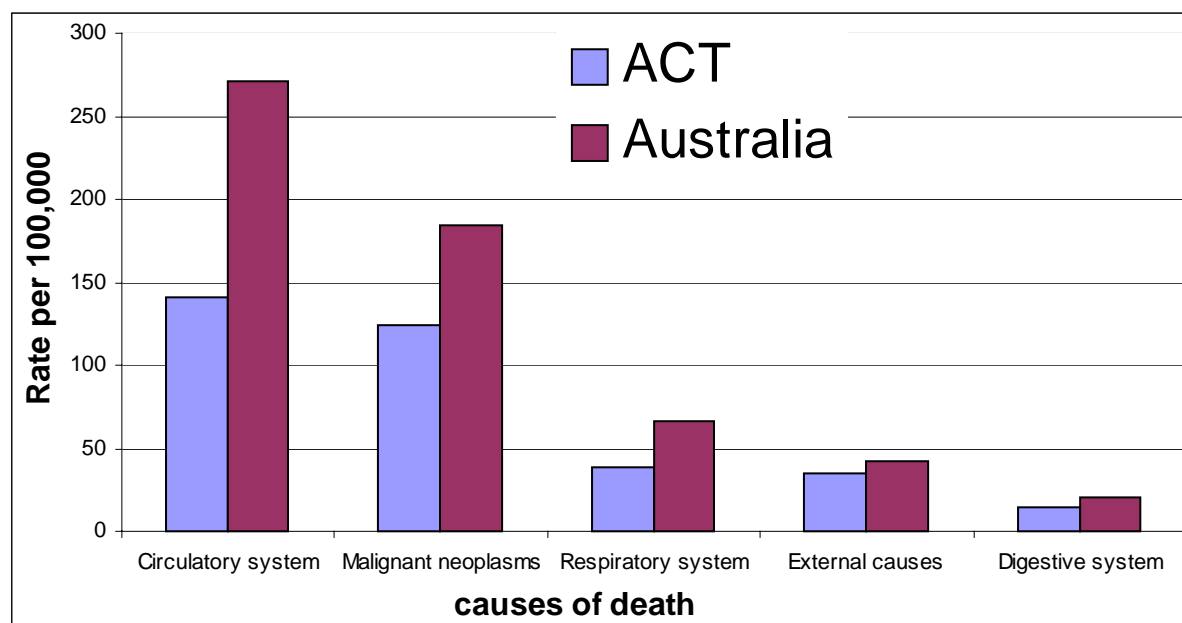
	Multiple causes			Underlying causes		
	No	%	rank	No	%	rank
Circulatory System	643	26.8	1	435	34.2	1
Malignant neoplasms	411	17.2	2	383	30.1	2
Respiratory system	316	13.2	3	118	9.3	3
External causes	163	6.8	4	106	8.3	4

Source: ABS, Causes of Death 1998, Confidentialised unit record file  
 ABS, Causes of Death Australia 1998, Catalogue No. 3303.0

## 6 Comparison leading causes of death with Australia

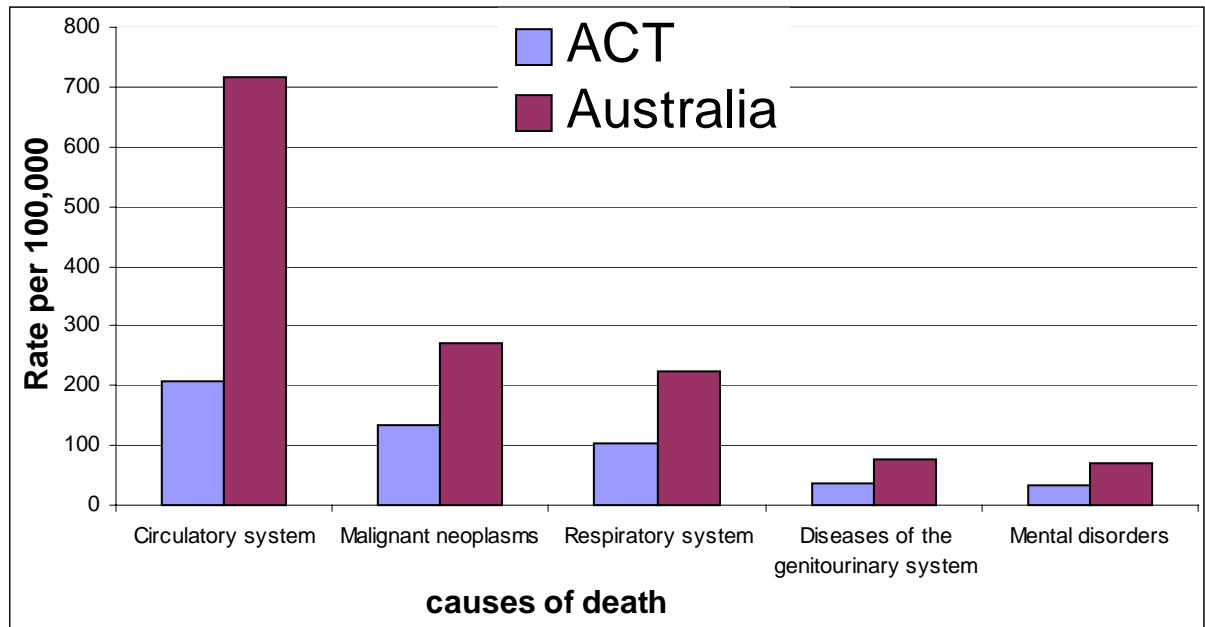
For leading underlying and selected multiple causes of death, rates for the ACT were all below corresponding rates for Australia (refer to Figure 5 and Figure 6). This is largely because the ACT population is substantially younger than the total Australian population. However, the death rate for accidents, poisonings, and violence (external causes) in the ACT was similar to the whole of Australia.

**Figure 5: Selected underlying causes, crude death rates, ACT & Australia, 1998**



Source: ABS Causes of Death ACT 1998, Confidentialised unit record file  
 ABS Causes of Death Australia, 1998 Catalogue No. 3303.0

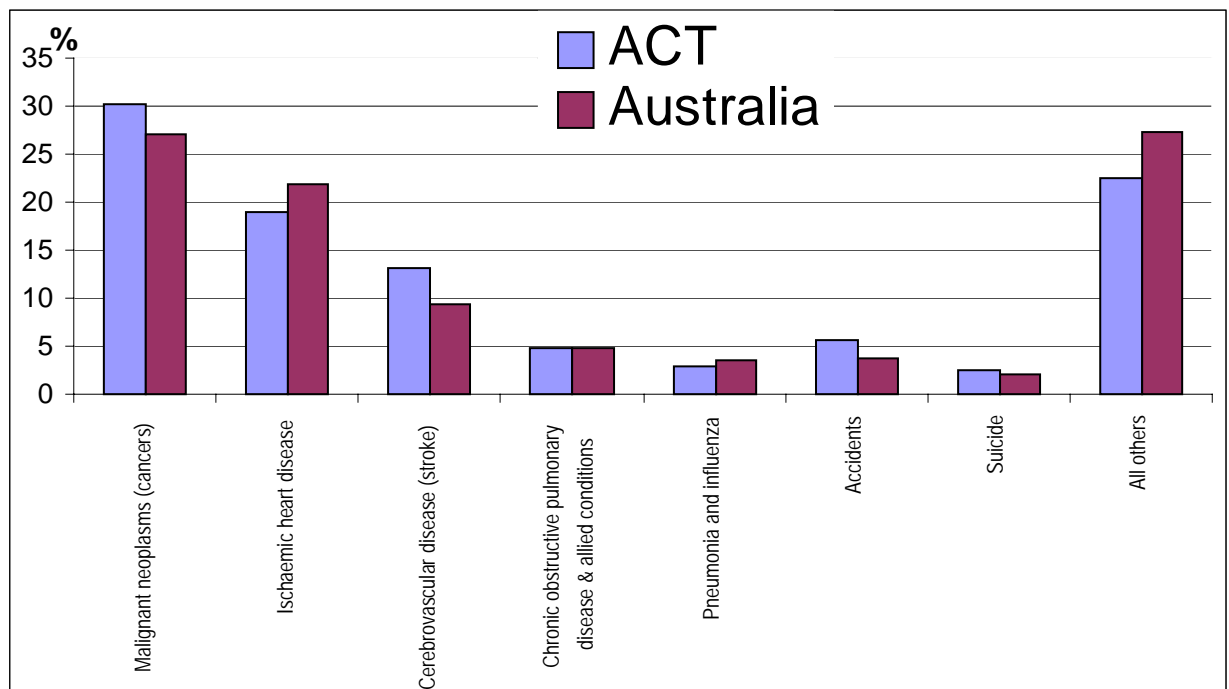
**Figure 6: Selected multiple causes, crude death rates, ACT & Australia, 1998**



Source: ABS, Causes of Death ACT 1998, Confidentialised unit record file  
 ABS, Causes of Death Australia 1998, Catalogue No. 3303.0

In percentage terms (refer to Figure 7, proportion of total death), cancers causes more deaths in the ACT (30%) than the whole of Australia (27%). In 1998, Ischaemic heart disease contributed 22 percent of deaths in Australia, but only 19 percent in the ACT. Deaths due to stroke (cerebrovascular disease) in the ACT (13%) have a higher percentage than total Australia (9%). However, the number which causes great concern is the accident and suicide rate registered in the ACT, the percentage of death in these two categories are both higher than total Australia.

**Figure 7: Proportion of total deaths, ACT and Australia, 1998**



Source: ABS, Causes of Death ACT 1998, Confidentialised unit record file  
 ABS, Causes of Death Australia 1998, Catalogue No. 3303.0

**Table 1: Underlying cause of death, by age and sex, ACT, 1998**

	Sex	<1 year	1-14	15-24	25-44	45-54	55-64	65-74	75-84	85+	Total
<b>All causes</b>	M	9	3	27	61	44	84	135	189	94	646
	F	15	4	8	23	44	49	115	167	201	626
	P	24	7	35	84	88	133	250	356	295	1272
<b>Infectious and parasitic diseases (001-139)</b>	M		1	2	1	2		3	1		10
	F		1	1	1			1		1	5
<b>Neoplasms (140-239)</b>	M		2	2	9	17	37	61	59	14	201
	F		1	8	31	25	51	42	30	188	
Malignant neoplasms (140-208)	M		1	1	9	16	36	60	59	14	196
	F			1	8	31	25	51	41	30	187
Stomach (151)	M					1	4	1	1		8
	F						1	2	3		7
Colon (153)	M				1	2	2	10	2	1	18
	F				1	3	1	6	4	4	19
Respiratory and intrathoracic organs (160-165)	M				1	6	7	18	18	2	52
	F					5	2	11	9	4	31
Melanoma of skin (172)	M				1	1		1	2		5
	F				1			2		1	4
Breast (174,175)	M						1				1
	F				2	8	9	10	7	3	39
Cervix (180)	M					2		1		1	4
	F					1	3	7	11	2	24
Prostate (185)	M				1	1	6	1	4	3	16
	F				2	1	1	4	6	3	17
Lymphatic & haematopoietic tissue (200-208)	M										
	F										
<b>Endocrine, nutritional and metabolic diseases and immunity disorders (240-279)</b>	M					1	2	1	5		9
	F				2	2	2	4	5	5	20
Diabetes mellitus (250)	M							1	4		5
	F				1	2	2	4	3	4	16
<b>Diseases of the blood-forming organs (280-289) (excludes malignant neoplasms)</b>	M					2		2	1	1	6
	F	1						1			2
<b>Mental disorders (290-319)</b>	M			1	3			2	3	2	11
	F				1			2	4	12	19
Senile and presenile organic psychotic conditions (290-294)	M							1	2	1	4
	F							1	1	4	6
<b>Diseases of the nervous system and sense organs (320-389)</b>	M			2	3	1	1		7	1	15
	F	1	1	1			2	5	5	1	16
Alzheimer's disease (331)	M								1		1
	F							1	1	1	3
<b>Diseases of the circulatory system (390-459)</b>	M				10	5	28	40	76	52	211
	F				4	4	10	24	79	103	224
All heart disease (393-398, 402, 404, 410-414, 415, 416, 420-429)	M				9	5	20	25	57	31	147
	F				2		3	13	35	40	93
Ischaemic heart disease (410 -414)	M				8	3	18	22	50	23	124
	F				2		3	13	35	40	93
Cerebrovascular disease (430 - 438)	M				1	1	1	1	1	1	93
	F				1	2	3	6	31	30	73
<b>Disease of the respiratory system (460-519)</b>	M			1	1	6	17	18	11	54	
	F			1		2	2	14	17	28	64
Pneumonia & influenza (480-487)	M						1	2	4	2	9
	F							7	20	27	
Chronic obstructive pulmonary disease and allied conditions (490-496)	M				1	1	3	12	9	5	31
	F						2	12	10	5	29
<b>Diseases of the digestive system (520-579)</b>	M				1	4	2	7	6	4	24
	F					3	1	5	5	7	21
Ulcer of stomach & duodenum (531-533)	M					1	1				2
	F							1			1
Chronic liver disease and cirrhosis (571)	M					3	1	5	2		11
	F					3	1	2	1		7
<b>Diseases of the genitourinary system (580-629)</b>	M					1	2		5	3	11
	F						1	5	4	7	17
Nephritis, nephrotic syndrome & nephrosis (580-589)	M					1	1		4	3	9
	F						1	2	3	5	11
<b>Diseases of the musculoskeletal system and connective tissue (710-739)</b>	M								1		1
	F						2	2	1	2	7
<b>Congenital anomalies (740-759)</b>	M	5		1							6
	F	6	1		1						8
<b>Certain conditions originating in the perinatal period (760-779)</b>	M	4									4
	F	6									6
<b>Symptoms, signs and ill-defined conditions (780-799) (a)</b>	M		1		1	1					3
	F	1			1					1	3
<b>Accidents, poisoning and violence (external causes) (E800-E999)</b>	M			20	29	12	4	5	5	5	80
	F		1	4	5	2	4	1	5	4	26
Motor vehicle traffic accidents (E810-E819)	M			13	6	2	1			1	23
	F		1	2	2	2	2				9
Accidental falls (E880-E888)	M				1	1	1	2	1	2	8
	F								3	4	7
Suicide (E950-E959)	M			5	11	6	1	3	2		28
	F			1	1		1				3

(a) This category is only recorded as the underlying cause when no other specific cause appears on the death certificate.

Source: ABS, Deaths in the ACT 1998, Confidentialised unit record file

**Table 2: Age-specific death rates (a), underlying causes, ACT, 1998**

	Sex	<1 year	1-14	15-24	25-44	45-54	55-64	65-74	75-84	85+	Total
<b>All causes</b>	M	4.34	0.10	1.00	1.25	2.01	7.25	19.84	60.77	166.67	4.21
	F	7.34	0.13	0.32	0.45	1.98	4.35	15.21	36.16	153.44	4.05
	P	5.83	0.11	0.67	0.84	2.00	5.82	17.40	46.07	157.42	4.13
<b>Infectious and parasitic diseases (001-139)</b>	M			0.04	0.04	0.05	0.17		0.96	1.77	0.07
	F		0.03	0.04	0.02			0.13		0.76	0.03
<b>Neoplasms (140-239)</b>	M		0.06	0.07	0.18	0.78	3.19	8.96	18.97	24.82	1.31
	F			0.04	0.16	1.40	2.22	6.75	9.09	22.90	1.22
Malignant neoplasms (140-208)	M		0.03	0.04	0.18	0.73	3.11	8.82	18.97	24.82	1.28
	F			0.04	0.16	1.40	2.22	6.75	8.88	22.90	1.21
Stomach (151)	M					0.05	0.09	0.59	0.32	1.77	0.05
	F						0.09	0.13	0.43	2.29	0.05
Colon (153)	M				0.02	0.09	0.17	1.47	0.64	1.77	0.12
	F				0.02	0	0.09	0.79	0.87	3.05	0.12
Respiratory and intrathoracic organs (160-165)	M				0.02	0.27	0.60	2.64	5.79	3.55	0.34
	F					0	0.18	1.46	1.95	3.05	0.20
Melanoma of skin (172)	M				0.02	0.05		0.15	0.64		0.03
	F				0.02			0.26		0.76	0.03
Breast (174,175)	M						0.09				0.01
	F				0.04	0.36	0.80	1.32	1.52	2.29	0.25
Cervix (180)	F					0.09		0.13		0.76	0.03
Prostate (185)	M					0.05	0.26	1.03	3.54	3.55	0.16
Lymphatic & haematopoietic tissue (200-208)	M				0.02	0.05	0.52	0.15	1.29	5.32	0.10
	F				0.04	0.05	0.09	0.53	1.30	2.29	0.11
<b>Endocrine, nutritional and metabolic diseases and immunity disorders (240-279)</b>	M					0.05	0.17	0.15	1.61		0.06
	F				0.04	0.09	0.18	0.53	1.08	3.82	0.13
Diabetes mellitus (250)	M							0.15	1.29		0.03
	F				0.02	0.09	0.18	0.53	0.65	3.05	0.10
<b>Diseases of the blood-forming organs (280-289) (excludes malignant neoplasms)</b>	M				0.04			0.29	0.32	1.77	0.04
	F	0.49						0.13			0.01
Mental disorders (290-319)	M			0.04	0.06			0.29	0.96	3.55	0.07
	F				0.02			0.26	0.87	9.16	0.12
Senile and presenile organic psychotic conditions (290-294)	M							0.15	0.64	1.77	0.03
	F							0.13	0.22	3.05	0.04
<b>Diseases of the nervous system and sense organs (320-389)</b>	M				0.07	0.06	0.05	0.09	2.25	1.77	0.10
	F	0.49	0.03	0.04				0.18	0.66	1.08	0.10
Alzheimer's disease (331)	M								0.32		0.01
	F							0.13	0.22	0.76	0.02
<b>Diseases of the circulatory system (390-459)</b>	M				0.20	0.23	2.42	5.88	24.44	92.20	1.38
	F				0.08	0.18	0.89	3.17	17.11	78.63	1.45
All heart disease (393-398, 402, 404, 410-414, 415, 416, 420-429)	M				0.18	0.23	1.73	3.67	18.33	54.96	0.96
	F				0.04		0.27	1.72	7.58	30.53	0.60
Ischaemic heart disease (410 - 414)	M				0.16	0.14	1.55	3.23	16.08	40.78	0.81
	F				0.04		0.27	1.72	7.58	30.53	0.60
Cerebrovascular disease (430 - 438)	M				0.02	0.05	0.09	0.15	0.32	1.77	0.61
	F				0.02	0.09	0.27	0.79	6.71	22.90	0.47
<b>Disease of the respiratory system (460-519)</b>	M				0.02	0.05	0.52	2.50	5.79	19.50	0.35
	F			0.04		0.09	0.18	1.85	3.68	21.37	0.41
Pneumonia & influenza (480-487)	M						0.09	0.29	1.29	3.55	0.06
	F							1.52	15.27		0.17
Chronic obstructive pulmonary disease and allied conditions (490-496)	M				0.02	0.05	0.26	1.76	2.89	8.87	0.20
	F						0.18	1.59	2.17	3.82	0.19
<b>Diseases of the digestive system (520-579)</b>	M				0.02	0.18	0.17	1.03	1.93	7.09	0.16
	F					0.14	0.09	0.66	1.08	5.34	0.14
Ulcer of stomach & duodenum (531-533)	M					0.05	0.09				0.01
	F							0.13			0.01
Chronic liver disease and cirrhosis (571)	M					0.14	0.09	0.73	0.64		0.07
	F					0.14	0.09	0.26	0.22		0.05
<b>Diseases of the genitourinary system (580-629)</b>	M					0.05	0.17		1.61	5.32	0.07
	F						0.09	0.66	0.87	5.34	0.11
Nephritis, nephrotic syndrome & nephrosis (580-589)	M					0.05	0.09		1.29	5.32	0.06
	F						0.09	0.26	0.65	3.82	0.07
<b>Diseases of the musculoskeletal system and connective tissue (710-739)</b>	M								0.32		0.01
	F						0.18	0.26	0.22	1.53	0.05
<b>Congenital anomalies (740-759)</b>	M	2.41		0.04							0.04
	F	2.94	0.03		0.02						0.05
<b>Certain conditions originating in the perinatal period (760-779)</b>	M	1.93									0.03
	F	2.94									0.04
<b>Symptoms, signs and ill-defined conditions (780-799) (a)</b>	M		0.03		0.02	0.05					0.02
	F	0.49			0.02					0.76	0.02
<b>Accidents, poisoning and violence (external causes) (E800-E999)</b>	M			0.74	0.59	0.55	0.35	0.73	1.61	8.87	0.52
	F		0.03	0.16	0.10	0.09	0.35	0.13	1.08	3.05	0.17
Motor vehicle traffic accidents (E810-E819)	M			0.48	0.12	0.09	0.09			1.77	0.15
	F		0.03	0.08	0.04	0.09	0.18				0.06
Accidental falls (E880-E888)	M				0.02	0.05	0.09	0.29	0.32	3.55	0.05
	F								0.65	3.05	0.05
Suicide (E950-E959)	M			0.18	0.22	0.27		0.44	0.64		0.18
	F			0.04	0.02		0.09				0.02

(a) Rate per 1,000 population.

Source: ABS Deaths in the ACT 1998, Confidentialised unit record file and publication catalogue 3201.0 (June 1998.)

**Table 3: Underlying and multiple causes of death, number and ratios, ACT, 1998**

Causes of death and ICD code	Underlying cause			Multiple cause(a)			
	Male	Female	Persons	Male	Female	Persons	Ratio(b)
<b>All causes</b>	<b>646</b>	<b>626</b>	<b>1272</b>	<b>1206</b>	<b>1190</b>	<b>2396</b>	<b>1.9</b>
<b>Infectious &amp; parasitic diseases (1-139)</b>	<b>10</b>	<b>5</b>	<b>15</b>	<b>35</b>	<b>33</b>	<b>68</b>	<b>4.5</b>
<b>Malignant neoplasms (140-208)</b>	<b>196</b>	<b>187</b>	<b>383</b>	<b>213</b>	<b>198</b>	<b>411</b>	<b>1.1</b>
Lip, oral cavity & pharynx (140-149)	7	2	9	8	2	10	1.1
Digestive organs and peritoneum (150-159)	52	44	96	57	51	108	1.1
Trachea, bronchus and lung (162)	48	29	77	51	29	80	1.0
Bone, connective tissue, skin and breast (170-175)	12	45	57	14	52	66	1.2
Genitourinary organs (179-189)	36	29	65	48	31	79	1.2
Lymphatic and haematopoietic tissue (200-208)	16	17	33	20	21	41	1.2
<b>Benign and unspecified neoplasms (210-239)</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>7</b>	<b>7</b>	<b>14</b>	<b>2.3</b>
<b>Endocrine, nutritional, &amp; metabolic diseases and immunity disorders (240-279)</b>	<b>9</b>	<b>20</b>	<b>29</b>	<b>51</b>	<b>55</b>	<b>106</b>	<b>3.7</b>
Diabetes mellitus (250)	5	16	21	38	36	74	3.5
<b>Diseases of blood &amp; blood-forming organs (280-289) (excludes malignant neoplasms)</b>	<b>6</b>	<b>2</b>	<b>8</b>	<b>13</b>	<b>9</b>	<b>22</b>	<b>2.8</b>
<b>Mental disorders (290-319)</b>	<b>11</b>	<b>19</b>	<b>30</b>	<b>35</b>	<b>67</b>	<b>102</b>	<b>3.4</b>
Senile and presenile organic psychotic conditions (290)	4	6	10	7	16	23	2.3
Drug dependence (304)	4	1	5	4	3	7	1.4
<b>Diseases of nervous system &amp; sense organs (320-389)</b>	<b>15</b>	<b>16</b>	<b>31</b>	<b>32</b>	<b>30</b>	<b>62</b>	<b>2.0</b>
Alzheimer disease (331)	1	3	4	2	5	7	1.8
<b>Diseases of the circulatory system (390-459)</b>	<b>211</b>	<b>224</b>	<b>435</b>	<b>321</b>	<b>322</b>	<b>643</b>	<b>1.5</b>
Hypertensive disease (401-405)	1	2	3	31	48	79	26.3
Ischaemic heart disease (410-414)	124	93	217	164	137	301	1.4
Diseases of pulmonary circulation and other forms of heart disease (415-429)	20	33	53	148	144	292	5.5
Cerebrovascular disease (430-438)	42	73	115	70	114	184	1.6
Diseases of arteries, arterioles and capillaries (440-448)	20	20	40	39	38	77	1.9
<b>Disease of the respiratory system (460-519)</b>	<b>54</b>	<b>64</b>	<b>118</b>	<b>157</b>	<b>159</b>	<b>316</b>	<b>2.7</b>
Pneumonia & influenza (480-487)	9	27	36	66	81	147	4.1
Chronic obstructive pulmonary disease and allied conditions (490-496)	31	29	60	69	50	119	2.0
<b>Diseases of the digestive system (520-579)</b>	<b>24</b>	<b>21</b>	<b>45</b>	<b>49</b>	<b>50</b>	<b>99</b>	<b>2.2</b>
<b>Diseases of the genitourinary system (580-629)</b>	<b>11</b>	<b>17</b>	<b>28</b>	<b>57</b>	<b>52</b>	<b>109</b>	<b>3.9</b>
<b>Diseases of the skin and subcutaneous tissue (680-709)</b>				<b>4</b>	<b>1</b>	<b>5</b>	<b>-</b>
<b>Diseases of the musculoskeletal system and connective tissue (710-713)</b>	<b>1</b>	<b>7</b>	<b>8</b>	<b>11</b>	<b>23</b>	<b>34</b>	<b>4.3</b>
<b>Congenital anomalies (740-799)</b>	<b>6</b>	<b>8</b>	<b>14</b>	<b>6</b>	<b>9</b>	<b>15</b>	<b>1.1</b>
<b>Certain conditions originating in the perinatal period (760-779)</b>	<b>4</b>	<b>6</b>	<b>10</b>	<b>8</b>	<b>11</b>	<b>19</b>	<b>1.9</b>
<b>Symptoms, signs and ill-defined conditions (780-799)</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>100</b>	<b>108</b>	<b>208</b>	<b>34.7</b>
<b>Accidents, poisonings and violence (external causes) (E800-E999)</b>	<b>80</b>	<b>26</b>	<b>106</b>	<b>107</b>	<b>56</b>	<b>163</b>	<b>1.5</b>

(a) Deaths where the cause was ever reported. See introduction for further information.

(b) Ratio of multiple cause of death (underlying & contributory) to underlying cause of death

Source: ABS, Causes of Deaths in the ACT 1998, Confidentialised unit record file

**Table 4: Underlying and multiple causes of death, crude death rates (a), ACT, 1998**

Causes of death and ICD code	Underlying cause			Multiple cause		
	Male	Female	Persons	Male	Female	Persons
<b>All causes</b>	<b>421.1</b>	<b>404.8</b>	412.9	<b>786.2</b>	<b>769.5</b>	777.8
<b>Infectious &amp; parasitic diseases (1-139)</b>	6.5	3.2	4.9	22.8	21.3	22.1
<b>Malignant neoplasms (140-208)</b>	127.8	120.9	124.3	138.9	128.0	133.4
Lip, oral cavity & pharynx (140-149)	4.6	1.3	2.9	5.2	1.3	3.2
Digestive organs and peritoneum (150-159)	33.9	28.5	31.2	37.2	33.0	35.1
Trachea, bronchus and lung (162)	31.3	18.8	25.0	33.2	18.8	26.0
Bone, connective tissue, skin and breast (170-175)	7.8	29.1	18.5	9.1	33.6	21.4
Genitourinary organs (179-189)	23.5	18.8	21.1	31.3	20.0	25.6
Lymphatic and haematopoietic tissue (200-208)	10.4	11.0	10.7	13.0	13.6	13.3
<b>Benign and unspecified neoplasms (210-239)</b>	3.3	0.6	1.9	4.6	4.5	4.5
<b>Endocrine, nutritional, &amp; metabolic diseases and immunity disorders (240-279)</b>	5.9	12.9	9.4	33.2	35.6	34.4
Diabetes mellitus (250)	3.3	10.3	6.8	24.8	23.3	24.0
<b>Diseases of blood &amp; blood-forming organs (280-289) (excludes malignant neoplasms)</b>	3.9	1.3	2.6	8.5	5.8	7.1
<b>Mental disorders (290-319)</b>	7.2	12.3	9.7	22.8	43.3	33.1
Senile and presenile organic psychotic conditions (290)	2.6	3.9	3.2	4.6	10.3	7.5
Drug dependence (304)	2.6	0.6	1.6	2.6	1.9	2.3
<b>Diseases of nervous system &amp; sense organs (320-389)</b>	9.8	10.3	10.1	20.9	19.4	20.1
Alzheimer disease (331)	0.7	1.9	1.3	1.3	3.2	2.3
<b>Diseases of the circulatory system (390-459)</b>	137.5	144.8	141.2	209.3	208.2	208.7
Hypertensive disease (401-405)	0.7	1.3	1.0	20.2	31.0	25.6
Ischaemic heart disease (410-414)	80.8	60.1	70.4	106.9	88.6	97.7
Diseases of pulmonary circulation and other forms of heart disease (415-429)	13.0	21.3	17.2	96.5	93.1	94.8
Cerebrovascular disease (430-438)	27.4	47.2	37.3	45.6	73.7	59.7
Diseases of arteries, arterioles and capillaries (440-448)	13.0	12.9	13.0	25.4	24.6	25.0
<b>Disease of the respiratory system (460-519)</b>	35.2	41.4	38.3	102.3	102.8	102.6
Pneumonia & influenza (480-487)	5.9	17.5	11.7	43.0	52.4	47.7
Chronic obstructive pulmonary disease and allied conditions (490-496)	20.2	18.8	19.5	45.0	32.3	38.6
<b>Diseases of the digestive system (520-579)</b>	15.6	13.6	14.6	31.9	32.3	32.1
<b>Diseases of the genitourinary system (580-629)</b>	7.2	11.0	9.1	37.2	33.6	35.4
<b>Diseases of the musculoskeletal system and connective tissue (710-719)</b>	0.7	4.5	2.6	2.6	0.6	1.6
Congenital anomalies (740-799)	3.9	5.2	4.5	7.2	14.9	11.0
<b>Certain conditions originating in the perinatal period (760-779)</b>	2.6	3.9	3.2	3.9	5.8	4.9
<b>Symptoms, signs and ill-defined conditions (780-799)</b>	2.0	1.9	1.9	5.2	7.1	6.2
<b>Accidents poisonings and violence (external causes) (E800-E999)</b>	52.2	16.8	34.4	65.2	69.8	67.5

(a) Rate per 100,000

Source: ABS, Causes of Death ACT, Confidentialised unit record file

ABS, Population by Age and Sex Australian States and Territories June 1998-1999, Catalogue No. 3201.0

**Table 5: Underlying causes of death and number of other causes recorded, ACT 1998**

CAUSE OF DEATH	Reported alone	two causes	three causes	four causes	5 or more causes	mean no. of cases
<b>All causes</b>	<b>290</b>	<b>396</b>	<b>299</b>	<b>160</b>	<b>127</b>	<b>2.6</b>
Infectious & parasitic disease(1-39)	4	2	4	2	3	4.1
Malignant Neoplasms(140-208)	168	103	63	32	17	2.3
Digestive organs & peritoneum(150-159)	48	23	16	4	5	2.2
Stomach (151)	6	4	3	1	1	2.5
Colon (153)	20	9	4	2	2	2.2
Rectum, rectosigmoid junction & anus (154)	6	3	2			1.6
Liver & intrahepatic bile ducts (155)	3		1			1.5
Pancreas (157)	9	3	4			1.7
Trachea, bronchus & lung (162)	30	22	13	9	3	2.4
Bone, connective tissue, skin & breast(170-175)	27	18	6	2	4	2.4
Melanoma of skin (172)	5	4				1.4
Breast (174, 175)	19	10	6	2	3	2.6
Genitourinary organs(179-189)	29	14	9	11	2	2.3
Ovary & other uterine adnexa (183)	10	3	1		1	2.0
Prostate (185)	6	5	6	6	1	2.9
Bladder (188)	3	3		3		2.3
Other & unspiced sites(190-199)	12	14	10	3	1	2.3
Brain (191)	6	5	4			1.9
Lymphatic & haematopoietic tissue(200-208)	14	9	6	3	1	2.2
Leukaemia (204-208)	4	2	2	2	1	3.0
Benign & unspecified neoplasms(210-239)		2	1	2	1	4.3
Endocrine, nutritional, & metabolic disease & immunity disorders (240-279)	1	6	10	7	5	4.4
Diabetes mellitus(250)	1	5	7	4	4	4.4
Disease of blood & blood-forming organs(280-289), excludes malignant neoplasms	1	5	2		0	2.1
Mental disorders (290-319)	1	12	7	5	5	4.1
Senile & presenile organic psychotic conditions(290)		4	1	2	2	4.6
Drug dependence (304)	1		2		2	6.0
Diseases of nervous system & sense organs (320-389)	4	8	9	10		2.8
Alzheimer's disease (3310)		2	1	1		2.8
Disease of the circulatory system (390-459)	78	132	129	54	42	3.3
All heart disease (393-398, 402, 404, 410-416, 420-429)	53	74	90	34	25	3.2
Rheumatic fever & rheumatic heart disease (390-398)		1		2		3.3
Hypertensive disease (401-405)	1			2		3.0
Ischaemic heart disease (410-414)	44	56	75	22	20	3.2
Cerebrovascular disease (430-438)	14	45	29	16	11	3.4
Diseases of arteries, arterioles & capillaries (440-448)	11	12	9	4	4	3.1
Disease of respiratory system (460-519)	13	39	34	15	17	3.8
Pneumonia & influenza (480-487)	4	15	8	4	5	3.6
Chronic obstructive pulmonary disease & allied conditions(490-496)	7	17	18	8	10	4.1
Emphysema (492)						
Asthma (493)						
Diseases of the digestive system (520-579)	10	11	11	3	10	4.4
Diseases of the oesophagus, stomach & duodenum (530-537)	2				1	5.0
Ulcer of the stomach & duodenum (531-533)						
Chronic liver disease & cirrhosis (571)	4	6	6		2	3.2
Disease of the genitourinary system (580-629)		5	2	10	11	6.6
Deaths due to nephritis, nephrotic syndrome and nephrosis (580-589)		5		6		4.7
Renal failure (584-586)		5		4		4.4

**Table 5 continued**

CAUSE OF DEATH	Reported alone	two causes	three causes	four causes	5 or more causes	mean no. of cases
Complications of pregnancy, childbirth and the puerperium (630-676)						
Disease of the skin & subcutaneous tissue (680-709)						
Disease of the musculoskeletal system & connective tissue (710-739)			2	4	2	5.6
Arthropathies & related disorders (710-719)			2	3	2	5.9
Congenital anomalies (740-759)	2	3	4	3	2	4.0
Certain conditions originating in the perinatal period (760-779)		7				1.4
Symptoms, signs and ill-defined conditions (780-799)	4	1		1		1.7
Accidents poisonings and violence (external causes) (E800-E999)	4	60	18	12	12	3.5
Motor vehicle accidents (810-819)	4	19	4	4	1	2.6
Accidental falls (880-888)		4	1	4	6	6.3
Accidental drowning & submersion (910)		1				2.0
Suicide (950)		23	7	1		2.3
Homicide (960)		2				2.0

Source: ABS, Causes of Death ACT 1998, Confidentialised unit record file



## Technical note

This publication presents two types of death rates.

Crude death rates represent the total of deaths due to specific causes, *per 100,000* of the estimated population on 30 June 1997. Crude rates are calculated separately for males and females in some instances.

Age-specific death rates represent the number of deaths that occurred in 1997 due to specific causes involving persons within defined age groups *per 1,000* persons in that age category on 30 June 1998<sup>v</sup>. Age specific rates are calculated separately for males and females in some instances.

## Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territories
ICD9	International Classification of Diseases 9 <sup>th</sup> Revision

## References

---

<sup>i</sup> Health Series Number 13, Health Indicators in the ACT

<sup>ii</sup> ABS, Deaths Australia 1998, catalogue No. 3302.0

<sup>iii</sup> ABS, Causes of Death Australia 1997, Catalogue No. 3303.0

<sup>iv</sup> ABS, Causes of Death Australia 1998, Catalogue No. 3303.0

<sup>v</sup> ABS, Population by age and sex Revised 30 June 1998, catalogue No. 3210.0