3 Avoidable hospitalisations: hospital admissions resulting from ambulatory care-sensitive conditions

3.1 Avoidable and unavoidable hospitalisations

In 2001/02, admissions resulting from ambulatory care-sensitive (ACS) conditions accounted for almost nine per cent of all hospital admissions in Australia (Table 3.1). This equates to over 552,000 admissions, all of which are potentially avoidable.

Admissions for these conditions accounted for a markedly higher proportion of all admissions of males (9.5% of all admissions of males) than was the case for females (7.9% of all admissions of females).

The overall rate of avoidable hospitalisations was 2,847.5 admissions per 100,000 population.

Overall, males have slightly higher rates of hospitalisations for ambulatory care-sensitive conditions than females, as indicated by the rate ratio of 1.06** (Table 3.1). Females, however, have a higher rate of unavoidable (and total) hospitalisations, with 32,072.2 admissions per 100,000 population, compared to 27,836.0 admissions per 100,000 for males: the rate ratio of 0.87** indicates that males had 13.0% fewer unavoidable hospitalisations over this period than did females.

Figure 3.1 illustrates the pattern of hospitalisations from avoidable, unavoidable and total admissions for males and females.

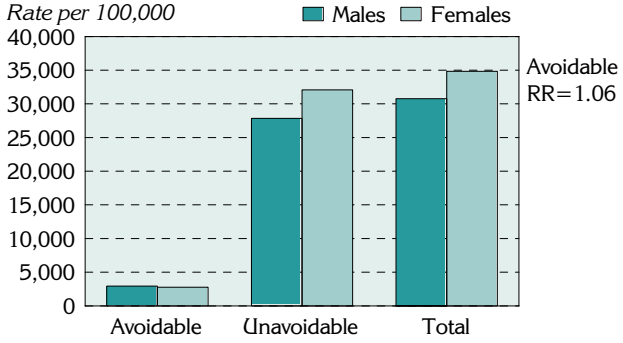
Table 3.1: Avoidable[1] and unavoidable hospitalisations, by sex, Australia, 2001/02

Hospitalisation category	Number			% of	Rate per 100,000			Rate ratio
	Males	Females	Total	total	Males	Females	Total	M:F[2]
Avoidable[1]	282,125	270,661	552,786	8.7	2,929.5	2,766.8	2,847.5	1.06**
Unavoidable	2,680,760	3,137,439	5,818,199	91.3	27,836.0	32,072.2	29,970.7	0.87**
Total	**2,962,885**	**3,408,100**	**6,370,985**	**100.0**	**30,765.6**	**34,839.0**	**32,818.2**	**0.88****
Avoidable[1] (%)	**9.5**	**7.9**	**8.7**	**..**	**..**	**..**	**..**	**..**

[1] **Admissions resulting from ACS conditions**

[2] **Rate ratio (M:F) is the ratio of male to female rates; rate ratios differing significantly from 1.0 are shown with * p <0.05; ** p <0.01**

Figure 3.1: Avoidable[1] and unavoidable hospitalisations, by sex, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

3.2 Avoidable hospitalisations by age and sex

Over one quarter (27.1%) of admissions resulting from ambulatory care-sensitive (ACS) conditions occurred in the 75 years and over age group, with more than one fifth (22.1%) in the 45 to 64 years age group (Table 3.2). These two age groups alone contributed to 271,837 avoidable hospitalisations, almost half (49.2%) of all avoidable hospitalisations in this period. The 15 to 24 years age group had the lowest proportion with only 5.0%, with the next lowest proportion for people aged 25 to 44 years (13.4%).

The 75 years and over age group had the highest rate of avoidable admissions, 13,426.8 admissions per 100,000 population, followed by the 65 to 74 age group, with 7,344.8 admissions per 100,000 population. The highest rate among the remaining age groups was at ages 45 to 64 years.

Table 3.2: Avoidable hospitalisations[1] by age and sex, Australia, 2001/02

Age	Number			% of	Rate per 100,000			Rate ratio
(years)	Males	Females	Total	total	Males	Females	Total	M:F[2]
0-14	46,970	35,532	82,502	14.9	2,297.5	1,828.9	2,069.2	1.26**
15-24	11,317	16,080	27,397	5.0	837.4	1,233.4	1,031.8	0.68**
25-44	33,856	40,167	74,023	13.4	1,166.0	1,365.5	1,266.4	0.85**
45-64	65,865	56,311	122,176	22.1	2,921.5	2,518.7	2,721.0	1.16**
65-74	54,743	42,274	97,017	17.6	8,565.0	6,200.8	7,344.8	1.38**
75+	69,367	80,294	149,661	27.1	15,854.3	11,858.3	13,426.8	1.34**
Total	**282,125**	**270,661**	**552,786**	**100.0**	**2,929.5**	**2,766.8**	**2,847.5**	**1.06****

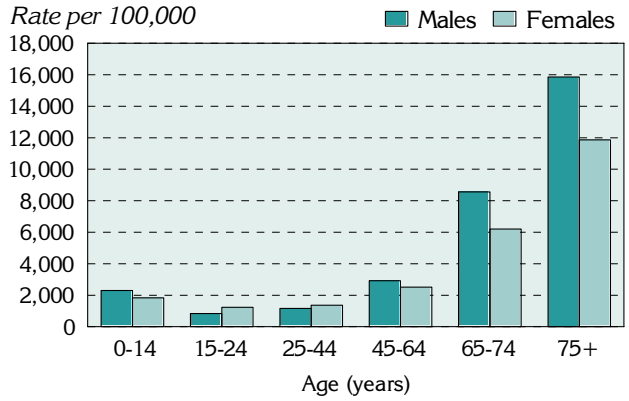
[1] **Admissions resulting from ACS conditions**

[2] **Rate ratio (M:F) is the ratio of male to female hospitalisation rates; rate ratios differing significantly from 1.0 are shown with * p <0.05; ** p <0.01.**

As noted, the overall hospitalisation rates for ambulatory care-sensitive conditions were similar for males and females, a rate ratio of 1.06**; however there was marked variation between the age groups (Figure 3.2). Males in the 65 to 74 year age group had 38.0% more admissions than the same aged females (a rate ratio of 1.38**); similarly, the 75 years and over age group had 34.0% more admissions. Males aged 0 to 14 years had 26.0% more avoidable admissions than females at these ages, while the rate for 45 to 64 year old males was 16.0% higher.

However, avoidable hospitalisation rates for males were lower than for females in the 15 to 24 (32.0% lower, a rate ratio of 0.68**), and 25 to 44 (15.0%) age groups.

Figure 3.2: Avoidable hospitalisations[1] by age and sex, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

3.3 Avoidable hospitalisations by condition

Table 3.3 shows the number, rate and proportion of avoidable hospitalisations (admissions for ambulatory care-sensitive conditions) by sub-category and individual condition.

Almost two-thirds of hospital admissions for ACS conditions are attributable to chronic conditions. The high proportion of admissions for chronic conditions in this period can be primarily attributed to the large number of hospitalisations for diabetes complications (accounting for 25.6% of all avoidable hospitalisations), with a number of circulatory and respiratory conditions contributing to a further 34.0%: these are chronic obstructive pulmonary disease (9.9%), angina (9.0%), congestive heart failure (7.7%) and asthma (7.4%).

Dental conditions (7.9%); dehydration and gastroenteritis (6.8%); ear, nose and throat infections (5.8%); convulsions and epilepsy (5.6%); and cellulitis (5.1%) make the greatest contribution to hospitalisations for acute conditions.

Influenza and pneumonia (2.4%) is the main admission cause for vaccine-preventable conditions.

Table 3.3: Avoidable hospitalisations[1] by sub-category and condition, Australia, 2001/02

Sub-category and condition	Number	Rate[2]	% of total
Vaccine-preventable	**16,573**	**85.4**	**3.0**
Influenza and pneumonia	13,021	67.1	2.4
Other vaccine preventable	3,552	18.3	0.6
Chronic	**352,558**	**1,803.2**	**63.8**
Diabetes complications	141,345	728.1	25.6
Nutritional deficiencies	123	0.6	–
Iron deficiency anaemia	16,451	84.7	3.0
Hypertension	6,354	32.7	1.1
Congestive heart failure	42,447	218.6	7.7
Angina	49,963	257.4	9.0
Chronic obstructive pulmonary disease	54,853	282.6	9.9
Asthma	41,009	211.3	7.4
Acute	**201,493**	**1,037.7**	**36.5**
Dehydration and gastroenteritis	37,766	194.5	6.8
Convulsions and epilepsy	31,137	160.4	5.6
Ear, nose and throat infections	32,075	165.2	5.8
Dental conditions	43,667	224.9	7.9
Perforated/bleeding ulcer	5,795	29.9	1.0
Ruptured appendix	3,866	19.9	0.7
Pyelonephritis	7,386	38.0	1.3
Pelvic inflammatory disease	6,547	33.7	1.2
Cellulitis	28,204	145.3	5.1
Gangrene	4,470	23.0	0.8
Total avoidable admissions[3]	**552,786**	**2,847.5**	**100.0**

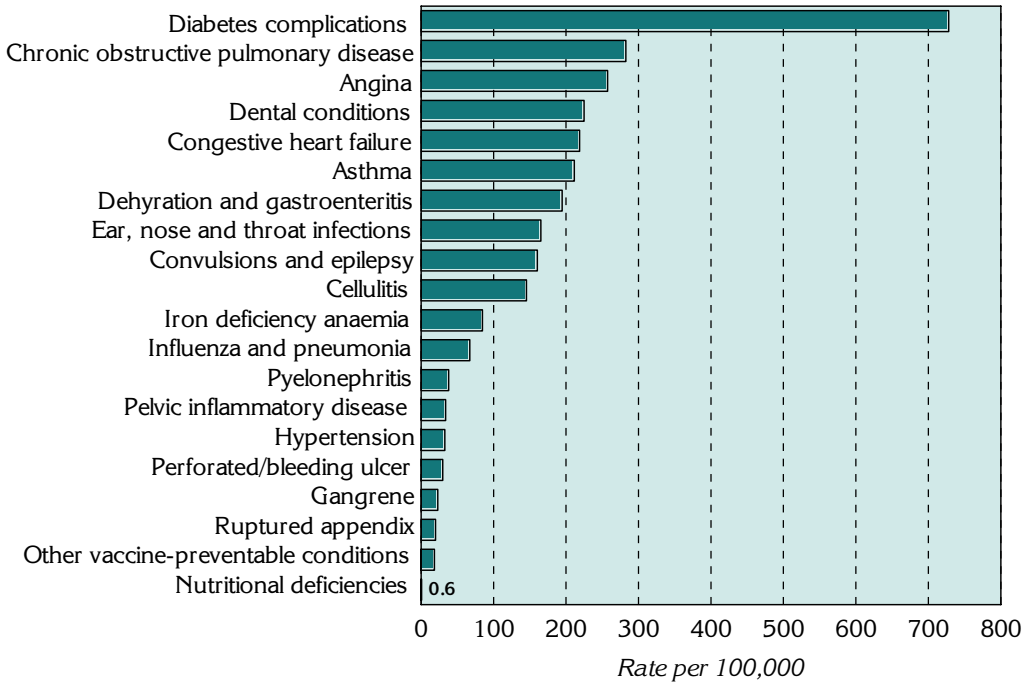
[1] **Admissions resulting from ACS conditions**

[2] **Rate per 100,000 population**

[3] **Sub-category and condition numbers, rates and percentages do not add to the reported total avoidable admissions: five conditions (influenza & pneumonia, other vaccine preventable, diabetes complications, ruptured appendix and gangrene) are counted in 'any diagnosis', so may be included in more than one condition group**

The five conditions with the highest admission rates (Figure 3.3 and Table 3.4) were diabetes complications, chronic obstructive pulmonary disease, angina, dental conditions and congestive heart failure, respectively. Together, they comprised 60% of all avoidable hospital admissions in 2001/02.

Figure 3.3: Avoidable hospitalisations[1] by condition, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Diabetes complications were the leading cause of avoidable hospitalisations, with a rate of 728.1 admissions per 100,000 population (Table 3.4). Chronic obstructive pulmonary disease, with a rate of 282.6 admissions per 100,000 population, was ranked next, followed by angina, with a rate of 257.4. Combined, these three conditions accounted for almost one half (44.5%) of avoidable hospital admissions.

The rates for the other causes of avoidable hospitalisations ranged from 0.6 admissions per 100,000 population for nutritional deficiencies (less than one per cent of total avoidable hospitalisations), to 224.9 admissions per 100,000 population for dental conditions (7.9% of total avoidable hospitalisations).

Table 3.4: Avoidable hospitalisations[1] by condition rank, Australia, 2001/02

Conditions	Number	Rate[2]	% of total[3]
Diabetes complications	141,345	728.1	25.6
Chronic obstructive pulmonary disease	54,853	282.6	9.9
Angina	49,976	257.4	9.0
Dental conditions	43,667	224.9	7.9
Congestive heart failure	42,447	218.6	7.7
Asthma	41,009	211.3	7.4
Dehydration and gastroenteritis	37,766	194.5	6.8
Ear, nose and throat infections	32,075	165.2	5.8
Convulsions and epilepsy	31,137	160.4	5.6
Cellulitis	28,204	145.3	5.1
Iron deficiency anaemia	16,451	84.7	3.0
Influenza and pneumonia	13,021	67.1	2.4
Pyelonephritis	7,386	38.0	1.3
Pelvic inflammatory disease	6,547	33.7	1.2
Hypertension	6,354	32.7	1.1
Perforated/bleeding ulcer	5,795	29.9	1.0
Gangrene	4,470	23.0	0.8
Ruptured appendix	3,866	19.9	0.7
Other vaccine-preventable conditions	3,552	18.3	0.6
Nutritional deficiencies	123	0.6	–

[1] **Admissions resulting from ACS conditions**
[2] **Rate per 100,000 population**
[3] **Proportion of all avoidable admissions**

Avoidable hospitalisations by condition and age

Table 3.5 shows variations in hospital admissions for the top four ambulatory care-sensitive conditions by selected age groups.

In the 0 to 14 year age group, asthma was the most common cause of hospitalisation, with a rate of 525.1 admissions per 100,000 population. The next highest causes of avoidable hospitalisation – ear, nose and throat infections (511.6 admissions per 100,000 population) and dental conditions (492.5 admissions per 100,000 population), together with asthma – accounted for almost three-quarters (73.8%) of all avoidable hospital admissions in this age group.

The rates, and therefore the proportion, of admissions for the top three causes of avoidable hospitalisations in the 15 to 24 year age group were similar. Ear, nose and throat infections accounted for 14.0% of avoidable admissions, a rate of 144.4 admissions per 100,000 population in this age group. Asthma; and dehydration and gastroenteritis were the conditions with the next highest admission rates, with 143.5 and 143.1 admissions per 100,000 population, respectively, each accounting for 13.9% of avoidable hospital admissions at these ages.

In the 25 to 44 year age group, diabetes complications were the leading cause of avoidable hospitalisation, with a rate of 208.9 per 100,000 population. Over half (53.5%) of all avoidable hospitalisations in this age group are attributable to the top four causes: 16.5% of admissions were from diabetes complications, 13.4% from dehydration and gastroenteritis, 12.8% from dental conditions and 10.8%, convulsions and epilepsy.

At ages 45 to 64 years, just over one-third (34.0%) of avoidable hospitalisations were attributable to diabetes complications, a rate of 924.1 admissions per 100,000 population. With a much lower rate and percentage, angina ranked second, 347.7 admissions per 100.0000 population aged 45 to 64 years, accounting for 12.8% of avoidable hospital admissions. Chronic obstructive pulmonary disease accounted for 9.6% of admissions for this age group (a rate of 261.8 per 100,000 population), while dehydration and gastroenteritis contributed to 8.0% of admissions, or 217.3 admissions per 100,000 population aged 45 to 64 years.

Diabetes complications, chronic obstructive pulmonary disease and angina were also important causes of avoidable hospital admissions in the 65 to 74 year age group. Diabetes complications accounted for 39.8% of avoidable hospitalisations (a rate of 2,926.8 admissions per 100,000 population), and chronic obstructive pulmonary disease for 17.9% of admissions (1,317.4 per 100,000 population). When combined, over one-fifth of avoidable hospital admissions in this age group were attributable to angina (12.9%) and congestive heart failure (8.8%).

The 75 year and over age group had the highest admission rates for these conditions, overall and for each of the conditions shown, ranging from 1,762.0 admission per 100,000 for angina, to 4,087.7 admissions per 100,000 for diabetes complications. The top two causes accounted for half of all avoidable hospitalisations for this age group; diabetes complications accounted for a further 30.4% of admissions, and congestive heart failure for 19.1%.

Table 3.5: Avoidable hospitalisations[1] by selected condition and age, Australia, 2001/02

Age (years)	Condition	Number	Rate[2]	Per cent[3]
0-14	Asthma	20,936	525.1	25.4
	Ear, nose and throat infections	20,400	511.6	24.7
	Dental conditions	19,635	492.5	23.8
	Convulsions and epilepsy	10,504	263.4	12.7
	Other	11,027	276.5	13.4
	Total	**82,502**	**2,069.2**	**100.0**
15-24	Ear, nose and throat infections	3,833	144.4	14.0
	Asthma	3,810	143.5	13.9
	Dehydration and gastroenteritis	3,800	143.1	13.9
	Dental conditions	3,534	133.1	12.9
	Other	12,420	467.9	45.3
	Total	**27,397**	**1,031.8**	**100.0**
25-44	Diabetes complications	12,208	208.9	16.5
	Dehydration and gastroenteritis	9,892	169.2	13.4
	Dental conditions	9,497	162.5	12.8
	Convulsions and epilepsy	7,984	136.6	10.8
	Other	34,442	589.2	46.5
	Total	**74,023**	**1,266.4**	**100.0**
45-64	Diabetes complications	41,493	924.1	34.0
	Angina	15,614	347.7	12.8
	Chronic obstructive pulmonary disease	11,754	261.8	9.6
	Dehydration and gastroenteritis	9,759	217.3	8.0
	Other	43,556	970.0	35.6
	Total	**122,176**	**2,721.0**	**100.0**
65-74	Diabetes complications	38,660	2,926.8	39.8
	Chronic obstructive pulmonary disease	17,401	1,317.4	17.9
	Angina	12,476	944.5	12.9
	Congestive heart failure	8,573	649.0	8.8
	Other	19,907	1,507.0	20.5
	Total	**97,017**	**7,344.8**	**100.0**
75+	Diabetes complications	45,563	4,087.7	30.4
	Congestive heart failure	28,629	2,568.5	19.1
	Chronic obstructive pulmonary disease	24,057	2,158.3	16.1
	Angina	19,646	1,762.0	13.1
	Other	31,766	2,850.1	21.2
	Total	**149,661**	**13,426.8**	**100.0**

[1] **Admissions resulting from ACS conditions**
[2] **Age standardised rate per 100,000 population**
[3] **Per cent is the proportion of total ACS conditions within the relevant age group**

Avoidable hospitalisations by condition, age and sex

The main ambulatory care-sensitive conditions impacting on rates of avoidable hospital admissions at different ages show interesting variations when further analysed by sex (Table 3.6).

Apart from the 65 to 74 and (to a lesser extent) 75 and over age groups, there were clear differences in the rankings of the main conditions for avoidable admissions for males and females.

In the 0 to 14 year age group, asthma was the reported principal diagnosis for 28.5% of avoidable admissions for males and 21.2% for females; moreover males had a hospitalisation rate 69.0% higher than females (a rate ratio of 1.69**). Ear, nose and throat infections were responsible for 24.7% of avoidable hospitalisations for both males and females. Again, males had a higher admission rate for this condition (26.0% higher, a rate ratio of 1.26**). Dental conditions (ranked highest for females) accounted for 22.2% of hospitalisations for males and 25.9% for females in this age group. Convulsions and epilepsy was the fourth ranked cause of admission for both males and females, accounting for 12.2% and 13.4%, respectively.

In the 15 to 24 year age group, the rank order for major conditions attributed to avoidable admissions varied markedly for males and females.

Convulsions and epilepsy were responsible for15.3% of male avoidable hospitalisations (ranked first), but just 8.8% of female avoidable hospitalisations (ranked sixth) in this age group. The rates for convulsions and epilepsy were 127.8 per 100,000 for males and 108.3 per 100,000 for females, a difference of 18.0%. For males, the conditions with the next highest rates of avoidable hospital admissions were ear, nose and throat infections; dental conditions; and dehydration and gastroenteritis; each contributing to between 13.4% and 13.9% of total hospitalisations for males in this age group. For females, avoidable hospitalisations for asthma ranked highest, accounting for 14.7% of avoidable admissions in this age group, with a rate of 180.9 admissions per 100,000 females. Dehydration and gastroenteritis; and ear, nose and throat infections were the next two highest ranked conditions leading to avoidable hospitalisations in females aged 15 to 24 years, accounting for 14.2% and 14.1% of hospital admissions, respectively.

Diabetes complications accounted for 19.8% of male avoidable hospitalisations at ages 25 to 44 years, a rate of 231.4 admissions per 100,000 males, with convulsions and epilepsy ranked second, accounting for 14.1% of male hospitalisations. Admissions from dehydration and gastroenteritis ranked highest for females in this age group, and were responsible for 14.6% of avoidable admissions for females, a rate of 199.8 admissions per 100,000 females. Diabetes complications ranked second, contributing to 13.7% of female hospitalisations in this age group, followed by dental conditions (12.9%). The proportion of male avoidable admissions for dental conditions was similar to that for females in this age group, at 12.7%; however, male admission rates were 16.0% lower (a rate ratio of 0.84**), with 176.3 admissions per 100,000 females, compared to the male rate of 148.5 admissions per 100,000 males.

Diabetes complications were the main ambulatory care-sensitive condition leading to hospitalisation for both males and females in the 45 to 64 year age group. There were over 50% more admissions resulting from diabetes complications for males in this age group (a rate ratio of 1.57**), 1,129.3 admissions per 100,000 males, compared to 717.2 admissions per 100,000 females. The rates of avoidable admissions resulting from chronic obstructive pulmonary disease were similar for males and females in this age group, 261.3 and 262.2, respectively. Males in this age group had a 46.0% higher rate of hospitalisation for cellulitis than females (a rate ratio of 1.46**), and had almost twice the rate of admissions for angina (a rate ratio of 1.94**). In contrast, males in this age group had a 37.0% lower rate of admission for dehydration and gastroenteritis.

The top four ambulatory care-sensitive conditions were the same for males and females in the 65 to 74 year old age group; however the rates of admission for males and females varied substantially. Diabetes complications was again the main admission condition, contributing 42.6% of male admissions, or 3,646.8 admissions per 100,000 males aged from 65 to 74 years old. The rate of avoidable hospitalisations for diabetes complications in females in this age group was 2,251.9 admissions per 100,000 women, and accounted for 36.3% of admissions for avoidable conditions. Chronic obstructive pulmonary disease was the next most common diagnosis, with rates of 1,569.0 admissions per 100,000 males and 1,081.5 admissions per 100,000 females. Furthermore, the rates of avoidable admissions for angina and congestive heart failure are both over 50% higher for males than for females, with rate ratios of 1.59** and 1.57**, respectively.

For both males and females, diabetes complications were the main contributor to avoidable hospitalisations in the 75 years and over age group, with rates at 5,178.6 admissions per 100,000 males and 3,382.7 admissions per 100,000 females. One fifth (20.3%) of male admissions in this age group were due to chronic obstructive pulmonary disease, with a further 17.7% of admissions attributable to congestive heart failure. The admission rates for males with chronic obstructive pulmonary disease were over two times the female rates (a rate ratio of 2.17**), with 3,210.5 admissions per 100,000 males compared with 1,478.3 admissions per 100,000 women in this age group. Angina was the third most common ambulatory care-sensitive condition for females aged 75 years and over, accounting for 13.6% of avoidable hospitalisations in this age group; for males, it was the fourth most common admission, contributing to 12.5% of avoidable hospitalisations in this age group.

Table 3.6: Avoidable hospitalisations[1] by selected condition, age and sex, Australia, 2001/02

Age (years)	Selected condition	Males				Females				RR–M:F[5]
		No.	Rate[2]	%[3]	Rank[4]	No.	Rate[2]	%[3]	Rank[4]	
0-14	Asthma	13,400	655.5	28.5	1	7,536	387.9	21.2	3	1.69**
	Ear, nose and throat infections	11,617	568.2	24.7	2	8,783	452.1	24.7	2	1.26**
	Dental conditions	10,425	509.9	22.2	3	9,210	474.1	25.9	1	1.08**
	Convulsions and epilepsy	5,725	280.0	12.2	4	4,779	246.0	13.4	4	1.14**
	Other	5,803	283.9	12.3	..	5,224	268.8	14.7	..	1.06**
	Total	**46,970**	**2,297.5**	**100.0**	**..**	**35,532**	**1,828.9**	**100.0**	**..**	**1.26****
15-24	Convulsions and epilepsy	1,727	127.8	15.3	1	1,412	108.3	8.8	6	1.18**
	Ear, nose and throat infections	1,573	116.4	13.9	2	2,260	173.4	14.1	3	0.67**
	Dental conditions	1,558	115.3	13.8	3	1,976	151.6	12.3	4	0.76**
	Dehydration and gastroenteritis	1,520	112.5	13.4	4	2,280	174.9	14.2	2	0.64**
	Asthma	1,451	107.4	12.8	5	2,359	180.9	14.7	1	0.59**
	Other	3,488	258.0	30.9	..	5,793	444.3	36.0	..	0.58**
	Total	**11,317**	**837.4**	**100.0**	**..**	**16,080**	**1,233.4**	**100.0**	**..**	**0.68****
25-44	Diabetes complications	6,719	231.4	19.8	1	5,489	186.6	13.7	2	1.24**
	Convulsions and epilepsy	4,776	164.5	14.1	2	3,208	109.1	8.0	6	1.51**
	Dental conditions	4,312	148.5	12.7	3	5,185	176.3	12.9	3	0.84**
	Cellulitis	4,066	140.0	12.0	4	2,003	68.1	5.0	7	2.06**
	Dehydration and gastroenteritis	4,015	138.3	11.8	5	5,877	199.8	14.6	1	0.69**
	Asthma	2,107	72.6	6.2	6	4,291	145.9	10.7	4	0.50**
	Other	7,861	270.7	23.2	..	14,114	479.7	35.1	..	0.56**
	Total	**33,856**	**1,166.0**	**100.0**	**..**	**40,167**	**1,365.5**	**100.0**	**..**	**0.85****
45-64	Diabetes complications	25,459	1,129.3	38.7	1	16,034	717.2	28.5	1	1.57**
	Angina	10,324	457.9	15.7	2	5,290	236.6	9.4	4	1.94**
	Chronic obstructive pulmonary disease	5,892	261.3	8.9	3	5,862	262.2	10.4	3	1.00
	Cellulitis	4,189	185.8	6.4	4	2,848	127.4	5.1	8	1.46**
	Dehydration and gastroenteritis	3,803	168.7	5.8	5	5,956	266.4	10.6	2	0.63**
	Other	16,198	718.5	24.6	..	20,321	908.9	36.1	..	0.79**
	Total	**65,865**	**2,921.5**	**100.0**	**..**	**56,311**	**2,518.7**	**100.0**	**..**	**1.16****
65-74	Diabetes complications	23,308	3,646.8	42.6	1	15,352	2,251.9	36.3	1	1.62**
	Chronic obstructive pulmonary disease	10,028	1,569.0	18.3	2	7,373	1,081.5	17.4	2	1.45**
	Angina	7,465	1,168.0	13.6	3	5,011	735.0	11.9	3	1.59**
	Congestive heart failure	5,104	798.6	9.3	4	3,469	508.8	8.2	4	1.57**
	Other	8,838	1,382.6	16.1	..	11,069	1,623.6	26.2	..	0.85**
	Total	**54,743**	**8,565.0**	**100.0**	**..**	**42,274**	**6,200.8**	**100.0**	**..**	**1.38****
75+	Diabetes complications	22,658	5,178.6	32.7	1	22,905	3,382.7	28.5	1	1.53**
	Chronic obstructive pulmonary disease	14,047	3,210.5	20.3	2	10,010	1,478.3	12.5	4	2.17**
	Congestive heart failure	12,256	2,801.2	17.7	3	16,373	2,418.1	20.4	2	1.16**
	Angina	8,693	1,986.8	12.5	4	10,953	1,617.6	13.6	3	1.23**
	Other	11,713	2,677.2	16.9	..	20,053	2,961.6	25.0	..	0.90**
	Total	**69,367**	**15,854.3**	**100.0**	**..**	**80,294**	**11,858.3**	**100.0**	**..**	**1.34****

[1] Admissions resulting from ACS conditions
[2] Age-sex standardised rate per 100,000 population
[3] Per cent is the proportion of total ACS conditions within the relevant age-sex group
[4] Rank is the rank order of the rates for the top four causes of avoidable hospitalisations for males and females: note that in some cases the rank order differs between males and females, resulting in the inclusion of more than four causes
[5] RR–M:F is the ratio of male to female hospitalisation rates; rate ratios differing significantly from 1.0 are shown with * $p < 0.05$; ** $p < 0.01$

3.4 Avoidable hospitalisations by State/Territory

The State and Territory rates of admission for ambulatory care-sensitive conditions, as shown in Table 3.7 below, were highest in the Northern Territory (a rate of 4,335.2 per 100,000), and in Tasmania (3,119.3 admissions per 100,000 population).

The lowest rates of avoidable admissions occurred in the Australian Capital Territory (ACT) (1,558.3 per 100,000) and in New South Wales (2,543.8 admissions per 100,000 population). The remaining State and Territory admission rates ranged from 2,915.7 per 100,000 in South Australia, to 3,062.4 per 100,000 in Western Australia.

Table 3.7: Total and avoidable hospitalisations[1] by State/ Territory, Australia, 2001/02

State/ Territory	Avoidable		Total hospitalisations		% Avoidable (of total)
	Number	Rate[2]	Number	Rate[2]	
New South Wales	170,066	2,543.8	1,980,967	29,798.8	8.6
Victoria	145,135	2,983.2	1,655,572	34,071.5	8.8
Queensland	106,884	3,025.0	1,260,403	35,435.5	8.5
South Australia	47,247	2,915.7	554,300	34,952.2	8.5
Western Australia	55,102	3,062.4	623,504	34,070.5	8.8
Tasmania	15,404	3,119.3	143,695	29,651.0	10.7
Northern Territory	6,057	4,335.2	64,081	41,217.3	9.5
ACT	4,272	1,558.3	52,090	17,869.6	8.2
Australia[3]	**552,786**	**2,847.5**	**6,370,985**	**32,818.2**	**8.7**

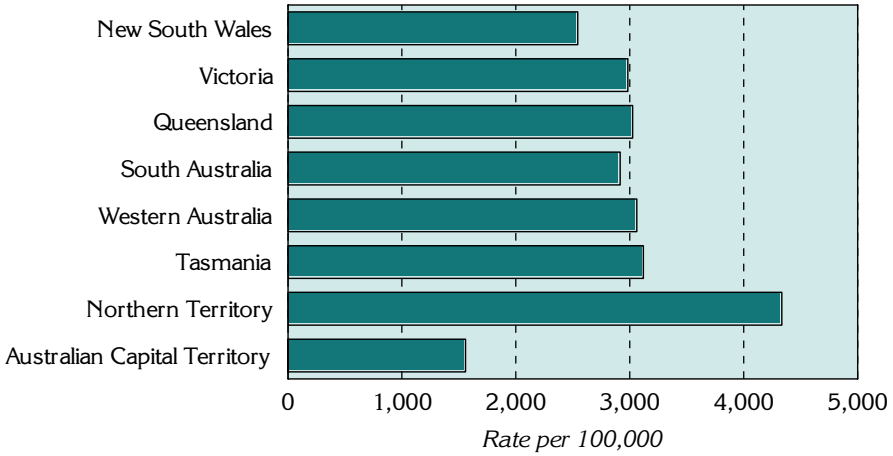
[1] **Admissions resulting from ACS conditions**
[2] **Rate per 100,000 population**
[3] **The State/ Territory totals do not sum to the total for Australia due to the exclusion of overseas and unknown addresses from the State/ Territory totals**

The Northern Territory, with 10.7%, and Tasmania, 9.5%, both had higher proportions of avoidable hospital admissions compared to the national average of 8.7% (Table 3.7).

Besides the Australian Capital Territory, where the proportion of total avoidable hospitalisations was below the national average, the five remaining States all had proportions consistent with the national average, ranging from 8.5% in Queensland and South Australia, to 8.8% in Victoria and Western Australia.

Figure 3.4 below illustrates the variations in admission rates for ambulatory care-sensitive conditions across the States and Territories.

Figure 3.4: Avoidable hospitalisations[1] by State/ Territory, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Avoidable hospitalisations by State/ Territory and condition

Table 3.8 shows the rates of avoidable hospitalisations by sub-category and individual condition for Australia and the States and Territories.

In all States and Territories, the highest rates of hospital admissions for ambulatory care-sensitive conditions were attributable to chronic conditions, with diabetes complications consistently the highest ranked condition.

In New South Wales, Victoria, Tasmania and the Northern Territory, the second highest rate of avoidable admissions for chronic conditions – and the second highest rate of all avoidable admissions – was from chronic obstructive pulmonary disease. In Queensland and the Australian Capital Territory the rates of avoidable admissions for angina; and, in South Australia, asthma, were ranked second. In Western Australia, the second ranked chronic condition contributing to avoidable admissions was from chronic obstructive pulmonary disease – albeit ranked third overall (the rate for dental conditions in Western Australia was higher).

Of the avoidable admissions for acute conditions, dental conditions ranked highest in Victoria, Queensland, South Australia and Western Australia. In New South Wales and Tasmania, dehydration and gastroenteritis was the highest ranked acute condition. In the Northern Territory, cellulitis was the highest ranked acute condition, with a rate over twice that of all the other States and Territories. In the Australian Capital Territory, convulsions and epilepsy ranked highest in this category.

Table 3.8: Avoidable hospitalisations[1] by State/ Territory and condition, 2001/02

Rate per 100,000 population

Sub-category/ condition	Aust	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Vaccine-preventable	**85.4**	**84.5**	**68.0**	**89.6**	**92.9**	**110.7**	**79.4**	**238.4**	**31.3**
Influenza and pneumonia	67.1	64.1	52.0	74.6	67.0	96.2	69.0	181.9	25.6
Other vaccine-preventable diseases	18.3	20.4	16.0	15.0	25.9	14.5	10.4	56.5	5.7
Chronic	**1,816.0**	**1,586.6**	**1,983.2**	**1,882.6**	**1,837.9**	**1,916.9**	**2,233.0**	**3,642.9**	**1,078.7**
Diabetes complications	728.1	519.5	906.9	722.9	692.9	873.6	1,246.8	1,748.2	420.7
Nutritional deficiencies	0.6	0.5	0.6	0.6	0.3	1.3	#	5.1	#
Iron deficiency anaemia	84.7	67.0	105.9	79.7	76.1	113.4	83.7	91.7	62.0
Hypertension	32.7	35.7	27.7	38.3	31.6	29.0	30.8	26.2	6.5
Congestive heart failure	218.6	209.7	234.1	225.5	219.1	202.9	180.1	422.9	141.1
Angina	257.4	251.8	250.4	321.5	221.6	198.5	260.4	408.3	183.7
Chronic obstructive pulmonary disease	282.6	285.6	260.7	308.5	272.9	275.9	293.4	751.4	154.6
Asthma	211.3	216.8	196.9	185.6	323.4	222.3	137.8	189.1	110.1
Acute	**1,034.8**	**945.8**	**1,041.7**	**1,143.3**	**1,077.6**	**1,120.5**	**879.3**	**1,256.9**	**526.6**
Dehydration and gastroenteritis	194.5	176.4	200.0	234.1	194.8	188.7	179.4	109.2	78.3
Convulsions and epilepsy	160.4	168.1	152.4	162.3	143.6	146.7	161.0	260.9	112.8
Ear, nose and throat infections	165.2	161.1	140.5	184.4	210.9	184.4	119.5	159.3	95.8
Dental conditions	224.9	170.3	256.7	247.8	259.2	294.3	163.1	155.0	63.9
Perforated/bleeding ulcer	29.9	27.1	32.9	25.8	32.5	37.1	24.9	23.6	29.6
Ruptured appendix	19.9	18.5	17.9	20.7	17.0	29.4	21.5	17.0	15.7
Pyelonephritis	38.0	31.0	40.2	39.8	44.7	48.7	19.5	72.6	23.8
Pelvic inflammatory disease	33.7	32.7	34.8	36.2	33.7	30.2	32.1	51.2	12.2
Cellulitis	145.3	142.0	139.0	167.4	124.1	135.9	118.5	354.8	85.4
Gangrene	23.0	18.6	27.3	24.8	17.1	25.1	39.8	53.3	9.1
Total admissions[2]	**2,847.5**	**2,543.8**	**2,983.2**	**3,025.0**	**2,915.7**	**3,062.4**	**3,119.3**	**4,335.2**	**1,558.3**

[1] **Admissions resulting from ACS conditions**

[2] **Sub-category and condition numbers and rates do not add to the reported total avoidable admissions: five conditions (influenza & pneumonia, other vaccine preventable, diabetes complications, ruptured appendix and gangrene) are counted in 'any diagnosis', so may be included in more than one condition group**

 # Rate not shown or not calculated, as there are fewer than five admissions over the period shown

Introduction to map and text pages

The following pages include maps of total avoidable hospitalisations and the top ten ambulatory care-sensitive conditions by health region[7], and include:

- a table showing age standardised admission rates for the States and Territories;
- a discussion of the mapped rates by health region; and
- a figure showing the age standardised admission rates by the ASGC remoteness classification[8].

A key to the areas mapped is included in Appendix 1.3.

Additional notes regarding the map and text pages

The text discussing the rates by health region[8] focuses on the highest and lowest rates mapped within each State and Territory.

Rates were not mapped if there were fewer than five admissions. Where the discussion includes rates based on fewer than 20 reported admissions, the number of admissions is shown in brackets after the rate.

The numbers and rates by health region are available at www.publichealth.gov.au.

[7] Refer to *Glossary and Symbols used*, page ix, for specific State/ Territory terminology

[8] See Chapter 2, *Methods*

Avoidable hospitalisations, Australia, 2001/02

In 2001/02, the admission rates for ambulatory care-sensitive conditions ranged from 1,558.5 admissions per 100,000 population in the Australian Capital Territory, to 4,335.2 admissions per 100,000 population in the Northern Territory (Table 3.9). The admission rate for Australia overall was 2,847.5 per 100,000 population.

Table 3.9: Avoidable hospitalisations[1] by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
2,543.8	2,983.2	3,025.0	2,915.7	3,062.4	3,119.3	4,335.2	1,558.3	2,847.5

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.1)

In **New South Wales**, the Greater Western Area Health Service (AHS), with 3,912.4 admissions per 100,000 population, had the highest rate of avoidable hospitalisations: Greater Southern AHS had a rate of 3,260.1. The lowest rates occurred in the North Sydney Central Coast AHS (2,118.7 admissions per 100,000 population) and Sydney South West AHS (2,224.0).

The highest rates in **Victoria** were in the Wimmera Primary Care Partnership (PCP) (4,665.5 admissions per 100,000 population), South West PCP (4,614.7) and Central West Gippsland PCP (4,531.7). The lowest rates were in the Inner East (2,191.6 admissions per 100,000 population), Banyule/Nillumbik (2,367.4) and the Outer East (2,491.8) PCPs.

In **Queensland**, rates of avoidable hospitalisation were highest in the northern and western areas of the State. The Cape Yorke District Health Service (DHS) had the highest regional rate of avoidable hospitalisations in Australia, with 11,118.4 admissions per 100,000 population. Torres DHS (7,436.7) and Mt Isa DHS (7,253.4) also had high rates. The lowest rates were in Prince Charles Hospital & District (2,497.0 admissions per 100,000 population) and Cairns DHS (2,522.6).

The highest rates in **South Australia** were in the Northern & Far Western Health Region (HR) (5,393.2 admissions per 100,000 population), followed by the Eyre HR, with a rate of 3,954.2. Central Northern Adelaide Health Service and Hills Mallee Southern HR had the lowest rates in the State, with 2,692.7 and 2,810.1 admissions per 100,000 population, respectively.

The highest rates of avoidable hospitalisation in **Western Australia** were in the Pilbara & Gascoyne Health Region (7,760.5), the Kimberley HR (7,602.9) and the Goldfields & South East Coastal HR (7,365.7). The lowest rates of avoidable hospitalisations were in the North Metro (2,553.4 admissions per 100,000 population) and South Metro (2,626.6) HRs.

Avoidable hospitalisation rates in **Tasmania** were highest in North West Region, with 3,341.7 admissions per 100,000 population, and the lowest in North Region, a rate of 2,876.6. The rate for South Region was 3,156.1 admissions per 100,000 population.

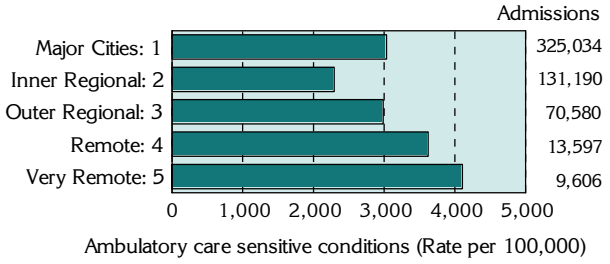
In the **Northern Territory**, Barkly Health Service Area (HSA) had a very high rate of avoidable hospitalisations, with 8,671.6 admissions per 100,000 population. Alice Springs Rural HSA also had a very high rate (7,649.6). Darwin Urban HSA had the lowest rate, with 2,795.9 admissions per 100,000 population.

In the **Australian Capital Territory** (ACT), ACT-Balance had the highest rate of avoidable hospitalisations, with 8,009.0 admissions per 100,000 population, although based on just 195 admissions. The next highest rates were 1,802.8 in South Canberra and 1,753.9 in North Canberra. The lowest rate was in Gungahlin-Hall, with 924.3 admissions per 100,000 population, with rates of 1,327.9 in South Belconnen and 1,331.7 in Weston Creek-Stromlo.

By remoteness

The graph of avoidable hospitalisation rates by remoteness (Figure 3.5) shows the lowest rate of avoidable hospitalisations, 2,293.6 admissions per 100,000 population, in the Inner Regional areas of Australia, below that in the Major Cities class (3,032.1). The rates then increase to 2,985.9 in the Outer Regional areas and 3,620.9 in the Remote areas, with a further increase to 4,105.0 in the Very Remote areas. However, the numbers of avoidable admissions decrease rapidly across the remoteness classes.

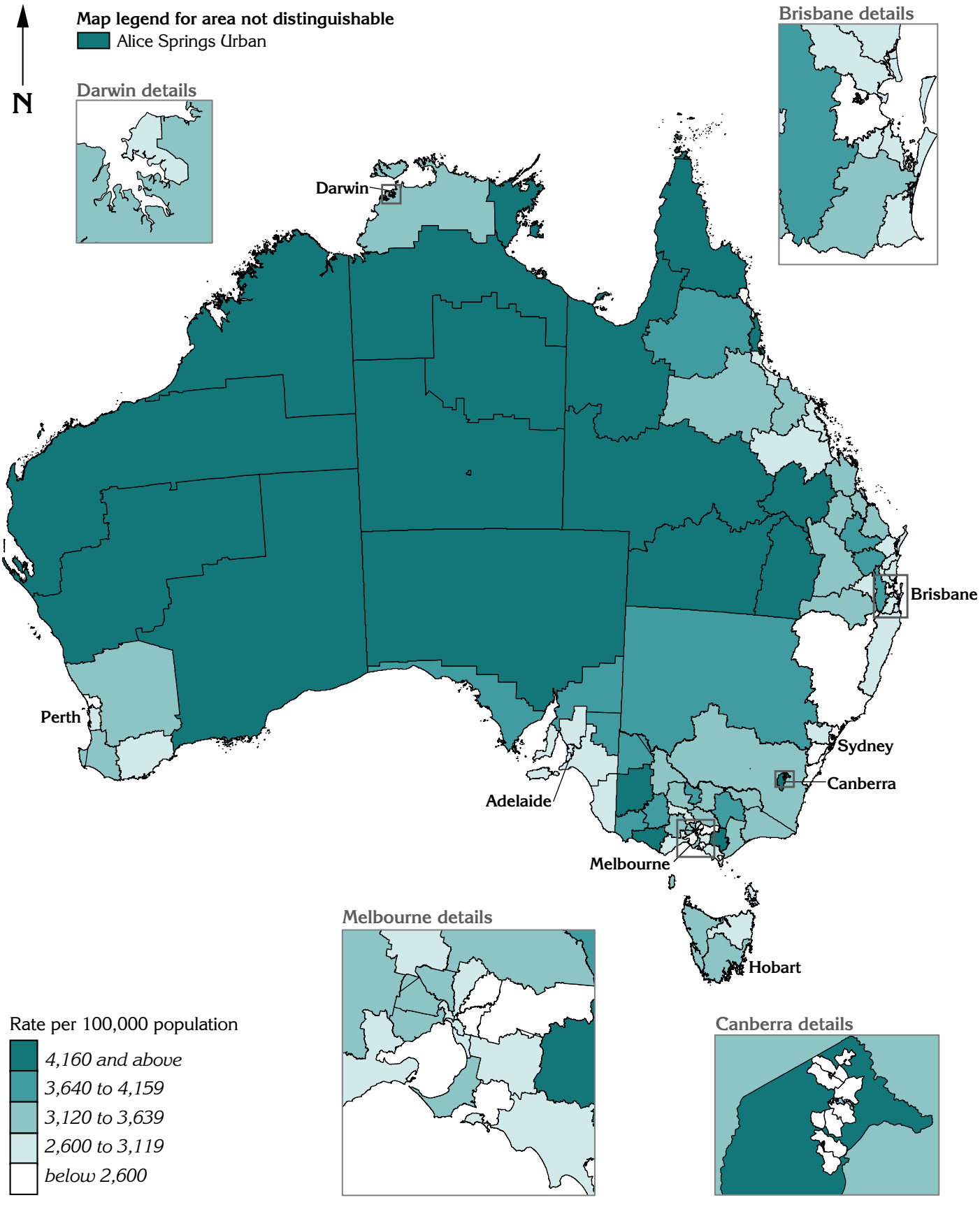
Figure 3.5: Avoidable hospitalisations[1] by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.1:
Avoidable hospitalisations: admissions resulting from ACS conditions, Australia, 2001/02

Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

Avoidable hospitalisations: Diabetes complications, Australia, 2001/02

The overall Australian avoidable hospitalisation rate for diabetes complications in 2001/02 was 728.1 per 100,000 population (Table 3.10). The Australian Capital Territory had the lowest admission rate for this condition, with 420.7 admissions per 100,000 population, followed by New South Wales with 519.5 admissions for every 100,000 population. The Northern Territory, with a rate of 1,748.2, and Tasmania, 1,246.8, have the two highest State/ Territory rates for avoidable hospitalisations for diabetes complications in Australia.

Table 3.10: Avoidable hospitalisations[1]: diabetes complications, by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
519.5	906.9	722.9	692.9	873.6	1,246.8	1,748.2	420.7	728.1

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.2)

The highest rates of avoidable hospitalisations for diabetes complications in **New South Wales**, were in the Greater Southern Area Health Service (AHS), with 872.4 admissions per 100,000 population, and the Greater Western AHS, with a rate of 757.2. The lowest rates were in Sydney South West AHS (407.3 admissions per 100,000 population) and North Sydney Central Coast AHS (431.8).

In **Victoria**, the highest regional rate was 2,007.6 admissions per 100,000 population, in the Central West Gippsland Primary Care Partnership (PCP), one and a half times the next highest rate, of 1,301.2, in the Wimmera PCP. The lowest rates were in the South Coast Health Services Consortium (555.1 admissions per 100,000 population) and the Swan Hill-Gannawarra-Buloke (599.3) PCPs.

Avoidable hospitalisation rates for diabetes complications in **Queensland** were highest in the far north of the State: the Cape Yorke District Health Service (DHS) had the highest rate, with 3,878.8 admissions per 100,000 population, followed by Torres DHS (3,443.2) and Tablelands DHS (1,218.2). The lowest rates were in the Central West (341.2 admissions per 100,000 population), Banana (351.4), Southern Downs (361.6) and Fraser Coast (369.7) District Health Services.

In **South Australia,** the rates of hospitalisation from diabetes complications were highest in the Northern & Far Western Health Region (HR), with 1,318.5 admissions per 100,000 population. This rate was three times that of the lowest rate in the State, 438.4, occurring in the Wakefield HR.

Pilbara & Gascoyne and Goldfields & South East Coastal Health Regions in **Western Australia** had the highest regional rates in Australia for avoidable hospitalisations for diabetes complications, of 4,720.0 and 4,702.2 admissions per 100,000 population, respectively. The Great Southern HR had the lowest rate in the State, with 379.0 admissions per 100,000 population.

Rates in **Tasmania** were fairly high overall, with the highest rates in the South and North West Regions, 1,430.4 and 1,246.2, respectively, and a lower rate of 933.2 admissions per 100,000 population in North Region.

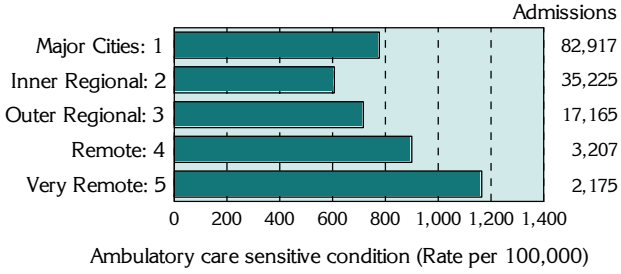
All the avoidable hospitalisation rates for diabetes complications in the **Northern Territory** were particularly high. The rates ranged from 1,182.5 in the Darwin Urban Health Service Area (HSA), to 4,263.8 in Alice Springs Rural HSA. The rates in Barkly HSA were also very high, with 4,226.7 admissions per 100,000 population.

In the **Australian Capital Territory** (ACT), the highest rate of avoidable hospitalisations for diabetes complications (excluding ACT-Balance, with just 36 admissions, a rate of 1,756.6) was in South Tuggeranong, with 652.3 admissions per 100,000 population. Gungahlin-Hall and South Belconnen had the lowest rates in the ACT, with 271.2 and 277.9 admissions per 100,000, respectively.

By remoteness

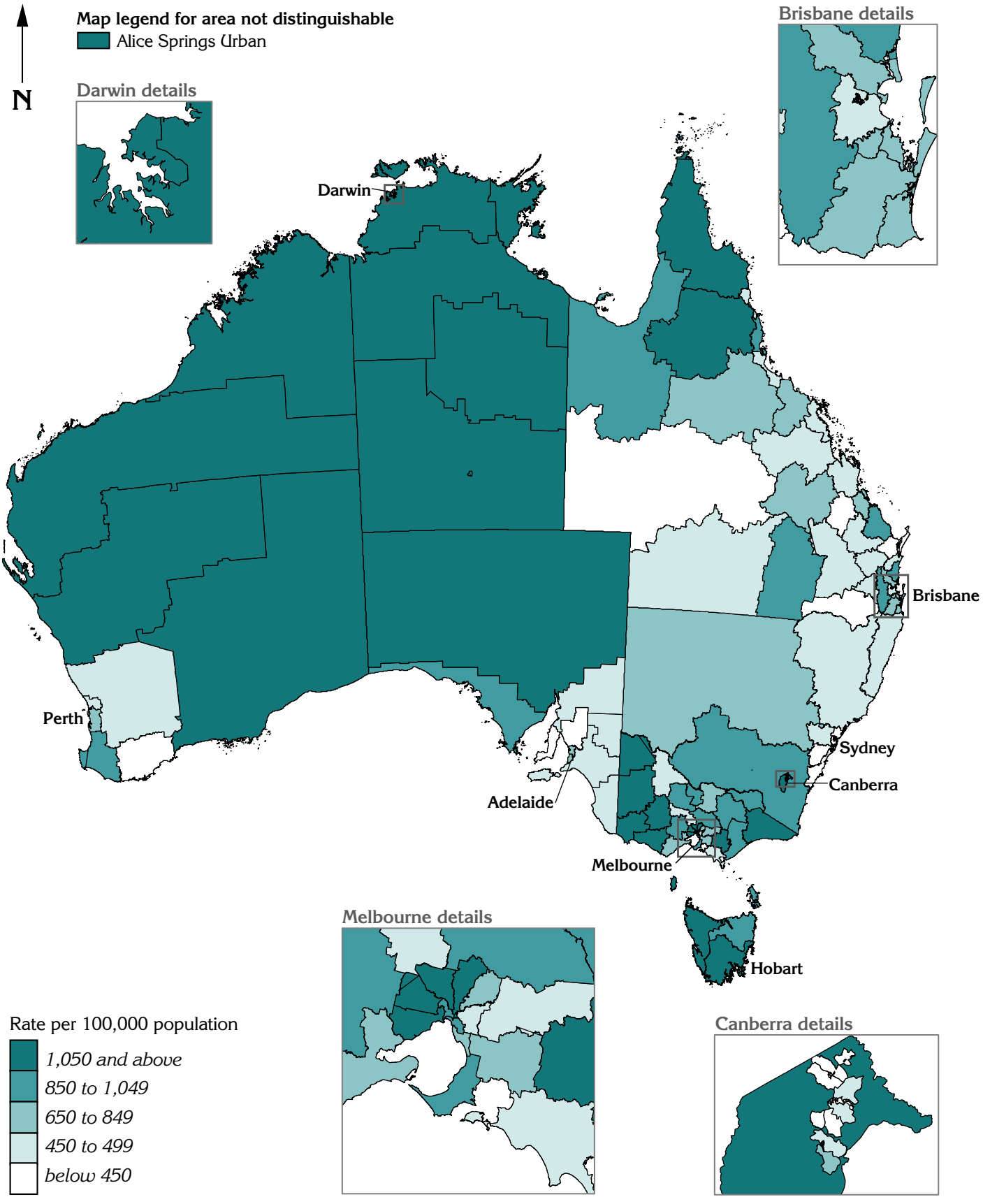
Avoidable hospitalisation rates for diabetes complications are lowest in the Inner Regional areas of Australia, with 606.0 admissions per 100,000 population (Figure 3.6). The rates are highest in the Very Remote areas with 1,137.6 admissions per 100,000 population. The numbers of admissions for these conditions decrease rapidly across the remoteness classes.

Figure 3.6: Avoidable hospitalisations[1]: diabetes complications, by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.2
Avoidable hospitalisations: Diabetes complications, Australia, 2001/02
Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

Avoidable hospitalisations: Chronic obstructive pulmonary disease, Australia, 2001/02

The rate of avoidable hospitalisations for chronic obstructive pulmonary disease (COPD) in the Northern Territory (NT) was substantially higher than the Australian average rate, 751.4 admissions per 100,000 population in the NT, compared to 282.6 for Australia (Table 3.11). The Australian Capital Territory had the lowest avoidable hospitalisations rate for COPD, with 154.6 admissions per 100,000 population. The rate of admissions in New South Wales (285.6) was consistent with the Australian average.

Table 3.11: Avoidable hospitalisations[1]: chronic obstructive pulmonary disease, by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
285.6	260.7	308.5	272.9	275.9	293.4	751.4	154.6	282.6

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.3)

The highest avoidable hospitalisation rates for COPD in **New South Wales** were in the Greater Western (457.8 admissions per 100,000 population) and Greater Southern (403.0) Area Health Services (AHS). North Sydney Central Coast AHS had the lowest rate in the State with 214.5 admissions per 100,000 population.

For **Victoria**, rates were highest in South Grampians/ Glenelg (455.4), Campaspe (420.0) and Central Hume (413.0) Primary Care Partnerships (PCPs). The lowest rates were in the PCPs of Inner East (130.3), Northern Mallee (177.6) and Banyule/ Nillumbik (189.6).

In **Queensland**, Mt Isa (1,256.6) and Cape York (1,044.0) District Health Services (DHS) had the highest rates of avoidable hospitalisations for COPD. The lowest rates in the State are substantially (almost six times) lower than the rate in Mt Isa DHS, and were recorded for Gladstone (217.4), the Queen Elizabeth 2 Hospital & District (225.8) and the Gold Coast (226.3) DHS.

The Northern & Far Western Health Region (HR) had the highest rate of avoidable hospitalisations in **South Australia**, with 665.1 admissions per 100,000 population. This was considerably higher than the next highest rate, of 430.6, in Mid North HR. The Central Northern Adelaide Health Service had the lowest rate in the State, with 236.1 admissions per 100,000 population.

In **Western Australia**, the highest rates occurred in the Pilbara & Gascoyne (808.5) and Kimberley (791.4) Health Regions, almost three times the overall State rate, of 275.9. The lowest rates were in the Great Southern (242.7 admissions per 100,000 population) and North Metro (246.7) HRs.

The highest rate of avoidable hospitalisations for COPD in **Tasmania** was in the North West Region, with 364.6 admissions per 100,000 population; the lowest rate was in South Region (255.5). The North Region had 300.9 admissions per 100,000 population.

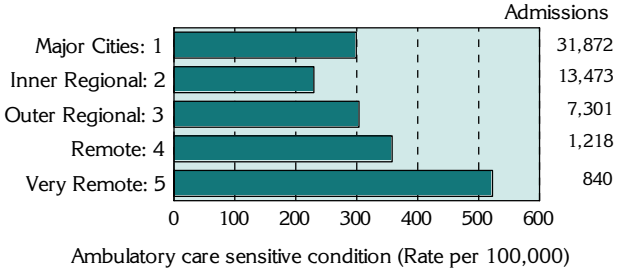
East Arnhem Health Service Area (HSA) in the **Northern Territory** had the highest regional rate of avoidable hospitalisations for COPD in Australia, with 2,392.1 admissions per 100,000 population. Alice Springs Rural and Barkly HSAs also had high rates, of 1,596.4 and 1,596.1, respectively. The lowest admission rate in the Territory was 392.1, in the Darwin Urban HSA.

The highest rate of admissions for these conditions in the **Australian Capital Territory** (ACT) (excluding ACT-Balance, with just seven admissions, a rate of 418.2) was in South Tuggeranong (220.2 admissions per 100,000 population). South Belconnen (108.8) and Woden Valley (112.3) had the lowest rates in the ACT.

By remoteness

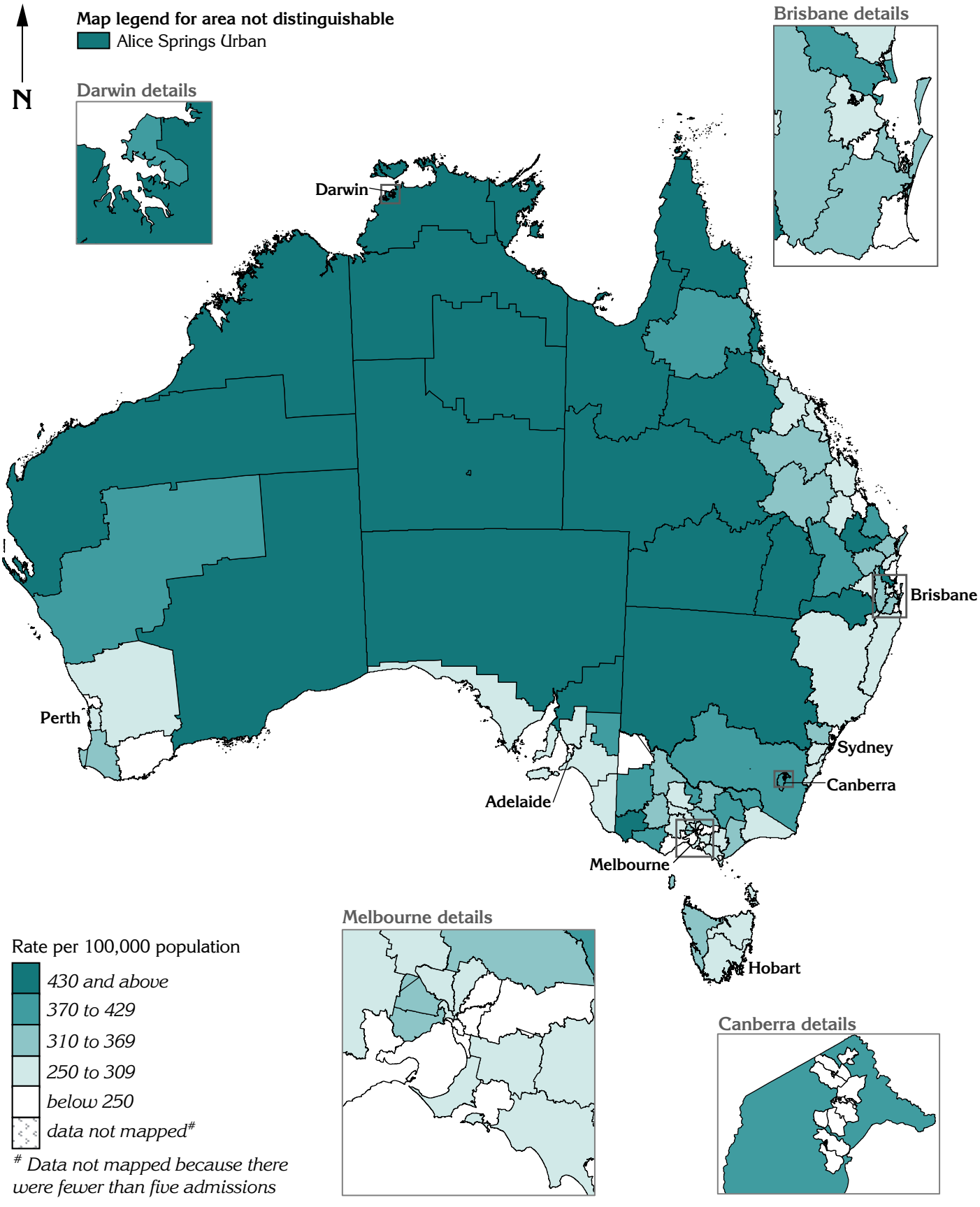
Avoidable hospitalisation rates for COPD are lowest in the Inner Regional areas, with 229.0 admissions per 100,000 population, lower than in the Major Cities areas and Outer Regional areas, with rates of 301.0 and 300.7, respectively (Figure 3.7). The Very Remote areas of Australia had the highest rate, with 509.7 admissions per 100,000 population. The numbers of admissions for COPD decrease rapidly across the remoteness classes.

Figure 3.7: Avoidable hospitalisations[1]: chronic obstructive pulmonary disease, by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.3
Avoidable hospitalisations: Chronic obstructive pulmonary disease, Australia, 2001/02
Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

Avoidable hospitalisations: Angina, Australia, 2001/02

Avoidable hospitalisation rates for angina were lowest in the Australian Capital Territory, a rate of 183.7, followed by Western Australia, with 198.5 admissions per 100,000 population (Table 3.12). The highest rate of 408.3 occurred in the Northern Territory. New South Wales and Victoria had similar rates, 251.8 and 250.4, respectively, which were slightly below the Australian average rate of 257.4.

Table 3.12: Avoidable hospitalisations[1]: angina, by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
251.8	250.4	321.5	221.6	198.5	260.4	408.3	183.7	257.4

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.4)

In **New South Wales**, the Greater Western Area Health Service (AHS) had the highest rate of avoidable hospitalisations for angina, with 422.4 admissions per 100,000 population. The North Coast AHS ranked second with a rate of 357.9. South Eastern Sydney/ Illawarra AHS had the lowest rate in the State with a rate of 190.4, followed by Sydney South West AHS with a rate of 208.7.

The highest rates in **Victoria** were in the Primary Care Partnerships (PCPs) of Wimmera (464.4 admissions per 100,000 population) and South West (448.7). Inner East (155.4), Inner South East (161.2) and Moonee Valley/Melbourne (167.6) PCPs had the lowest rates in the State.

For **Queensland**, rates of avoidable hospitalisations for angina were highest in the District Health Services (DHS) of Mt Isa (801.2 admissions per 100,000 population) and Torres (625.0), both rates well above the overall State rate of 321.5. Moranbah DHS had the State's lowest rate (133.2, 14 admissions), followed by Innisfail DHS, with a rate of 195.4.

The Eyre and Mid North Health Regions had the highest rates in **South Australia**, with 388.9 and 387.9 admissions per 100,000 population, respectively. The lowest rates occurred in the Central Northern Adelaide (199.9) and Southern Adelaide (204.4) Health Services.

In **Western Australia**, the highest rates of avoidable hospitalisations for angina were in the Health Regions (HRs) of Kimberley (432.1 admissions per 100,000 population) and Pilbara & Gascoyne (387.9); substantially higher than the State's rate of 198.5. The North Metro and South Metro HRs had the lowest admission rates with 180.5 and 180.8 per 100,000 population, respectively.

The North West Region in **Tasmania** had the highest rate, with 377.8 admissions per 100,000 population. The South Region had a rate of 236.3, while North Region had the lowest rate, of 207.8.

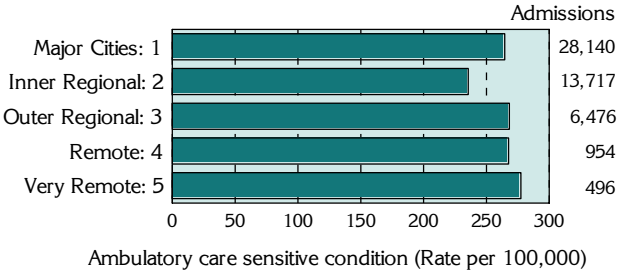
In the **Northern Territory,** Barkly Health Service Area (HSA) had the highest avoidable hospitalisations rate for angina, of 791.6 admissions per 100,000 population. This was 2.8 times the lowest rate in the Territory, of 274.2 admissions per 100,000 population, in the Darwin Rural HSA. The Katherine HSA also had a high rate of admissions for angina (681.8).

The highest rate of avoidable hospitalisations for angina in the **Australian Capital Territory** (ACT) (excluding ACT-Balance, with just 32 admissions, a rate of 1,760.9) was in North Canberra, with 235.6 admissions per 100,000 population. Gungahlin-Hall (a rate of 51.0 admissions per 100,000 population, five admissions) and Weston Creek-Stromlo (92.7, 22 admissions) had the lowest admission rates in the ACT.

By remoteness

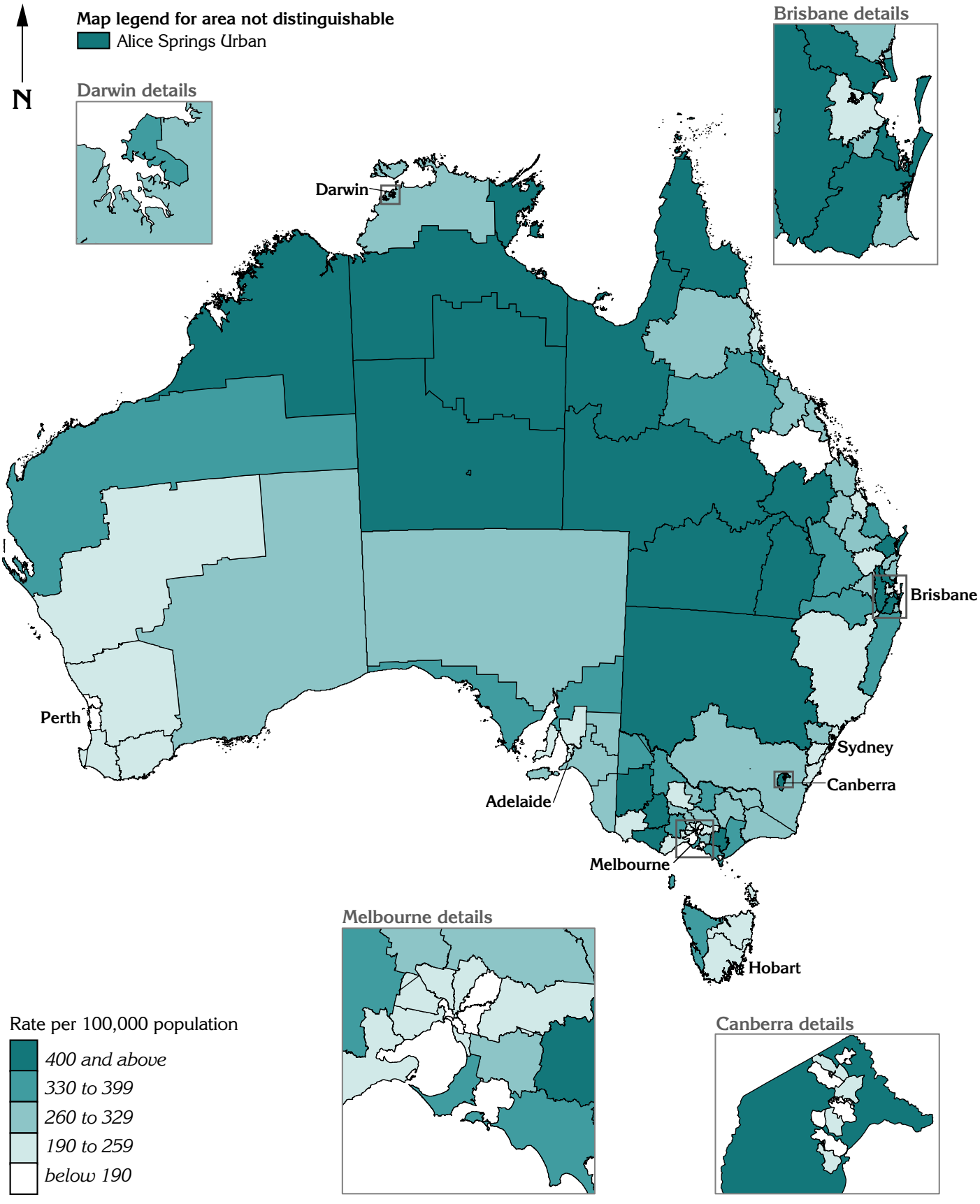
Avoidable hospitalisation rates for angina are lowest in the Inner Regional areas of Australia, a rate of 235.5 admissions per 100,000 population (Figure 3.8). The Major Cities, Outer Regional and Remote areas had similar rates of admission, with 264.5, 268.2 and 267.6 admissions per 100,000 population, respectively. The rate in the Very Remote areas is slightly higher, at 277.4 admissions per 100,000 population. The numbers of admissions for angina decrease rapidly across the remoteness classes.

Figure 3.8: Avoidable hospitalisations[1]: angina, by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.4
Avoidable hospitalisations: Angina, Australia, 2001/02
Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

Avoidable hospitalisations: Dental conditions, Australia, 2001/02

The Australian Capital Territory had the lowest rate of avoidable hospitalisations for dental conditions, 63.9 admissions per 100,000 population, and substantially lower than the Australian rate of 224.9 (Table 3.13). Western Australia had the highest rate, of 294.3 admissions per 100,000 population. The rates in Northern Territory (155.0), Tasmania (163.1) and New South Wales (170.3) were all lower than the national average.

Table 3.13: Avoidable hospitalisations[1]: dental conditions, by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
170.3	256.7	247.8	259.2	294.3	163.1	155.0	63.9	224.9

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.5)

Avoidable hospitalisation rates for dental conditions in **New South Wales** were highest in the Greater Western (247.0 admissions per 100,000 population) and North Coast (230.5) Area Health Services. Sydney South West Area Health Service had the lowest admission rates in the State, with 121.3 admissions per 100,000 population.

In **Victoria**, Wimmera Primary Care Partnership (PCP) had the highest rate of avoidable hospitalisations for these conditions, with 740.0 admissions per 100,000 population, followed by Northern Mallee PCP, with 573.7 admissions per 100,000. Westbay and North Central Melbourne PCPs had the lowest rates, with 166.8 and 176.0 , respectively.

Cape York District Health Service (DHS) in **Queensland** had the highest regional rate of avoidable hospitalisations for dental conditions in Australia, with a rate of 824.1 admissions per 100,000 population: this is over three and a half times the State average. Rockhampton (568.6), Central Highlands (450.5) and Torres (448.3) DHS also had high rates of admissions for dental conditions. The lowest rates in the State occurred in Charters Towers DHS and Bayside DHS, with 142.3 and 143.1 admissions per 100,000 population, respectively.

For **South Australia**, the Riverland Health Region (HR) had the highest admission rate, of 442.2 admissions per 100,000 population, followed by a rate of 389.6 in the Northern and Far Western HR. The South East HR (220.6) and Central Northern Adelaide Health Service (246.3) had the lowest admission rates in the State.

The Great Southern (397.0 admissions per 100,000 population) and Midwest (367.8) Health Regions had the highest avoidable hospitalisation rates for dental conditions in **Western Australia**. The lowest rates were found in the Goldfields & South-East Coastal (176.1 admissions per 100,000 population) and Kimberley (191.7) HRs.

In **Tasmania**, the North Region had the highest admission rate in the State, with 227.7 admissions per 100,000 population: this rate is consistent with the overall Australian average. The South Region had the lowest rate (117.4 admissions per 100,000 population).

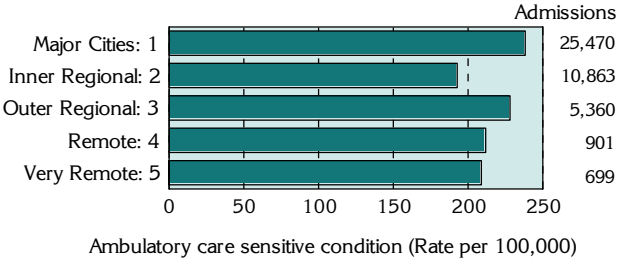
Rates in the **Northern Territory** were highest in the East Arnhem Health Service Area (HAS), with 454.5 admissions per 100,000 population, almost three times the State average (a rate ratio of 2.93**). Alice Springs Rural HSA had the next highest rate, of 220.6 admissions per 100,000 population. The HSAs of Barkly (74.5, 5 admissions) and Darwin Urban (100.9) had the lowest avoidable hospitalisation rates for dental conditions.

In the **Australian Capital Territory** (ACT), the highest rate of avoidable hospitalisations for dental conditions (excluding ACT-Balance, with just six admissions) was in North Tuggeranong, with 72.8 admissions per 100,000 population. Gungahlin-Hall (25.7 admissions per 100,000 population, seven admissions) and Weston Creek-Stromlo (44.6, ten admissions) had the lowest rates.

By remoteness

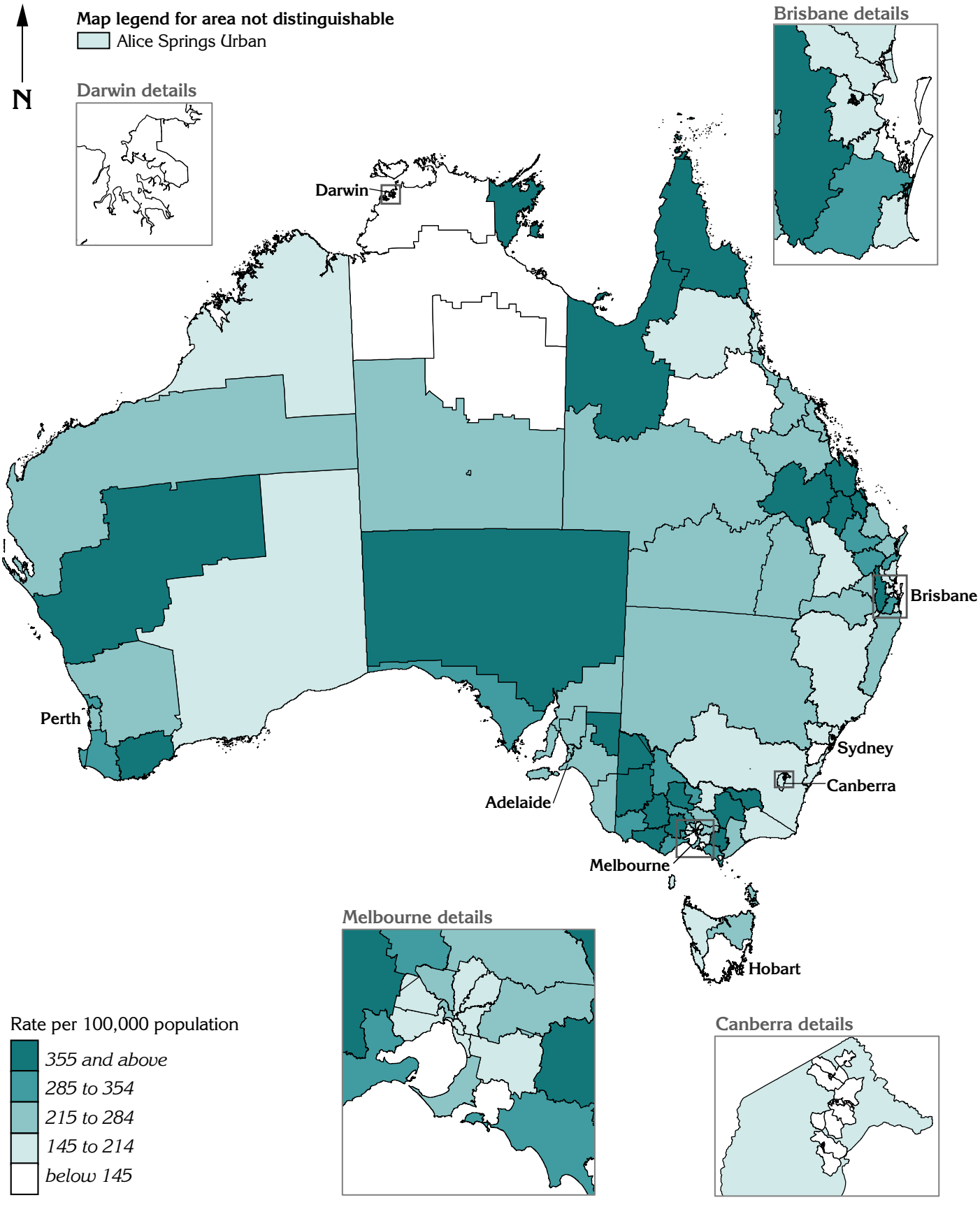
The admission rates for dental conditions (Figure 3.9) are lowest in the Inner Regional areas of Australia (193.2), and highest in the Major Cities (238.2). The Remote and Very Remote areas had similar rates, with 212.7 and 210.0 admissions per 100,000 population, respectively. The numbers of admissions for dental conditions decrease rapidly across the remoteness classes.

Figure 3.9: Avoidable hospitalisations[1]: dental conditions, by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.5
Avoidable hospitalisations: Dental conditions, Australia, 2001/02
Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

Avoidable hospitalisations: Congestive heart failure, Australia, 2001/02

The Northern Territory had the highest rate of avoidable hospitalisations for congestive heart failure, with 422.9 admissions per 100,000 population, substantially higher than the Australian average of 218.6 (Table 3.14). The Australian Capital Territory had the lowest rate, at 141.1, followed by Tasmania, with 180.1 admissions per 100,000 population.

Table 3.14: Avoidable hospitalisations[1]: congestive heart failure, by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
209.7	234.1	225.5	219.1	202.9	180.1	422.9	141.1	218.6

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.6)

For **New South Wales**, the Greater Southern Area Health Service (AHS) had the highest avoidable hospitalisation rate for congestive heart failure, with 307.1 admissions per 100,000 population. The Greater Western AHS had the next highest rate (286.0). Northern Sydney/ Central Coast AHS had the lowest rate in the State, with 150.0 admissions per 100,000 population.

Rates in **Victoria** were highest in the South West Primary Care Partnership (PCP), with a rate of 347.7 admissions per 100,000 population: the Lower Hume PCP also had a high admission rate (326.5). The Inner East and Banyule/Nillumbik PCPs had the lowest rates in Victoria, with 173.4 and 176.4 admissions per 100,000 population, respectively.

The District Health Services (DHS) in the eastern and far northern areas of **Queensland** generally had the highest rates of avoidable hospitalisations for congestive heart failure. Torres DHS had the highest rate, with 970.9 admissions per 100,000 population, followed by Mt Isa (718.7) and Cape York (558.9) DHS. The lowest rates were in Moranbah (145.2, 11 admissions) and Bundaberg (158.1) DHS.

Eyre Health Region (HR) in **South Australia** had the highest rates in the State (332.9 admissions per 100,000 population), with similar rates also occurring in Mid North HR (332.9) and Northern & Far Western HR (329.7). The Central Northern Adelaide Health Service had the lowest rate, with 194.8 admissions per 100,000 population: the next lowest rate was in the Southern Adelaide Health Service (202.6).

In **Western Australia**, the Kimberley Health Region had the highest rate of avoidable hospitalisations for congestive heart failure in the State, with 631.9 admissions per 100,000 population. Pilbara-Gascoyne HR also had a high rate, with 541.0 admissions per 100,000 population. South Metro (173.6) and North Metro (188.8) HRs had the lowest rates in the State for this condition.

In **Tasmania**, the highest admission rate for this condition was in the North West Region (207.9 admissions per 100,000 population); and the lowest rate was in North Region (150.5). South Region had a rate of 184.8, similar to the State average rate.

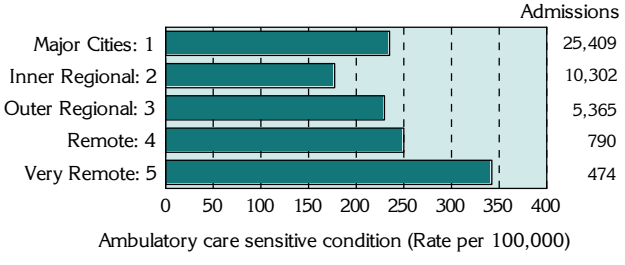
Barkly Health Service Area (HSA) in the **Northern Territory** had the highest regional rate of avoidable hospitalisations for congestive heart failure in Australia, with 1,167.0 admissions per 100,000 population. Alice Springs Rural HSA had a similarly high rate, with 1,093.2. Darwin Rural HSA had the lowest rate (151.8, 13 admissions), followed by Darwin Urban HSA, with a rate of 260.9.

In the **Australian Capital Territory** (ACT), the highest rate of avoidable hospitalisations for congestive heart failure (excluding ACT-Balance, with twelve admissions, a rate of 943.9 admissions per 100,000 population) was in South Tuggeranong (213.0). The lowest rates were in Woden Valley (95.2 admissions per 100,000 population) and South Belconnen (117.6).

By remoteness

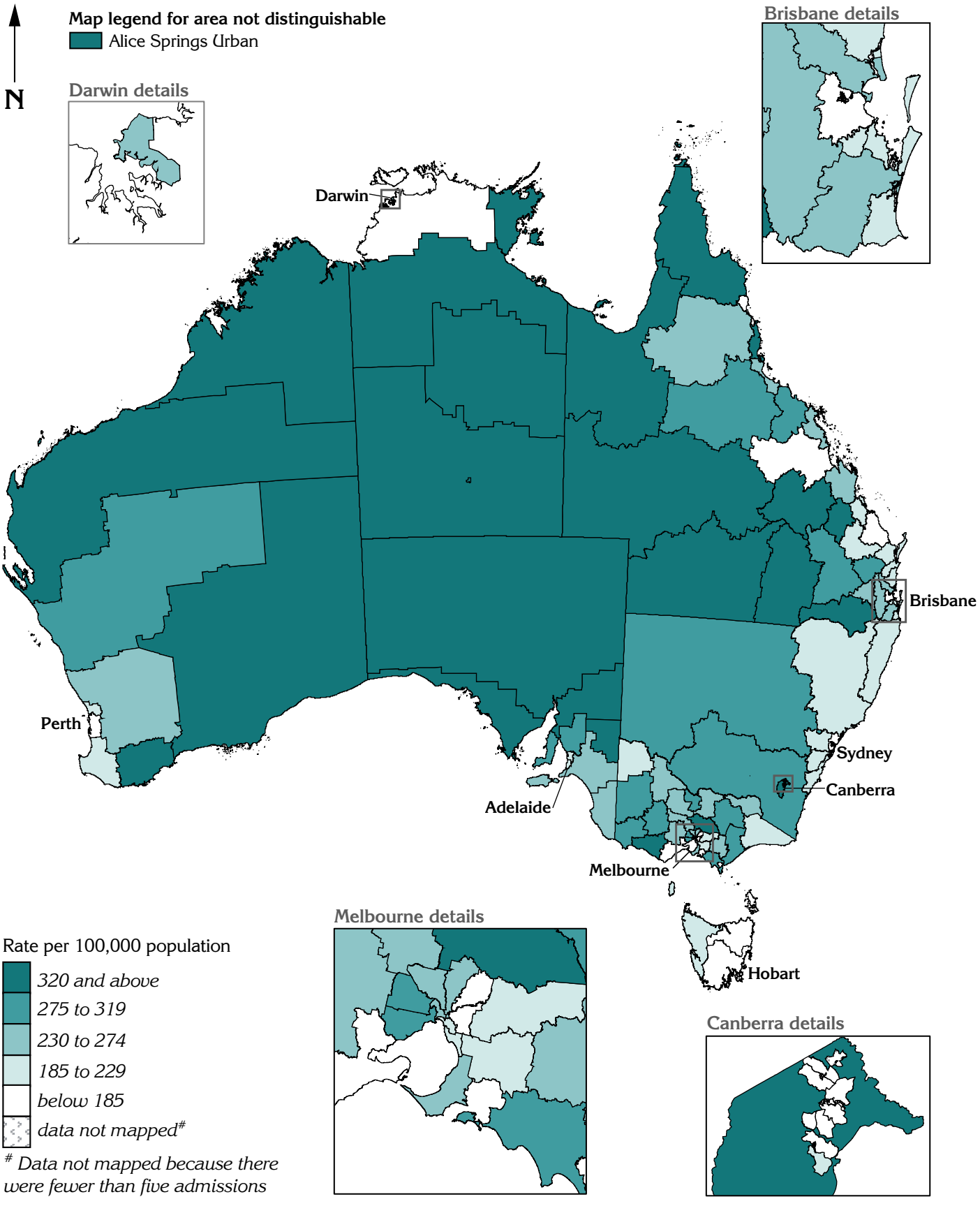
The graph of avoidable hospitalisations for congestive heart failure by remoteness (Figure 3.10) shows the lowest rate in the Inner Regional areas (177.1 admissions per 100,000 population), increasing to 246.0 in the Remote areas, followed by a sharp increase to 334.5 in the Very Remote areas. The numbers of admissions decrease rapidly across the remoteness classes.

Figure 3.10: Avoidable hospitalisations[1]: congestive heart failure, by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.6
Avoidable hospitalisations: Congestive heart failure, Australia, 2001/02
Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

Avoidable hospitalisations: Asthma, Australia, 2001/02

The Australian Capital Territory had the lowest rate of avoidable hospitalisations for asthma, with 110.1 admissions per 100,000 population, followed by the next lowest rate of 137.8 in Tasmania (Table 3.15). Theses rates were below the Australian rate of 211.3. The highest rate was in South Australia, with 323.4 admissions per 100,000 population: this was substantially higher than the next highest rate, of 222.3 admissions per 100,000 population, in Western Australia, and the overall admission rate for Australia.

Table 3.15: Avoidable hospitalisations[1]: asthma, by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
216.8	196.9	185.6	323.4	222.3	137.8	189.1	110.1	211.3

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.7)

The highest avoidable hospitalisation rates for asthma in **New South Wales** were in the Greater Western (303.6 admissions per 100,000 population) and Sydney West (262.7) Area Health Services (AHS). Hunter/ New England AHS had the lowest rate, with 188.4 admissions per 100,000 population.

South West Primary Care Partnership (PCP) had the highest rate of avoidable hospitalisations for asthma in **Victoria**, with 369.4 admissions per 100,000 population. Campaspe PCP had the next highest rate in the State, with 337.0 admissions per 100,000 population. The lowest rates occurred in the PCPs of East Gippsland (127.6), Banyule/ Nillumbik (135.2) and Upper Hume (139.4).

In **Queensland**, the District Health Services with the highest rates were Charleville (343.6 admissions per 100,000 population), Mt Isa (330.2), Roma (314.6) and Central West (314.1). Charters Towers (116.3 admissions per 100,000 population, 19 admissions), Gladstone (128.0) and Moranbah (135.1) District Health Services had the lowest rates in the State.

The Mid North Health Region (HR) in **South Australia** had the highest regional rate of avoidable hospitalisations for asthma in Australia, with 589.8 admissions per 100,000 population. The Riverland HR also had a high admission rate (460.6). The lowest rates were in the Southern Adelaide Health Service (243.3) and South East HR (280.8).

In **Western Australia,** the highest admission rates for asthma occurred in the Midwest-Murchison Health Region with 452.2 admissions per 100,000 population. The North and South Metro HRs had the lowest rates with 182.4 and 188.5 admissions per 100,000 population, respectively.

The North Region had the highest rate of avoidable hospitalisations for asthma in **Tasmania**, with 169.2 admissions per 100,000 population. The rates in the North West (125.2) and South (125.6) Regions were almost identical.

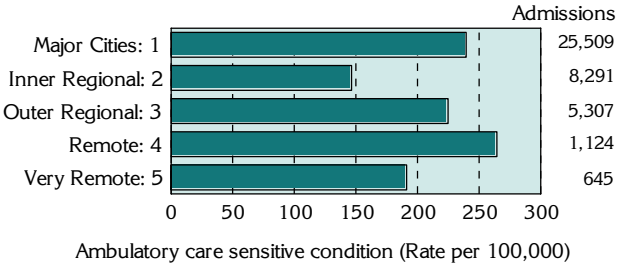
In the **Northern Territory**, Alice Springs Urban Health Service Area (HSA) had the highest rate of admissions for asthma, with 360.2 admissions per 100,000 population. Katherine HSA also had a high rate of avoidable hospitalisations for asthma (290.4). The lowest rates were in the Darwin Rural HSA (132.4 admissions per 100,000 population), while Darwin Urban (150.6) and East Arnhem (152.5) HSAs had similar rates.

In the **Australian Capital Territory** (ACT), the highest rate of avoidable hospitalisations for congestive heart failure (excluding ACT-Balance, with 17 admissions, a rate of 558.5 admissions per 100,000 population) was in South Canberra, with 149.3 admissions per 100,000 population. The lowest rates were in Weston Creek-Stromlo (45.6 per 100,000 population, ten admissions), North Canberra (82.1) and South Belconnen (85.2).

By remoteness

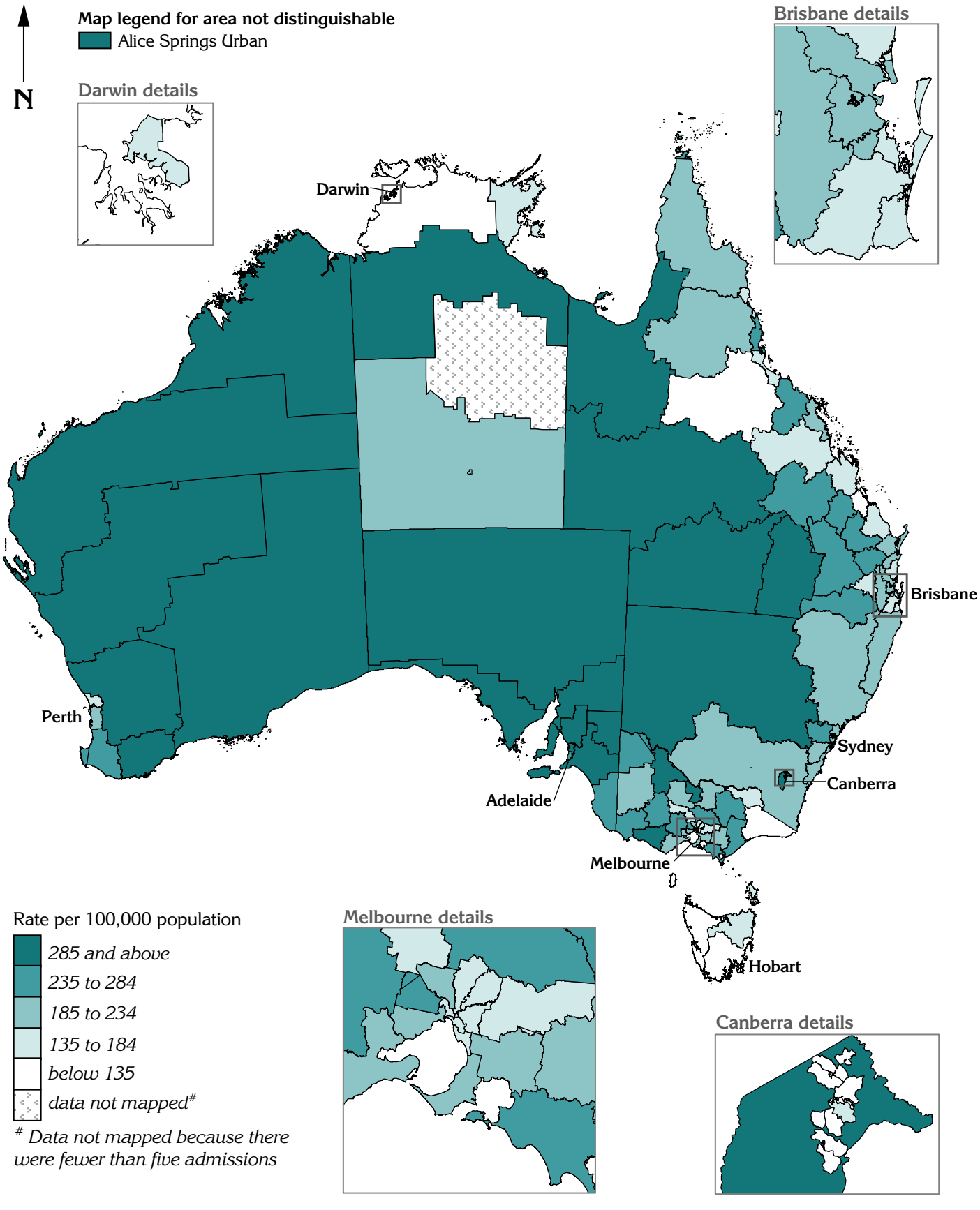
Figure 3.11 indicates that there was no consistent gradient across the remoteness classes, with the rate of avoidable hospitalisations for asthma in the Major Cities areas (239.1 admissions per 100,000 population) higher than in the Very Remote areas (193.6). The highest admission rate, of 267.5 per 100,000 population, occurred in the Remote areas, with the lowest rate, 146.9, in the Inner Regional areas. The numbers of admissions for asthma decrease rapidly across the remoteness classes.

Figure 3.11: Avoidable hospitalisations[1]: asthma, by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.7
Avoidable hospitalisations: Asthma, Australia, 2001/02
Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

Avoidable hospitalisations: Dehydration and gastroenteritis, Australia, 2001/02

The rates of avoidable hospitalisation for dehydration and gastroenteritis ranged from 78.3 per 100,000 population in Tasmania, to 234.1 admissions per 100,000 population in Queensland (Table 3.16). The South Australian rate of 194.8 admissions per 100,000 population was consistent with the overall Australian rate of 194.5 admissions per 100,000 population.

Table 3.16: Avoidable hospitalisations[1]: dehydration and gastroenteritis, by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
176.4	200.0	234.1	194.8	188.7	179.4	109.2	78.3	194.5

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.8)

The highest rate of avoidable hospitalisations for dehydration and gastroenteritis in **New South Wales** was in the Greater Western Area Health Service (AHS), with 298.5 admissions per 100,000 population. The Hunter/ New England AHS had the lowest rate, with 147.9 admissions per 100,000 population.

In **Victoria**, Campaspe Primary Care Partnership (PCP) had the highest rate of avoidable hospitalisations for dehydration and gastroenteritis (381.8 admissions per 100,000 population), followed by that in the South West PCP (357.0). Northern Mallee PCP had the lowest admission rate in the State, with a rate of 118.2.

For **Queensland**, Cape York District Health Service (DHS) had the highest rate, with 582.2 admissions per 100,000 population. North Burnett (498.8), Central Highlands (495.0), Gladstone (472.3) and Roma (457.1) District Health Services also had high rates. Torres DHS (98.5 admissions per 100,000 population, seven admissions) had the lowest rate, followed by Cairns DHS (128.5).

Admission rates for dehydration and gastroenteritis in **South Australia** were highest in the Northern & Far Western (434.4 admissions per 100,000 population) and Riverland (406.2) Health Regions (HRs). The lowest rate was in the Central Northern Adelaide Health Service, with a rate of 148.6 admissions per 100,000 population.

The highest rates of avoidable hospitalisation for dehydration and gastroenteritis in **Western Australia** were in the Health Regions of Kimberley (383.9) and Pilbara-Gascoyne (319.5). South Metro (160.3), Great Southern (168.0) and North Metro (173.4) HRs had the lowest rates in the State.

Rates of admission for dehydration and gastroenteritis in **Tasmania** were highest in the North Region, with 192.35 admissions per 100,000 population; and lowest in the South Region, 170.9 admissions per 100,000 population. The rate in the North West Region fell between these rates, with 180.7 admissions per 100,000 population.

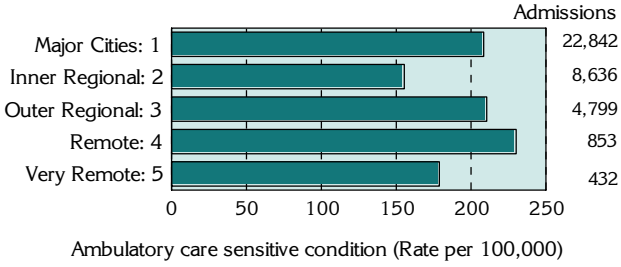
The highest rate in the **Northern Territory** was the 511.3 admissions per 100,000 population in Barkly Health Service Area (HSA). The next highest rate, of 190.6 admissions per 100,000 population, occurred in East Arnhem HSA. The lowest rates occurred in the Darwin Rural (47.4, ten admissions) and Darwin Urban (80.2) HSAs.

The highest rate of avoidable hospitalisations for dehydration and gastroenteritis in the **Australian Capital Territory** (ACT) (excluding ACT-Balance, with 18 admissions, a rate of 594.3 admissions per 100,000 population) was in North Canberra (100.5). South Tuggeranong and Gungahlin-Hall had the lowest rates, with 38.2 admissions per 100,000 population (ten admissions) and 53.6 (ten admissions), respectively.

By remoteness

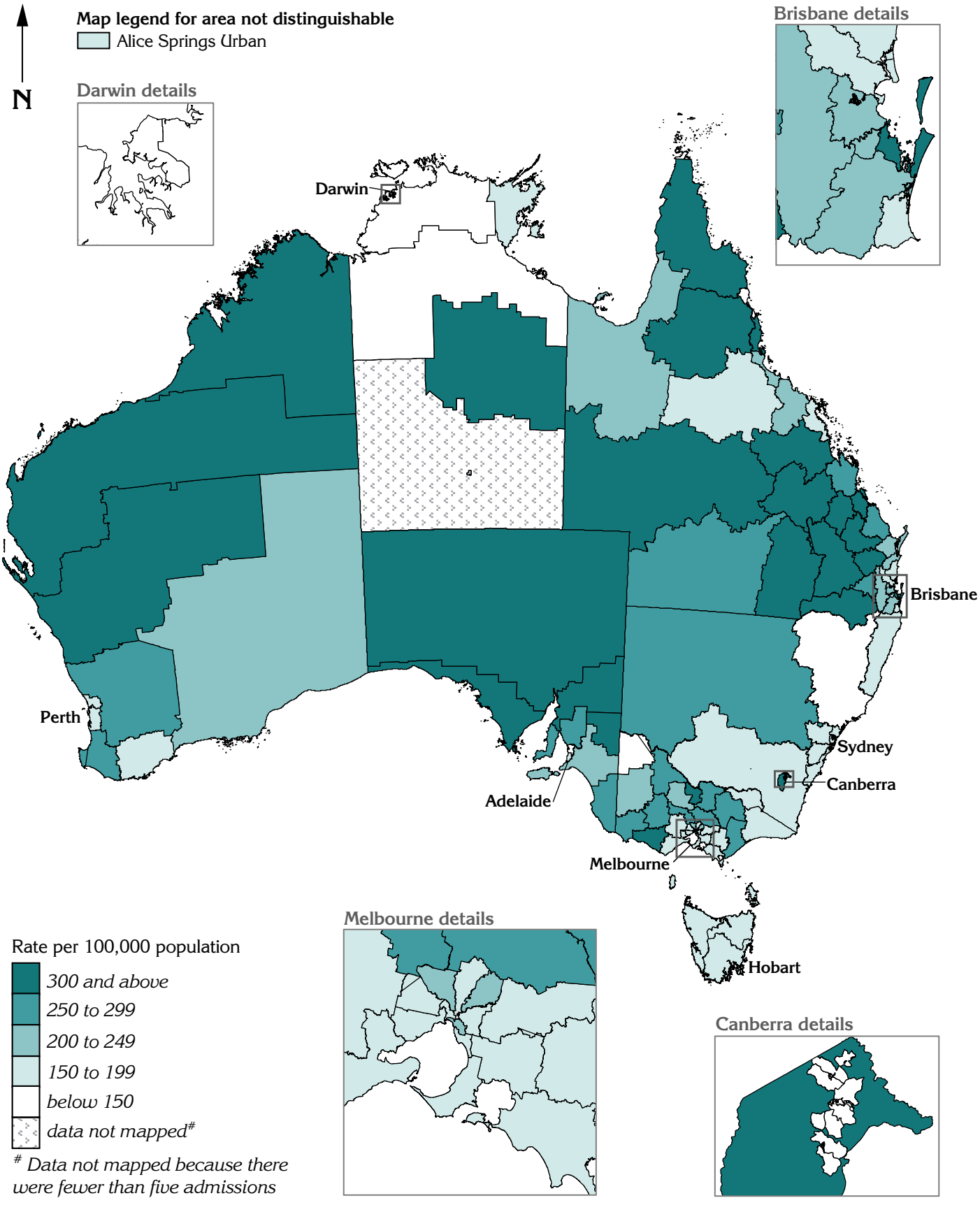
The graph of avoidable hospitalisations for dehydration and gastroenteritis by remoteness shows (Figure 3.12) the lowest rate, of 155.3 admissions per 100,000 population, in the Inner Regional areas, with rates increasing sharply to 211.4 in the Outer Regional areas, followed by an increase to 232.7 in the Remote areas. The numbers of admissions for dehydration and gastroenteritis decrease rapidly across the remoteness classes.

Figure 3.12: Avoidable hospitalisations[1]: dehydration and gastroenteritis, by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.8
Avoidable hospitalisations: Dehydration and gastroenteritis, Australia, 2001/02
Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

Avoidable hospitalisations: Ear, nose and throat infections, Australia, 2001/02

Avoidable hospitalisation rates for ear, nose and throat infections ranged from 95.8 admissions per 100,000 population in the Australian Capital Territory, to 210.9 in South Australia (Table 3.17). Queensland and Western Australia had similar rates, of 184.4 and 185.3 admissions per 100,000 population, respectively; while the rates for New South Wales (161.1) and Northern Territory (159.3) were slightly below the overall Australian rate of 165.2 admissions per 100,000 population.

Table 3.17: Avoidable hospitalisations[1]: ear, nose and throat infections, by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
161.1	140.5	184.4	210.9	185.3	119.5	159.3	95.8	165.2

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.9)

The highest avoidable hospitalisation rates for ear, nose and throat conditions in **New South Wales** were in the Greater Western (271.3), Sydney West (219.5), and Greater Southern (214.1) Area Health Services (AHS). South Eastern Sydney/ Illawarra AHS had the lowest rate, with 115.9 admissions per 100,000 population.

In **Victoria**, Swan Hill-Gannawarra-Buloke Primary Care Partnership (PCP) had the highest rate of admissions for ear, nose and throat infections, with 320.6 admissions per 100,000 population. South West PCP (256.9) and Campaspe PCP (243.8) also had high rates. The lowest rates occurred in the PCPs of Bendigo/Loddon (96.3 admissions per 100,000 population), Central West Gippsland (109.6) and Westbay (112.7).

The District Health Services in the north and west of **Queensland** had the highest admissions rates for these conditions. Charleville DHS had the highest regional rate in Australia, with 682.9 admissions per 100,000 population. High rates also occurred in Roma (650.8), Central West (539.3) and South Burnett (536.9) District Health Services. The lowest rates were in the Sunshine Coast (104.7 admissions per 100,000 population), Redcliffe-Caboolture (136.4), Cairns (138.4) and Townsville (138.8) District Health Services.

Rates in **South Australia** were highest in Northern & Far Western and Eyre Health Regions (HRs), with 377.4 and 352.0 admissions per 100,000 population, respectively. The lowest rates were in Southern Adelaide (186.5) and Central Northern Adelaide (189.4) Health Services.

In **Western Australia**, the Kimberley Health Region had the highest rate of admissions for ear, nose and throat infections, with 496.9 admissions per 100,000 population. Goldfields-South East Coastal HR had the next highest rate, with a rate of 396.4. North Metro (134.8 per 100,000 population) and South Metro (153.8) HRs had the lowest rates.

The North West Region had the highest avoidable hospitalisation rate for ear, nose and throat conditions in **Tasmania**, with 146.7 admissions per 100,000 population. North and South Regions had lower rates, of 109.2 and 112.6 admissions per 100,000 population, respectively.

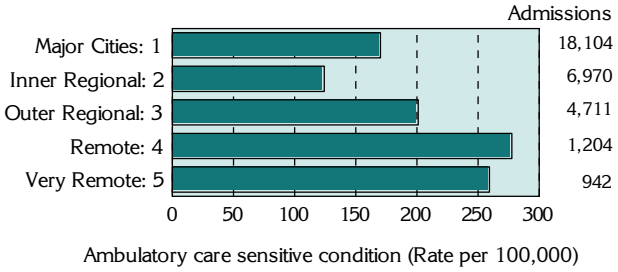
In the **Northern Territory**, Katherine and Alice Springs Urban Health Service Areas (HSAs) had the highest rates for these conditions, with 308.1 and 241.3 admissions per 100,000 population, respectively. The lowest rates were in the Darwin Urban (111.5) and Darwin Rural (111.8) HSAs.

In the **Australian Capital Territory** (ACT), the highest rate of avoidable hospitalisation (excluding ACT-Balance, with nine admissions, a rate of 272.1 admissions per 100,000 population) was in North & West Belconnen (128.8). The lowest rates were in Gungahlin-Hall (54.9, 17 admissions), Weston Creek-Stromlo (72.4, 15 admissions), North Canberra (75.0) and South Canberra (80.1).

By remoteness

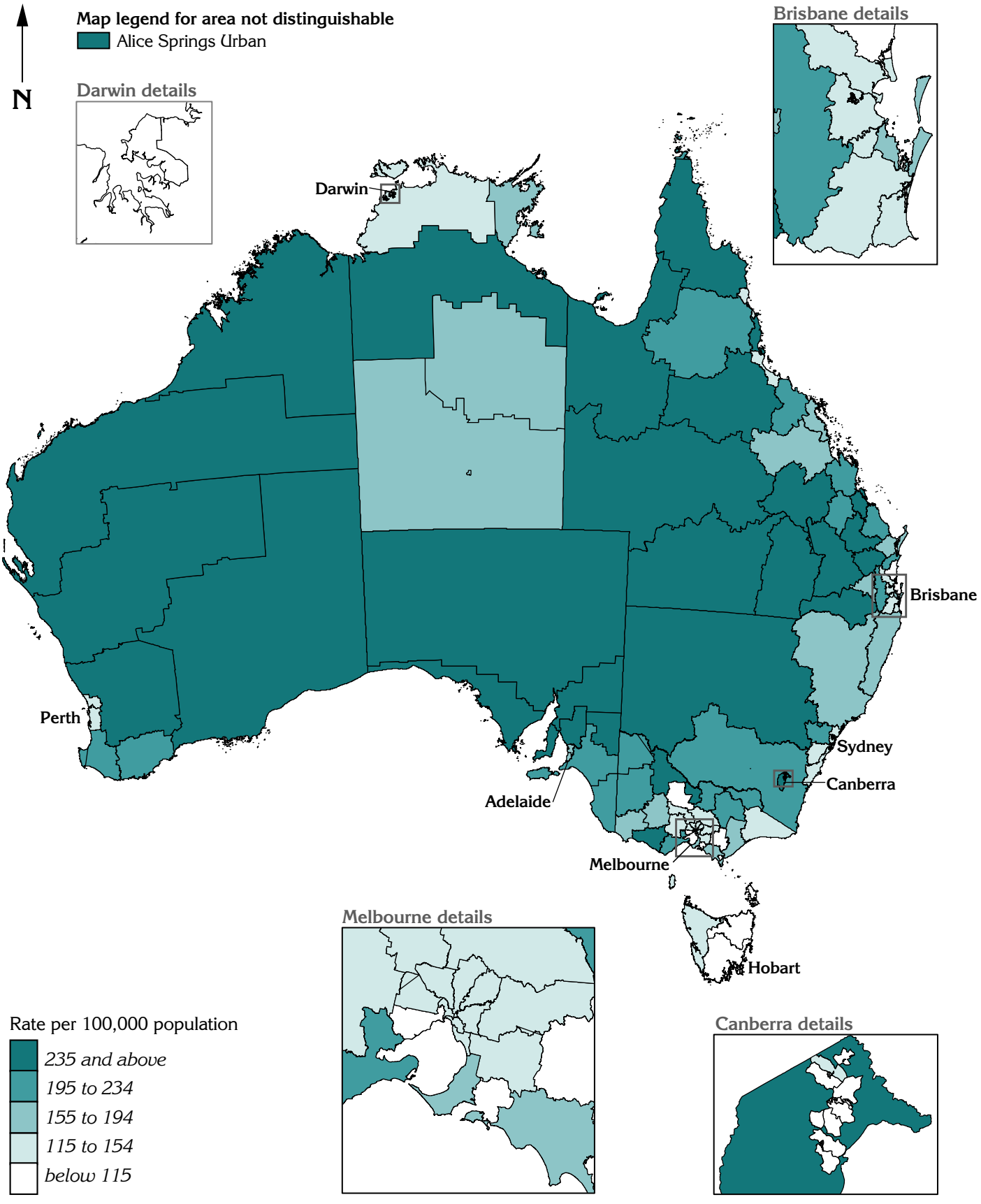
The graph of avoidable hospitalisations for ear, nose and throat conditions by remoteness (Figure 3.13) shows a rate range from 123.9 admissions per 100,000 population in the Inner Regional areas, to 277.8 in the Remote areas: the rate in the Very Remote areas was also high (259.7). The numbers of admissions for ear, nose and throat conditions decrease rapidly across the remoteness classes.

Figure 3.13: Avoidable hospitalisations[1]: ear, nose and throat infections, by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.9
Avoidable hospitalisations: Ear, nose and throat infections, Australia, 2001/02
Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

Avoidable hospitalisations: Convulsions and epilepsy, Australia, 2001/02

The highest rate of avoidable hospitalisations for convulsions and epilepsy occurred in the Northern Territory, with 260.9 admissions per 100,000 population: this rate was substantially higher than the next highest rate of 168.1 admissions per100,000 population in New South Wales (Table 3.18). The lowest rate, of 112.8 admissions per100,000 population, occurred in the Australian Capital Territory.

Table 3.18: Avoidable hospitalisations[1]: convulsions and epilepsy, by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
168.1	152.4	162.3	143.6	146.7	161.0	260.9	112.8	160.4

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.10)

In **New South Wales**, the highest avoidable hospitalisations rate for convulsions and epilepsy occurred in the Greater Western Area Health Service (AHS), with 254.3 admissions per 100,000 population. Northern Sydney/ Central Coast (140.1) and Sydney South West (152.8) AHS had the lowest admission rates in the State.

The Primary Care Partnerships (PCPs) in **Victoria** with the highest avoidable hospitalisation rates for convulsions and epilepsy were East Gippsland (206.6) and Wellington (203.2). The lowest rates were recorded for the Central Victorian Health Alliance (98.0) and Swan Hill-Gannawarra-Buloke (124.8) PCPs.

In **Queensland**, the Cape York District Health Service (DHS) had the highest regional rate of avoidable hospitalisations for these conditions in Australia, with 802.5 admissions per 100,000 population. The DHS of Roma (470.4) and Mt Isa (455.5) also had high admission rates. The lowest rates occurred in Cairns (97.9 admissions per 100,000 population) Prince Charles Hospital & District (120.5), Bayside (120.5), and Logan-Beaudesert (125.0) DHS.

For **South Australia**, the Northern & Far Western Health Region (HR) had the highest rate, of 428.4 admissions per 100,000 population. The Riverland HR also had a high rate, with 241.6 admissions per 100,000 population. The Southern Adelaide Health Service (102.1 admissions per 100,000 population) had the lowest rate of avoidable hospitalisations for convulsions and epilepsy in the State.

The avoidable hospitalisation rates for these conditions in **Western Australia** were highest in the Health Regions of Kimberley, with 567.4 admissions per 100,000 population, and Pilbara-Gascoyne, 380.0 admissions per 100,000 population. North Metro and South Metro HRs had the lowest rates in the State, with 114.7 and 119.0 admissions per 100,000 population, respectively.

In **Tasmania**, the North West Region had the highest rate, with 173.3 admissions per 100,000 population, similar to the North Region rate of 171.5 admissions per 100,000 population. The South Region had the lowest rate, of 149.2.

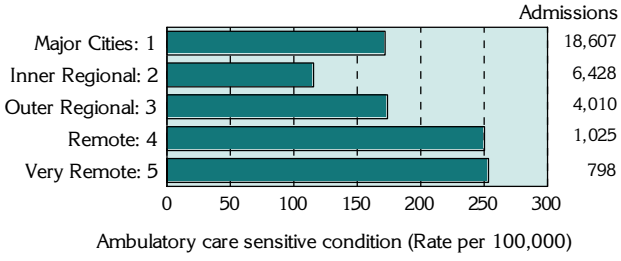
Alice Springs Urban (555.5 admissions per 100,000 population) and Barkly (457.9) Health Service Areas (HSAs) had the highest rates in the **Northern Territory**. East Arnhem HSA had the next highest rate (292.5). Darwin Rural (154.8 admissions per 100,000 population) and Darwin Urban (157.7) HSAs had the lowest rates.

In the **Australian Capital Territory** (ACT), the highest rate of avoidable hospitalisation from convulsions and epilepsy (excluding ACT-Balance, with 13 admissions, a rate of 368.8 admissions per 100,000 population) was in South Canberra, with a rate of 225.5. The lowest rates occurred in Weston Creek-Stromlo (85.4 admissions per 100,000 population) and Woden Valley (86.3).

By remoteness

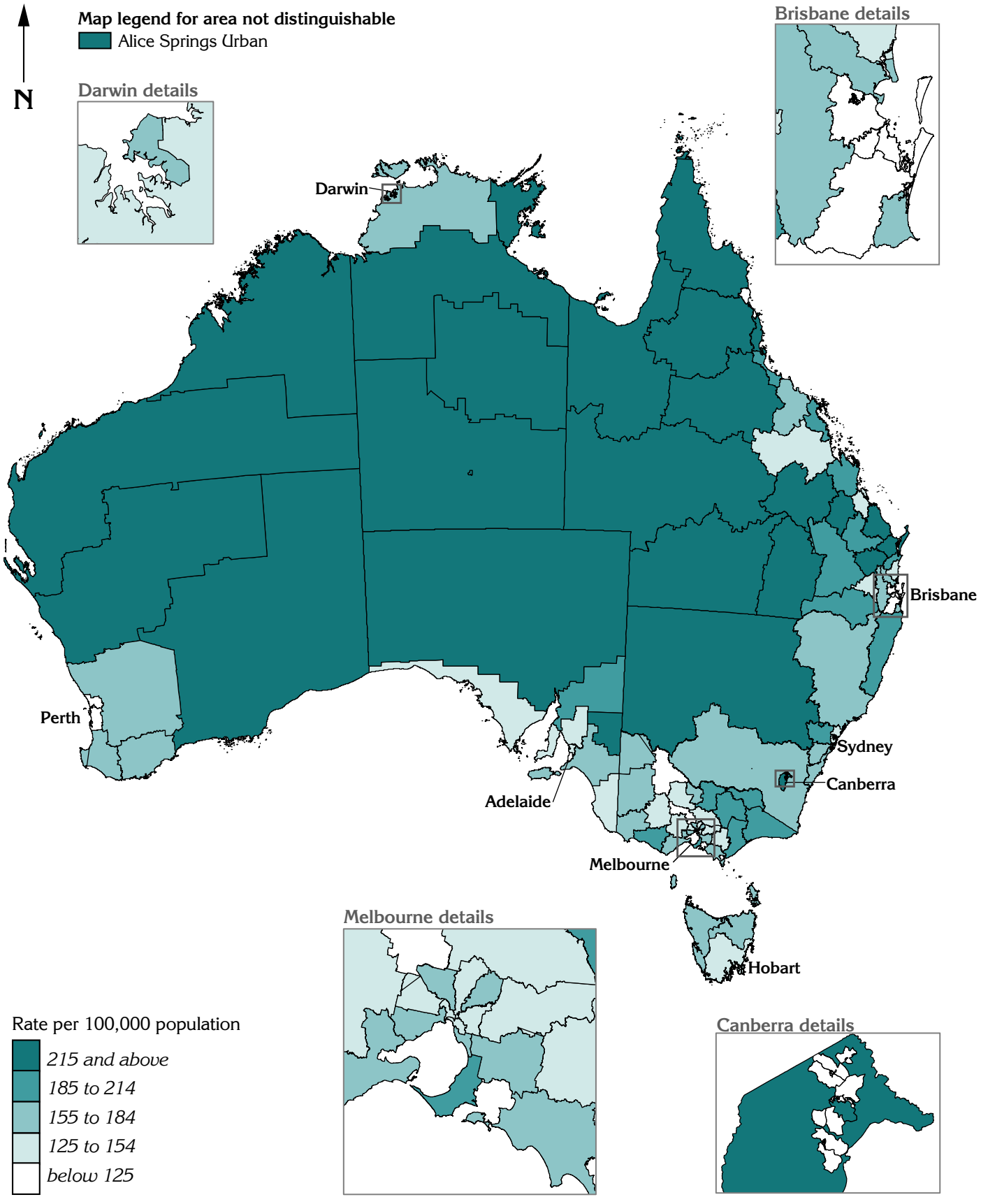
Avoidable hospitalisations from convulsions and epilepsy generally increase with remoteness (Figure 3.14), although the lowest rate, of 115.6 admissions per 100,000 population, is in the Inner Regional areas. The Major Cities and Outer Regional areas had the next highest rates, with considerably higher admission rates of 248.4 and 251.2, respectively, in the Remote and Very Remote areas. The numbers of admissions decrease rapidly across the remoteness classes.

Figure 3.14: Avoidable hospitalisations[1]: convulsions and epilepsy, by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.10
Avoidable hospitalisations: Convulsions and epilepsy, Australia, 2001/02
Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

Avoidable hospitalisations: Cellulitis, Australia, 2001/02

In 2001/02, avoidable hospitalisation rates for cellulitis varied considerably, from 85.4 admissions per 100,000 in the Australian Capital Territory, to a rate of 354.8 in the Northern Territory (Table 3.19). The overall rate for Australia was 145.3 admissions per 100,000 population.

Table 3.19: Avoidable hospitalisations[1]: cellulitis, by State/ Territory, Australia, 2001/02

Rate per 100,000 population

NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Total
142.0	139.0	167.4	124.1	135.9	118.5	354.8	85.4	145.3

[1] **Admissions resulting from ACS conditions**

By health region (Map 3.11)

Avoidable hospitalisation rates for cellulitis in **New South Wales** were highest in the Greater Western (237.8) and North Coast (176.4) Area Health Services (AHS). The Northern Sydney/ Central Coast AHS had the lowest rate, of 106.3 admissions per 100,000 population.

In **Victoria**, Campaspe (248.7), Swan Hill-Gannawarra-Buloke (247.5) and South West (217.8) Primary Care Partnerships (PCPs) had the highest rates of avoidable hospitalisations for cellulitis. The lowest rates occurred in the Banyule/Nillumbik (93.5) and Inner East (98.5) PCPs.

The Cape York District Health Service had the highest rate of avoidable hospitalisations for cellulitis in **Queensland** and Australia, with 1,670.3 admissions per 100,000 population. The District Health Services of Torres (1,147.9), Mt Isa (755.9) and Innisfail (522.8) also had high admission rates. The Prince Charles Hospital & District had the lowest rate, with 109.5 admissions per 100,000 population.

The highest rate of admissions for cellulitis in **South Australia** was in the Northern & Far Western Health Region (HR) with 257.7 admissions per 100,000 population. Central Northern Adelaide (110.4) and Southern Adelaide (111.9) Health Services had the lowest rates.

In **Western Australia**, the Kimberley Health Region had the highest rate of avoidable hospitalisations for cellulitis, with 753.2 admissions per 100,000 population. The rate in the Pilbara-Gascoyne HR was also high, at 409.8 admissions per 100,000 population. The North Metro and South West HRs had the lowest rates, with 98.0 and 103.2 admissions per 100,000 population, respectively.

The South Region in **Tasmania** had the highest rate of 125.2 admissions per 100,000 population, and the North Region had the lowest, with 106.0 admissions per 100,000 population. The North West Region had a rate of 116.9 admissions per 100,000 population.

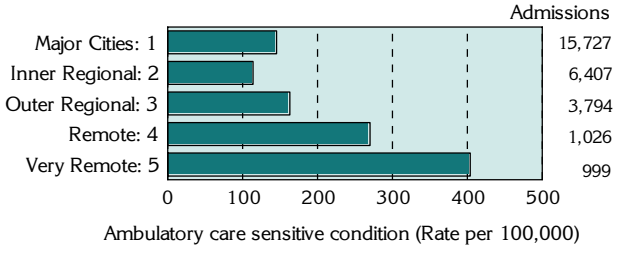
In the **Northern Territory**, Barkly Health Service Area (HSA) had the highest rate of avoidable hospitalisations for cellulitis, with 1,184.8 admissions per 100,000 population. East Arnhem HSA had the next highest rate, with 691.1 admissions per 100,000 population. Darwin Urban HSA had the lowest admission rate in the Territory, with 189.2 admissions per 100,000 population.

In the **Australian Capital Territory** (ACT), the highest rate of avoidable hospitalisation for cellulitis (excluding ACT-Balance, with ten admissions, a rate of 335.8 admissions per 100,000 population) was in North & West Belconnen, with 118.3 admissions per 100,000 population. Woden Valley (53.4 admissions per 100,000 population, 18 admissions) had the lowest rate of admissions (after Gungahlin-Hall, a rate of 38.7, and seven admissions).

By remoteness

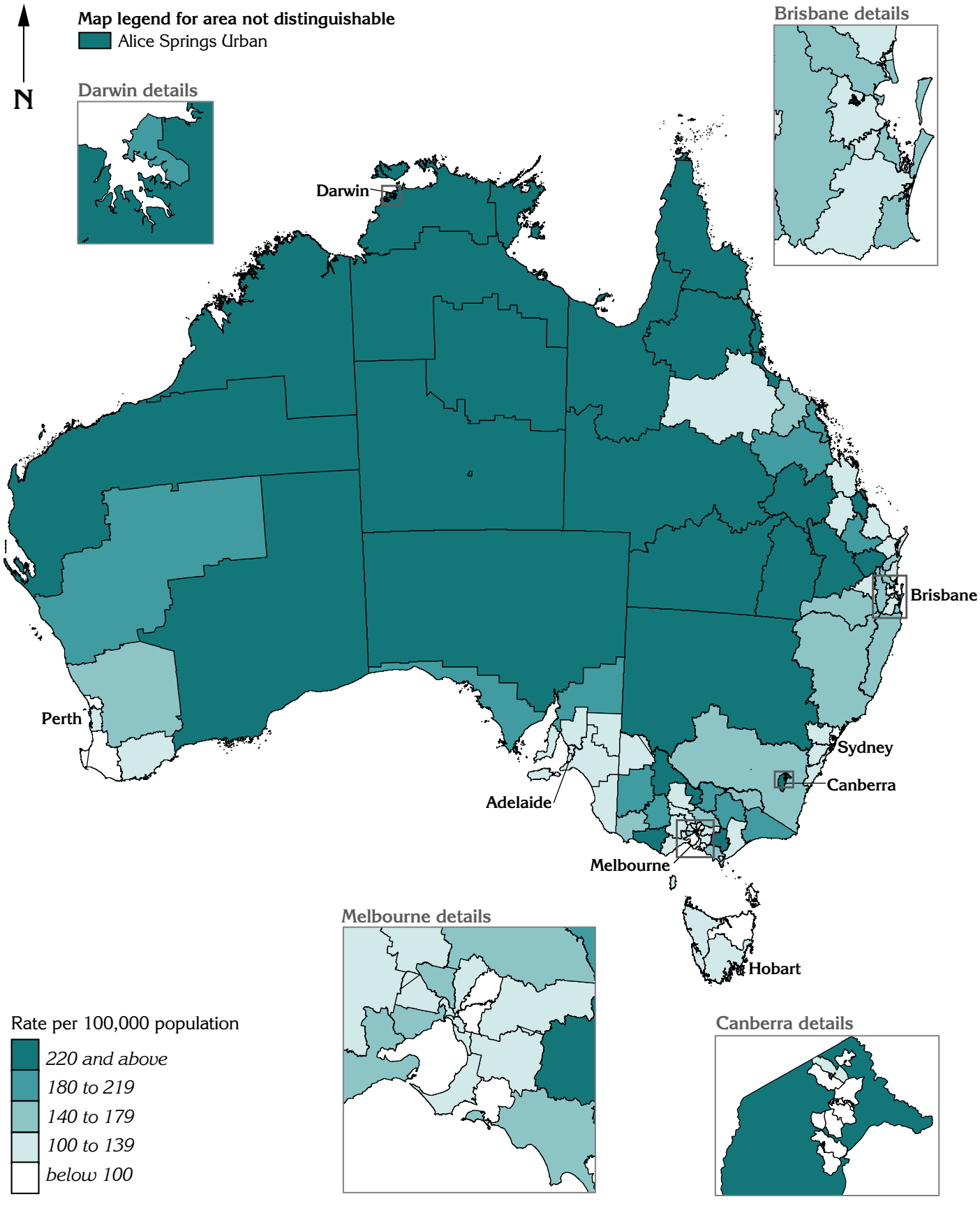
Avoidable hospitalisation rates for cellulitis increase with increasing remoteness (Figure 3.15), apart from a lower rate in the Inner Regional areas. The increase is particularly substantial to the Remote and Very Remote areas, with rates of 270.1 and 403.9 admissions per 100,000 population, respectively, compared to the Inner Regional rate of 113.9 admissions per 100,000 population. The numbers of admissions for cellulitis decrease rapidly across the remoteness classes.

Figure 3.15: Avoidable hospitalisations[1]: cellulitis, by remoteness, Australia, 2001/02



[1] **Admissions resulting from ACS conditions**

Map 3.11
Avoidable hospitalisations: Cellulitis, Australia, 2001/02
Indirectly age standardised admission rate by health region



Details of map boundaries are in Appendix 1.3

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3.5 Avoidable hospitalisations by socioeconomic status

This section examines ambulatory care-sensitive conditions by socioeconomic status, in order to show the extent of any inequality in rates of admissions for these conditions.

Socioeconomic status is based on the Index of Relative Socio-Economic Disadvantage (IRSD): the calculation of rates by groupings of areas (quintiles), and the particular measure of socioeconomic disadvantage used (the IRSD), are described in Chapter 2, *Methods*.

Overall, admission rates for ambulatory care-sensitive conditions are higher in areas of greater socioeconomic disadvantage (Quintiles 2 to 5) when compared with those of least socioeconomic disadvantage (Quintile 1).

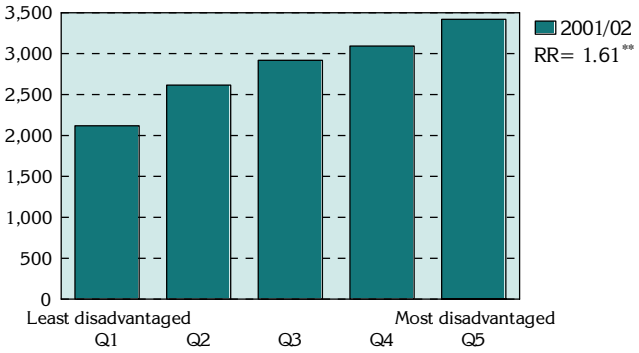
Avoidable hospitalisations by socioeconomic status

There is a distinct, step-wise socioeconomic gradient evident in total avoidable hospitalisation rates in Australia (Figure 3.16), with each increase in disadvantage accompanied by an increase in admissions from these conditions.

The rate ratio of 1.61** indicates that people in the most disadvantaged areas of Australia had 61.0% more hospitalisations for an ambulatory care-sensitive condition than those in the least disadvantaged areas.

Figure 3.16: Avoidable hospitalisations[1] by socioeconomic status, Australia, 2001/02

Rate per 100,000 population



[1] **Admissions resulting from ACS conditions**

Avoidable hospitalisations: vaccine-preventable conditions by socioeconomic status

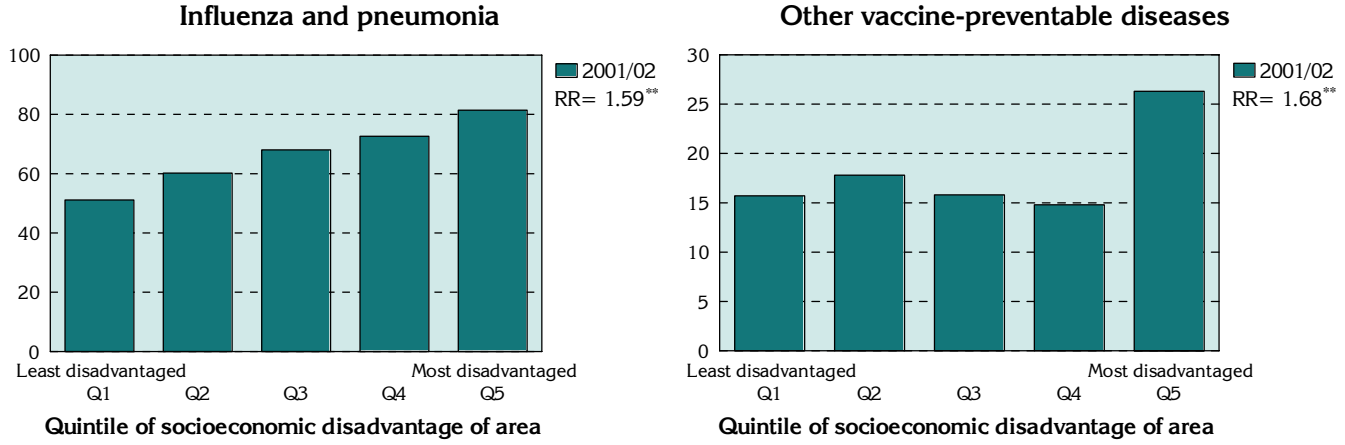
There is a distinct socioeconomic gradient associated with avoidable hospitalisations for influenza and pneumonia, with increasing admission rates associated with increasing disadvantage (Figure 3.17).

Fifty-nine per cent more people in disadvantaged areas were hospitalised due to influenza and pneumonia than those in the least disadvantaged areas.

There is no clear socioeconomic pattern for admissions due to other vaccine-preventable diseases (Figure 3.17); however admission rates were 68.0% higher in the most disadvantaged areas compared to the least disadvantaged areas.

Figure 3.17: Avoidable hospitalisations[1]: vaccine-preventable conditions by socioeconomic status, Australia, 2001/02

Rate per 100,000 population: note the different scales



[1] **Admissions resulting from ACS conditions**

Avoidable hospitalisations: chronic conditions by socioeconomic status

For the majority of the chronic conditions there is a clear, and strong, association between rates of avoidable hospitalisations and socioeconomic status (Figure 3.18).

For both hypertension and angina, there was a strong, continuous socioeconomic gradient in admissions rates, such that in the most disadvantaged areas rates of admission for these conditions were over twice those in the least disadvantaged areas (2.42** times for hypertension, and 2.03** times for angina).

Similarly, chronic obstructive pulmonary disease and diabetes complications showed very strong socioeconomic gradients, with 95.0% and 92.0%, respectively, more admissions in the most disadvantaged areas than in the least disadvantaged areas.

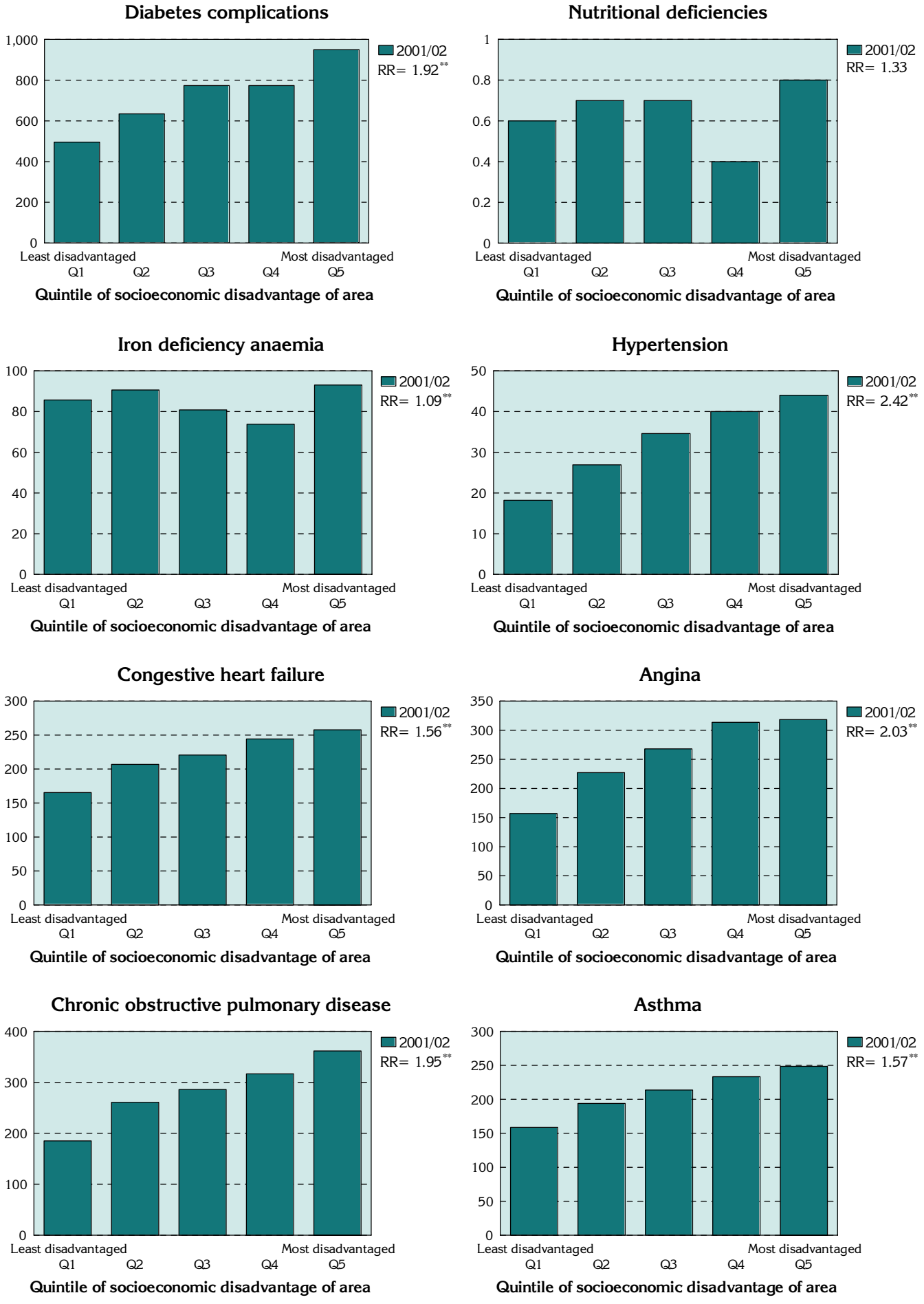
Both asthma (a rate ratio of 1.57**) and congestive heart failure (a rate ratio of 1.56**) had over fifty per cent more admissions in the most disadvantaged areas.

For nutritional deficiencies, the avoidable hospitalisation rates were 33.0% higher in the most disadvantage areas compared to the least disadvantaged areas; however, the step-wise socioeconomic pattern was interrupted by the low rate in Quintile 4. The small numbers of admissions for these conditions should be noted.

There was no clear socioeconomic gradient across the areas of socioeconomic disadvantage for avoidable hospitalisation for iron deficiency anaemia, and only marginal variation (9.0% difference) between the admission rates in the most disadvantaged areas and least disadvantaged areas.

Figure 3.18: Avoidable hospitalisations[1]: chronic conditions by socioeconomic status, Australia, 2001/02

Rate per 100,000 population: note the different scales



[1] Admissions resulting from ACS conditions

Avoidable hospitalisations: acute conditions by socioeconomic status

For the majority of the acute ambulatory sensitive conditions there was a clear association between rates of avoidable hospitalisations and socioeconomic status (Figure 3.19).

Avoidable hospitalisations for cellulitis had a strong and distinct socioeconomic gradient, with an admission rate 67.0% higher in the most disadvantaged areas compared to the least disadvantaged areas. Ear, nose and throat infections; convulsions and epilepsy; and pelvic inflammatory disease also had strong socioeconomic gradients, and admission rates over 50% higher in the most disadvantaged areas compared to the least disadvantaged areas.

For gangrene, those living in the most disadvantaged areas were 87.0% more likely to be admitted to hospital than those in the least disadvantaged areas, a very strong differential with a rate ratio of 1.87**; however, there was not a continuous socioeconomic gradient across Quintiles 1 to 5, as the rates were lower in Quintile 4.

Avoidable hospitalisations rates for pyelonephritis also showed a strong socioeconomic association, with those living in the most disadvantaged areas having 41.0% more admissions than those in the least disadvantaged areas.

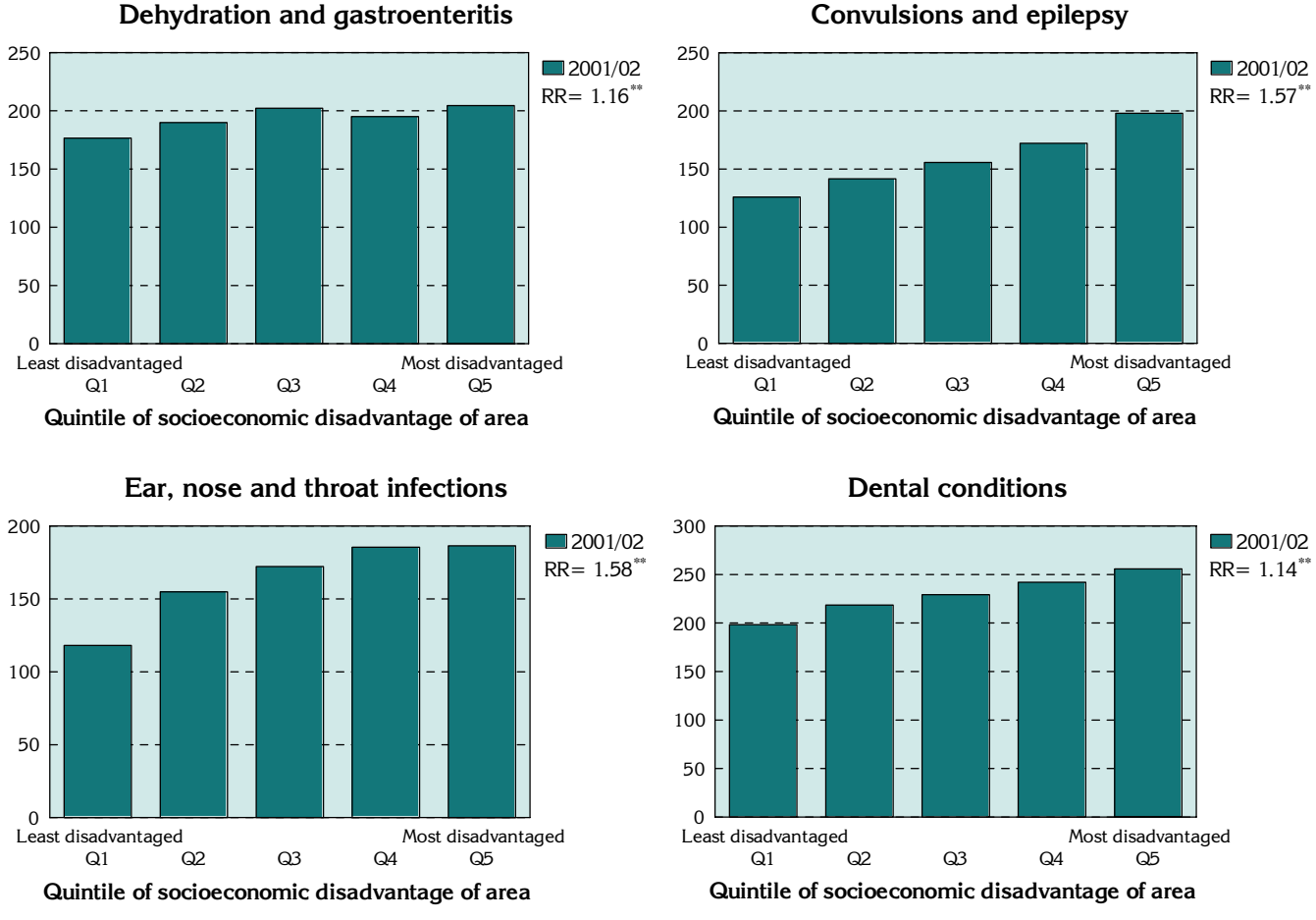
Avoidable hospitalisation rates for perforated/bleeding ulcers had a moderate socioeconomic gradient, with 28.0% more admissions in the most disadvantaged areas.

For dehydration and gastroenteritis, and for dental conditions, the figures show variations in rate differentials between Quintiles 5 and 1 of around 15%. Admissions for dehydration and gastroenteritis of people living in the most disadvantaged areas are 16.0% higher, and for dental conditions, 14.0% higher, than those living in the least disadvantaged areas.

There was a slightly (3.0%) lower rate of avoidable hospitalisations for ruptured appendix in the most disadvantaged areas (a rate ratio of 0.97). The highest rate (21.8 admissions per 100,000 population) occurred in Quintile 4, and overall there was no socioeconomic pattern.

Figure 3.19: Avoidable hospitalisations[1]: acute conditions by socioeconomic status, Australia, 2001/02

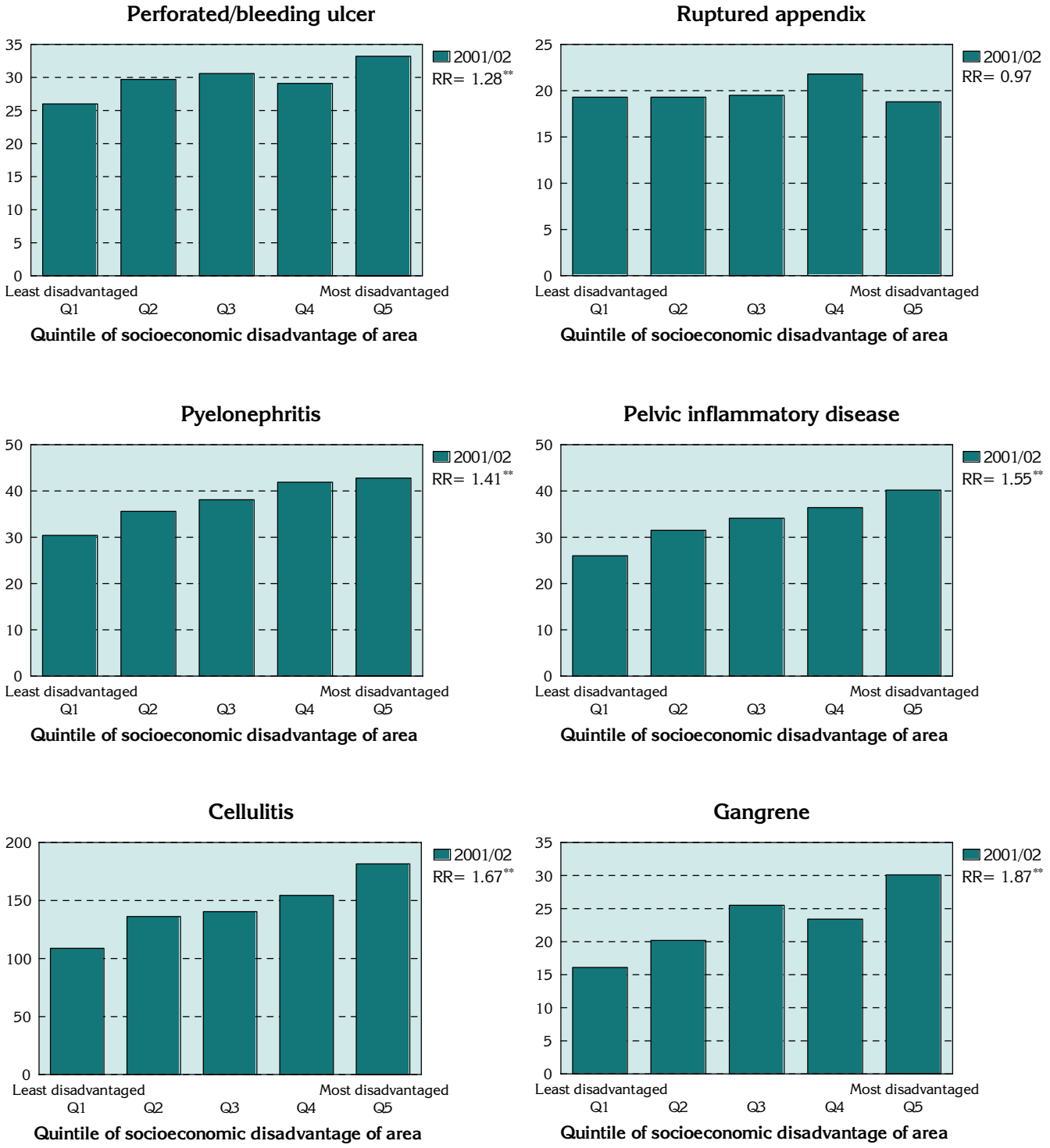
Rate per 100,000 population: note the different scales



[1] Admissions resulting from ACS conditions

Figure 3.19: Avoidable hospitalisations[1]: acute conditions by socioeconomic status, Australia, 2001/02 *... continued*

Rate per 100,000 population: note the different scales



[1] Admissions resulting from ACS conditions

Avoidable hospitalisations: socioeconomic status by State/ Territory

Figure 3.20 shows admissions for ambulatory care-sensitive conditions by socioeconomic status for each State and Territory.

While there is not a clear socioeconomic gradient for all States and Territories, the highest rates for avoidable hospitalisations in each case occur in the most disadvantaged areas.

Although there is no consistent socioeconomic gradient in the Northern Territory, it does have the largest differential in rates between Quintile 5 and Quintile 1, a rate ratio of 2.24**. This indicates that, in 2001/02, there was over twice the rate of avoidable hospitalisations of people living in the most disadvantaged areas of the Northern Territory, compared to those living in the least disadvantaged areas.

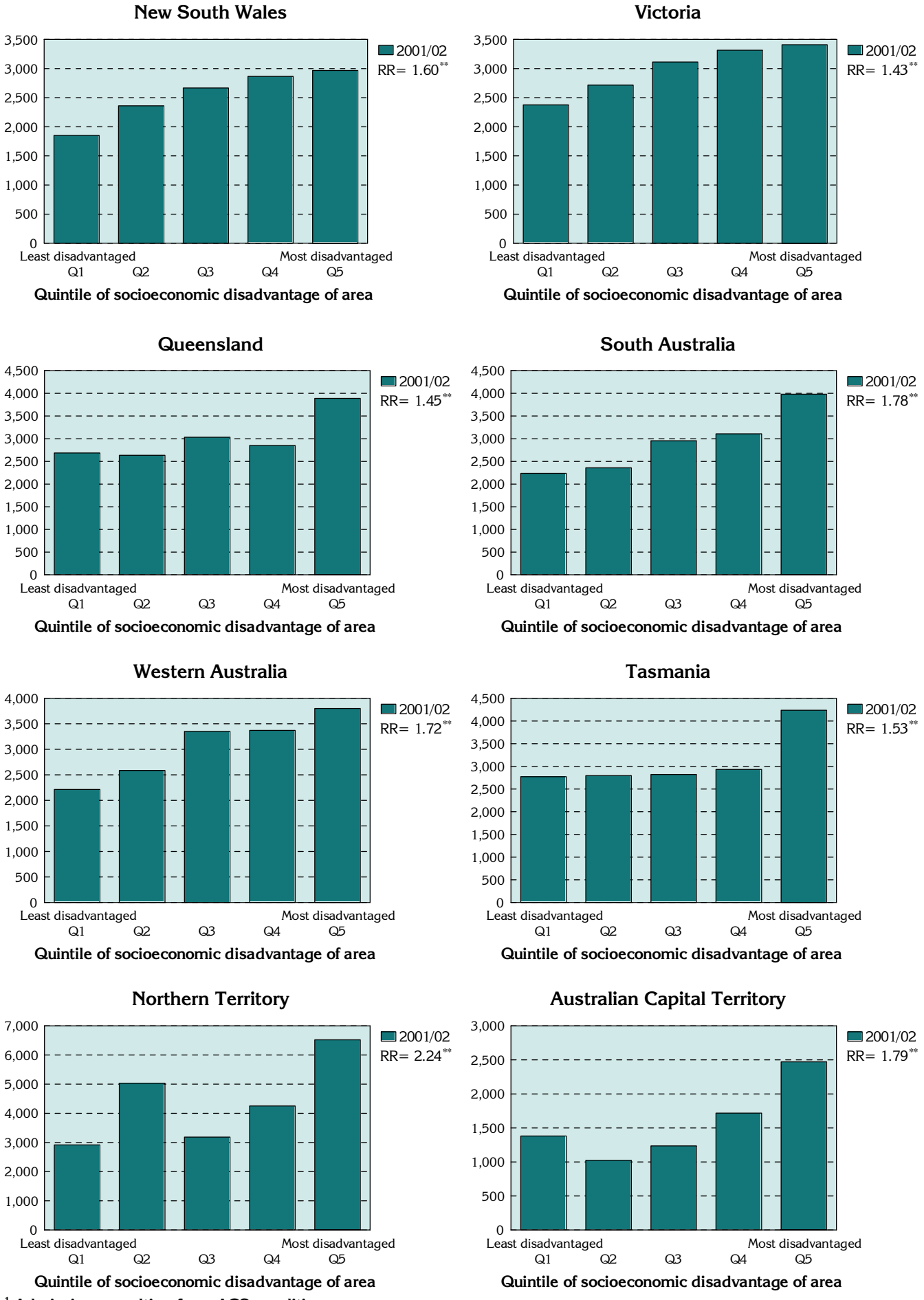
The Australian Capital Territory (with a rate ratio of 1.79**), South Australia (1.78**) and Western Australia (1.72**) also had very large differentials between the most disadvantaged and least disadvantaged areas in these regions, with around three quarters more avoidable hospitalisations from Quintile 5 (most disadvantaged) than from Quintile 1 (least disadvantaged).

There is a clear, step-wise socioeconomic pattern across the quintiles in both New South Wales and Victoria. New South Wales had 60.0% more admissions in the most disadvantaged areas, compared to the least disadvantaged areas, while in Victoria the differential was 43.0%.

Tasmania and Queensland also had strong differentials in rates between the most disadvantaged and the least disadvantaged areas, with 53.0% and 45.0% respectively; however, there was no consistent socioeconomic pattern in the gradient across the intervening quintiles.

Figure 3.20: Avoidable hospitalisations[1]: socioeconomic status by State/ Territory, Australia, 2001/02

Rate per 100,000 population: note the different scales



[1] Admissions resulting from ACS conditions

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