

## 8 'Other' diseases

All those causes of death not described previously are included in this chapter (that is, all causes except circulatory and respiratory diseases, neoplasms and injuries).

There are many other causes of death, but, apart from diabetes, they tend to be less common than the causes already described.

The specific causes of death described in this chapter include:

1. diabetes;
2. renal disease; and
3. all other causes not elsewhere described (that is, the rest).

Diabetes and renal diseases were chosen because diabetes makes a large contribution to overall mortality and renal diseases is a substantial and growing cause of mortality for Australia's Aboriginal and Torres Strait Islander population.

'Other causes (not elsewhere described)' were included for the sake of completeness. The particular causes of death included in this group can be inferred from the text on page 71, but include a range of other causes such as infectious diseases, diseases of the digestive system and endocrine system, and conditions originating in the perinatal period.

### Summary of findings

Annually, 'all other causes' were responsible for the deaths of 22,355 people (10,773 males and 11,582 females); 7,874 of these people came from areas outside Major Cities. Of these 22,355 deaths, 469 were of Indigenous people living in South Australia, Western Australia, the Northern Territory and Queensland.

The overall mortality of Australians due to 'all other causes' increased with increasing remoteness. Compared to those in Major Cities, death rates from 'all other causes' were:

- 0.95–1.15 times as high in regional areas; and
- 1.2–2.3 times as high in remote areas.

This broad observation does not take into account two factors previously stated on page 33, namely the likely effect on rates of high Indigenous mortality coupled with their greater representation outside Major Cities, and the possible effect of the migration of the frail aged.

When these factors are taken into account by restricting analysis of mortality to non-Indigenous Australians under the age of 65 years, death rates in regional areas are found to be similar to those in Major Cities, while those in remote areas are found to be lower than rates in Major Cities.

There were about 4 and 5 times as many deaths of Indigenous males and females as expected from 'all other causes', strongly influencing rates for the total population in remote areas. Death rates were significantly higher for Indigenous people in all age groups, particularly for those in the 25–64 year age groups, where rates were 6–14 times as high.

Compared to death rates in Major Cities, death rates for non-Indigenous males and females due to 'all other causes' were:

- slightly lower or similar for males, or 5–10% (1.05–1.1 times) higher for females in regional areas; and

- similar in remote areas, or for males in Very Remote areas 0.8 times the Major Cities rate.

There was a tendency for death rates for both the total and non-Indigenous populations aged 75 years and older to be lower (towards 0.7 or 0.8 times the Major Cities rate) in Remote and Very Remote areas.

When analysis is restricted to those who are younger than 65 years of age, death rates for non-Indigenous people were:

- 0.9, 0.9 and 0.7 times (that is, lower) for males in Inner and Outer Regional and Very Remote areas; and
- not significantly different to those in Major Cities for females from any of the four areas outside Major Cities.

Indigenous males and females younger than 65 years of age had death rates that were 5 and 6 times as high as for their non-Indigenous counterparts from Major Cities.

Annually, there were 434 'excess' deaths due to all other causes outside Major Cities (61, 192, 51 and 130 in each of the four areas). A large proportion of these are likely to be a consequence of high Indigenous mortality due to these causes.

'All other causes' of death account for 17% of all deaths (and 13% of 'excess' deaths) and about 32% of deaths (and 36% of the 'excess' deaths) for the Indigenous population.

### **Summary/discussion of individual causes of death reviewed in this chapter**

Diabetes and renal disease were each responsible for 14% and 8% of the 7,874 deaths outside Major Cities due to 'all other causes'. 'Other causes n.e.d.' was by far the most common of the causes of death (77%), however, while this cause was responsible for 48% of the 'excess' deaths, diabetes was responsible for 44%, and renal diseases for another 8% of 'excess' deaths due to 'all other causes' (Table 8.1).

There were 1.1–3.8, 1.0–2.6 and 1.0–1.7 times as many deaths due to diabetes, renal disease and 'other causes n.e.d.' as expected (Table 8.2) in the four areas outside Major Cities (death rates increased for all causes with remoteness).

Because of its relative importance as a cause of death, particularly for Indigenous people, 'other causes n.e.d.' requires further investigation.

While the number of deaths was fairly evenly split between males and females, the 'excess' deaths were predominantly female.

Substantial numbers of 'excess' deaths due to 'other causes n.e.d.' occurred among male children younger than 5 years (48 per year), and to a lesser extent female children of the same age (14 per year). However the bulk of the 'excess' for 'other causes n.e.d.' was amongst females roughly 45 years and older, with the 'excess' becoming greater with age (180 per year in total for women 45 years and older).

Of the 191 'excess' deaths due to diabetes annually, 80–90% were amongst those aged 55 years and older; the majority were females.

Of the 33 'excess' deaths due to renal disease annually, 40% were 40–60 years, and 90% were 60–80 years, with fewer deaths than expected in those aged 80 years and older. The majority of 'excess' deaths were female.

**Table 8.1: Summary table of deaths due to all other causes for all persons, 1997–1999**

Cause	Annual deaths outside Major Cities			Annual 'excess' deaths outside Major Cities			Age groups in which the 'excess' occurs
	No.	%	% male	No.	%	% male	
Diabetes	1,137	14%	50%	191	44%	35%	21%: 35–59 13%: 60–74 65%: 75+
Renal disease	653	8%	47%	33	8%	29%	30%: 40–59 66%: 65–79
'other causes n.e.d.'	6,084	77%	49%	210	48%	All female	30%: <5 the rest: 50+
Total 'other' causes of death	7,874	100%	49%	434	100%	17%	14%: <5 80%: 55+

*Note:* Descriptions of the age groups within which the 'excess' occurs apply only to the total population.

*Source:* AIHW National Mortality Database.

### Indigenous population

There were 4.4 times as many deaths of Indigenous people due to 'all other causes' as expected. For the three causes – diabetes, renal disease and 'other causes n.e.d.' – there were 13, 7 and 3.5 times as many deaths as expected.

For Indigenous people living in South Australia, Western Australia, the Northern Territory and Queensland, annually there were 327 deaths due to 'other causes n.e.d.', 233 of these being in 'excess' of what would be expected if non-Indigenous Major Cities rates applied to the Indigenous population. There would have been more in the other jurisdictions where identification is less complete. More than half (57%) of these deaths and 'excess' deaths were male. For both sexes, 26% of the 'excess' were younger than 5 years, 30% were 25–44 years and 26% were 45–64 years.

There were also 109 deaths of Indigenous people with an underlying diagnosis of diabetes in these jurisdictions annually (there would have been many others where diabetes was an associated cause), and 32 due to renal disease; there were 101 and 28 more deaths than expected for each of these causes respectively. Of these 'excess' deaths, males were responsible for about half of the deaths due to diabetes and one-third of the deaths due to renal disease. About 50% of the 'excess' diabetes deaths were amongst those aged 45–64 years, with others younger and older; 50% of the 'excess' due to renal disease occurred in those younger than 65 years.

**Table 8.2: The ratio of observed deaths from all other causes to those expected if Major Cities<sup>(a)</sup> rates applied in each ASGC Remoteness area, 1997–1999**

Cause	Population	IR	OR	R <sup>(b)</sup>	VR <sup>(b)</sup>	National <sup>(c)</sup>
Diabetes	All persons	<b>*1.1</b>	<b>*1.3</b>	<b>*1.7</b>	<b>*3.8</b>	n.p.
	Non-Indigenous	<b>*1.0+</b>	<b>*1.2</b>	<b>*1.2</b>	0.9	n.p.
	Non-Indigenous (aged 0–64 years)	<b>*0.9</b>	1.2	1.4	1.5	n.p.
	Indigenous	n.p.	n.p.	n.p.	n.p.	<b>*13.3</b>
	Indigenous (aged 0–64 years)	n.p.	n.p.	n.p.	n.p.	<b>*28.2</b>
Renal disease	All persons	1.0	1.1	1.2	<b>*2.6</b>	n.p.
	Non-Indigenous	1.0	1.0	1.0	1.2	n.p.
	Non-Indigenous (aged 0–64 years)	1.1	1.1	1.0	1.1	n.p.
	Indigenous	n.p.	n.p.	n.p.	n.p.	<b>*7.1</b>
	Indigenous (aged 0–64 years)	n.p.	n.p.	n.p.	n.p.	<b>*25.1</b>
'other causes n.e.d.'	All persons	1.0	<b>*1.0+</b>	<b>*1.1</b>	<b>*1.7</b>	n.p.
	Non-Indigenous	1.0	1.0	<b>*0.9</b>	<b>*0.8</b>	n.p.
	Non-Indigenous (aged 0–64 years)	<b>*1.0–</b>	<b>*1.0–</b>	<b>*0.9</b>	<b>*0.8</b>	n.p.
	Indigenous	n.p.	n.p.	n.p.	n.p.	<b>*3.5</b>
	Indigenous (aged 0–64 years)	n.p.	n.p.	n.p.	n.p.	<b>*4.1</b>
Total 'other' causes of death	All persons	1.0	<b>*1.1</b>	<b>*1.2</b>	<b>*2.0</b>	n.p.
	Non-Indigenous	1.0	<b>*1.1</b>	0.9	<b>*0.9</b>	n.p.
	Non-Indigenous (aged 0–64 years)	<b>*1.0–</b>	1.0	0.9	0.9	n.p.
	Indigenous	n.p.	n.p.	n.p.	n.p.	<b>*4.4</b>
	Indigenous (aged 0–64 years)	n.p.	n.p.	n.p.	n.p.	<b>*5.2</b>

(a) While the number of expected deaths for the total population is based on the death rates of the total population from Major Cities, the expected number of deaths for the non-Indigenous population is based on the death rates of the non-Indigenous population from Major Cities. Because non-Indigenous people comprise the overwhelming majority (99%) of the population in Major Cities, these two standards are very similar, but not identical. This means that the ratios for the five population groups are not strictly comparable.

(b) Ratios calculated for non-Indigenous persons from Remote and Very Remote areas should be treated with caution (see page 22).

(c) The ratios for Indigenous persons are for SA, WA, NT and Qld combined. Data for the total and non-Indigenous populations for this (SA, WA, NT & Qld) area adds little relevant information and has not been published (n.p.). Because of concerns about the quality of the data, ratios for Indigenous people have not been published (n.p.) for each area.

#### Notes

1. Bold text and asterisk indicates that ratios are significantly different from 1 at the 95% level.
2. 1.0+ indicates that there were slightly (but significantly) more deaths than expected (but less than 1.05 times more).
3. 1.0– indicates that there were slightly (but significantly) fewer deaths than expected (but more than 0.95 times as many).

Source: AIHW National Mortality Database.

### Non-Indigenous population

The high mortality of Indigenous people has a strong influence in elevating death rates in remote areas because of the relatively large proportion of the population in those areas that are Indigenous. For renal disease and 'other causes n.e.d.', rates of death for non-Indigenous people were no longer higher in regional and remote areas.

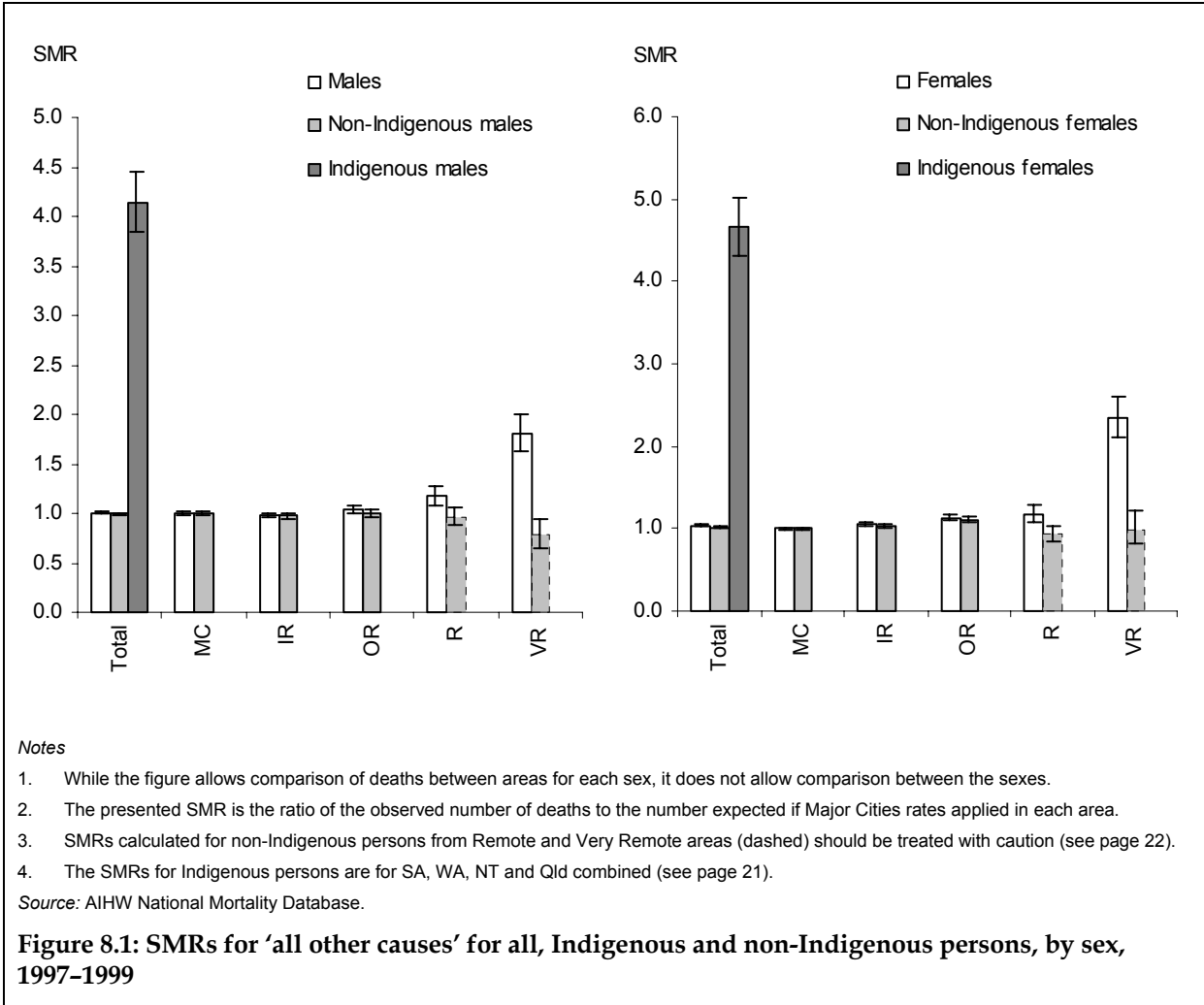
There were slightly more deaths of non-Indigenous people due to diabetes than expected in Inner Regional areas, and 1.2 times as many in Outer Regional and Remote areas. Rates for non-Indigenous people younger than 65 years old were lower in Inner Regional areas and not significantly different in the other areas to rates in Major Cities.

There were about as many deaths of non-Indigenous people as expected due to renal disease in each of the four areas outside Major Cities.

There were about as many deaths as expected due to 'other causes n.e.d.' in regional areas, and 0.8-0.9 times as many as expected in remote areas.

# 8.1 Overall mortality due to 'all other causes'

Annually, there were 6,937, 2,299, 1,210, 190 and 136 deaths of males and 7,544, 2,512, 1,252, 154 and 120 deaths of females in the five areas respectively as a result of these other causes.



There were more deaths than expected in all areas except for males in Inner Regional areas where there were slightly fewer deaths than expected (Figure 8.1 and Table 8.3).

- For males, death rates increased from 0.95, through 1.05 and 1.2 to reach 1.8 times the Major Cities rate in the four areas outside Major Cities.
- The differential was greater for females, with death rates increasing from 1.05 through 1.15 and 1.20 to reach 2.4 times the Major Cities rate in the four areas outside Major Cities.
- There were about 4-5 times as many deaths of Indigenous people due to these other causes as expected.

**Table 8.3: The ratio of observed deaths to those expected if Major Cities rates applied in each ASGC Remoteness area, all other causes (including diabetes and renal disease), males and females, 1997–1999**

Age group (years)	Male					Female				
	MC rate	IR	OR	R	VR	MC rate	IR	OR	R	VR
		(ratio)					(ratio)			
0–4	108	1.06	<b>*1.24</b>	<b>*1.47</b>	<b>*2.35</b>	92	0.95	1.05	1.23	<b>*2.87</b>
5–14	4	0.97	1.16	1.85	<b>*3.37</b>	4	1.19	1.26	2.36	<b>*4.92</b>
15–24	18	0.95	0.79	1.24	1.78	9	0.88	0.98	<b>*2.10</b>	2.31
25–44	35	<b>*0.75</b>	<b>*0.85</b>	1.22	<b>*2.62</b>	14	0.97	1.06	<b>*2.18</b>	<b>*3.89</b>
45–64	79	<b>*0.93</b>	1.08	<b>*1.31</b>	<b>*2.76</b>	43	<b>*1.13</b>	<b>*1.34</b>	<b>*2.05</b>	<b>*5.76</b>
65–74	313	1.01	1.06	<b>*1.34</b>	<b>*1.93</b>	217	1.04	<b>*1.20</b>	<b>*1.34</b>	<b>*2.84</b>
75+	1,347	1.00	1.03	0.93	<b>*0.78</b>	1,284	<b>*1.06</b>	<b>*1.11</b>	0.88	1.17
Total	..	<b>*0.97</b>	<b>*1.04</b>	<b>*1.17</b>	<b>*1.81</b>	..	<b>*1.05</b>	<b>*1.14</b>	<b>*1.18</b>	<b>*2.34</b>

\* Significantly different from 1 (that is, rates are significantly different from those in Major Cities).

*Notes*

1. Caution should be used when making inferences about ratios that are not significantly different from 1.
2. MC rates are expressed as deaths per 100,000 population per year. Total (crude) MC rate is largely meaningless and is not included.
3. While the table allows comparison of deaths between areas for each sex, it does not allow comparison between the sexes or age groups.

Source: AIHW National Mortality Database.

In Major Cities, death rates for males and females due to these causes were about 100 per 100,000 per year for 0–4-year-olds, then rising from 4 per 100,000 per year, through 200–300 per 100,000 per year for 65–74-year-olds, to about 1,300 per 100,000 per year for those who are 75 years and older.

There tended to be slightly fewer deaths, or about as many deaths, of males as expected in Inner Regional areas and in the oldest age groups. However, for females and for males in other areas and age groups, the tendency was for rates to be higher. Rates for young children were elevated in Outer Regional areas (for males) and in remote areas generally.

As a result of ‘all other causes’, there were 59 fewer and 43, 28 and 61 more deaths of males than expected annually, and 120, 149, 23 and 69 ‘excess’ deaths of females annually in the four areas outside Major Cities. There were fewer deaths than expected in those older than 85 years in remote areas. About 15% of the ‘excess’ occurred in those younger than 5 years (particularly in Outer Regional and remote areas), and another 80% in those aged 55 years and older.

**Indigenous population**

Annually in the period 1997–1999, there were 469 deaths of Indigenous people (248 males and 221 females) in South Australia, Western Australia, the Northern Territory and Queensland due to these other causes. There would also have been a number of deaths due to these causes in the other jurisdictions where identification is less reliable. Of these 469 deaths, there were 362 (188 males and 174 females) more than expected.

There were 4 and 5 times as many deaths of Indigenous males and females as expected as a result of these other causes (Table 8.4). Of this ‘excess’, 15–20% occurred in children younger than 5 years old, 25% among 25–44-year-olds, 35% among 45–64-year-olds and 20% among those aged 65 years and older.

## Non-Indigenous population

Annually, there were 6,868, 2,267, 1,134, 142 and 40 deaths of non-Indigenous males and 7,485, 2,489, 1,187, 112 and 33 deaths of non-Indigenous females in the five areas respectively, as a result of 'all other causes'.

There were fewer deaths of non-Indigenous males than expected in almost all areas outside Major Cities, and more deaths of non-Indigenous females from regional areas than expected due to this cause (Table 8.4).

**Table 8.4: The ratio of observed deaths to those expected as a result of all other causes (including diabetes and renal disease), if Major Cities non-Indigenous rates applied to the non-Indigenous population in each ASGC Remoteness area and to the Indigenous population, 1997–1999**

Age group (years)	MC rate	Male					Indig-enous	Female					Indig-enous
		Non-Indigenous				MC rate		Non-Indigenous				MC rate	
		IR	OR	R	VR			IR	OR	R	VR		
		(ratio)					(ratio)						
0–4	107	1.05	1.09	1.18	0.92	<b>*3.0</b>	92	0.95	0.95	0.96	0.81	<b>*2.6</b>	
5–14	4	1.00	1.10	0.40	0.83	<b>*3.8</b>	4	1.17	1.19	1.34	2.90	<b>*4.3</b>	
15–24	18	0.95	0.76	1.06	0.39	<b>*2.1</b>	9	0.91	0.97	1.04	1.63	<b>*3.6</b>	
25–44	34	<b>*0.75</b>	<b>*0.73</b>	<b>*0.59</b>	0.59	<b>*6.3</b>	13	0.96	0.91	0.80	0.52	<b>*9.4</b>	
45–64	78	<b>*0.92</b>	1.01	0.94	0.83	<b>*8.3</b>	42	<b>*1.13</b>	<b>*1.14</b>	1.21	<b>*1.76</b>	<b>*13.5</b>	
65–74	312	1.00	1.04	1.23	1.16	<b>*4.3</b>	216	1.03	<b>*1.16</b>	1.10	0.83	<b>*6.2</b>	
75+	1,347	1.00	1.04	0.92	<b>*0.69</b>	<b>*1.9</b>	1,283	<b>*1.04</b>	<b>*1.11</b>	<b>*0.86</b>	0.94	<b>*2.2</b>	
Total	..	<b>*0.97</b>	1.00	0.96	<b>*0.79</b>	<b>*4.1</b>	..	<b>*1.04</b>	<b>*1.10</b>	0.93	0.99	<b>*4.7</b>	
0–64	..	<b>*0.91</b>	<b>*0.94</b>	0.88	<b>*0.74</b>	<b>*4.8</b>	..	1.04	1.03	1.04	1.17	<b>*5.8</b>	

\* Significantly different from 1 (that is, rates are significantly different from those for non-Indigenous people in Major Cities).

### Notes

1. Caution should be used when making inferences about ratios that are not significantly different from 1.
2. MC rates for non-Indigenous persons are expressed as deaths per 100,000 population per year. Total (crude) MC rate is largely meaningless and is not included.
3. Ratios for Indigenous people are for SA, WA, NT and Qld.
4. While the table allows comparison of deaths between areas for each sex, it does not allow comparison between the sexes.
5. SMRs calculated for non-Indigenous persons from Remote and Very Remote areas should be treated with caution (see page 22).

Source: AIHW National Mortality Database.

Age-specific rates for non-Indigenous people living in Major Cities were similar to those for the total population living in Major Cities.

There were fewer deaths of non-Indigenous males aged 25–44 years than expected in practically all areas outside Major Cities, and fewer deaths than expected of 45–64-year-old males from Inner Regional areas.

There were more deaths of non-Indigenous females aged 45–64 years than expected in practically all areas outside Major Cities, and more deaths than expected amongst females who were older than this, at least in regional areas. There were fewer deaths of elderly non-Indigenous males and females in remote areas than expected. The substantially higher rates



that appear in remote areas for the total population do not appear to exist in the non-Indigenous population.

As a result of 'all other causes', there were 63 fewer, 5 more, and 6 and 11 fewer deaths of non-Indigenous males than expected annually, and 96 and 111 more, 8 fewer and the same number of deaths of non-Indigenous females as expected annually in the four areas outside Major Cities. There were slightly fewer deaths than expected in those older than 75 years, although these did not strongly affect the overall pattern.

## **Mortality for those aged 0–64 years**

### **Indigenous population**

Annually there were 358 (200 male, 158 female) deaths of Indigenous people younger than 65 years in South Australia, Western Australia, the Northern Territory and Queensland as a result of 'all other causes'. There would also have been a number of deaths due to this cause in the other jurisdictions. Of these 358 deaths, there were 289 (158 males and 131 females) more than expected.

For Indigenous males and females who were younger than 65 years, there were about 5 times as many deaths as expected as a result of 'all other causes' (Table 8.4).

### **Non-Indigenous population**

Annually, there were 2,331, 651, 356, 56 and 17 deaths of non-Indigenous males younger than 65 years and 1,282, 417, 207, 32 and 11 deaths of non-Indigenous females younger than 65 years in the five areas respectively as a result of 'all other causes'.

Death rates due to 'all other causes', for people living outside Major Cities, were not significantly different from those for people living in Major Cities (Table 8.4).

As a result of 'all other causes', there were 66, 23, 7 and 6 fewer deaths of non-Indigenous males younger than 65 years annually, and 16, 7, 1 and 2 more deaths of non-Indigenous females younger than 65 years than expected annually in the four areas outside Major Cities.

## 8.2 Diabetes

Diabetes mellitus (ICD-10 codes E10–E14) 'is a major cause of illness and disability in Australia. It is also a leading cause of blindness and lower limb amputations, and can lead to pregnancy-related complications for both the mother and foetus or newborn child. Diabetes is an important risk factor for several other chronic diseases including heart disease, stroke and renal disease' (AIHW 2002a). Risk factors include genetic factors and obesity, low birth weight, increasing age, physical inactivity and poor diet (AIHW 2002a).

Diabetes can be recorded on death records as the underlying cause of death or it may be recorded as an associated cause of death. Diabetes as the underlying cause of death is responsible for over 2% of deaths; diabetes as an associated cause is responsible for about 7.5% of all deaths.

Rates of diabetes death are usually reported for diabetes as an associated cause of death, because reporting underlying cause understates the impact of diabetes as a cause of death. However, this report describes the differences in diabetes mortality between areas based on diabetes as the underlying cause of death. This approach has been taken:

- to avoid double counting (as some deaths with diabetes as an associated cause may have been included in counts of deaths for circulatory disease, for example); and
- the inter-regional pattern as expressed by SMRs for each area are much the same using either method.

Numbers of deaths and 'excess' deaths attributed to, and SMRs calculated for, diabetes as the underlying cause of death are presented in Appendix A (page 301).

Average annual numbers of deaths and average annual numbers of 'excess' deaths due to diabetes defined as the underlying cause of death are underestimates of the burden of diabetes.

### Summary of findings

Annually, diabetes as the underlying cause of death was responsible for the deaths of 2,951 people (1,493 males and 1,458 females); 1,137 of these people came from areas outside Major Cities. Of these 2,951 deaths, 109 were of Indigenous people living in South Australia, Western Australia, the Northern Territory and Queensland.

Death rate due to diabetes, similar or slightly higher in regional areas, rises rapidly in remote areas. There were 1.0–1.1, 1.3–1.4, 1.5–1.9 and 2.8–5.5 times as many deaths of males and females as expected in the four areas outside Major Cities.

There were about 11 and 16 times as many deaths of Indigenous males and females as expected from diabetes as the underlying cause of death.

For non-Indigenous people death rates due to diabetes tended to be higher outside Major Cities (about 5% higher for males and 20% higher for females). This tendency was much weaker than for the total population, particularly in remote areas, where, in one group (Very Remote area males), there were fewer (0.5 times as many) deaths than expected.

Annually, there were 191 'excess' deaths due to diabetes as the underlying cause of death outside Major Cities (33, 96, 24 and 39 in each of the four areas). For the total population, about 65% of the 'excess' occurred in those aged 75 years and older, but for the non-Indigenous population, almost all of the 'excess' occurs in this age group. For Indigenous

people, the great bulk of the 'excess' death occurs prior to reaching 75 years. A substantial proportion of the 'excess', particularly in remote areas, is likely to be a consequence of high rates in Indigenous populations.

For diabetes as an associated cause of death, the patterns were similar, although the numbers of deaths were higher. For example, there were 9,666 deaths with diabetes recorded as an associated cause of death, 3,645 of which were of people from areas outside Major Cities, and 251 of which were of Indigenous people living in South Australia, Western Australia, the Northern Territory and Queensland. Details are described in Appendix A (page 301).

About 30% of deaths where diabetes is mentioned on the death certificate had diabetes identified as the underlying cause of death. Of the rest, 14%, 42%, 4%, 1% and about 10% had neoplasms, diseases of the circulatory and respiratory systems, injury and other causes listed as the underlying diagnosis respectively.

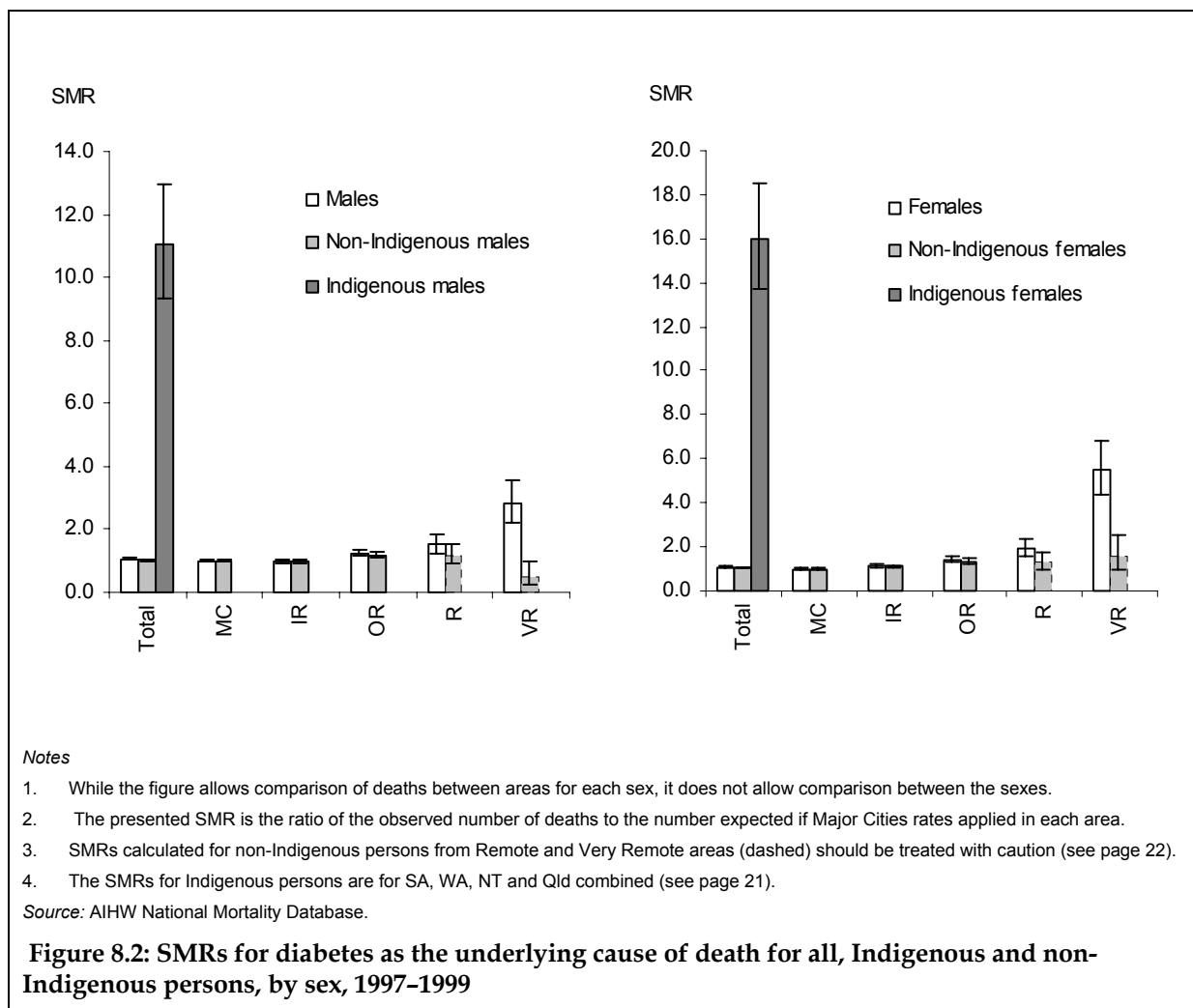
The ratios of observed to expected deaths for Indigenous people (7 and 12 for males and females) were lower than for diabetes as the underlying cause of death (11 and 16). This perhaps reflects the higher proportion of Indigenous deaths where diabetes is mentioned and where it is also stated as the underlying cause of death (43% of Indigenous deaths compared to 30% for the total population).

### **Overall mortality due to diabetes**

Annually, there were 919, 324, 195, 31 and 24 deaths of males and 895, 319, 188, 28 and 28 deaths of females in the five areas respectively, as a result of diabetes as the underlying cause of death.

Death rates due to diabetes were similar or slightly higher in regional areas, then increased rapidly in remote areas (Figure 8.2 and Table 8.5).

- There were similar numbers of observed and expected deaths of males in Inner Regional areas, but 1.3, 1.5 and 2.8 times as many deaths as expected in Outer Regional, Remote and Very Remote areas.
- There were 1.1, 1.4, 1.9 and 5.5 times as many deaths of females as expected in the four areas outside Major Cities.
- There were respectively about 11 and 16 times as many deaths of Indigenous males and females as expected from diabetes.



Ratios of observed to expected deaths for diabetes as an associated cause of death are described in Appendix A (see page 301).

In Major Cities, death rates due to diabetes for males were close to 0 at age 40 years, rising gradually at first to 30 per 100,000 per year at age 60-64 years, then to 330 per 100,000 per year for those 85 years and older. The pattern was similar for females, but rates were lower to 250 per 100,000 per year for those 85 years and older.

Age-specific rates were substantially higher in some age groups. The difference appears to be most marked in 45-64-year-olds, where in Outer Regional, Remote and Very Remote areas, there were 1.3, 2.2 and 6.7 times as many deaths of males and 2.1, 3.6 and 17.0 times as many deaths of females as expected. A very large proportion of all the deaths due to diabetes in Very Remote areas were deaths of Indigenous people.

As a result of diabetes, there were 2, 38, 10 and 15 'excess' deaths of males annually, and 31, 57, 13 and 23 'excess' deaths of females annually in the four areas outside Major Cities. Most of the 'excess' deaths occurred in people older than 60 years, but in Remote and Very Remote areas there was substantial contribution also from those as young as 40 years.

**Table 8.5: The ratio of observed deaths to those expected if Major Cities rates applied in each ASGC Remoteness area, diabetes as the underlying cause of death, males and females, 1997–1999**

Age group (years)	Male					Female				
	MC rate	IR	OR	R	VR	MC rate	IR	OR	R	VR
		(ratio)					(ratio)			
0–4	0	..	..	..	..	<1	0.00	0.00	0.00	0.00
5–14	0	..	..	..	..	<1	0.00	0.00	0.00	0.00
15–24	<1	0.61	4.51	1.24	11.03	<1	0.00	0.00	3.68	6.75
25–44	1	1.10	<b>*1.71</b>	2.75	<b>*9.54</b>	1	1.02	1.36	<b>*5.27</b>	<b>*17.24</b>
45–64	12	0.85	<b>*1.25</b>	<b>*2.24</b>	<b>*6.70</b>	7	0.93	<b>*2.06</b>	<b>*3.58</b>	<b>*16.96</b>
65–74	69	0.92	1.10	1.16	1.69	43	0.92	<b>*1.29</b>	1.49	<b>*4.16</b>
75+	188	<b>*1.11</b>	<b>*1.30</b>	1.29	0.72	146	<b>*1.21</b>	<b>*1.39</b>	<b>*1.59</b>	<b>*2.31</b>
Total	..	1.01	<b>*1.25</b>	<b>*1.52</b>	<b>*2.82</b>	..	<b>*1.11</b>	<b>*1.44</b>	<b>*1.93</b>	<b>*5.48</b>

\* Significantly different from 1 (that is, rates are significantly different from those in Major Cities).

*Notes*

1. Caution should be used when making inferences about ratios that are not significantly different from 1.
2. MC rates are expressed as deaths per 100,000 population per year. Total (crude) MC rate is largely meaningless and is not included.
3. While the table allows comparison of deaths between areas for each sex, it does not allow comparison between the sexes or age groups.

Source: AIHW National Mortality Database.

### Indigenous population

Annually in the period 1997–1999, there were 109 deaths of Indigenous people (50 males and 59 females) in South Australia, Western Australia, the Northern Territory and Queensland with the underlying cause of death reported as diabetes. There would also have been a number of deaths due to this cause in the other jurisdictions where identification is less reliable. Of these 109 deaths, there were 101 (45 males and 56 females) more than expected. There were also an additional 142 deaths, and 124 ‘excess’ deaths of Indigenous people in these four jurisdictions due to diabetes as an associated cause of death (Appendix A).

There were 11 and 16 times as many deaths of Indigenous males and females due to diabetes as expected (Table 8.6).

- Almost all of the ‘excess’ deaths occurred amongst those who were 25 years and older.
- About 60–80% of the ‘excess’ deaths were amongst those who were 25–64 years.
- For females, about 20% of the ‘excess’ deaths occurred amongst 65–74-year-olds and a similar percentage among those 75 years and older.

### Non-Indigenous population

Annually, there were 909, 320, 179, 22 and 3 deaths of non-Indigenous males and 883, 314, 169, 18 and 6 deaths of non-Indigenous females in the five areas respectively as a result of diabetes.

Death rates due to diabetes tended to be higher outside Major Cities, however, this tendency was much weaker than for the total population, particularly in remote areas; in fact there were half as many deaths of non-Indigenous males as expected in Very Remote areas (Table 8.6).

- There were as many deaths of non-Indigenous males as expected in Inner Regional and Remote areas, 1.2 times as many as expected in Outer Regional areas and 0.5 times (half) as many as expected in Very Remote areas.
- There were 1.1, 1.3 and 1.3 times as many deaths of non-Indigenous females due to diabetes as expected in Inner and Outer Regional and Remote areas. Although elevated, the number of observed deaths of non-Indigenous females in Very Remote areas was not significantly greater than expected.

Ratios of observed to expected deaths for diabetes as an associated cause of death are described in the Appendix (Table A.6).

**Table 8.6: The ratio of observed deaths to those expected as a result of diabetes as the underlying cause of death if Major Cities non-Indigenous rates applied to the non-Indigenous population in each ASGC Remoteness area and to the Indigenous population, 1997–1999**

Age group (years)	Male						Female					
	MC rate	Non-Indigenous				Indig-enous	MC rate	Non-Indigenous				Indig-enous
		IR	OR	R	VR			IR	OR	R	VR	
		(ratio)						(ratio)				
0–4	0	..	..	..	..	0	..	..	..	..	..	..
5–14	0	..	..	..	..	<1	0.06	0.00	0.00	0.00	0.00	0.0
15–24	<1	0.62	2.49	0.00	0.00	6.7	<1	0.01	0.00	0.00	0.00	6.4
25–44	1	1.02	1.09	0.84	0.23	<b>*26.9</b>	1	1.05	0.70	2.49	0.66	<b>*37.1</b>
45–64	12	<b>*0.83</b>	1.03	1.35	0.96	<b>*23.1</b>	6	0.91	<b>*1.52</b>	1.63	<b>*4.32</b>	<b>*39.5</b>
65–74	68	0.92	1.05	1.00	0.59	<b>*6.8</b>	43	0.91	1.16	0.75	1.37	<b>*12.4</b>
75+	188	<b>*1.11</b>	<b>*1.30</b>	1.27	0.26	<b>*3.1</b>	146	<b>*1.20</b>	<b>*1.38</b>	<b>*1.45</b>	1.14	<b>*6.6</b>
Total	..	1.00	<b>*1.17</b>	1.19	<b>*0.52</b>	<b>*11.1</b>	..	<b>*1.10</b>	<b>*1.33</b>	<b>*1.34</b>	1.59	<b>*16.0</b>
0–64	..	0.86	1.05	1.27	0.85	<b>*23.3</b>	..	0.90	<b>*1.38</b>	1.71	<b>*3.52</b>	<b>*35.9</b>

\* Significantly different from 1 (that is, rates are significantly different from those for non-Indigenous people in Major Cities).

*Notes*

1. Caution should be used when making inferences about ratios that are not significantly different from 1.
2. MC rates for non-Indigenous persons are expressed as deaths per 100,000 population per year. Total (crude) MC rate is largely meaningless and is not included.
3. Ratios for Indigenous people are for SA, WA, NT and Qld.
4. While the table allows comparison of deaths between areas for each sex, it does not allow comparison between the sexes or age groups.
5. SMRs calculated for non-Indigenous persons from Remote and Very Remote areas should be treated with caution (see page 22).

Source: AIHW National Mortality Database.

Age-specific death rates for non-Indigenous people living in Major Cities were similar to those for the total population.

Age-specific death rates for non-Indigenous people as a result of diabetes were similar in Inner Regional areas to those for the total population. Rates were a little lower in Outer Regional areas than for the total population and were substantially lower in Remote and Very Remote areas, such that rates in those areas were no longer significantly different from those in Major Cities (except for 45–64-year-old women). Rates for people older than 74 years

were least affected and most similar to those for the total population (but even so, rates still tend to be lower in Remote and Very Remote areas than in the total population).

As a result of diabetes, there were 1, 26, 4 and -3 'excess' deaths of non-Indigenous males annually, and 29, 42, 5 and 2 'excess' deaths of non-Indigenous females annually in the four areas outside Major Cities. Almost all of the 'excess' deaths occurred in people older than 70 years, frequently with fewer than expected in younger age groups.

## **Mortality for those aged 0–64 years**

### **Indigenous population**

Annually there were 72 (36 male, 36 female) deaths of Indigenous people younger than 65 years in South Australia, Western Australia, the Northern Territory and Queensland due to diabetes as the underlying cause. There would also have been a number of deaths due to this cause in the other jurisdictions. Of these 72 deaths, there were 70 (35 males and 35 females) more than expected.

For Indigenous males and females who were younger than 65 years, there were 23 and 36 times as many deaths as expected as a result of diabetes (Table 8.6).

### **Non-Indigenous population**

Annually, there were 180, 50, 33, 6 and 2 deaths of non-Indigenous males younger than 65 years and 98, 28, 21, 4 and 2 deaths of non-Indigenous females younger than 65 years in the five areas as a result of diabetes as the underlying cause.

For 0–64-year-old non-Indigenous males, there were about as many deaths as expected due to diabetes in each area outside Major Cities (Table 8.6). However, rates tended to increase with remoteness for 0–64-year-old non-Indigenous females, with 1.4 and 3.5 times as many deaths as expected in Outer Regional and Very Remote areas respectively.

As a result of diabetes, there were -8, 2, 1 and 0 'excess' deaths of non-Indigenous males younger than 65 years annually, and -3, 6, 1 and 2 'excess' deaths of non-Indigenous females younger than 65 years annually in the four areas outside Major Cities. There was relatively little 'excess' death due to diabetes for this group.

## 8.3 Specified renal disease

The renal disease described in this report comprises renal tubulo-interstitial diseases (ICD-10 codes N10–N16) and renal failure (ICD-10 codes N17–N19) and has been included because of its importance as a cause of death for Indigenous persons. Renal disease can be a result of damage to kidneys caused by high blood pressure, diabetes, infections and long-term use of analgesics (AIHW 2002a).

### Summary of findings

Annually, renal diseases were responsible for the deaths of 1,870 people (858 males and 1,012 females); 653 of these people came from areas outside Major Cities. Of these 1,870 deaths, 32 were of Indigenous people living in South Australia, Western Australia, the Northern Territory and Queensland.

Death rates in most areas were similar to or slightly higher than in Major Cities. However, there were 2.0 and 3.4 times as many deaths of males and females due to this cause as expected in Very Remote areas.

There were about 5 and 9 times as many deaths of Indigenous males and females as expected from renal diseases.

For non-Indigenous people living outside Major Cities, there were about as many deaths due to renal disease as expected.

Annually, there were 33 'excess' deaths due to renal disease outside Major Cities (1, 14, 5 and 13 in each of the four areas). A large proportion of these is associated with high Indigenous mortality due to this cause.

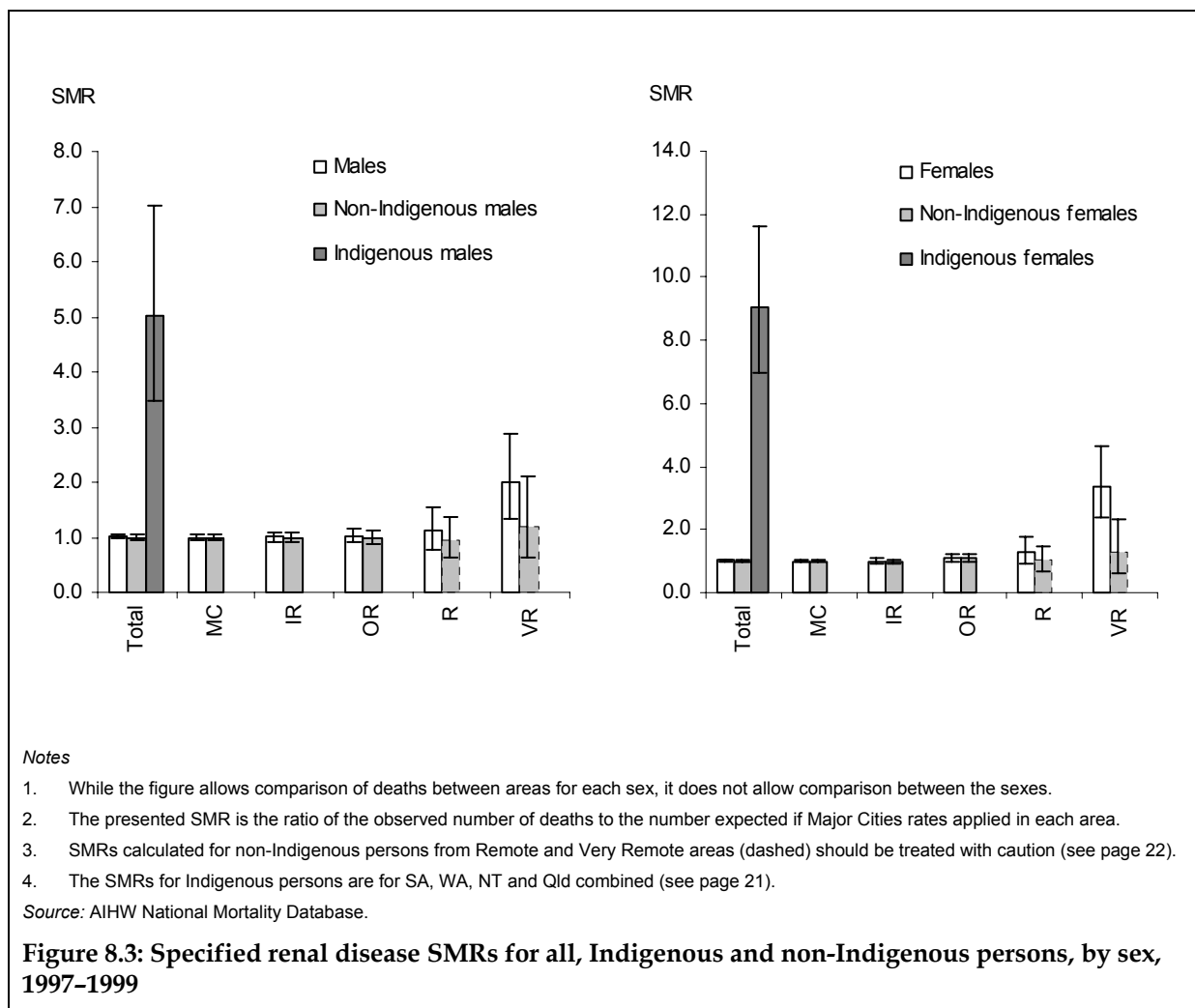
### Overall mortality due to renal diseases

Annually, there were 549, 194, 93, 12 and 10 deaths of males and 668, 211, 107, 14 and 12 deaths of females in the five areas respectively as a result of renal disease.

Although death rates are similar or slightly higher in areas outside Major Cities, rates in most areas (except Very Remote areas) are not significantly different from rates in Major Cities (Figure 8.3 and Table 8.7).

- There were about as many deaths of males as expected due to renal disease in Inner Regional, Outer Regional and Remote areas, however, there were 2.0 times as many as expected in Very Remote areas.
- There were as many deaths of females as expected due to renal disease in Inner Regional areas, but 1.1 and 3.4 times as many as expected in Outer Regional and Very Remote areas.
- There were about 2–3 times as many deaths of Indigenous people due to renal disease as expected.





In Major Cities, death rates for males due to renal disease were close to 0 per 100,000 per year until age 50 years, rising slowly at first, then faster to 97 per 100,000 per year for males and 58 per 100,000 per year for females at age 75-79 years, and 443 per 100,000 per year for males and 291 per 100,000 per year for females for those 85 years and older.

As a result of renal diseases, there were 1, 2, 1 and 5 'excess' deaths of males annually, and 0, 11, 3 and 9 'excess' deaths of females annually in the four areas outside Major Cities. There were fewer deaths than expected in those older than 80 years in all areas. The bulk of the 'excess' deaths occurred in people aged 60-80 years.

**Table 8.7: The ratio of observed deaths to those expected if Major Cities rates applied in each ASGC Remoteness area, specified renal disease, males and females, 1997–1999**

Age group (years)	Male					Female				
	MC rate	IR	OR	R	VR	MC rate	IR	OR	R	VR
		(ratio)					(ratio)			
0–4	<1	0.97	0.25	0.00	0.00	0	..	..	..	..
5–14	0	..	..	..	..	0	..	..	..	..
15–24	<1	0.00	0.00	10.97	15.05	<1	0.96	0.25	0.00	0.00
25–44	<1	1.86	<b>*6.82</b>	7.06	0.00	<1	1.19	0.51	4.00	<b>*29.79</b>
45–64	2	0.99	1.03	2.17	<b>*4.56</b>	2	1.20	<b>*1.76</b>	2.61	<b>*12.61</b>
65–74	14	1.20	1.31	1.51	<b>*6.25</b>	16	1.17	1.20	<b>*2.71</b>	<b>*6.75</b>
75+	188	0.98	0.97	0.94	1.29	138	0.96	1.08	1.00	1.59
Total	..	1.01	1.02	1.11	<b>*1.99</b>	..	1.00	<b>*1.12</b>	1.31	<b>*3.35</b>

\* Significantly different from 1 (that is, rates are significantly different from those in Major Cities).

*Notes*

1. Caution should be used when making inferences about ratios that are not significantly different from 1.
2. MC rates are expressed as deaths per 100,000 population per year. Total (crude) MC rate is largely meaningless and is not included.
3. While the table allows comparison of deaths between areas for each sex, it does not allow comparison between the sexes or age groups.

Source: AIHW National Mortality Database.

### Indigenous population

Annually in the period 1997–1999, there were 32 deaths of Indigenous people (11 males and 21 females) in South Australia, Western Australia, the Northern Territory and Queensland due to renal disease. There would also have been a number of deaths due to this cause in the other jurisdictions where identification is less reliable. Of these 32 deaths, there were 28 (9 males and 19 females) more than expected.

There were 5 and 9 times as many deaths of Indigenous males and females as expected as a result of renal disease (Table 8.8). This ‘excess’ was scattered more or less evenly amongst Indigenous males and females at all life stages older than 25 years.

### Non-Indigenous population

Annually, there were 548, 194, 90, 10 and 4 deaths of non-Indigenous males and 664, 209, 102, 10 and 3 deaths of non-Indigenous females in the five areas respectively as a result of renal disease. More than two-thirds of deaths due to this cause in Very Remote areas were deaths of Indigenous people.

There were about as many deaths of non-Indigenous people as expected due to this cause in areas outside Major Cities.

Age-specific death rates for non-Indigenous people living in Major Cities were similar to those for the total population living in Major Cities.

**Table 8.8: The ratio of observed deaths to those expected as a result of specified renal disease if Major Cities non-Indigenous rates applied to the non-Indigenous population in each ASGC Remoteness area and to the Indigenous population, 1997–1999**

Age group (years)	Male						Female					
	MC rate	Non-Indigenous				Indigenous	MC rate	Non-Indigenous				Indigenous
		IR	OR	R	VR			IR	OR	R	VR	
0–4	<1	0.99	0.27	0.78	0.00	0.0	0	..	..	..	..	..
5–14	0	..	..	..	..	..	0	..	..	..	..	..
15–24	<1	0.00	0.00	12.56	27.52	0.0	<1	1.26	0.34	0.00	0.00	13.4
25–44	<1	1.87	3.15	0.15	0.00	<b>*50.8</b>	<1	1.20	0.67	0.00	0.00	<b>*54.5</b>
45–64	2	1.02	1.00	1.39	0.00	<b>*14.5</b>	2	1.24	1.22	0.50	2.24	<b>*30.3</b>
65–74	14	1.08	1.10	0.94	<b>*3.51</b>	<b>*8.3</b>	16	1.14	1.06	2.06	0.63	<b>*15.2</b>
75+	188	0.98	0.97	0.91	0.87	<b>*3.0</b>	138	0.95	1.08	0.92	1.31	<b>*3.2</b>
Total	..	1.00	0.99	0.95	1.21	<b>*5.0</b>	..	0.98	1.08	1.02	1.27	<b>*9.1</b>
0–64	..	1.04	1.07	1.46	0.66	<b>*15.1</b>	..	1.23	1.14	0.42	1.79	<b>*33.7</b>

\* Significantly different from 1 (that is, rates are significantly different from those for non-Indigenous people in Major Cities).

*Notes*

1. Caution should be used when making inferences about ratios that are not significantly different from 1.
2. MC rates for non-Indigenous persons are expressed as deaths per 100,000 population per year. Total (crude) MC rate is largely meaningless and is not included.
3. Ratios for Indigenous people are for SA, WA, NT and Qld.
4. While the table allows comparison of deaths between areas for each sex, it does not allow comparison between the sexes or age groups.
5. SMRs calculated for non-Indigenous persons from Remote and Very Remote areas should be treated with caution (see page 22).

Source: AIHW National Mortality Database.

As a result of renal disease, there were -1, -1, 0 and 1 'excess' deaths of non-Indigenous males annually, and -4, 8, 0 and 1 'excess' deaths of non-Indigenous females annually in the four areas outside Major Cities. There were generally fewer deaths than expected in those older than 70 years and slightly more deaths than expected in those aged 60–69 years.

## Mortality for those aged 0–64 years

### Indigenous population

Annually there were 14 (4 male, 10 female) deaths of Indigenous people younger than 65 years in South Australia, Western Australia, the Northern Territory and Queensland as a result of renal disease. There would also have been a number of deaths due to this cause in the other jurisdictions. Of these 14 deaths, there were 14 (4 males and 10 females) more than expected.

For Indigenous males and females who were younger than 65 years, there were 15 and 34 times as many deaths as expected as a result of renal disease (Table 8.8).

### **Non-Indigenous population**

Annually, there were 28, 9, 5, 1 and 0 deaths of non-Indigenous males younger than 65 years and 30, 12, 5, 0 and 0 deaths of non-Indigenous females younger than 65 years in the five areas respectively as a result of renal disease.

Death rates due to renal disease, for people living outside Major Cities, were not significantly different from those for people living in Major Cities (Table 8.8).

As a result of renal disease, there were no 'excess' deaths of non-Indigenous males younger than 65 years annually, and 2, 1, 0 and 0 'excess' deaths of non-Indigenous females younger than 65 years annually in the four areas outside Major Cities. There was little 'excess' death due to renal disease for non-Indigenous people younger than 65 years of age.

## 8.4 All other causes of death not elsewhere described

This section describes all the other causes of death not elsewhere included in this report (that is, excluding circulatory and respiratory diseases, neoplasms, injury, diabetes and renal diseases). Causes include infectious diseases, diseases of the digestive system and of the endocrine system (excluding diabetes), conditions originating in the perinatal period, and so on.

Although findings refer to a very broad range of conditions and may have limited application for advising policy, they are included for the sake of completeness, and may suggest further research.

### Summary of findings

Annually, these 'other causes n.e.d.' were responsible for the deaths of 17,534 people (8,422 males and 9,112 females); 6,084 of these people came from areas outside Major Cities. Of these 17,534 deaths, 327 were of Indigenous people living in South Australia, Western Australia, the Northern Territory and Queensland.

Death rates were similar or up to 1.1 times as high in regional areas, and 1.1 to 1.9 times as high in remote areas.

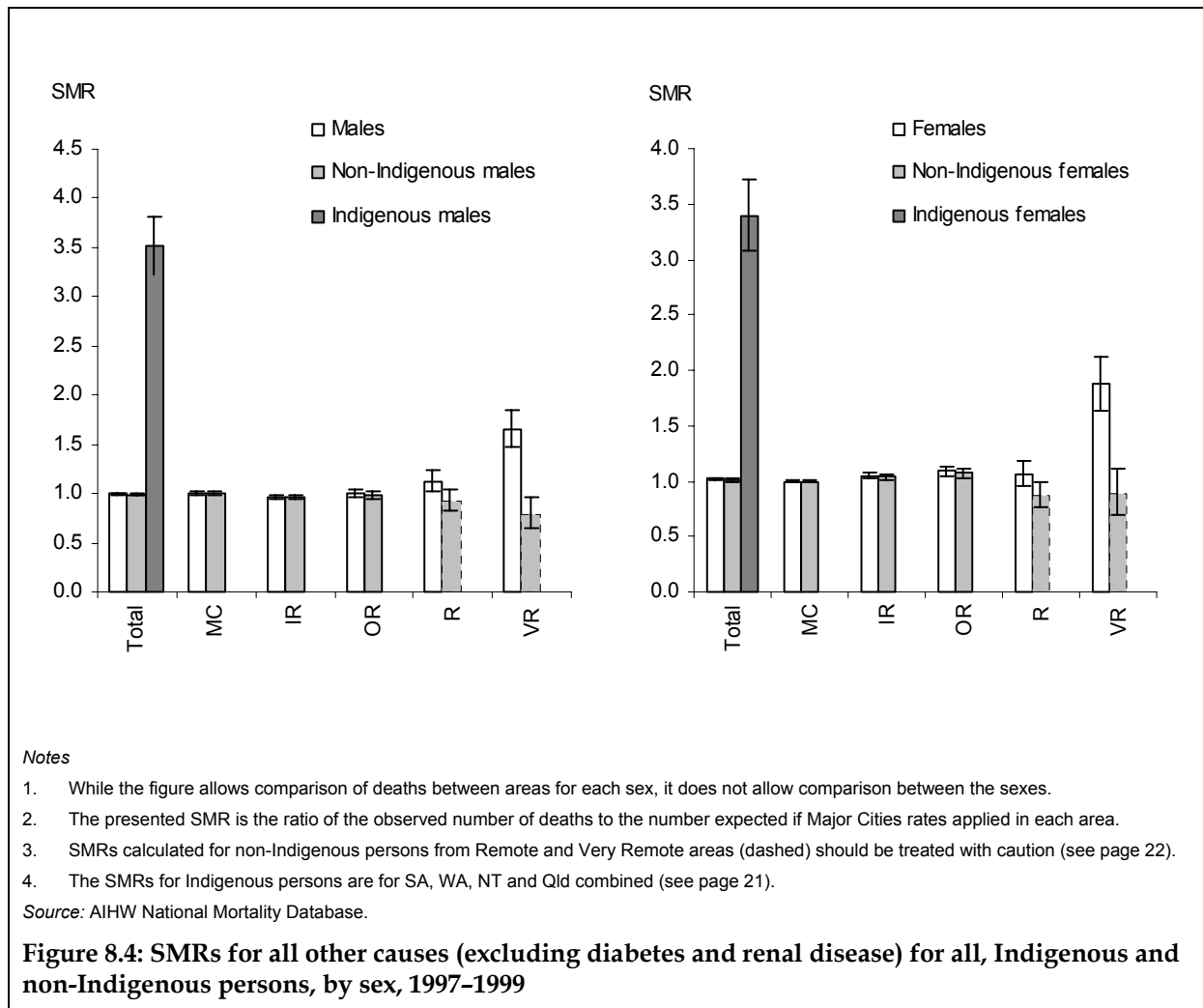
There were about 3.5 times as many deaths of Indigenous males and females as expected from these other causes.

For non-Indigenous people living outside Major Cities, there were about as many or fewer deaths due to these other causes as expected. For non-Indigenous females in regional areas, rates were about 5% (1.05 times) higher than for females in Major Cities.

Annually, there were 210 'excess' deaths due to these other causes outside Major Cities (27, 83, 23 and 78 in each of the four areas). Averaged across all areas, the 'excess' was all female, however, while there were more deaths of females in all areas than expected, there were fewer deaths of males in regional areas and substantially more than expected in remote areas. A large proportion of these 'excess' deaths, particularly in remote areas, appears likely to be a consequence of the large proportion of the population in these areas who are Indigenous, coupled with high death rates evident for Indigenous people in Australia due to these causes.

## Overall mortality due to these other causes

Annually, there were 5,469, 1,780, 922, 147 and 103 deaths of males and 5,981, 1,982, 957, 112 and 79 deaths of females in the five areas respectively as a result of these 'other causes n.e.d.'.



Death rates were similar or slightly higher in regional areas, and substantially higher in remote areas (Figure 8.4 and Table 8.9).

- There were similar numbers of, or slightly fewer deaths of regional males than expected, but 5-10% more deaths of females than expected in regional areas.
- There were 1.1 times as many deaths as expected in Remote areas, and 1.7-1.9 times as many as expected in Very Remote areas.
- There were about 3.5 times as many deaths of Indigenous people due to these other causes as expected.

**Table 8.9: The ratio of observed deaths to those expected if Major Cities rates applied in each ASGC Remoteness area, other causes not elsewhere described (and excludes diabetes and renal disease), males and females, 1997–1999**

Age group (years)	Male					Female				
	MC rate	IR	OR	R	VR	MC rate	IR	OR	R	VR
		(ratio)					(ratio)			
0–4	108	1.06	<b>*1.24</b>	<b>*1.47</b>	<b>*2.35</b>	92	0.95	1.05	1.23	<b>*2.87</b>
5–14	4	0.94	1.16	1.85	<b>*3.37</b>	4	1.21	1.29	2.41	<b>*5.02</b>
15–24	18	0.95	<b>*0.75</b>	1.20	1.61	9	0.90	1.02	<b>*2.10</b>	2.24
25–44	33	<b>*0.74</b>	<b>*0.80</b>	1.15	<b>*2.40</b>	13	0.96	1.05	<b>*1.97</b>	<b>*2.67</b>
45–64	65	0.94	1.05	1.11	<b>*1.99</b>	34	<b>*1.16</b>	<b>*1.18</b>	<b>*1.73</b>	<b>*3.31</b>
65–74	230	1.02	1.03	<b>*1.38</b>	<b>*1.75</b>	158	1.06	<b>*1.18</b>	1.17	<b>*2.09</b>
75+	971	0.99	0.99	0.86	<b>*0.70</b>	1,000	<b>*1.05</b>	<b>*1.07</b>	<b>*0.75</b>	0.96
Total	..	<b>*0.97</b>	1.00	<b>*1.12</b>	<b>*1.66</b>	..	<b>*1.05</b>	<b>*1.09</b>	1.06	<b>*1.87</b>

\* Significantly different from 1 (that is, rates are significantly different from those in Major Cities).

*Notes*

1. Caution should be used when making inferences about ratios that are not significantly different from 1.
2. MC rates are expressed as deaths per 100,000 population per year. Total (crude) MC rate is largely meaningless and is not included.
3. While the table allows comparison of deaths between areas for each sex and age group, it does not allow comparison between the sexes or age groups.

Source: AIHW National Mortality Database.

In Major Cities, death rates for males and females due to these causes were about 100 per 100,000 per year for 0–4-year-olds, then rising from 4 per 100,000 per year, through 150–250 per 100,000 per year for 65–74-year-olds, to about 1000 per 100,000 per year for those who are 75 years and older.

Death rates were significantly higher for children younger than 5 years in Outer Regional and remote areas (clearly for boys, and clearly for girls in Very Remote areas).

As a result of these ‘other causes n.e.d.’, there were 63 fewer and 3, 16 and 41 more deaths of males than expected annually, and 89, 80, 7 and 37 more deaths of females than expected annually in the four areas outside Major Cities. There were slightly fewer deaths of elderly people in remote areas, but this had little effect on the overall pattern.

### Indigenous population

Annually in the period 1997–1999, there were 327 deaths of Indigenous people (184 males and 141 females) in South Australia, Western Australia, the Northern Territory and Queensland due to these other causes. There would also have been a number of deaths due to this cause in the other jurisdictions where identification is less reliable. Of these 327 deaths, there were 233 (133 males and 99 females) more than expected.

There were 3.5 and 3.4 times as many deaths of Indigenous males and females as expected as a result of these other causes (Table 8.10). Of this ‘excess’ death, 26% were younger than 5 years, 30% were aged 25–44 years, and 26% were aged 45–64 years.

## Non-Indigenous population

Annually, there were 5,412, 1,754, 865, 110 and 33 deaths of non-Indigenous males and 5,938, 1,966, 917, 84 and 24 deaths of non-Indigenous females in the five areas respectively as a result of these other causes.

There were fewer (0.95 times as many) deaths of non-Indigenous males and 1.05 times as many deaths of non-Indigenous females as expected in regional areas (Table 8.10). In remote areas there were 0.8 times as many deaths of non-Indigenous males and 0.9 times as many deaths of non-Indigenous females as expected.

**Table 8.10: The ratio of observed deaths to those expected as a result of other causes not elsewhere described (and excludes diabetes and renal disease), if Major Cities non-Indigenous rates applied to the non-Indigenous population in each ASGC Remoteness area and to the Indigenous population, 1997–1999**

Age group (years)	Male						Female					
	MC rate	Non-Indigenous				Indig-enous	MC rate	Non-Indigenous				Indig-enous
		IR	OR	R	VR			(ratio)	IR	OR	R	
0–4	107	1.05	1.09	1.18	0.92	<b>*3.0</b>	92	0.95	0.95	0.81	0.81	<b>*2.6</b>
5–14	4	0.98	1.09	0.40	0.83	<b>*3.8</b>	4	1.20	1.22	1.37	2.96	<b>*4.4</b>
15–24	17	0.96	<b>*0.74</b>	1.03	0.27	<b>*2.0</b>	9	0.92	1.01	1.08	1.69	<b>*3.4</b>
25–44	32	<b>*0.74</b>	<b>*0.71</b>	<b>*0.58</b>	0.61	<b>*5.5</b>	12	0.96	0.92	0.72	0.52	<b>*7.3</b>
45–64	64	0.94	1.00	0.85	0.83	<b>*5.6</b>	34	<b>*1.17</b>	1.07	1.17	1.28	<b>*8.0</b>
65–74	230	1.02	1.03	<b>*1.32</b>	1.14	<b>*3.4</b>	158	1.06	<b>*1.17</b>	1.10	0.70	<b>*3.6</b>
75+	971	0.99	1.00	0.86	0.74	<b>*1.4</b>	1,000	1.03	<b>*1.08</b>	<b>*0.77</b>	0.86	<b>*1.4</b>
Total	..	<b>*0.97</b>	0.98	0.93	<b>*0.80</b>	<b>*3.5</b>	..	<b>*1.04</b>	<b>*1.07</b>	<b>*0.87</b>	0.89	<b>*3.4</b>
0–64	..	<b>*0.91</b>	<b>*0.93</b>	<b>*0.84</b>	<b>*0.74</b>	<b>*4.0</b>	..	<b>*1.05</b>	<b>*1.00</b>	<b>*1.00</b>	<b>*0.99</b>	<b>*4.3</b>

\* Significantly different from 1 (that is, rates are significantly different from those for non-Indigenous people in Major Cities).

### Notes

1. Caution should be used when making inferences about ratios that are not significantly different from 1.
2. MC rates for non-Indigenous persons are expressed as deaths per 100,000 population per year. Total (crude) MC rate is largely meaningless and is not included.
3. Ratios for Indigenous people are for SA, WA, NT and Qld.
4. While the table allows comparison of deaths between areas for each sex and age group, it does not allow comparison between the sexes or age groups.
5. SMRs calculated for non-Indigenous persons from Remote and Very Remote areas should be treated with caution (see page 22).

Source: AIHW National Mortality Database.

Age-specific rates for non-Indigenous people living in Major Cities were similar to those for the total population living in Major Cities.

While there were a small number of age groups for which there were slightly more deaths than expected, the great majority of age groups had about as many or fewer deaths than expected. The substantial differences that appear in the total population, particularly in Very Remote areas, do not appear to exist in the non-Indigenous population.



As a result of these other causes, there were 63, 21, 9 and 8 fewer deaths of non-Indigenous males than expected; and 71 and 61 more deaths, and 13 and 3 fewer deaths of non-Indigenous females than expected annually in the four areas outside Major Cities. There were slightly fewer deaths than expected in those older than 75 years, primarily in remote areas, but this had little effect on the overall pattern of 'excess' deaths.

## **Mortality for those aged 0–64 years**

### **Indigenous population**

Annually there were 271 (160 male, 112 female) deaths of Indigenous people younger than 65 years in South Australia, Western Australia, the Northern Territory and Queensland as a result of these 'other causes n.e.d.'. There would also have been a number of deaths due to this cause in the other jurisdictions. Of these 271 deaths, there were 205 (120 males and 86 females) more than expected.

For Indigenous males and females who were younger than 65 years, there were 4 times as many deaths as expected due to these 'other causes n.e.d.' (Table 8.10).

### **Non-Indigenous population**

Annually, there were 2,123, 591, 318, 48 and 16 deaths of non-Indigenous males younger than 65 years and 1,154, 376, 180, 28 and 9 deaths of non-Indigenous females younger than 65 years in the five areas respectively as a result of these other causes.

There were fewer deaths of non-Indigenous males younger than 65 years in all areas (0.9 times as many as expected in regional areas, 0.8 times as many in remote areas) and 5% more deaths of non-Indigenous females younger than 65 years as expected in Inner Regional areas, and about as many deaths of these females as expected in Outer Regional and remote areas (Table 8.10).

As a result of these other causes, there were 58, 25, 9 and 6 fewer deaths of non-Indigenous males younger than 65 years than expected annually. There were 17, 0, 0 and 0 more deaths of non-Indigenous females younger than 65 years than expected annually in the four areas outside Major Cities.