Neoplasms

All neoplasms

This group includes all cancers and benign neoplasms. This includes, for example, lung, colorectal, breast, cervical and prostate cancers, as well as melanoma, lymphomas and non-malignant neoplasms.

ICD-9 and ICD-10 codes used here are, respectively, 140–239 and C00–D48.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 1.00.

For perspective, Table 5 describes the number of deaths in each area in 2003.

Table 5: Number of deaths due to neoplasms in 2003

	MC	IR	OR	R	VR	Total
Males	13,235	5,202	2,606	292	131	21,466
Females	10,933	3,896	1,749	195	83	16,856

Note: 70 records were missing details of geographic location and have been lost from the analysis.

Between 1992 and 2003, death rates from these causes in Major Cities declined significantly: by 2.2 points p.a. for males and 1.2 points p.a. for females (Table 6, Figure 10 and Figure 11).

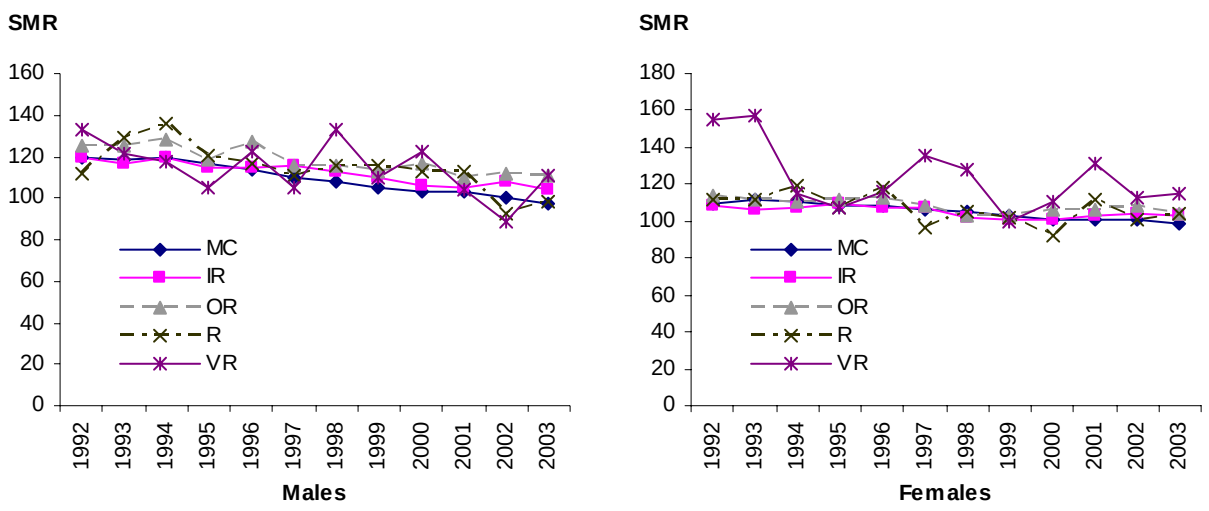
Rates in Inner and Outer Regional areas also declined, but at a lower rate than in Major Cities—at about 1.5 points p.a. for males and 0.7 points p.a. for females (see Table 6).

Rates in remote areas declined for males, and appeared to decline for females, at rates that were not significantly different from those in Major Cities.

Table 6: Annual change in SMRs, neoplasms, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–2.2	***–1.4**	***–1.6**	–2.5	–2.0	–1.2	***–0.6**	–0.8	–1.2	–2.2

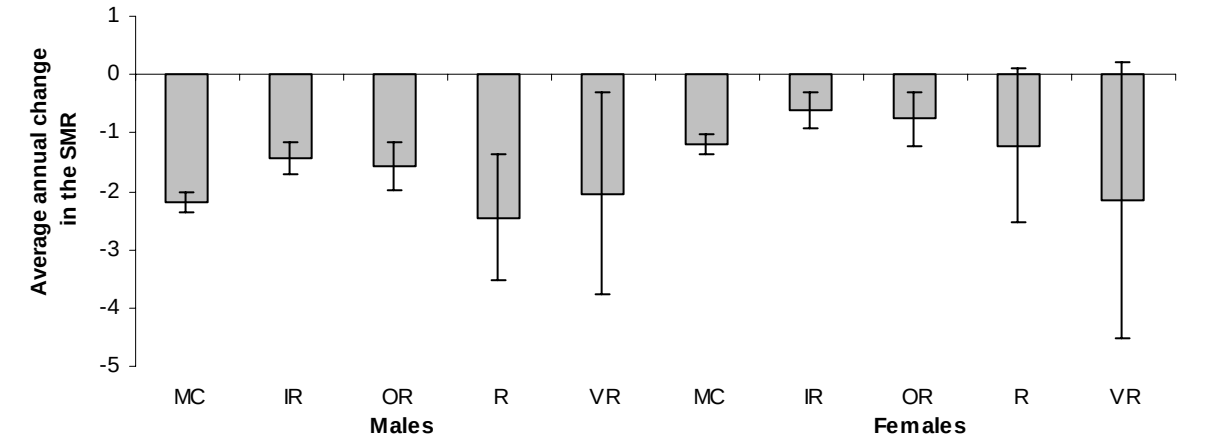
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 10: Trends in SMRs, neoplasms, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 11: Annual change in the ratio of observed to expected deaths due to neoplasms, 1992–2003

Lung cancer

Lung cancer is a chronic disease accounting for about 5% of all deaths in Australia each year. The main risk factors are tobacco smoking and exposure to environmental tobacco smoke, asbestos or radon (AIHW 2002). Prevalence of smoking is known to be higher in regional and remote areas.

ICD-9 and ICD-10 codes used here are, respectively, 162; and C33 and C34.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.97.

For perspective, Table 7 describes the number of deaths in each area in 2003.

Table 7: Number of deaths due to lung cancer in 2003

	MC	IR	OR	R	VR	Total
Males	2,759	1,091	557	60	35	4,502
Females	1,623	555	249	26	10	2,463

Note: 11 records were missing details of geographic location and have been lost from the analysis.

Between 1992 and 2003, death rates from this cause for males from Major Cities declined significantly by about 3 points p.a., while those for females increased significantly by about 1 point p.a. (Table 8, Figure 12 and Figure 13).

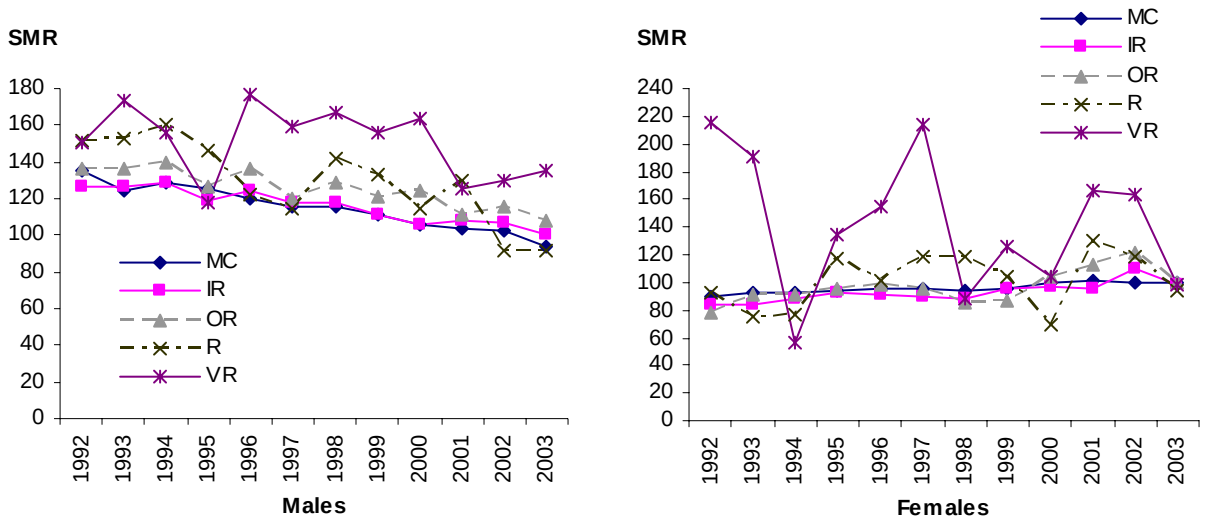
Rates of decrease for males were also about 3 points p.a. in regional areas, and, although relatively small numbers introduced some volatility in Remote and Very Remote areas, at about the same rate as in Major Cities in remote areas generally.

Rates increased for females in regional areas by about 2 points p.a. over the period, but this increase was not significantly different (at the 95% level of confidence) from the 1 point p.a. increase for females living in Major Cities (although the difference would have been considered significant at a slightly lower level of confidence). There was no significant change in rates for females from Remote and Very Remote areas, or for these remote areas when aggregated.

Table 8: Annual change in SMRs, lung cancer, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–3.4	–2.6	–2.6	–5.6	–2.1	0.9	1.7	2.3	1.6	–0.4

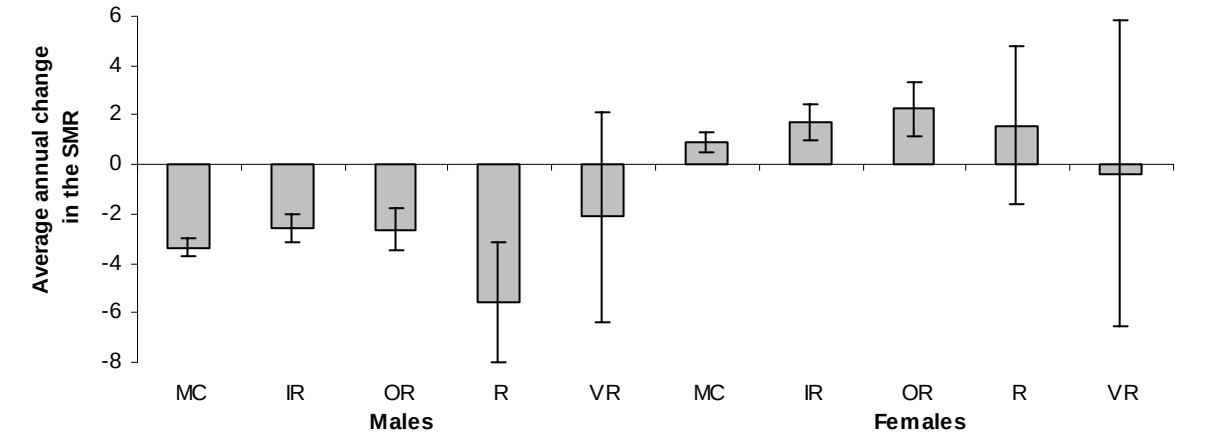
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 12: Trends in SMRs, lung cancer, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 13: Annual change in the ratio of observed to expected deaths due to lung cancer, 1992–2003

Colorectal cancer

Colorectal cancer is a serious form of cancer, but with substantially better survival rates if detected early. Age and having a family history of colorectal cancer are major predisposing factors, while lifestyle factors include diet, physical inactivity and excess weight. Consumption of wholegrain cereal fibres, fruit and vegetables, a reduced fat intake and a moderate calorific intake tend to protect against the disease (AIHW 2002).

ICD-9 and ICD-10 codes used here are, respectively 153 and 154, and C18–C21.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.98.

For perspective, Table 9 describes the number of deaths in each area in 2003.

Table 9: Number of deaths due to colorectal cancer in 2003

	MC	IR	OR	R	VR	Total
Males	1,526	578	275	28	10	2,417
Females	1,307	481	210	22	6	2,026

Note: 4 records were missing details of geographic location and have been lost from the analysis.

Between 1992 and 2003, death rates from this cause in Major Cities declined significantly by 3 points p.a. for males and 2.5 points p.a. for females (Table 10, Figure 14 and Figure 15).

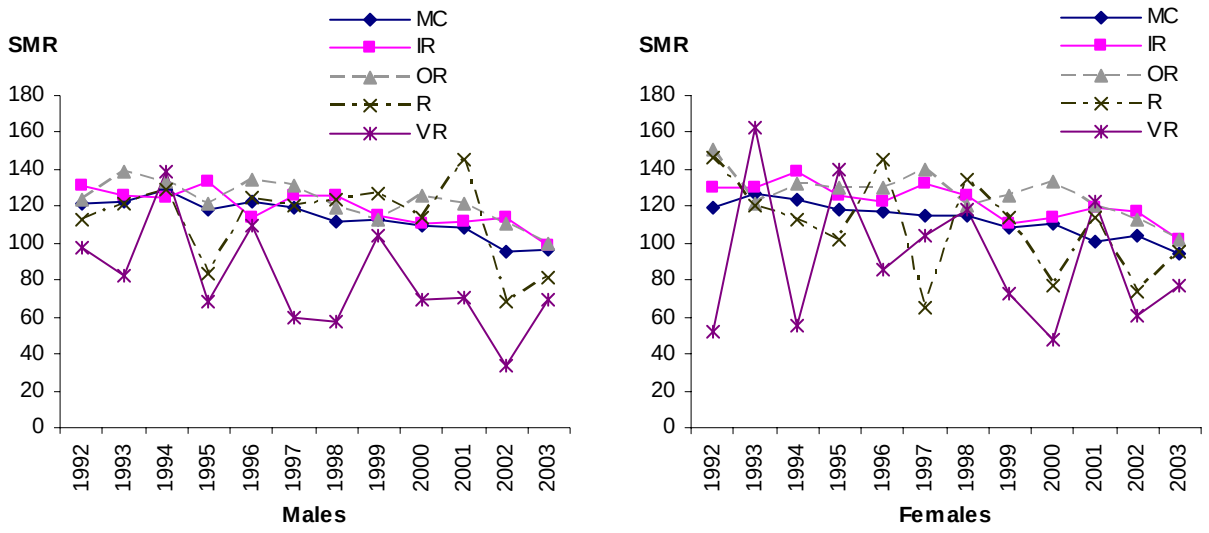
Death rates in regional areas declined for both males and females at a rate similar to those in Major Cities.

The decrease in remote areas was also similar to that in Major Cities, particularly when the decline was calculated for the total remote (aggregated Remote plus Very Remote) area.

Table 10: Annual change in SMRs, colorectal cancer, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–2.8	–2.4	–2.5	–2.9	–4.5	–2.5	–2.4	–2.6	–3.7	–0.8

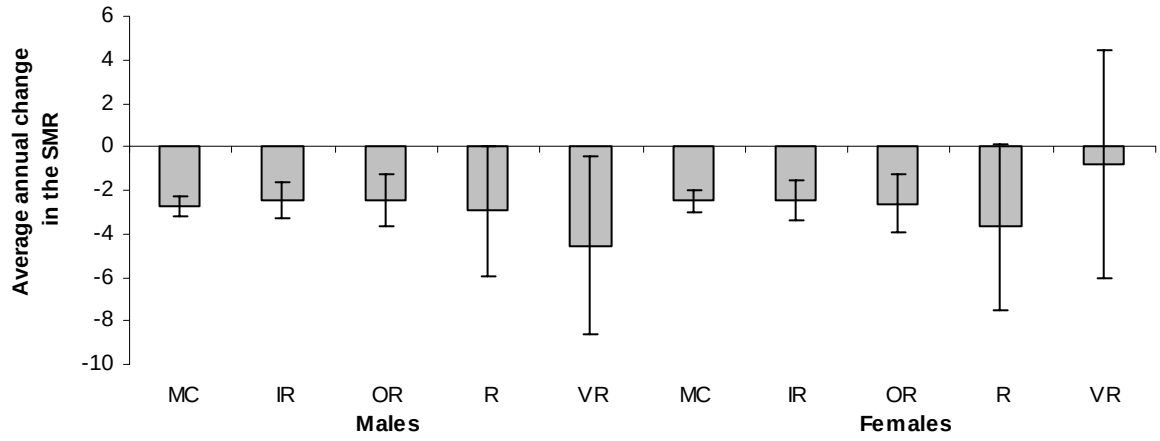
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 14: Trends in SMRs, colorectal cancer, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 15: Annual change in the ratio of observed to expected deaths due to colorectal cancer, 1992–2003

Breast cancer

Breast cancer is the leading cause of cancer death for women. A small number of men die from breast cancer. Females are at greater risk than men, and the overall risk increases with age. Early detection (through self-examination and regular mammograms) enhances treatment options and survival (The Cancer Council NSW 2005a).

ICD-9 and ICD-10 codes used here are, respectively 174 and 175, and C50.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.98.

For perspective, Table 11 describes the number of deaths in each area in 2003.

Table 11: Number of deaths due to breast cancer in 2003

	MC	IR	OR	R	VR	Total
Males	7	<3	<3	<3	<3	9
Females	1,744	616	305	24	16	2,705

Note: 8 records were missing details of geographic location and have been lost from the analysis.

Comparison of rates across time has been restricted to females because of the relatively small number of deaths of males.

Between 1992 and 2003, death rates from this cause for females in Major Cities declined significantly by 2.5 points p.a. (Table 12, Figure 16 and Figure 17).

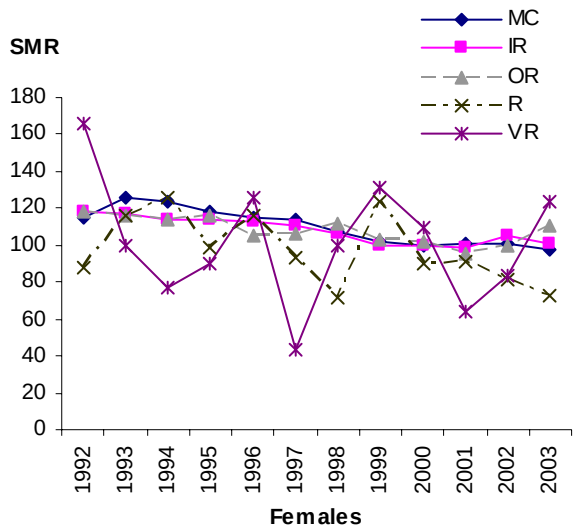
The decline in death rates in regional areas was not significantly different from that in Major Cities. Even when combining data for Inner Regional and Outer Regional areas, the rate of decline of 1.7 points p.a. was not significantly different from that in Major Cities (2.5 points p.a.).

In Remote and Very Remote areas, the decrease was not significantly different from zero points (in other words, it is possible that there has been no change in the rate of death). Even when data for Remote and Very Remote areas are combined, the calculated rate of decline is not significantly different from zero. In other words, at the 95% level of confidence it is uncertain that rates have declined at all; however, it is also unclear whether the rate of decline is significantly different from that in Major Cities.

Table 12: Annual change in SMRs, breast cancer, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	n.p.	n.p.	n.p.	n.p.	n.p.	–2.5	–1.8	–1.5	–2.6	–0.8

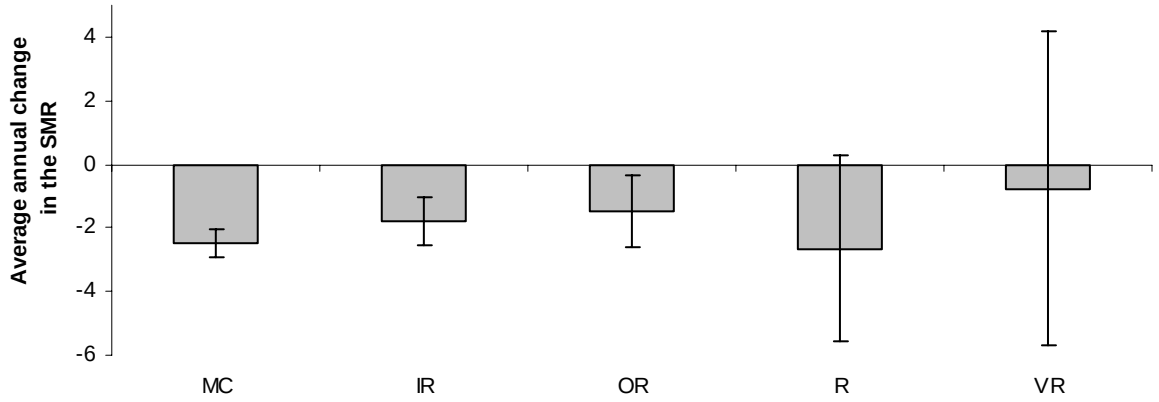
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 16: Trends in SMRs, breast cancer, females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 17: Annual change in the ratio of observed to expected deaths due to breast cancer, females, 1992–2003

Cervical cancer

Cervical cancer is not one of the major forms of cancer, but its significance is enhanced by the fact that its precancerous phase can be detected by Pap smear testing, with a very high rate of success in then preventing onset of the cancer. Personal risk is increased by infection with the human papilloma virus, exposure to several sexual partners and smoking, with the probability of onset increasing with age. The risk of developing cervical cancer is substantially greater for women who are not screened regularly (two-yearly is recommended for 'at risk' age groups). (The Cancer Council NSW 2005b).

ICD-9 and ICD-10 codes used here are, respectively, 180 and C53.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.98.

For perspective, Table 13 describes the number of deaths in each area in 2003.

Table 13: Number of deaths due to cervical cancer in 2003

	MC	IR	OR	R	VR	Total
Males	. .	. .	. .	. .	. .	. .
Females	147	48	37	4	<3	237

Note: 1 record was missing details of geographic location and has been lost from the analysis.

Between 1992 and 2003, death rates from this cause for females in Major Cities declined significantly by 7.5 points p.a. (Table 14, Figure 18 and Figure 19).

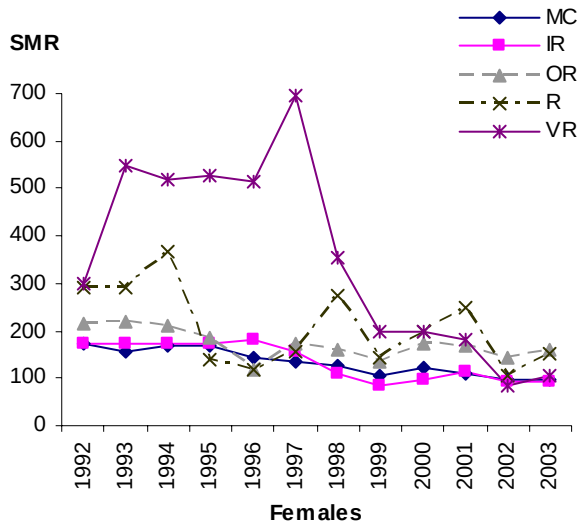
The decline in death rates in regional areas was not significantly different from that in Major Cities.

In Remote areas the decrease was not significantly different from 0 points p.a., while in Very Remote areas, the rate of death due to cervical cancer declined by about 40 points each year (which was also significantly greater than the decline in Major Cities). The overall decline (21 points p.a.) in remote (combined Remote and Very Remote) areas was significantly different from zero, but was not significantly different from the rate of decline (7.5 points p.a.) in Major Cities at the 95% level of confidence (although the difference would be significant at a slightly lower level of confidence).

Table 14: Annual change in SMRs, cervical cancer, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	. .	. .	. .	. .	. .	–7.5	–9.1	–4.6	–9.4	***–40.6**

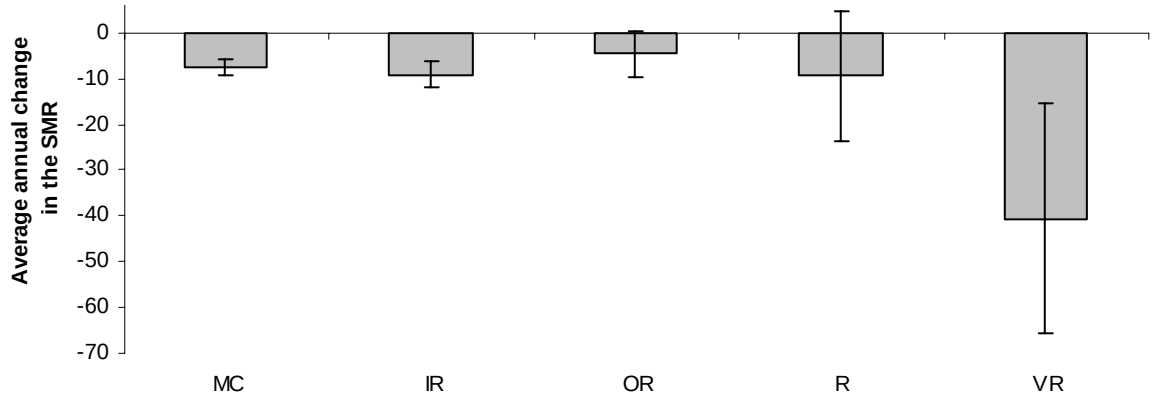
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 18: Trends in SMRs, cervical cancer, females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 19: Annual change in the ratio of observed to expected deaths due to cervical cancer, females, 1992–2003

Prostate cancer

For men, prostate cancer is the second largest cancer-related cause of death after lung cancer. Risk for individuals increases with age and is greater for those with a family history of the disease. It is not currently clear that finding and treating prostate cancer in symptomless men reduces the death rate due to this cause (The Cancer Council NSW 2005c).

ICD-9 and ICD-10 codes used here are, respectively, 185 and C61.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.98.

For perspective, Table 15 describes the number of deaths in each area in 2003.

Table 15: Number of deaths due to prostate cancer in 2003

	MC	IR	OR	R	VR	Total
Males	1,690	745	360	37	9	2,841
Females	. .	. .	. .	. .	. .	. .

Note: 1 record was missing details of geographic location and has been lost from the analysis.

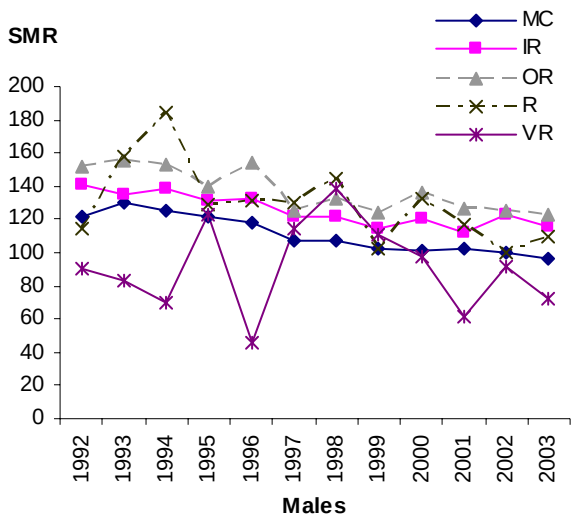
Between 1992 and 2003, death rates from this cause for males in Major Cities declined significantly by 3 points p.a. (Table 16, Figure 20 and Figure 21).

The decline in death rates in regional and Remote areas was not significantly different from that in Major Cities. In Very Remote areas, the rate of death due to prostate cancer did not appear to change.

Table 16: Annual change in SMRs, prostate cancer, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–2.8	–2.3	–3.0	–3.6	–0.1	. .	. .	. .	. .	. .

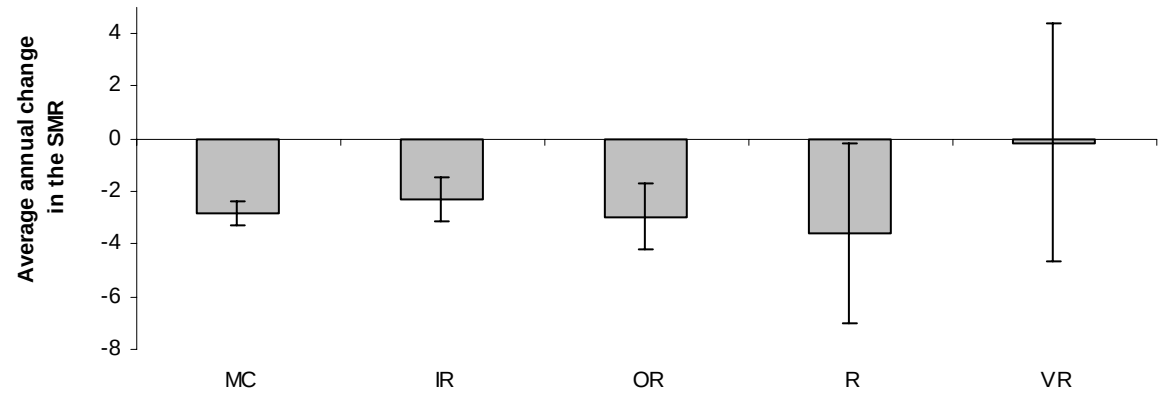
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 20: Trends in SMRs, prostate cancer, males, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 21: Annual change in the ratio of observed to expected deaths due to prostate cancer, males, 1992–2003

Melanoma

Incidence of, and mortality due to, melanoma in Australia is increasing (AIHW & AACR 2004).

The main risk factors for development of melanoma are overexposure to ultraviolet radiation, fair skin and age (The Cancer Council NSW 2005d).

ICD-9 and ICD-10 codes used here are, respectively, 172 and C43.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.98.

For perspective, Table 17 describes the number of deaths in each area in 2003.

Table 17: Number of deaths due to melanoma in 2003

	MC	IR	OR	R	VR	Total
Males	461	186	97	12	<3	758
Females	247	93	30	<3	<3	372

Note: 2 records were missing details of geographic location and have been lost from the analysis.

Between 1992 and 2003, death rates from this cause for males and females in Major Cities appeared to decrease slightly, but not significantly (Table 18, Figure 22 and Figure 23).

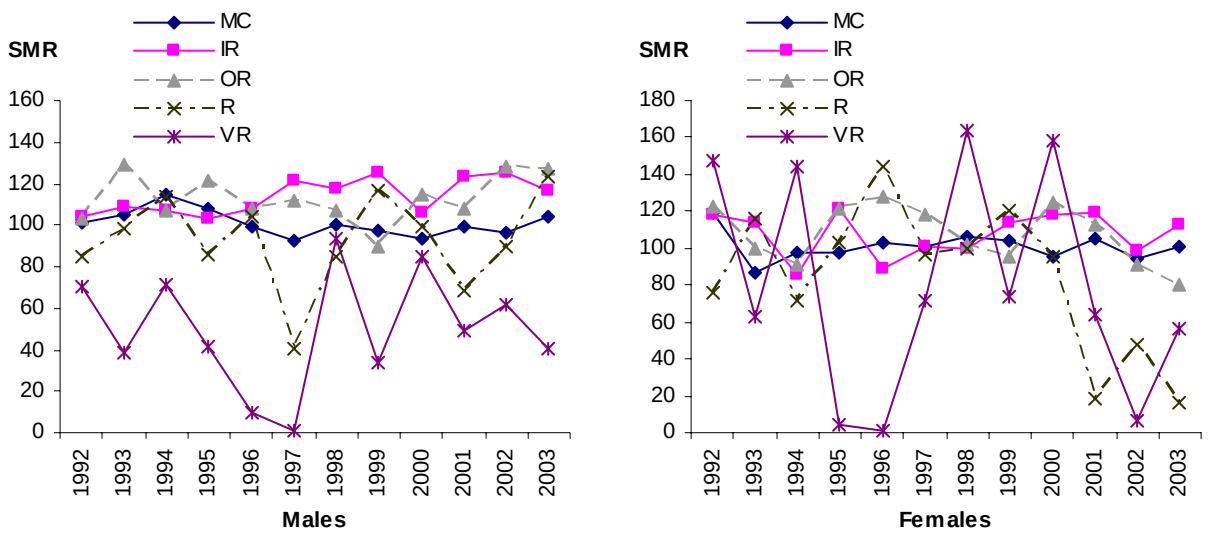
For males in Inner Regional areas, rates appeared to increase by 2 points p.a., while for males in Outer Regional, Remote and Very Remote areas rates appeared to increase slightly, but not significantly.

For females, there was a non-significant increase of 1 point p.a. in Inner Regional areas and a non-significant decrease of 2 points p.a. in Outer Regional areas. Overall in remote areas, rates declined by about 8 points p.a.

Table 18: Annual change in SMRs, melanoma, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–0.7	1.6	0.7	0.6	2.6	–0.1	0.6	–1.9	***–8.7**	1.8

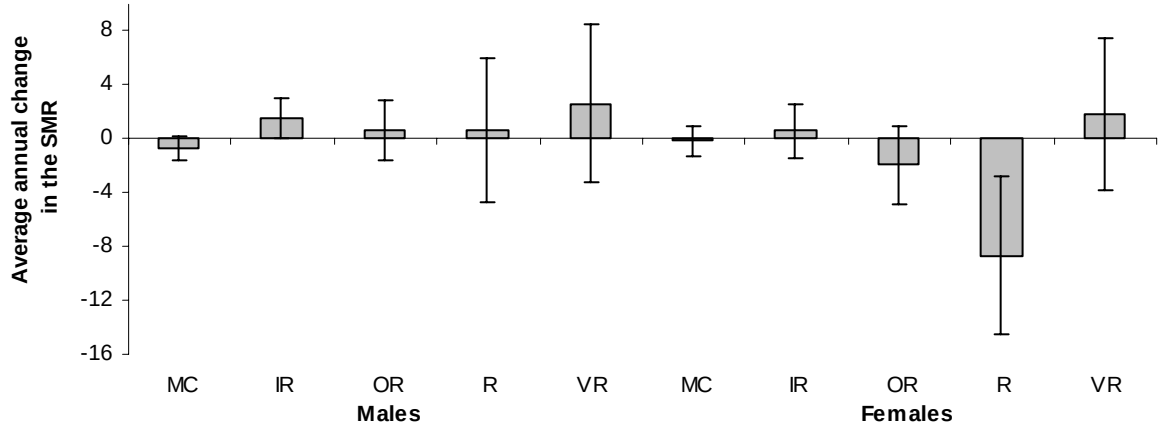
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 22: Trends in SMRs, melanoma, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 23: Annual change in the ratio of observed to expected deaths due to melanoma, 1992–2003

‘Other’ neoplasms

This group includes all cancers and other neoplasms not already described in previous sections (that is, all cancers and other neoplasms except melanoma and lung, colorectal, breast, cervical and prostate cancer).

ICD-9 and ICD-10 codes used here are, respectively, 140–239 and C00–D48 (excluding those specific cancers already described in this report).

Reporting here is for the period 1992–2003. The numbers of observed deaths were calculated by subtraction of the observed number for each of the reported specific neoplasms from the total observed number due to all neoplasms.

For perspective, Table 19 describes the number of deaths in each area in 2003.

Table 19: Number of deaths due to ‘other’ neoplasms in 2003

	MC	IR	OR	R	VR	Total
Males	6,792	2,600	1,316	154	76	10,938
Females	5,866	2,103	919	119	47	9,054

Note: 43 records were missing details of geographic location and have been lost from the analysis.

Between 1992 and 2003, death rates from these causes for males and females in Major Cities declined, respectively, by 1.5 points and 1.0 point p.a. (Table 20, Figure 24 and Figure 25).

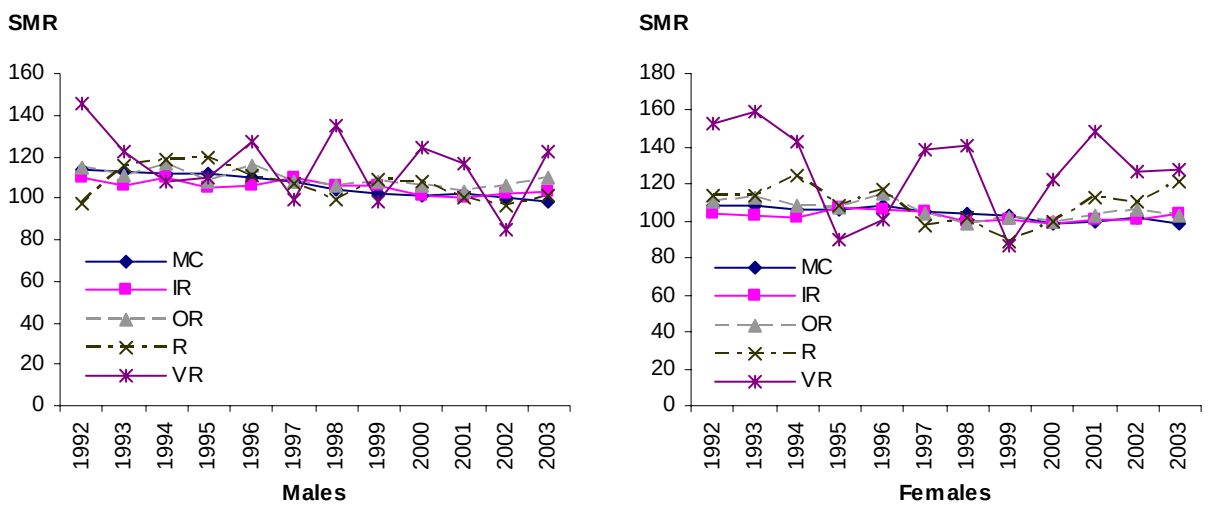
Rates for males and females in Inner Regional areas declined at a lower rate—0.7 points and 0.3 points p.a., respectively.

The decline for males and females in Outer Regional and remote areas was not significantly different from the decline in Major Cities.

Table 20: Annual change in SMRs, ‘other’ neoplasms, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–1.5	***–0.7**	–0.8	–1.1	–1.8	–1.0	***–0.3**	–0.9	–0.4	–0.6

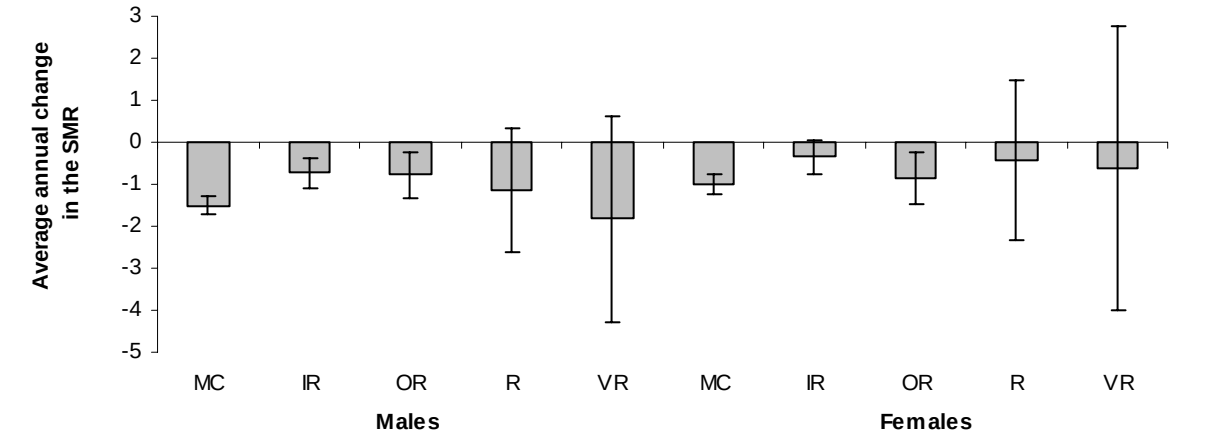
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 24: Trends in SMRs, 'other' neoplasms, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 25: Annual change in the ratio of observed to expected deaths due to 'other' neoplasms, 1992–2003

Circulatory diseases

All circulatory diseases

This group includes all diseases of the heart and circulatory system. It includes coronary heart disease, cerebrovascular disease (including stroke), heart failure, peripheral vascular disease and rheumatic heart disease. Broad contributing causes include tobacco smoking, insufficient physical activity, poor nutrition (including high fat intake), overweight, high blood pressure, high blood cholesterol and diabetes (AIHW 2004b).

ICD-9 and ICD-10 codes used here are, respectively, 390–459 and I00–I99.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 1.00.

For perspective, Table 21 describes the number of deaths in each area in 2003.

Table 21: Number of deaths due to circulatory diseases in 2003

	MC	IR	OR	R	VR	Total
Males	14,342	5,709	2,732	343	161	23,287
Females	16,563	5,900	2,559	252	123	25,397

Note: 151 records were missing details of geographic location and have been lost from the analysis.

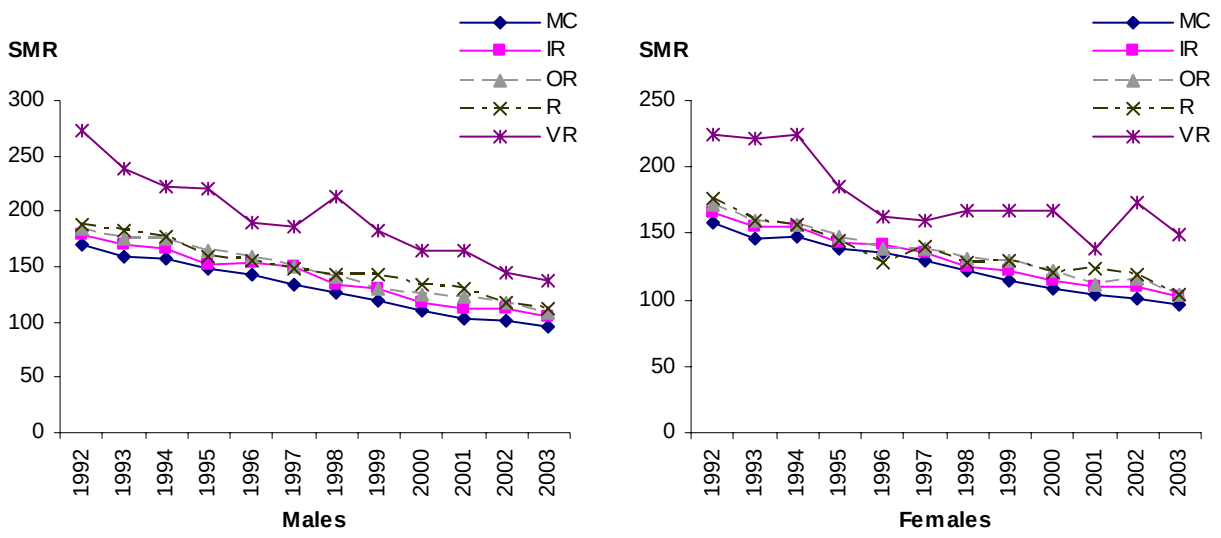
Between 1992 and 2003, death rates from these causes in Major Cities declined significantly by 7 points p.a. for males and 6 points p.a. for females (Table 22, Figure 26 and Figure 27).

Rates of decrease in regional and remote areas for both males and females were similar in almost all cases to rates in Major Cities. The rate of decrease was significantly greater (at 10 points p.a.) for males in Very Remote areas than for those in Major Cities.

Table 22: Annual change in SMRs, circulatory diseases, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–6.9	–6.9	–7.0	–6.6	***–10.3**	–5.6	–5.5	–5.6	–5.1	–6.0

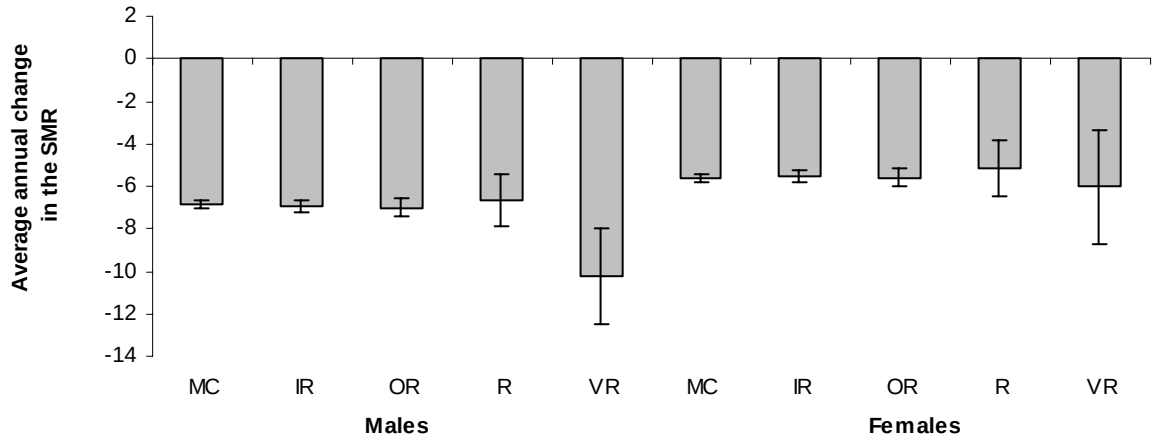
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 26: Trends in SMRs, circulatory diseases, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 27: Annual change in the ratio of observed to expected deaths due to circulatory diseases, 1992–2003

Cerebrovascular disease

Cerebrovascular disease damages parts of the brain when blood vessels to the brain either become blocked or bleed. The resulting damage can then impair movement or communication, or, in more serious cases, result in death. Tobacco smoking, high alcohol consumption, overweight, insufficient physical activity, diabetes and transient ischaemic attack are major risk factors. Contributing biomedical risk factors include high blood pressure and high blood cholesterol (AIHW 2004c).

ICD-9 and ICD-10 codes used here are, respectively, 430–438 and I60–I69.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.97.

For perspective, Table 23 describes the number of deaths in each area in 2003.

Table 23: Number of deaths due to cerebrovascular disease in 2003

	MC	IR	OR	R	VR	Total
Males	3,090	1,139	505	64	23	4,821
Females	4,939	1,678	684	65	27	7,393

Note: 26 records were missing details of geographic location and have been lost from the analysis.

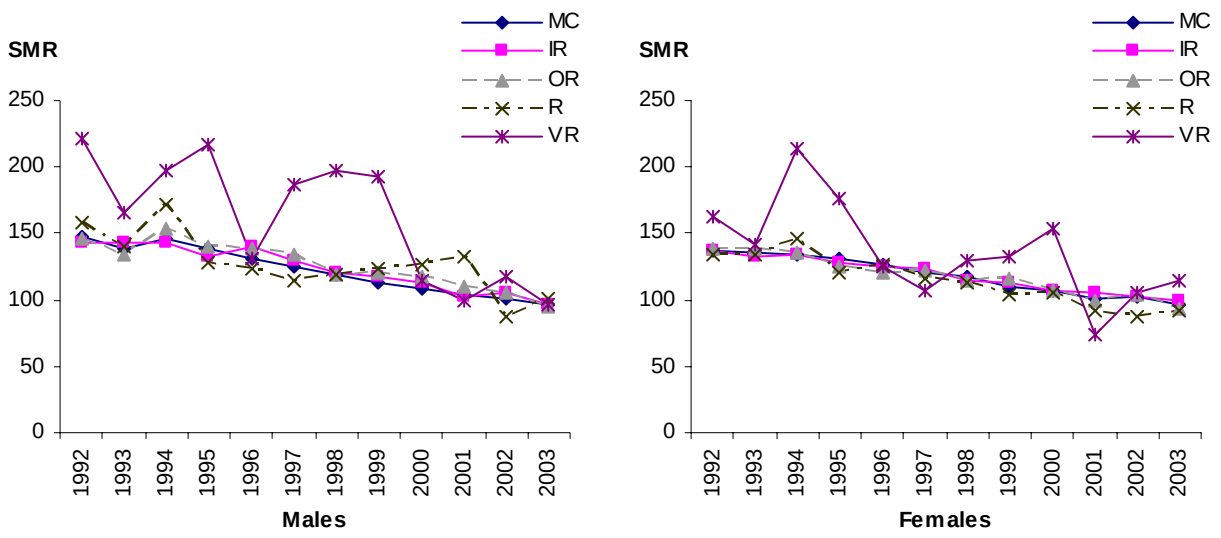
Between 1992 and 2003, death rates from this cause in Major Cities declined significantly by 5 points p.a. for males and 4 points p.a. for females (Table 24, Figure 28 and Figure 29).

Rates in regional and remote areas declined at about the same rate, except in Very Remote areas where rates for males declined by about 10 points p.a.

Table 24: Annual change in SMRs, cerebrovascular disease, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–4.9	–4.7	–4.7	–4.8	***–10.1**	–4.0	–3.7	–4.1	–4.9	–6.4

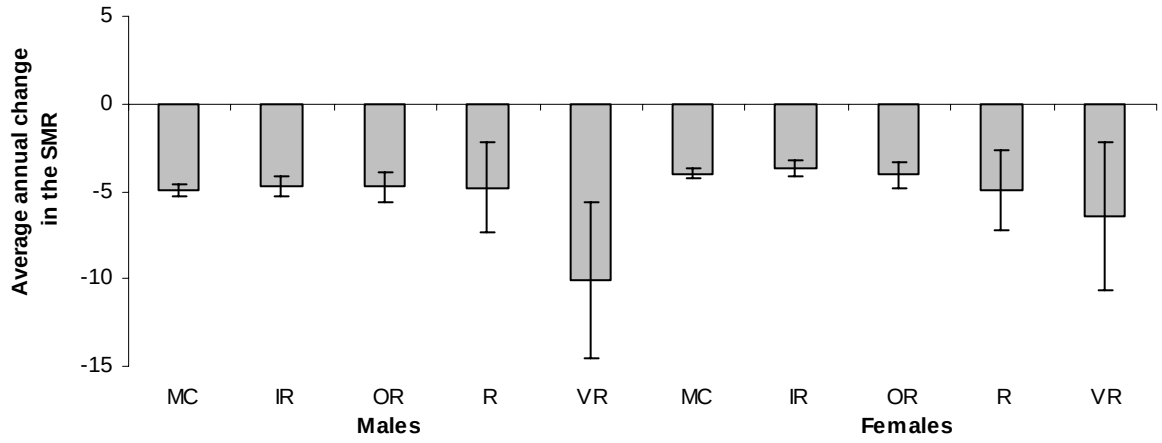
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 28: Trends in SMRs, cerebrovascular disease, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 29: Annual change in the ratio of observed to expected deaths due to cerebrovascular disease, 1992–2003

Coronary heart disease

Coronary heart disease (either as heart attack or as angina) is the largest single cause of premature death in Australia. Heart attack (acute myocardial infarction) occurs when a coronary artery supplying the heart becomes blocked, resulting in the death of heart muscle downstream. Angina is characterised by chest pain associated with insufficient blood flow in the coronary artery; it causes substantial disability and increases the risk of heart attack. Older people and males are at higher risk from the disease. As is the case for stroke, tobacco smoking, overweight, insufficient physical activity, poor nutrition and diabetes are major risk factors. Contributing biomedical risk factors include high blood pressure and high blood cholesterol (AIHW 2004c).

ICD-9 and ICD-10 codes used here are, respectively, 410–414 and I20–I25.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 1.01.

For perspective, Table 25 describes the number of deaths in each area in 2003.

Table 25: Number of deaths due to coronary heart disease in 2003

	MC	IR	OR	R	VR	Total
Males	8,268	3,330	1,576	197	82	13,453
Females	7,781	2,753	1,193	106	50	11,883

Note: 103 records were missing details of geographic location and have been lost from the analysis.

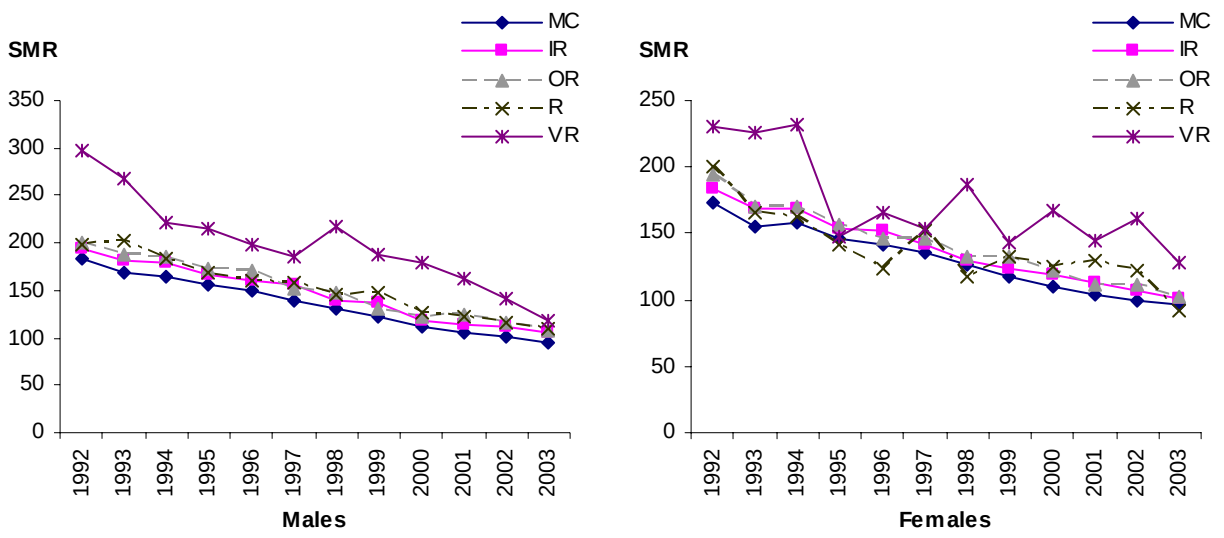
Between 1992 and 2003, death rates from this cause in Major Cities declined significantly by 8 points p.a. for males and 7 points p.a. for females (Table 26, Figure 30 and Figure 31).

Rates in regional and remote areas declined at about the same rate, except in Very Remote areas where rates for males declined by about 13 points p.a.

Table 26: Annual change in SMRs, coronary heart disease, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–7.9	–8.3	–8.5	–8.4	***–12.6**	–6.9	–7.2	–7.4	–6.3	–6.8

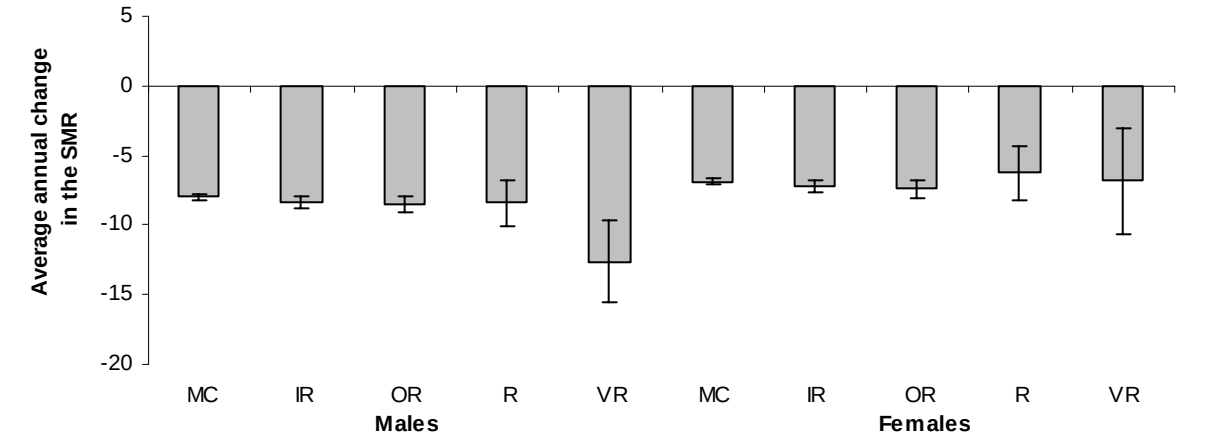
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 30: Trends in SMRs, coronary heart disease, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 31: Annual change in the ratio of observed to expected deaths due to coronary heart disease, 1992–2003

‘Other’ circulatory diseases

This group includes all diseases of the circulatory system not already described in this report.

ICD-9 and ICD-10 codes used here are, respectively, 390–459 and I00–I99 (excluding cerebrovascular disease and coronary heart disease).

Reporting here is for the period 1992–2003. The number of deaths has been calculated as the difference between the number of deaths due to all circulatory diseases and the number due to cerebrovascular disease and coronary heart disease.

For perspective, Table 27 describes the number of deaths in each area in 2003.

Table 27: Number of deaths due to ‘other’ circulatory diseases in 2003

	MC	IR	OR	R	VR	Total
Males	2,983	1,239	651	82	56	5,011
Females	3,842	1,470	682	81	45	6,120

Note: 25 records were missing details of geographic location and have been lost from the analysis.

Between 1992 and 2003, death rates from these causes in Major Cities declined significantly by 6 points p.a. for males and 5 points p.a. for females (Table 28, Figure 32 and Figure 33).

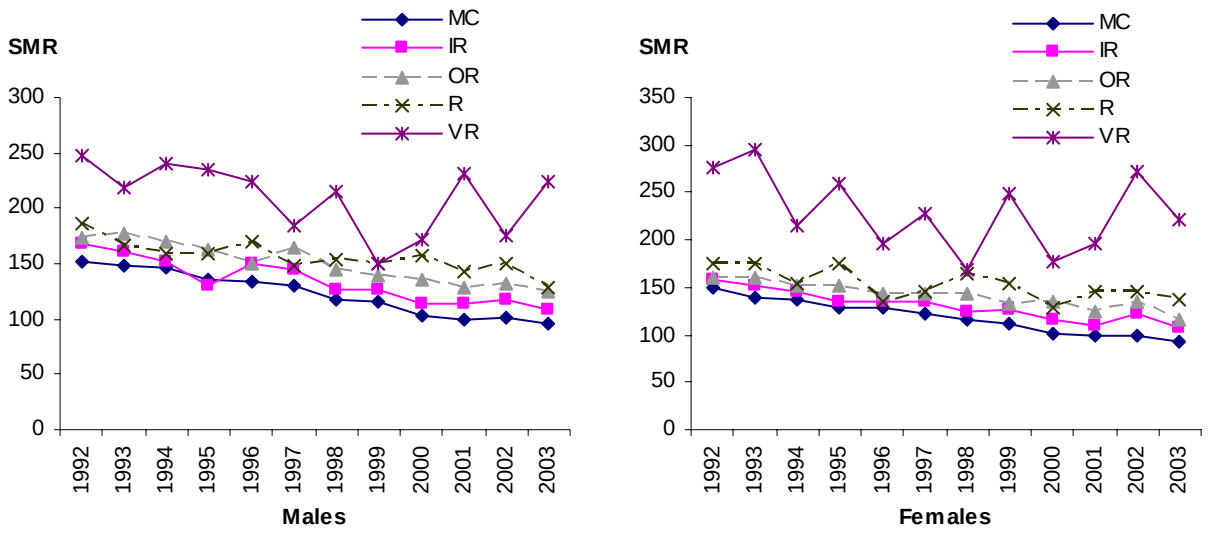
For males from regional and remote areas, the rate at which the death rate declined was not significantly different from that for males from Major Cities.

The decline for females from Inner Regional areas was not significantly different from that in Major Cities; however, the declines for Outer Regional areas (4 points p.a.) and for the combined regional areas generally (4 points p.a.) were significantly less than for Major Cities (5 points p.a.). The decline in Remote and Very Remote areas and for remote areas generally, appeared to be lower, but was not significantly different from that in Major Cities.

Table 28: Annual change in SMRs, ‘other’ circulatory diseases, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–5.6	–5.0	–5.0	–3.3	–4.3	5.0	–4.2	***–3.7**	–2.9	–3.5

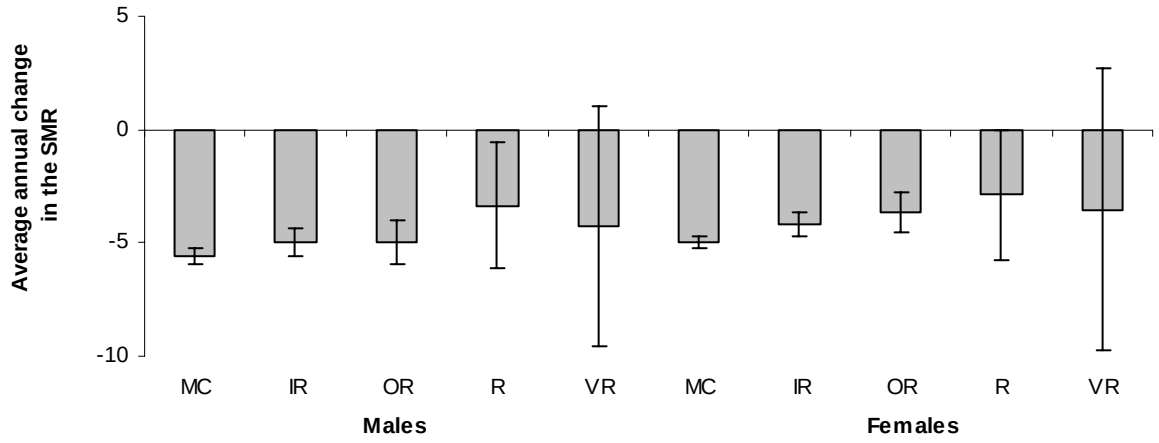
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 32: Trends in SMRs, 'other' circulatory diseases, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 33: Annual change in the ratio of observed to expected deaths due to 'other' circulatory diseases, 1992–2003

Respiratory diseases

All respiratory diseases

This group includes chronic obstructive pulmonary disease, influenza, pneumonia, asthma and all other diseases of the respiratory system.

ICD-9 and ICD-10 codes used here are, respectively, 460–519 and J00–J99.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.91.

For perspective, Table 29 describes the number of deaths in each area in 2003.

Table 29: Number of deaths due to respiratory diseases in 2003

	MC	IR	OR	R	VR	Total
Males	3,838	1,497	726	95	55	6,211
Females	3,662	1,336	571	55	34	5,658

Note: 23 records were missing details of geographic location and have been lost from the analysis.

Between 1992 and 2003, death rates from these causes in Major Cities declined significantly for males by 2 points p.a. and increased significantly for females by 1 point p.a. (Table 30, Figure 34 and Figure 35).

Death rates for males in regional and Remote areas declined by about 3 points p.a.

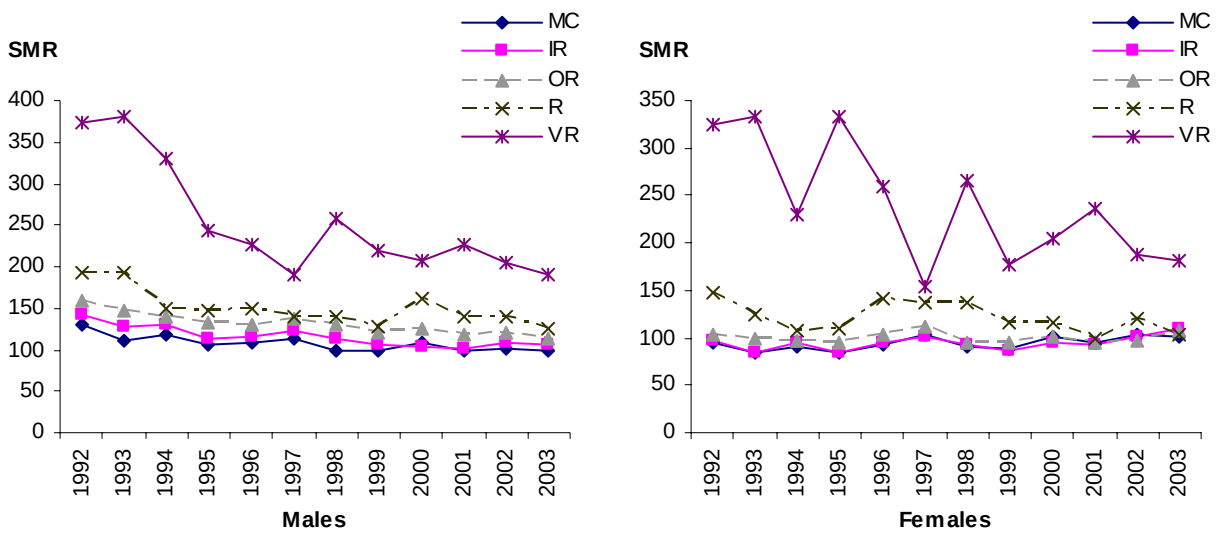
Death rates for females increased by 1 point p.a. in Inner Regional areas, changed little in Outer Regional areas and declined by about 2 points p.a. in Remote areas (which was significantly different from the 1 point p.a. increase experienced in Major Cities).

In Very Remote areas, death rates declined by 13 points p.a. for males and 11 points p.a. for females, significantly different from the changes apparent in Major Cities.

Table 30: Annual change in SMRs, respiratory diseases, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–1.9	–2.7	***–3.2**	–3.9	***–12.6**	1.1	1.0	0.1	***–2.2**	***–10.7**

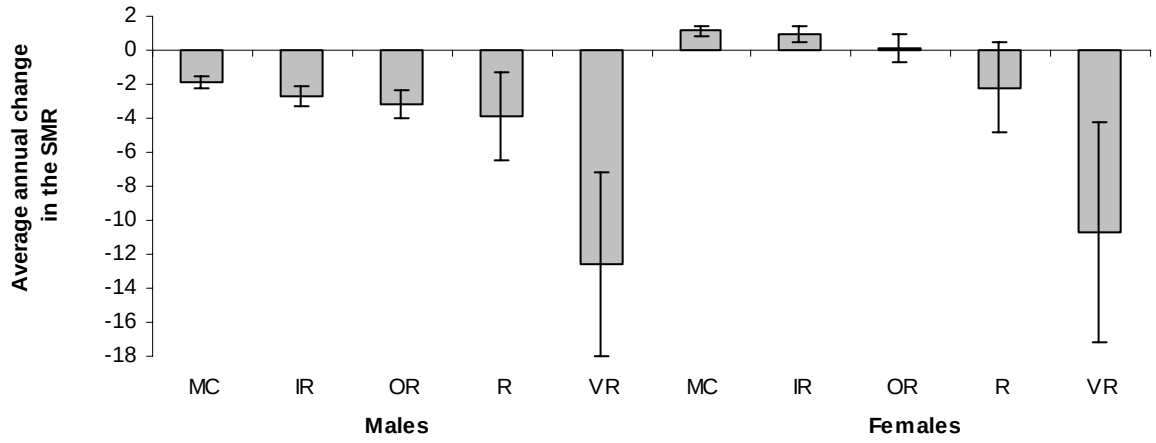
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 34: Trends in SMRs, respiratory diseases, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 35: Annual change in the ratio of observed to expected deaths due to respiratory diseases, 1992–2003

Pneumonia and influenza

Pneumonia is an inflammation or infection of the lungs, sometimes involving influenza. People at greatest risk are those whose immune systems are compromised, those who have chronic cardiovascular or pulmonary disease (for example, influenza), diabetes mellitus, alcohol-related problems, cirrhosis or cerebrospinal fluid leak after trauma or surgery, and those who smoke. Vaccination to protect against the disease is recommended for at-risk individuals (NHMRC 2000).

ICD-9 and ICD-10 codes used here are, respectively, 480–487 and 514; and J10–J18.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.84.

For perspective, Table 31 describes the number of deaths in each area in 2003.

Table 31: Number of deaths due to pneumonia and influenza in 2003

	MC	IR	OR	R	VR	Total
Males	988	376	154	23	15	1,556
Females	1,325	466	192	14	5	2,002

Note: 8 records were missing details of geographic location and have been lost from the analysis.

Between 1992 and 2003, death rates from this cause in Major Cities increased significantly by 3 points p.a. for males and 4 points p.a. for females (Table 32, Figure 36 and Figure 37).

The rate at which the death rate changed in Inner Regional areas was similar to that in Major Cities, while in Outer Regional areas rates did not change appreciably over time.

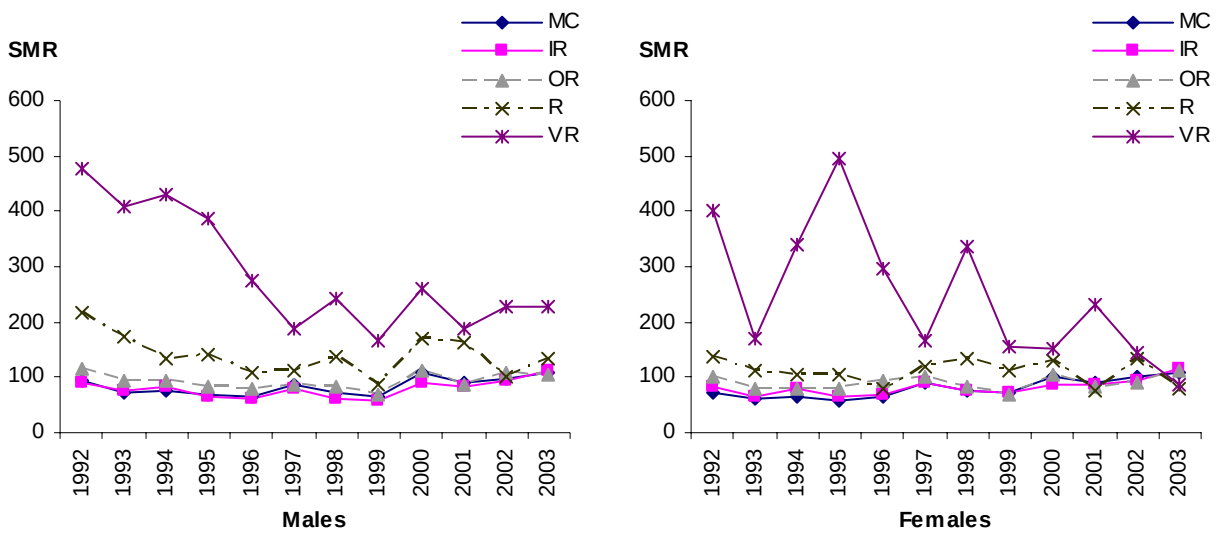
In Remote areas, rates appeared to decrease by about 2–3 points p.a.

Rates in Very Remote areas declined significantly by about 19 points p.a. for both males and females.

Table 32: Annual change in SMRs, pneumonia and influenza, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	2.6	2.1	***0.4**	***–3.4**	***–19.4**	4.1	2.8	***0.9**	***–1.7**	***–19.5**

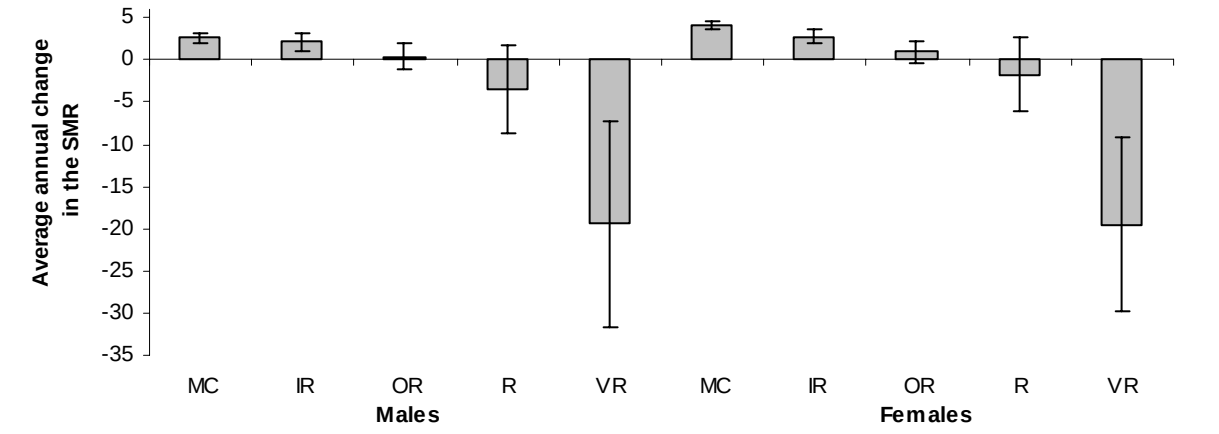
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 36: Trends in SMRs, pneumonia and influenza, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 37: Annual change in the ratio of observed to expected deaths due to pneumonia and influenza, 1992–2003

Asthma

Asthma symptoms can vary from mild and intermittent to chronic and life-threatening. Asthma attacks can be brought on after exposure to environmental irritants (for example, allergens and tobacco smoke), viral infections and exercise. Predisposing factors include family history, age and overweight (AIHW 2002).

ICD-9 and ICD-10 codes used here are, respectively, 493 and J45–J46.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.75.

For perspective, Table 33 describes the number of deaths in each area in 2003.

Table 33: Number of deaths due to asthma in 2003

	MC	IR	OR	R	VR	Total
Males	62	29	15	<3	<3	108
Females	129	50	20	<3	4	204

Note: 2 records were missing details of geographic location and have been lost from the analysis.

Between 1992 and 2003, death rates from this cause in Major Cities declined significantly by 12 points p.a. for males and 10 points p.a. for females (Table 34, Figure 38 and Figure 39).

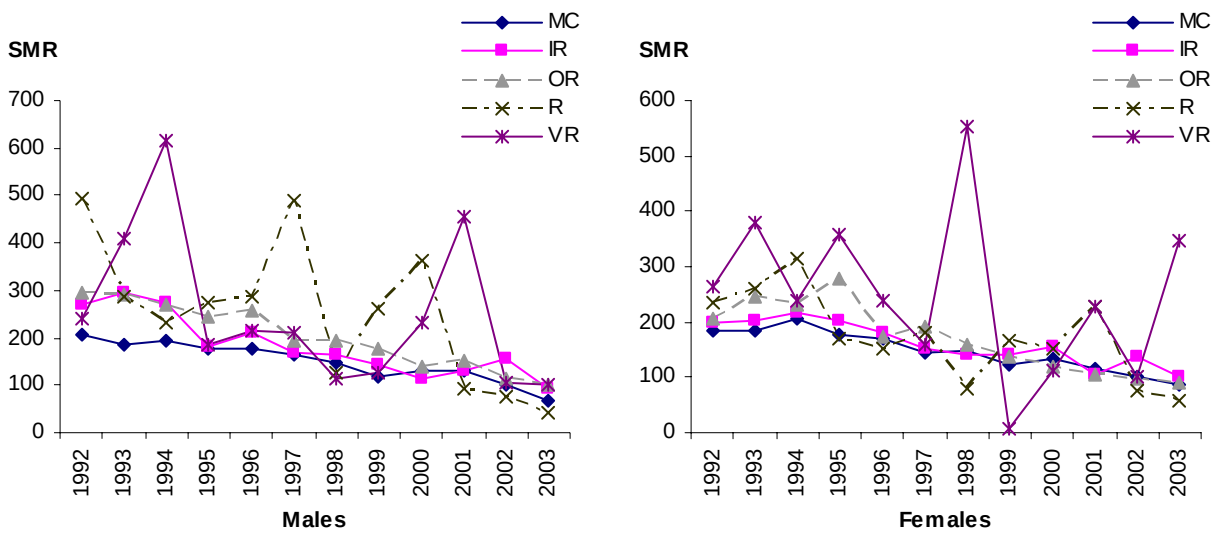
The rate of decrease for males and females in regional areas was not significantly different, at the 95% level of confidence, to that in Major Cities. At a slightly lower level of confidence, rates for males in regional areas declined at a slightly faster rate (16 points p.a.) than those in Major Cities.

Although small numbers in Very Remote areas resulted in wide confidence intervals, overall death rates for males in remote (Remote plus Very Remote) areas declined more rapidly than in Major Cities, while for remote area females, the rate of decline was not significantly different from that for females in Major Cities.

Table 34: Annual change in SMRs, asthma, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–11.8	–15.4	–18.5	***–29.7**	–17.2	–10.1	–10.0	–15.1	–15.9	–21.3

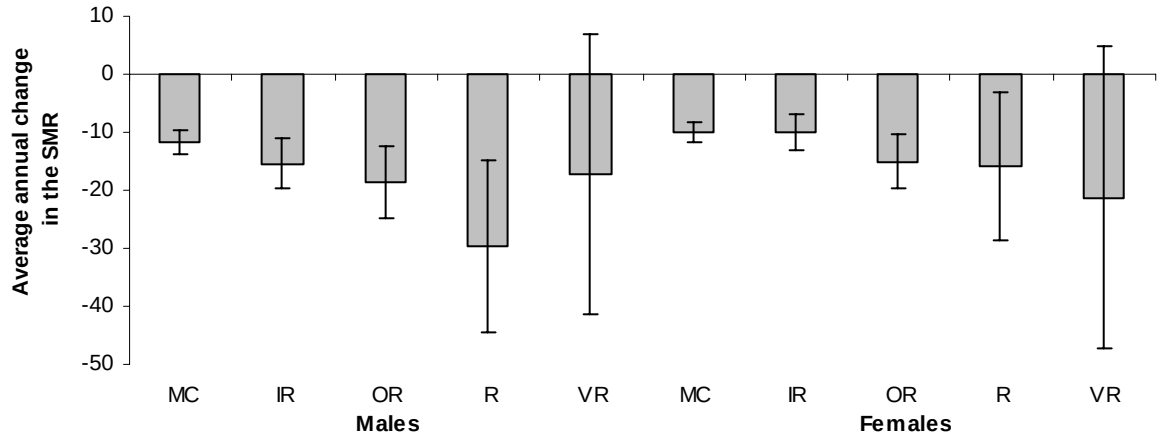
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 38: Trends in SMRs, asthma, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 39: Annual change in the ratio of observed to expected deaths due to asthma, 1992–2003

Chronic obstructive pulmonary disease

Chronic bronchitis and emphysema are the two main forms of chronic obstructive pulmonary disease. The main risk factor for chronic obstructive pulmonary disease is tobacco smoking, with heredity predisposing some people. The disease takes many years to develop and cannot be cured. Symptoms vary, but they typically include breathlessness, a productive cough and wheezing (AIHW 2002).

ICD-9 and ICD-10 codes used here are, respectively, 491, 492 and 496; and J41, J42, J43 and J44.

Reporting here is for the period 1992–2003. The comparability factor (see page 5) for this cause is 0.93.

For perspective, Table 35 describes the number of deaths in each area in 2003.

Table 35: Number of deaths due to chronic obstructive pulmonary disease in 2003

	MC	IR	OR	R	VR	Total
Males	1,837	810	431	53	26	3,157
Females	1,378	557	233	25	19	2,212

Note: 9 records were missing details of geographic location and have been lost from the analysis.

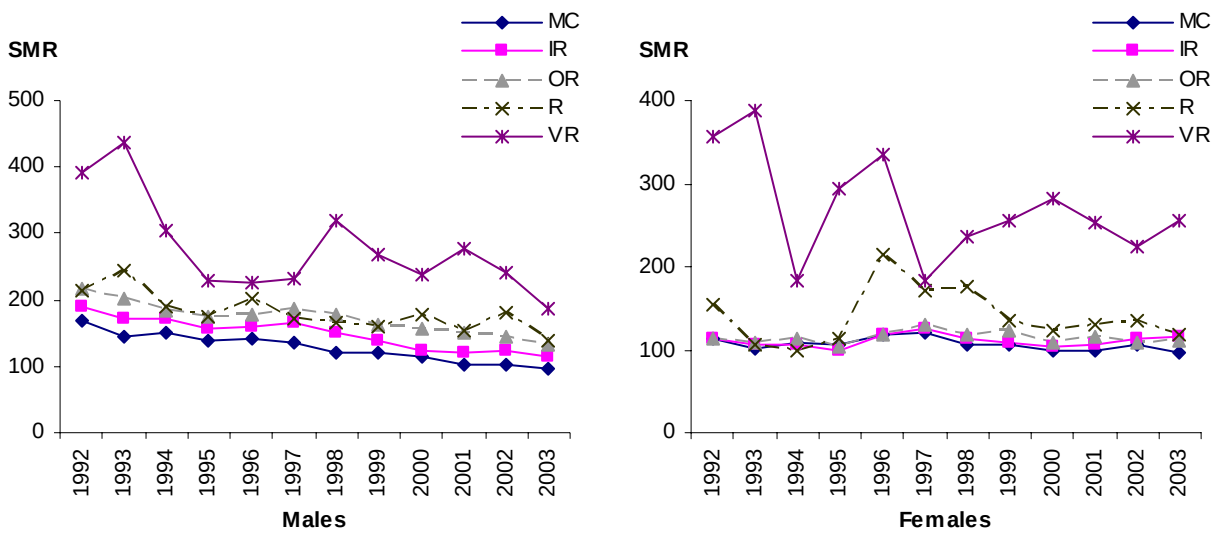
Between 1992 and 2003, death rates from this cause in Major Cities declined significantly by 6 points p.a. for males and by 1 point p.a. for females (Table 36, Figure 40 and Figure 41).

The rate of decrease for males in regional and remote areas was similar to that in Major Cities (i.e. around 6 points p.a.). However, for females in regional and remote areas, there was no significant change in the rate of death between 1992 and 2003.

Table 36: Annual change in SMRs, chronic obstructive pulmonary disease, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	–6.0	–6.5	–6.3	–5.8	–11.2	–1.0	0.2	–0.1	0.2	–4.7

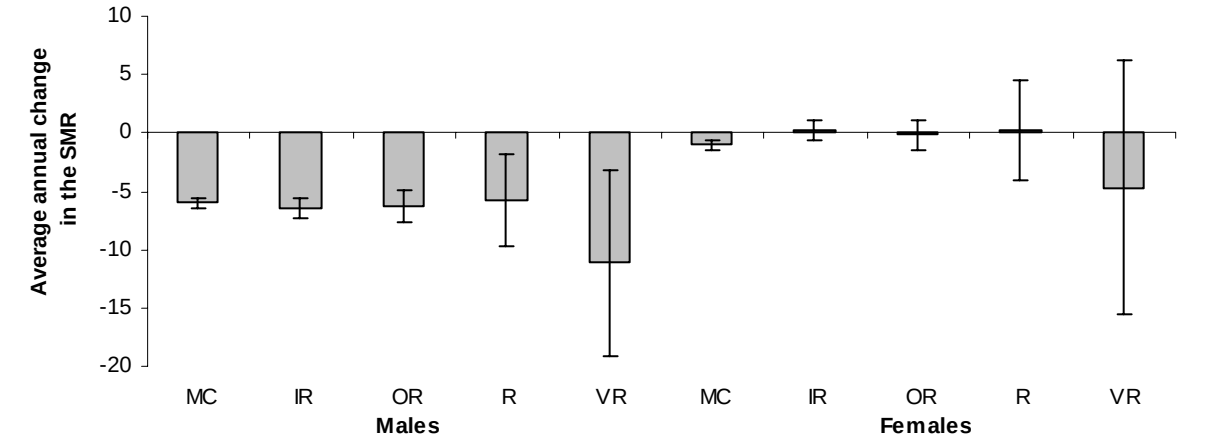
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 40: Trends in SMRs, chronic obstructive pulmonary disease, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 41: Annual change in the ratio of observed to expected deaths due to chronic obstructive pulmonary disease, 1992–2003

‘Other’ respiratory diseases

This group includes all diseases of the respiratory system not already described in this report.

ICD-9 and ICD-10 codes used here are, respectively, 460–519 and J00–J99 (excluding those specific circulatory diseases already described in this report).

Reporting here is for the period 1992–2003. The numbers of observed deaths were calculated by subtraction of the observed number for each of the reported specific causes from the total observed number due to all respiratory diseases.

For perspective, Table 37 describes the number of deaths in each area in 2003.

Table 37: Number of deaths due to ‘other’ respiratory diseases in 2003

	MC	IR	OR	R	VR	Total
Males	951	283	126	18	13	1,391
Females	829	263	126	14	6	1,238

Note: 5 records were missing details of geographic location and have been lost from the analysis.

Between 1992 and 2003, death rates from these causes in Major Cities increased significantly by 3 points p.a. for both males and females (Table 38, Figure 42 and Figure 43).

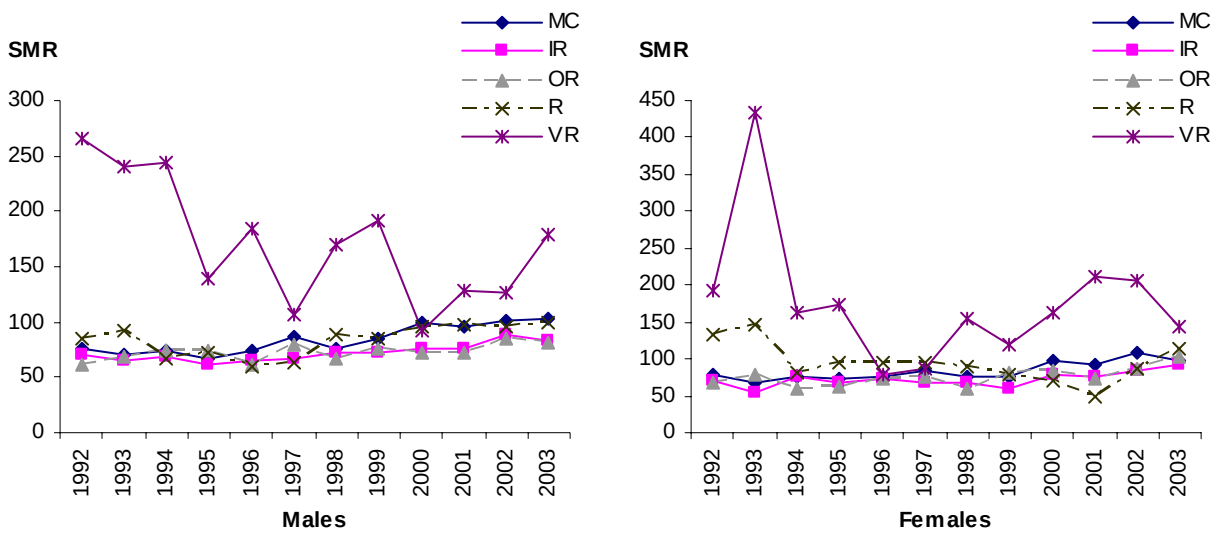
Rates in Inner and Outer Regional areas increased by 2 points p.a., except for males in Outer Regional areas, where they increased by only 1 point p.a.

Rates of change in Remote and Very Remote areas tend to show an inconsistent pattern (Figure 43); however, increases strongly apparent in the other areas tend not to be apparent in remote areas. Analysis of aggregated remote area data indicates that rates of death for both males and females did not change significantly in the period and that the decrease for males from Very Remote areas and for females from Remote areas was significantly different from the increase experienced by their counterparts from Major Cities.

Table 38: Annual change in SMRs, ‘other’ respiratory diseases, 1992–2003

	Males					Females				
	MC	IR	OR	R	VR	MC	IR	OR	R	VR
Average annual change	3.2	1.8	***1.4**	2.5	***–8.3**	2.8	1.9	2.4	***–3.8**	–0.4

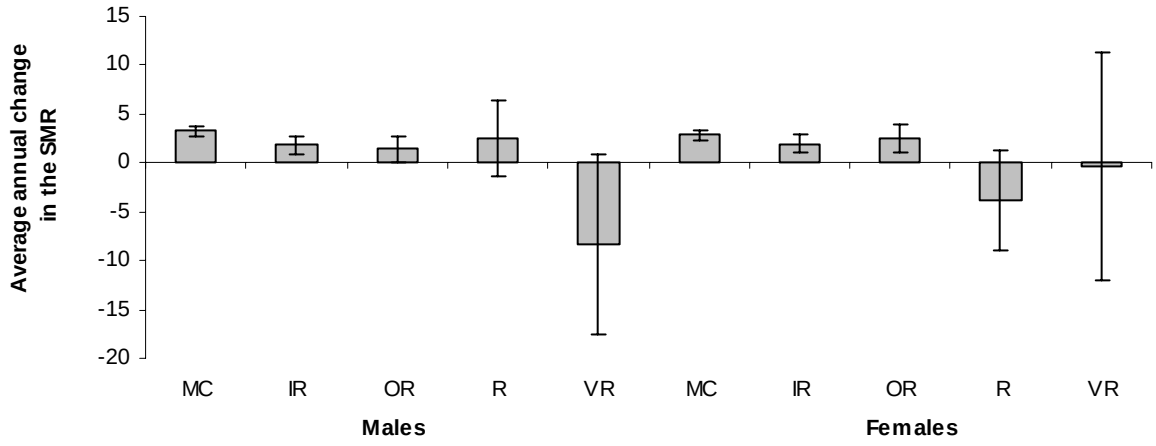
Note: Changes are based on the slope of the curve, calculated using the weighted least squares method. Changes that are significantly different from those in Major Cities are bold and marked with an asterisk. Positive changes signify an increase in mortality; negative changes signify a decrease in mortality.



Note: SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.

Source: AIHW National Mortality Database.

Figure 42: Trends in SMRs, 'other' respiratory diseases, males and females, 1992–2003



Notes

1. SMRs calculated using Major Cities rates in the period 2001–2003 as the standard, and expressed as multiples of 100.
2. Error bars indicate 95% confidence intervals. These indicate the amount of uncertainty about the precision of the calculated rate.

Source: AIHW National Mortality Database.

Figure 43: Annual change in the ratio of observed to expected deaths due to 'other' respiratory diseases, 1992–2003