7 Summary

Introduction

This chapter presents details of the major changes that have occurred between this and the first edition in the demographic and socioeconomic status indicators, as well as a number of the summary measures of health status and health service utilisation.

Change in rates between editions

The reference period for the data in the first and second edition varies. In general, the population data in this edition are seven years on from the first edition (1991 Census and 1998 ERP); the Census data are five years on (1991 Census and 1996 Census); the death data are seven years on (1989-93 and 1996-99); the perinatal risk factor data are five years on (1990-92 and 1995-97); and the data for hospital admissions are, on average, five years on from the first edition (1992 and 1996/97-98/99).

Change in demographic and socioeconomic status indicators

Demographic indicators

Over the period from 1991 to 1998, the South Australian population aged from 0 to 24 years decreased in each five-year age group (**Table 7.1**). The largest decrease was recorded for people aged 20 to 24 years (down by 12.9%), while the smallest was recorded at ages 10 to 14 years (down by 2.2%). Similar decreases were recorded in Adelaide and in the non-metropolitan areas, however there was a slight increase in non-metropolitan residents aged from 10 to 14 years (an increase of 0.4%).

Socioeconomic status indicators

Marked variations were recorded between 1991 and 1996 for a majority of the socioeconomic status indicators mapped for South Australia (**Table 7.1**).

Table 7.1: Change in demographic and socioeconomic status indicators, by Section of State, South Australia

Per cent change

Variable	Adelaide	Rest of State	South Australia	Annual average (SA)
1991 to 1998				
Children aged 0 to 4 years	-9.0	-10.9	-9.1	-1.1
Children aged 5 to 9 years	-7.2	-7.3	-7.2	-0.9
Children aged 10 to 14 years	-3.4	0.4	-2.2	-0.3
Children aged 0 to 14 years	-6.3	-6.1	-6.2	-0.8
People aged 15 to 19 years	-12.1	-5.6	-10.5	-1.3
People aged 20 to 24 years	-10.8	-20.2	-12.9	-1.6
People aged 15 to 24 years	-11.4	-12.7	-11.8	-1.5
People aged 0 to 24 years	-8.6	-8.4	-8.5	-1.1
1991 to 1996				
Children (0-14 yrs) living in single parent families	16.3	9.7	14.6	2.4
Children (0-14 yrs) living in low income families[1]	28.4	-3.0	16.6	2.8
Children (0-14 yrs) living in rented dwellings	-16.3	-29.8	-20.8	-3.5
Children (0-14 yrs) living in dwellings with no vehicles	-6.7	-13.3	-8.5	-1.4
Aboriginal people & Torres Strait Islanders (0-14 yrs)	37.8	22.2	28.4	4.7
Children (0-14 yrs) born in predominantly NESB countries	-18.1	-29.4	-18.9	-3.2
Unemployed males (15-19 yrs)	0.7	-8.3	-1.6	-0.3
Unemployed females (15-19 yrs)	-3.8	-12.8	-6.2	-1.0
Full-time students (15-19 yrs)	6.2	0.3	4.9	0.8
Early school leavers (15-19 yrs)	-9.5	-11.7	-10.0	-1.7
Aboriginal people & Torres Strait Islanders (15-19 yrs)	30.8	25.1	29.7	5.0
People (15-19 yrs) born in predominantly NESB countries	15.8	-13.4	12.9	2.2
Unemployed males (15-24 yrs)	-3.4	-17.2	-6.8	-1.1
Unemployed females (15-24 yrs)	-7.2	-17.0	-9.7	-1.6
Aboriginal people and Torres Strait Islanders (15-24 yrs)	34.6	26.6	29.9	5.0
1990-92 to 1996-99				
Total Fertility Rate	-4.2	-3.8	-4.1	-4.1

[1] **See footnote to Table 1.3 in the Appendix re comparisons over time for this variable.**

Source: Compiled from project sources

For Adelaide, the largest increases were for the population of Aboriginal people and Torres Strait Islanders; an increase of 37.8% at ages 10 to 14 years, 30.8% at ages 15 to 19 years and 34.6% at ages 15 to 24 years (see discussion on page 23).

Large increases were also recorded for the variables for children aged 0 to 14 years living in low income families (36.3%); children aged 0 to 14 years living in single parent families (16.3%); and young people aged 15 to 19 years who were born in predominantly non-English speaking countries (15.8%). The largest decreases recorded over this five year period were for the variables for children at ages 0 to 14 years who were born in predominantly non-English speaking countries (down by 18.1%) and children at these same ages living in rented dwellings (down by 16.3%).

Variations of this order were also recorded in the non-metropolitan areas of South Australia. The major differences from the changes recorded in Adelaide were the larger decreases recorded for children living in rented dwellings, children born in predominantly non-English speaking countries and unemployed males aged 15 to 24 years; and the smaller increases for the Indigenous population across all age groups in the analysis. While large increases were recorded for children living in low income families and young people (15 to 19 years) born in predominantly non-English speaking countries in Adelaide, the reverse was the case in the non-metropolitan areas, with decreases of 3.0 and 13.4% for these variables, respectively.

Change in health status indicators

As noted in Chapter 4 (see *Background*), death rates in South Australia have declined for the majority of causes. Percentage changes between the two periods mapped in the atlas (from 1989 to 1993 and 1996 to 1999) are shown in **Table 7.2**.

In Adelaide, the largest decreases were recorded in the infant death rate (down by 33.2%) and for deaths of children aged from 0 to 14 years from all causes (down by 29.3%). All cause mortality for people aged 15 to 24 years was 14.6% lower over this period, with the largest reduction being for deaths from injury and poisoning (20.6%).

Reductions in the death rates for children and young people in the non-metropolitan areas of South Australia were greater for most age groups and for all causes of death analysed than in Adelaide, but smaller for infant deaths (down by 20.4%) and deaths at ages 0 to 14 years (down by 28.3%). The largest reductions were recorded for deaths at ages 20 to 24 years (down by 38.5%) and for deaths of 15 to 24 year olds from suicide and injury and poisoning (down by 41.5% and 37.8%, respectively).

Over the period from 1981-86 to 1995-97, increases were recorded in the proportion of low birthweight babies in both Adelaide (12.2%) and the non-metropolitan areas of the State (21.8%).

The proportion of overweight and obese children aged 4 years has increased dramatically in Adelaide over the period from 1995-96 to 2000-01 (an increase of 44.5% for males and 40.2% for females). An even larger increase was recorded in the non-metropolitan areas (up by 73.3% for males and 103.1% for females).

The total number of notifications of child abuse and neglect increased substantially in both the Adelaide and the non-metropolitan areas of the State over the period from 1992-95 to 1996-99, up by 51.4% and 65.1%, respectively. Substantiated cases of child abuse and neglect for children and young people living in Adelaide increased by a much lower 3.8%, while there was a decrease of 3.9% in such cases for those living in non-metropolitan areas.

Change in health service utilisation indicators

Admissions at ages 0 to 14 years

From 1992 to 1996/97-98/99, admission rates of South Australian children aged from 0 to 14 years to public acute and private hospitals increased slightly (up by 2.0%): this was comprised of an increase of 6.0% in Adelaide and a decrease of a similar level (down by 5.9%) for children in the non-metropolitan areas (**Table 7.3**). There were substantial reductions in admission rates for bronchitis, emphysema and asthma, down by 23.0% in Adelaide and by 35.3% in non-metropolitan areas (**Table 7.3**). There were substantial reductions in admission rates for the combined conditions of bronchitis, emphysema and asthma, down by 23.0% in Adelaide and by 35.3% in the non-metropolitan areas.

Admission rates to private hospitals for children aged 0 to 14 years decreased over this period (down by 10.9%), as did admissions for the combined causes of injury and poisoning (down by 10.9%) and respiratory system diseases (down by 16.2%).

Admissions at ages 15 to 24 years

Public acute and private hospital admission rates for young people aged 15 to 24 years increased by 6.0% in Adelaide and decreased by 4.7% in the non-metropolitan areas, an overall increase of 2.6% in South Australia over the period from 1992 to

1996/97-98/99. Decreases of approximately 20% were recorded for both private hospital admissions and admissions for the external causes of injury and poisoning.

Terminations of pregnancy among woman aged 15 to 24 years in both Adelaide and the non-metropolitan areas increased notably over the period from 1990-92 to 1997-99.

Table 7.2: Change in selected health status variables, by Section of State, South Australia

Per cent change[1]

Variable	Adelaide	Rest of State	South Australia
1990-93 to 1996-99			
Infant deaths	-33.2	-20.4	-31.4
Deaths of children aged 0 to 14 years	-29.3	-28.3	-29.1
Deaths of people aged 15 to 19 years	-15.7	-25.4	-18.6
Deaths of people aged 20 to 24 years	-14.2	-38.5	-22.4
Deaths of people aged 0 to 24 years	-23.2	-29.8	-25.4
Deaths of people aged 15 to 24 years			
All causes	-14.6	-33.4	-20.9
Injury and poisoning	-20.6	-37.8	-26.8
Suicide	-3.2	-41.5	-15.9
1981-86 to 1995-97			
Low birthweight babies	12.2	21.8	15.0
1995-96 to 2000-01			
Overweight and obese 4 year old males	44.5	73.3	53.5
Overweight and obese 4 year old females	40.2	103.1	56.1
1992-1995 to 1996-1999			
Total notifications of child abuse and neglect (0 to 19 yrs)	51.4	65.1	57.5
Substantiated cases of child abuse and neglect (0 to 19 yrs)	3.8	-3.9	2.3

[1]Per cent change represents the difference (between the reference periods): for infants, it is the infant death rate (infant deaths per 1,000 live births); for deaths of people aged 15 to 24 years and child abuse it is the annual rate per 100,000 population, produced by indirect age-sex standardisation; and for low birthweight babies and overweight and obese children, it is the proportion.

Note: Details of numbers and rates are in Tables A17 and A18 in Appendix 1.7

Source: Compiled from project sources

Table 7.3: Change in selected health service utilisation variables, by Section of State, South Australia

Per cent change[1]

Variable	Adelaide	Rest of State	South Australia
1992 to 1996/7-1998/9			
Admissions of children aged 0 to 14 years:			
Public acute and private hospitals	6.0	-5.9	2.0
Public acute hospitals	10.2	-4.5	5.4
Private hospitals	-9.7	-20.0	-10.9
Males	4.3	-5.1	1.2
Females	8.5	-7.2	3.1
Respiratory system diseases	-14.4	-20.4	-16.2
- Bronchitis, emphysema and asthma	-23.0	-35.3	-26.4
Injury and poisoning	-6.5	-19.8	-10.9
Admissions of children aged 15 to 24 years:			
Public acute and private hospitals	6.0	-4.7	2.6
Public acute hospitals	15.5	-3.5	2.3
Private hospitals	-15.3	-14.0	-19.4
Males	10.5	-0.4	6.8
Females	4.0	-6.6	0.9
Injury and poisoning	-14.6	-17.7	-20.3
1990-92 to 1997-99			
Terminations of pregnancy	24.3	20.7	25.1

[1]Per cent change represents the difference (between the reference periods) for admissions - in the annual admission rate per 100,000 population; and for terminations of pregnancy – in the rate of terminations per 100,000 population, produced by indirect age-sex standardisation.

Note: Details of numbers and rates are in Tables A19, A20 and A21 in Appendix 1.7

Source: Compiled from project sources

Change by socioeconomic disadvantage of area of residence

Background

In order to summarise the extent of health inequalities shown in the maps in the earlier chapters, the health status and health service utilisation data are presented in chart form on the following pages. The data were grouped into areas of similar socioeconomic status by allocating each postcode (or SLA) in Adelaide to one of five categories (quintiles) based on its Index of Relative Socio-Economic Disadvantage (IRSD) score (this index is described on page 24). Quintile 1 comprises the postcodes (or SLAs) with the highest IRSD scores (most advantaged areas), and Quintile 5 comprises the SLAs with the lowest IRSD score (most disadvantaged areas). The average rate (or standardised ratio or percentage) for each quintile was then calculated. SLAs in the non-metropolitan areas and the whole of the State (Adelaide plus the non-metropolitan areas) were similarly treated.

The quintiles each comprise approximately 20% of the population aged 0 to 24 years. This process does not provide an exact allocation of population, so the resultant populations are only 'approximately' equal (**Table 7.4**). For example, when areas in Adelaide were ranked by their IRSD score at the postcode level and then grouped to produce quintiles, the resultant populations were relatively close to the ideal population of 72,052 per quintile (one fifth of 360,259). However, quintiles based on Adelaide SLAs were more problematic, with populations ranging from a low of 16.4% to a high of 27.7%. For example, the SLA of Salisbury (with a population of 43,198) had a score marginally below the cut-off score between Quintile 4 and Quintile 5. However, the inclusion of Salisbury in Quintile 4 resulted in populations in Quintile 4 and 5 of 105,916 and 56,700, respectively. Moving Salisbury to Quintile 5 left a population o 62,719 in quintile 4 and increased that in Quintile 5 to 99,898. While these populations are substantially different from the ideal population, they are the best that can be achieved.

Table 7.4: Population by quintile of socioeconomic disadvantage of area, 1998

Area		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Adelaide						
Postcode	– number	68,211	72,902	72,620	72,081	74,447
	proportion	18.9	20.2	20.2	20.0	20.7
SLA	– number	68,081	58,823	70,740	62,719	99,898
	proportion	18.9	16.4	19.6	17.4	27.7
Rest of State						
SLA	– number	27,744	27,898	25,794	26,130	28,444
	proportion	20.4	20.5	19.0	19.2	20.9
South Australia						
SLA	– number	101,730	97,031	98,693	96,951	101,863
	proportion	20.5	19.6	19.9	19.5	20.5

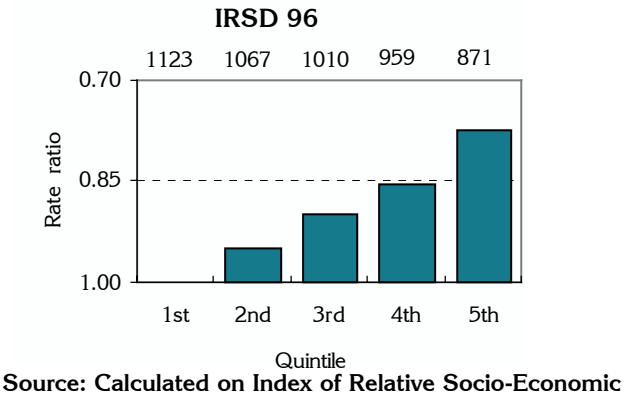
Source: Compiled from project sources

The average rate (or standardised ratio or percentage) was calculated for each of the five quintiles. For example, the average infant death rate was calculated for the most advantaged SLAs (Quintile 1), for the most disadvantaged SLAs (Quintile 5) and for each of the intervening quintiles (Quintiles 2 to 4). These rates were then graphed, with the rate, standardised ratio or percentage for the first quintile set to 1 in order to highlight variations from the rates recorded in the most advantaged areas (**Figure 7.3**). This exercise was repeated for non-metropolitan SLAs in South Australia and for South Australia as a whole (both metropolitan and non-metropolitan SLAs). The ratio of the rates in Quintile 5 to Quintile 1 in each of the periods covered by the data has also been shown: this is the 'rate ratio' (see Glossary).

As noted in Chapter 3, the ABS has calculated the IRSD so that low scores indicate greater disadvantage. This is the reverse of the way in which other data in the atlas have been calculated, where higher rates, standardised ratios etc. indicate poorest health, highest utilisation of health services and greatest disadvantage. In order to present the graph of the IRSD in a form that is visually consistent with the other graphs in this chapter (ie. with the bars increasing in size to the right, and above the base of 1), the scales on the chart in **Figures 7.1** and **7.2** have been reversed.

Figure 7.1 shows that the average IRSD score in 1996 for Quintile 1 (comprising the most advantaged SLAs) was 1123, decreasing for each quintile to a score of 871 in Quintile 5 (the most disadvantaged SLAs). This is an overall differential between Quintile 5 and Quintile 1 of 22.4%.

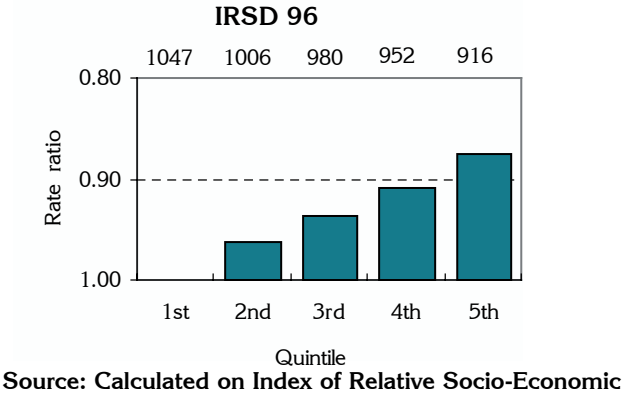
Figure 7.1: Differentials in IRSD scores for postcodes in Adelaide, by quintile of socioeconomic disadvantage of area, 1996



Source: Calculated on Index of Relative Socio-Economic Disadvantage, ABS 1996 Census

At the 1996 Census, the IRSD scores in the non-metropolitan areas of South Australia ranged from 1047 in Quintile 1 to 916 in Quintile 5 (**Figure 7.2**). This is an overall differential between Quintile 5 and Quintile 1 of 12.5%.

Figure 7.2: Differentials in IRSD scores for SLAs in the non-metropolitan areas of South Australia, by quintile of socioeconomic disadvantage of area, 1996



Source: Calculated on Index of Relative Socio-Economic Disadvantage, ABS 1996 Census

Change in health status by socioeconomic disadvantage of area of residence

The earlier part of this chapter showed the overall decrease in deaths in Adelaide and in the non-metropolitan areas of South Australia. In this section, the extent of the change in death rates is again shown, but in a way which highlights the differentials evident in the rates when examined by socioeconomic disadvantage of area. As data in the non-metropolitan area are only available at the Health Region level (due to the small number of deaths at ages 15 to 24 years), the following comparisons are only made for Adelaide (**Figure 7.3** and **Table A15**) and for South Australia as a whole (**Figure 7.4** and **Table A16**).

Adelaide

Infant death rates (infant deaths per 1,000 live births) in Adelaide are shown by quintile of socioeconomic disadvantage of area for both 1989-93 and 1996-99. There is a gradient evident for the earlier period, from the lowest rate in the high socioeconomic status areas (Quintile 1, a rate of 4.1 infant deaths per 1,000 live births) to the highest rate (9.2) in the low socioeconomic status areas (Quintile 5). Infant death rates are lower in 1996-99 than in 1989-93 for each quintile, ranging from 3.3 infant deaths per 1,000 live births in Quintile 2 to 4.9 in Quintile 5. The differential in the infant death rate between Quintile 5 (the most disadvantaged areas) and Quintile 1 (the most advantaged areas) has decreased, from 2.21 times higher in the most disadvantaged areas in 1989-93 to 1.38 times higher in 1996-99. This is a notable reduction, although the remaining differential of 38% is still substantial.

There is also a clear gradient evident for deaths of young people aged 15 to 24 years over the 1989-93 period, ranging from 52.2 deaths per 100,000 population in Quintile 1 to a rate of 101.9 in Quintile 5. Death rates in Quintiles 2 through to 5 were lower in the later period, with the largest decreases occurring in Quintile 3 (down by 37.9%) and Quintile 5 (down by 24.5%). A small increase was recorded in the most advantaged areas (Quintile 1, up by 5.8%). The differential in death rates between Quintile 5 and Quintile 1 decreased, from 1.95 times higher in the most disadvantaged areas in 1989-93 to 1.39 times higher in 1996-99.

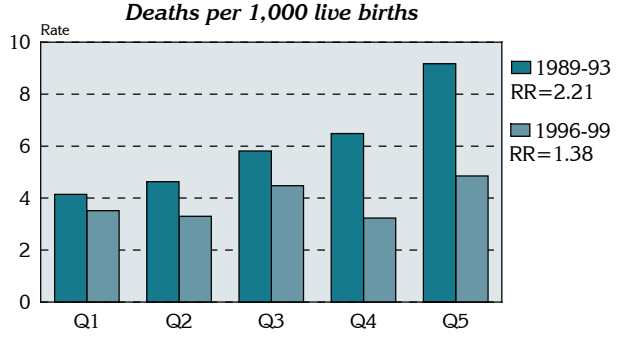
The major contribution to total deaths at ages 15 to 24 years of deaths from injury and poisoning is evident in the similar profiles in the two graphs. Again, the high rates and strong gradient evident in the earlier period are less evident in the later period. The percentage decrease between the two periods was largest in Quintiles 3 (down by 45.1%) and 5 (down by 27.1%) and smallest in Quintile 1 (down by 4.7%); these changes have resulted in a Quintiles 2 and 3 having the lowest rates. The differential in death rates between Quintile 5 and Quintile 1 also decreased, from 2.04 times higher in the most disadvantaged areas in 1989-93 to 1.56 times higher in 1996-99.

Figure 7.3: Change in health status by quintile of socioeconomic disadvantage of area, Adelaide

Note that the graphs have different scales

Infant deaths

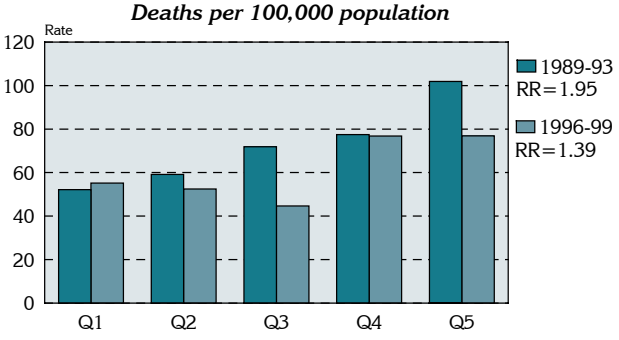
Deaths per 1,000 live births



Quintile of socioeconomic disadvantage of area

Deaths of people aged 15 to 24 years

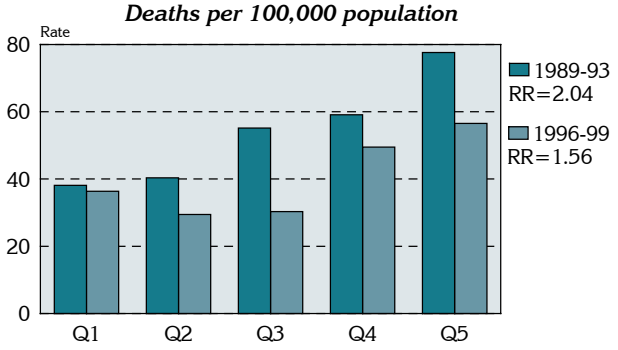
Deaths per 100,000 population



Quintile of socioeconomic disadvantage of area

Deaths from injuries & poisonings (15 to 24 years)

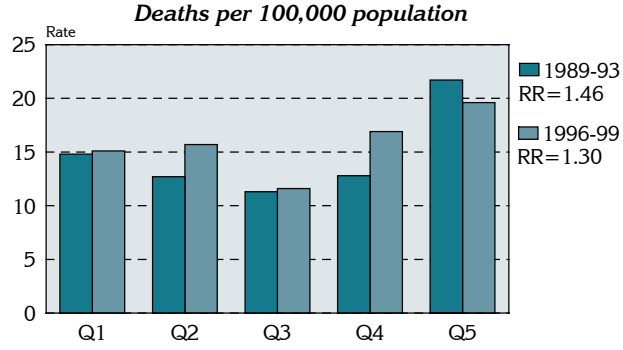
Deaths per 100,000 population



Quintile of socioeconomic disadvantage of area

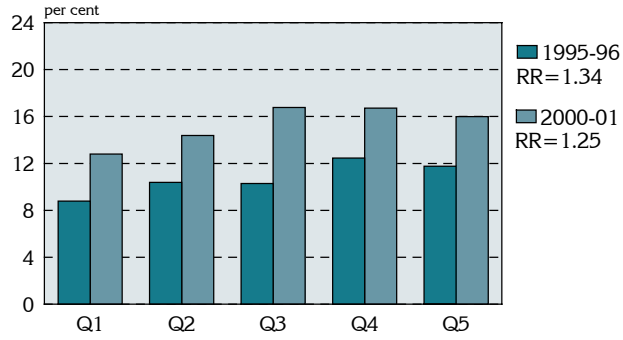
Deaths due to suicide (15 to 24 years)

Deaths per 100,000 population



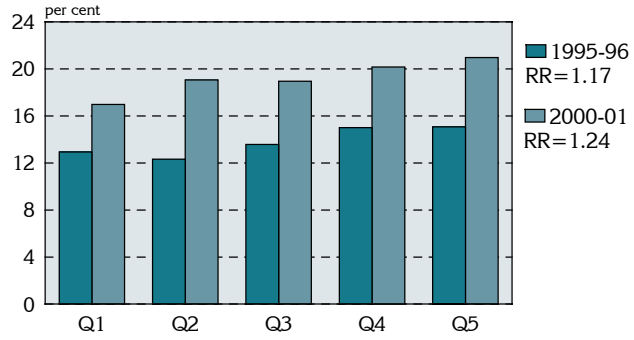
Quintile of socioeconomic disadvantage of area

Overweight and obese 4 year old males



Quintile of socioeconomic disadvantage of area

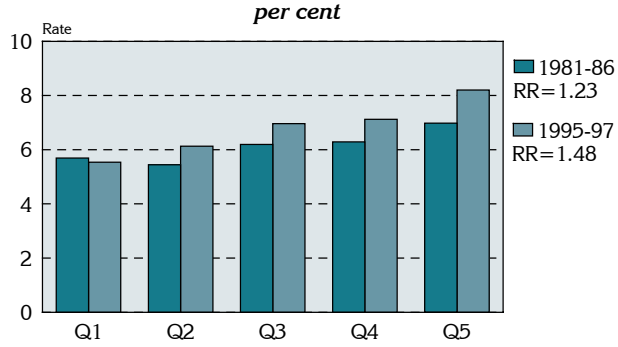
Overweight and obese 4 year old females



Quintile of socioeconomic disadvantage of area

Low birthweight babies

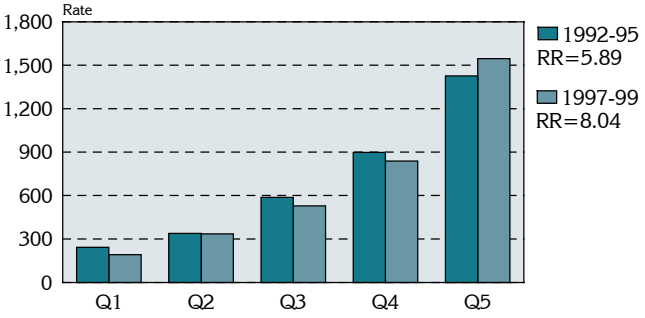
per cent



Quintile of socioeconomic disadvantage of area

Child abuse & neglect (0 to 19 years)

Substantiated cases per 100,000 population



Quintile of socioeconomic disadvantage of area

Note: RR is the rate ratio (see Glossary)
Source: Compiled from project sources

The pattern in death rates from suicide among young people aged 15 to 24 years is less clear than is evident for the other variables studied. Although the highest death rates in both 1989-93 and 1996-99 were recorded in Quintile 5, the lowest rates were in Quintile 3. Suicide death rates were, overall, higher in the later period, with the largest increase occurring in Quintile 4 (up by 31.6%). The differential in death rates between Quintile 5 and Quintile 1 decreased, from 1.46 times higher in the most disadvantaged areas in 1985-89 to 1.30 times higher in 1992-95.

There is a marked gradient in both periods in the proportion of overweight and obese four year old males and females, from the lowest proportions in the most well off areas, to the highest in the disadvantaged areas. Over the five years from 1995-96 to 2001-02, there has been a marked increase in the proportions of overweight and obese four year old children in each quintile. At the same time, there has been a reduction in the ratio of the proportions in Quintile 5 and Quintile 1 for males, from 34% higher in 1995-96 to 25% higher in 2001-02. For females, the variation in the ratio of rates in Quintile 5 to Quintile 1 shows a worsening of the relative position, with 24% more overweight and obese four year olds in 2000-01 in the most disadvantaged areas (compared with 17% in 1995-96).

The differential in rates between Quintile 5 and Quintile 1 for low birthweight babies over the period 1981-86 increased from 1.23 in 1996-99 to 1.48 in 1995-97. The contributing factors were the small decrease in rates in Quintile 1 (down by 2.7%6 between 1981-86 and 1995-97) and the substantial increase in rates in Quintile 5 (17.4%).

Between 1992-95 and 1997-99, the rate of substantiated cases of child abuse and neglect in Adelaide decreased substantially in the most advantaged areas (down by 20.7% in Quintile 1) and increased in the most disadvantaged areas (up by 8.3% in Quintile 5). This has resulted in the differential between the Quintile 5 and Quintile 1 areas increasing, from 5.89 times higher in the most disadvantaged areas in 1992-95 to a substantial 8.04 times higher in 1997-99 (an increase of 36.5%). Readers should note however, that policy changes in the data recording systems for child abuse and neglect during this period may have influenced these results.

South Australia

Note that, due to the small numbers of cases for many of the variables, the following analysis has not been undertaken for the non-metropolitan area of the State. Instead, the health status data are presented for the whole State.

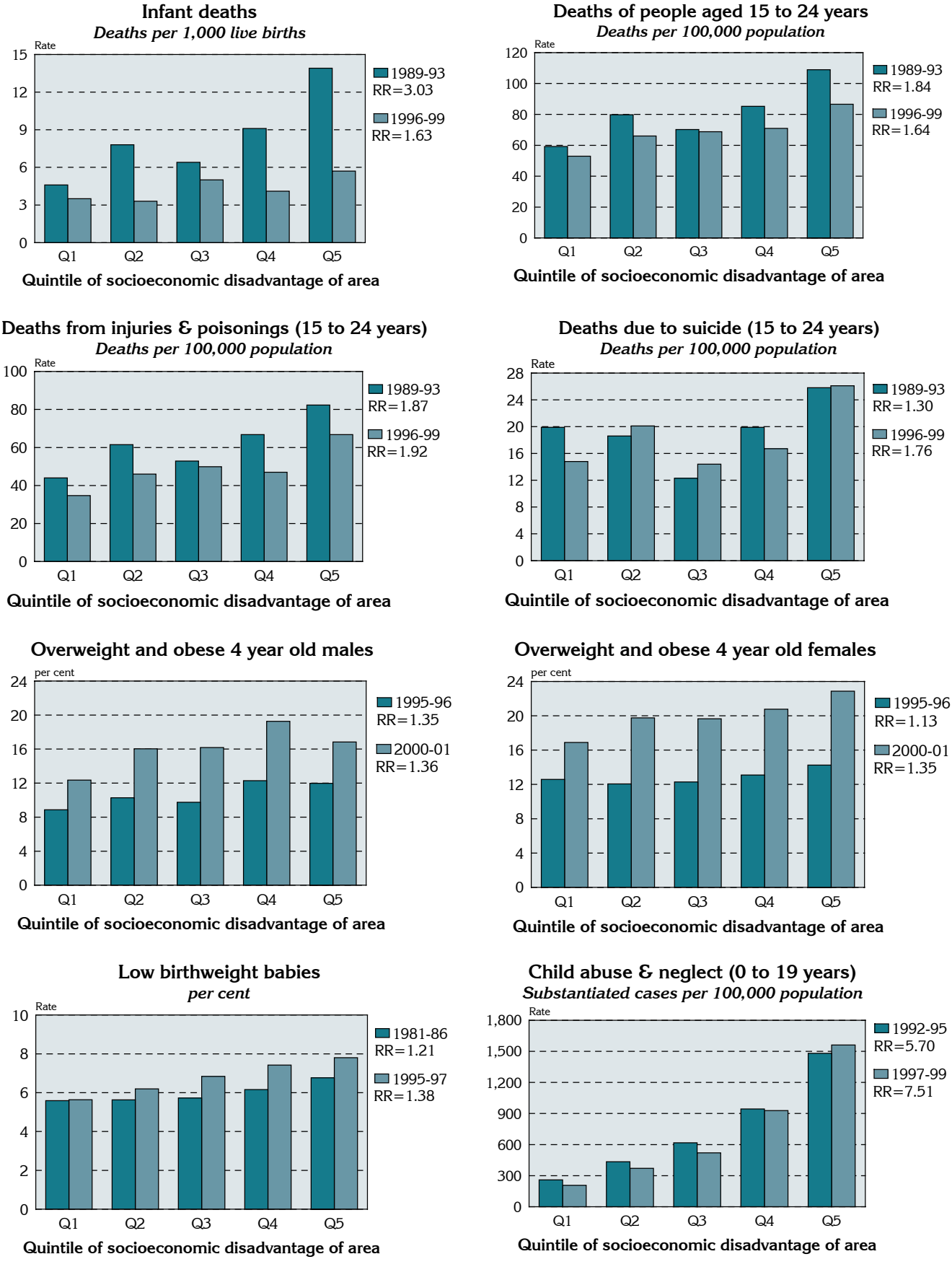
Figure 7.4 and **Table A16** show the differentials in rates by socioeconomic disadvantage of area for South Australia for the variables mapped in Chapter 4. Although there is some variability across the quintiles, the patterns in the charts (ie., the variation in rates across the quintiles) are similar to those evident in Adelaide, with the lowest rates and proportions generally recorded in the most advantaged areas (Quintile 1) and the highest rates in the most disadvantaged areas. Overall, death rates are also generally higher.

The main differences from the gradients evident for Adelaide are in the differentials for deaths from suicide at ages 15 to 24 years. Unlike the situation in Adelaide, the differential between Quintile 5 and Quintile 1 increased, from 1.30 times higher in the most disadvantaged areas in 1981-86 to 1.76 times higher in 1992-95.

The graphs for overweight and obese children are the exception, with the highest proportions recorded in the most disadvantaged areas (Quintile 5) and the lowest proportions in the most advantaged areas (Quintile 1). For males, the variation in the ratio of rates in Quintile 5 to Quintile 1 is minimal: for females it is quite marked, increasing to a differential of 35%.

Figure 7.4: Change in health status by quintile of socioeconomic disadvantage of area, South Australia

Note that the graphs have different scales



Note: RR is the rate ratio (see Glossary)
Source: Compiled from project sources

Change in use of health and welfare services by socioeconomic disadvantage of area of residence

The differentials in admission rates by socioeconomic disadvantage of area for the health service utilisation variables mapped for Adelaide and the non-metropolitan areas of the State are shown in **Figure 7.5** (and **Table A17**) and **Figure 7.6** (and **Table A18**), respectively.

Adelaide

Although there is some variability across the quintiles in Adelaide, the pattern is generally for the most advantaged areas (those in Quintile 1) to have the lowest rates of admission, and for the most disadvantaged areas (those in Quintile 5) to have the highest rates. The exception is for admissions to a private hospital, where the reverse is the case.

Health service utilisation, children aged 0 to 14 years

As shown in **Figure 7.5**, admission rates to public acute and private hospitals among children aged 0 to 14 years have increased in all quintiles except Quintile 4 (which recorded a decrease of 2.6%), with the largest increases occurring in the most advantaged areas (up by 7.3% in Quintile 1 and 11.1% in Quintile 2). This has resulted in the differential in admission rates between Quintile 5 and Quintile 1 decreasing, from 1.42 time higher in the most disadvantaged areas in 1992 to 1.34 times higher in 1996/97-1998/99.

The graph for admissions to a public acute hospital among people aged 0 to 14 years shows a similar gradient and rate of increase to that for total admissions. Admission rates increased in each quintile other than Quintile 4, with a larger increase in Quintile 1 (8.7%) than in Quintile 5 (3.7%). This resulted in a reduction in the differential between Quintile 5 and Quintile 1 areas, from 1.88 to 1.79.

Private hospital admission rates of children and young people from areas of higher socioeconomic status are higher than from more disadvantaged areas; that is, they are higher in areas where families are more likely to have private health insurance. The strong gradient graph in rates for private hospital admissions shows this, with the highest rates in the most advantaged areas (Quintile 1) and the lowest in the least advantaged areas (Quintile 5). Unlike admissions to public hospitals, there has been a decrease in admissions rates to private hospitals in all quintiles other than Quintile 1, where the rate increased by 3.9%.

The graph for admissions of males aged 0 to 14 years shows a similar pattern to that recorded for total admissions. The differential in admission rates decreased from 1.46 times higher in the most disadvantaged areas in 1992 to 1.39 times higher in 1996/97-1998/99. Admission rates for females aged 0 to 14 years are lower than for males, cover a smaller range, and have a smaller between Quintile 5 and Quintile 1 in both periods.

Similar gradients were evident for admissions at ages 0 to 14 years for respiratory system diseases and for bronchitis, emphysema and asthma. While there was a decrease in admission rates from 1992 to 1996/97-1998/99 in all Quintiles, the differential between Quintile 5 and Quintile 1 increased. In the three years from 1996/97 to 1998/99, the largest differential was recorded for the combined causes of bronchitis, emphysema and asthma, with 92% more admissions in the most disadvantaged areas (a differential of 1.92).

Admission rates for the external causes of injury and poisoning have changed relatively little over the two periods, resulting in a small increase in the differential in rates between Quintile 5 and Quintile 1, from 1.24 in 1992 to 1.26 in 1996/97-1998/99.

Health service utilisation, people aged 15 to 24 years

There are also gradients in admission rates for people aged 15 to 24 years (**Figure 7.5**), although they are generally not as strong in the earlier period as they were at ages 0 to 14 years. Admission rates for both total hospital admissions and admissions to a public acute hospital decreased in Quintile 1 and increased in the remaining quintiles. The differential in rates between Quintile 1 and Quintile 5 increased from 1.26 (total admissions) and 1.89 (public acute admissions) times higher in the most disadvantaged areas in 1992 to 1.51 and 2.50 times higher in the 1996/97 to 1998/99 period, respectively.

As shown in **Figure 7.5**, the rates for admission to a private hospital at ages 15 to 24 years exhibit a strong gradient, with the high rates in the most advantaged areas (Quintile 1) dropping rapidly to the lowest in the most disadvantaged areas (Quintile 5). The percentage decreases in admission rates also exhibit a gradient, from the smallest decrease in Quintile 1 (down by 3.4%) to the largest in Quintile 5 (down by 27.9%).

There was no clear gradient evident for admission rates of males aged 15 to 24 years in either of the periods studied. However, there was a decrease in admission rates in all quintiles and an increase in the differential to 6.0% higher in Quintile 5 areas compared with Quintile 1 areas in the later period.

Unlike male admissions, admission rates for females in the 15 to 24 year age group exhibit a strong gradient, with the differential in death rates increasing from 1.49 in 1992 to 1.83 in the period from 1996/97 to 1998/99.

Despite the decrease in admission rates in all quintiles, there was little difference in the differentials in admission rates for the external causes of injury and poisoning at ages 15 to 24 years.

Terminations of pregnancy among woman aged 15 to 24 years was higher in the later period in each of the quintiles, with the largest increase occurring in the most disadvantaged areas (Quintile 5, up by 31.2%. Termination rates in Quintile 1 dropped by a lower 18.8 per cent. The differential in rates between Quintile 1 and Quintile 5 increased from 47% (a rate ratio of 1.47) higher in 1990-92 to 63% (1.63) higher in 1997-99.

Service utilisation, people aged 0 to 24 years

A steep, continuous, gradient is evident in the rate of Family and Youth Services' clients, with almost nine times more clients in the most disadvantaged areas than in the most advantaged areas in 1999 (a differential of 8.71). Since 1991/92, the rates have increased across all quintiles, with increases ranging from 9.7% in Quintile 2 to 61.6% in Quintile 5. This is likely to reflect the increasing levels of inequality facing children living in Adelaide, as evidenced by the increase in the proportion of children living in single parent families and in low income families (**Table 7.1**).

In 1997-99, the rate of services to Community Health Service clients increased from 496 clients per 100,000 population in Quintile 1 to 2,002 clients per 100,000 in Quintile 5: this was considerably lower than the 3,256 clients per 100,000 population in 1991. As a result, the differential in rates between Quintile 5 and Quintile 1 decreased from 4.80 times higher in the most disadvantaged areas in 1991 to (a still substantial) 4.04 times higher in 1997-99.

Figure 7.5: Change in service utilisation by quintile of socioeconomic disadvantage of area, Adelaide

Note that the graphs have different scales

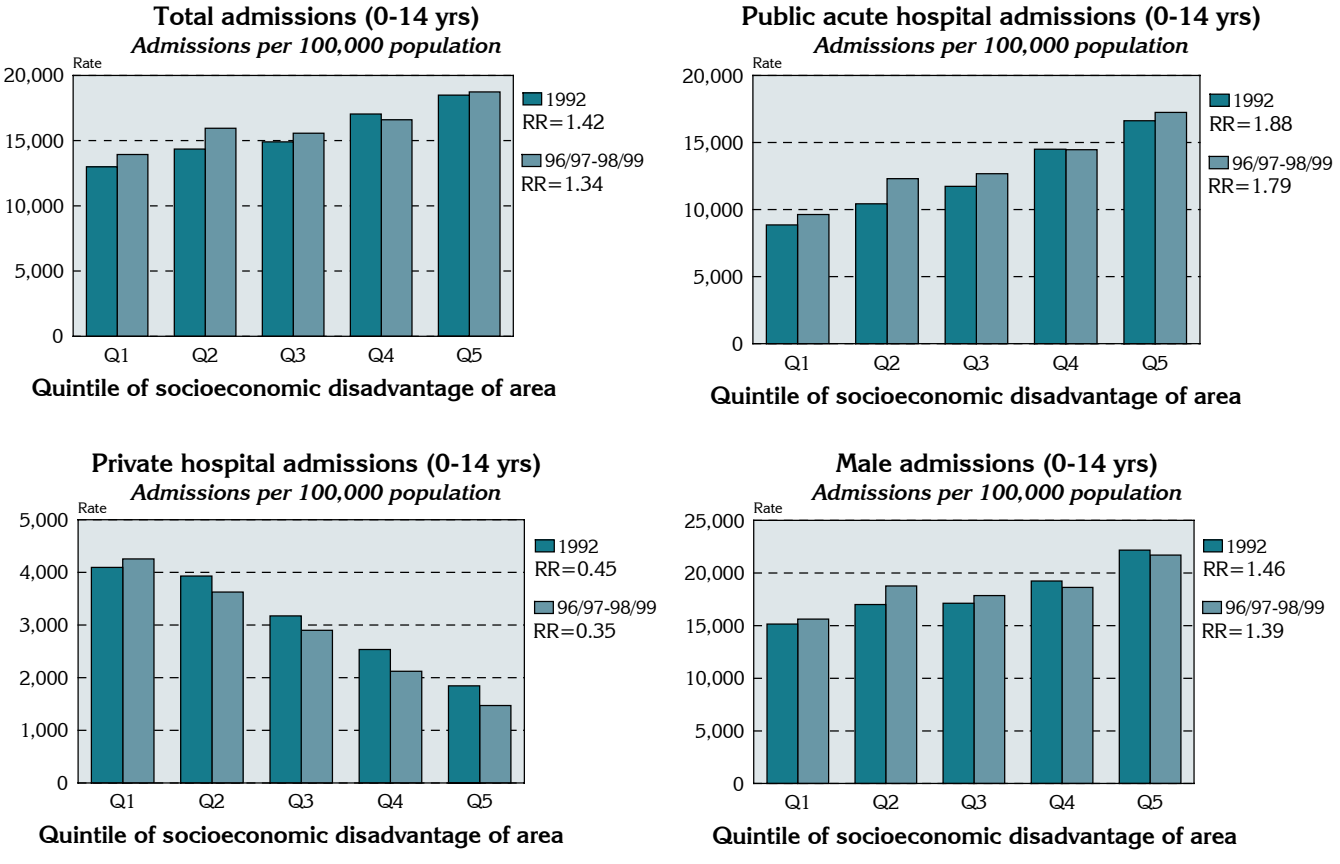
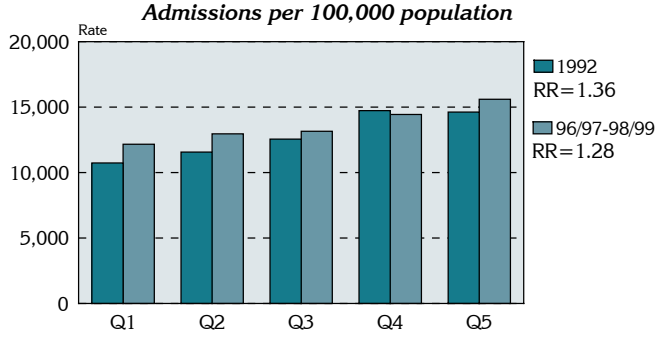


Figure 7.5: Change in service utilisation by quintile of socioeconomic disadvantage of area, Adelaide *...cont*

Note that the graphs have different scales

Female admissions (0-14 yrs)

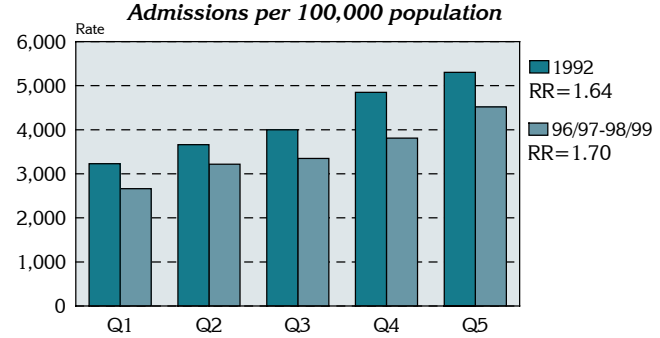
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Admissions for respiratory system diseases (0-14 yrs)

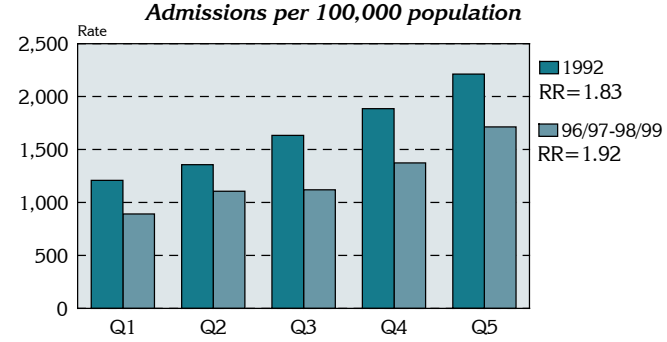
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Admissions for bronch, emph. & asthma (0-14 yrs)

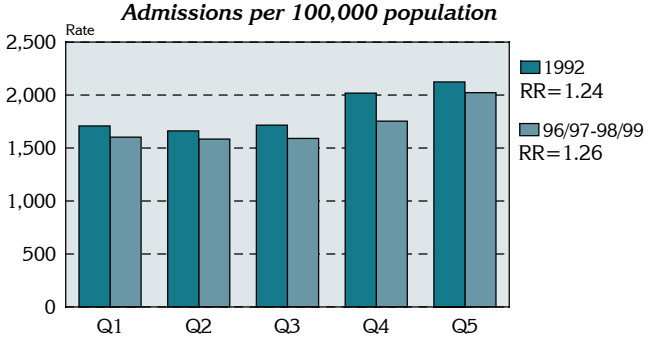
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Admissions for injuries & poisonings (0-14 yrs)

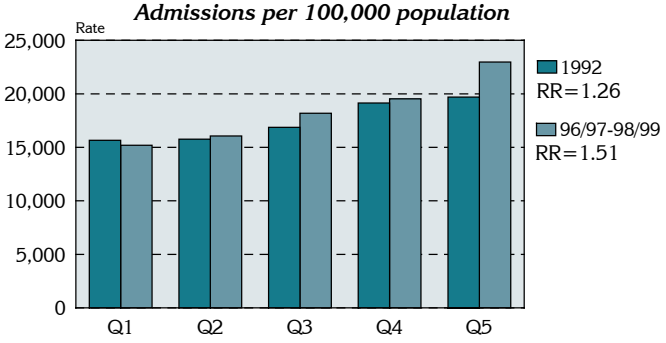
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Total admissions (15-24 yrs)

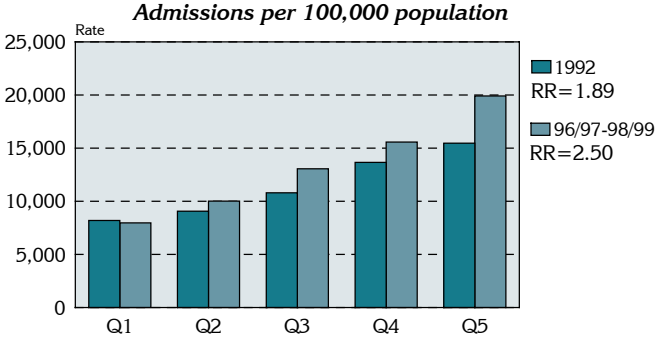
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Public acute hospital admissions (15-24 yrs)

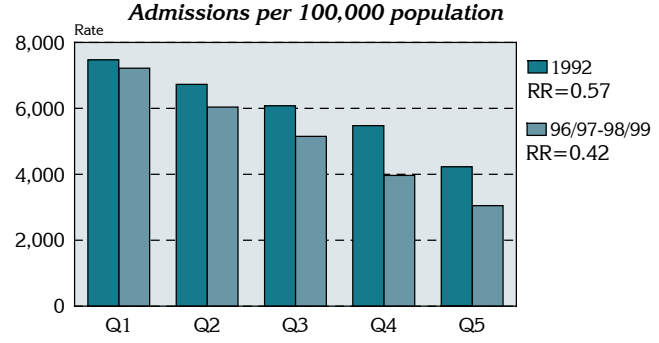
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Private hospital admissions (15-24 yrs)

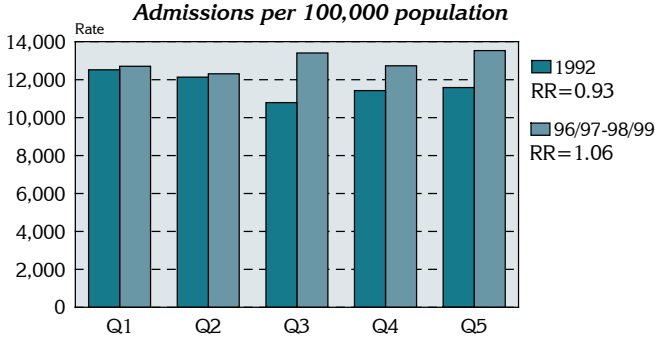
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Male admissions (15-24 yrs)

Admissions per 100,000 population



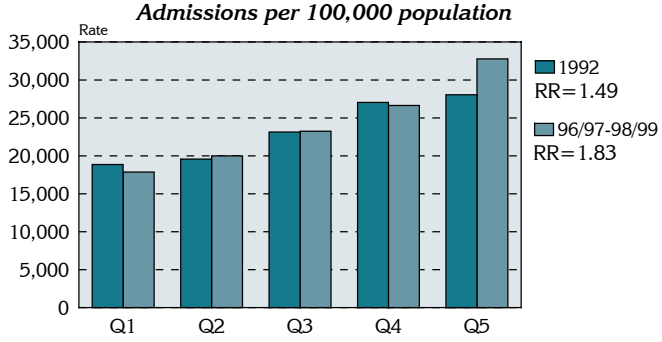
Quintile of socioeconomic disadvantage of area

Figure 7.5: Change in service utilisation by quintile of socioeconomic disadvantage of area, Adelaide *...cont*

Note that the graphs have different scales

Female admissions (15-24 yrs)

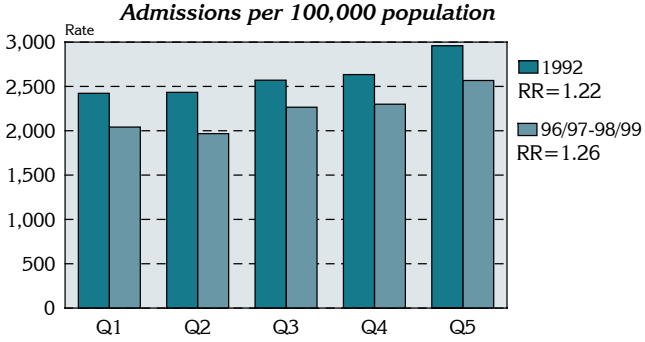
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Admissions for injuries & poisonings (15-24 yrs)

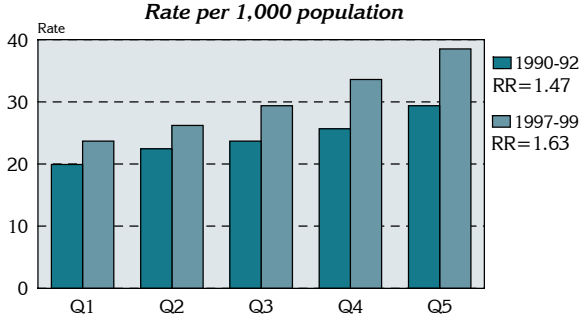
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Terminations of pregnancy (15-24 yrs)

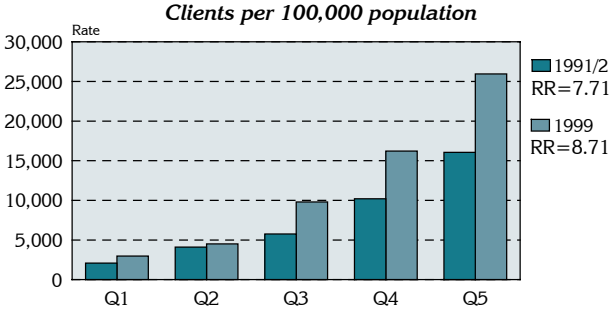
Rate per 1,000 population



Quintile of socioeconomic disadvantage of area

Family and Youth Services clients (0-24 yrs)

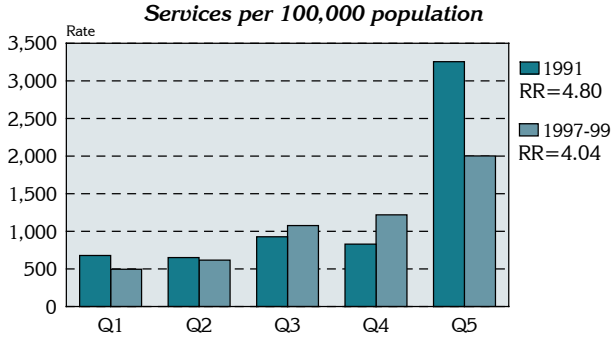
Clients per 100,000 population



Quintile of socioeconomic disadvantage of area

Community health services (0-24 yrs)

Services per 100,000 population



Quintile of socioeconomic disadvantage of area

Note: RR is the rate ratio (see Glossary)
Source: Compiled from project sources

Non-metropolitan South Australia

Figure 7.6 and **Table A18** show admission rates for each of the health service utilisation variables for SLAs in the non-metropolitan areas of South Australia. Again, there are clear gradients for all variables which are, on the whole, more marked than in Adelaide.

The main difference from the patterns noted for Adelaide is the increase in the differential in admissions of males aged 0 to 14 years (from1.66 to 1.72); and the decrease in differentials in admission rates between Quintile 5 and Quintile 1 between the two periods for:

- admissions to public acute hospitals at ages 15 to 24 years (2.17 to 2.06);
- admissions of males aged 15 to 24 years (1.55 to 1.41); and
- for admissions for injury and poisoning at ages 15 to 24 years (1.49 to 1.29).

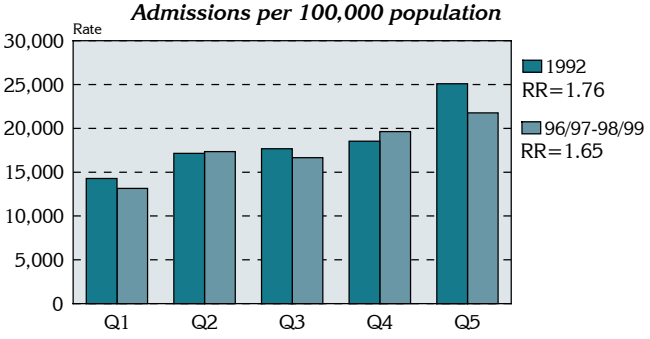
There is also a gradient evident in male admission rates at ages 15 to 24 years, a pattern not evident for Adelaide (**Figure 7.5**).

Figure 7.6: Change in health service utilisation by quintile of socioeconomic disadvantage of area, non-metropolitan areas of South Australia

Note that the graphs have different scales

Total admissions (0-14 yrs)

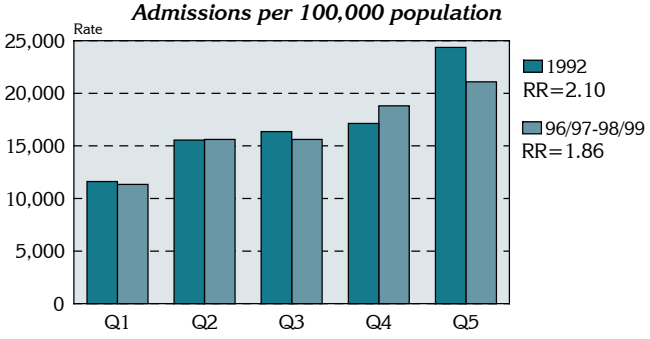
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Public acute hospital admissions (0-14 yrs)

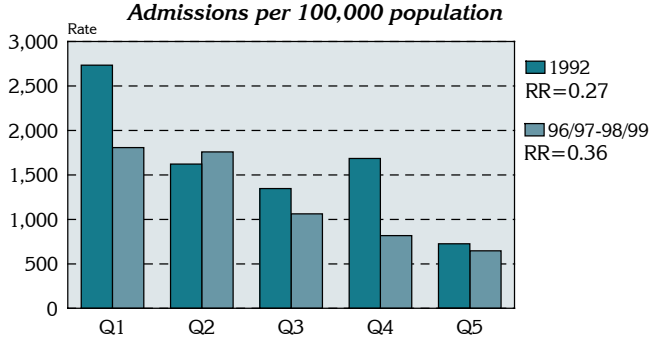
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Private hospital admissions (0-14 yrs)

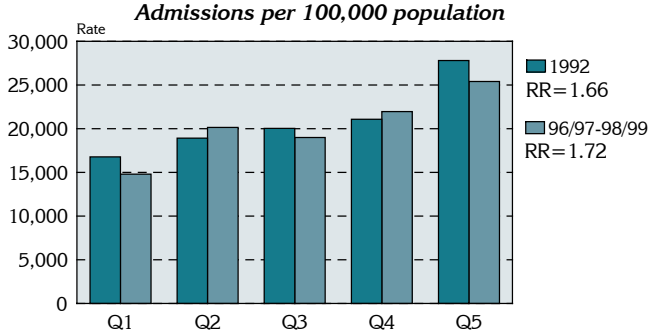
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Male admissions (0-14 yrs)

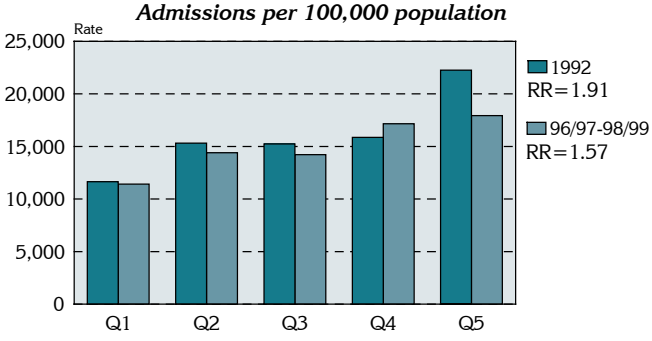
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Female admissions (0-14 yrs)

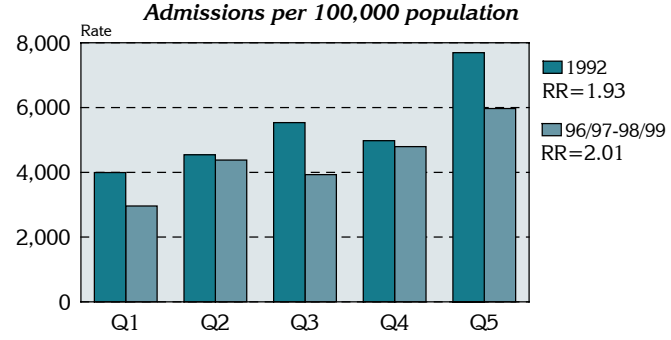
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Admissions for respiratory system diseases (0-14 yrs)

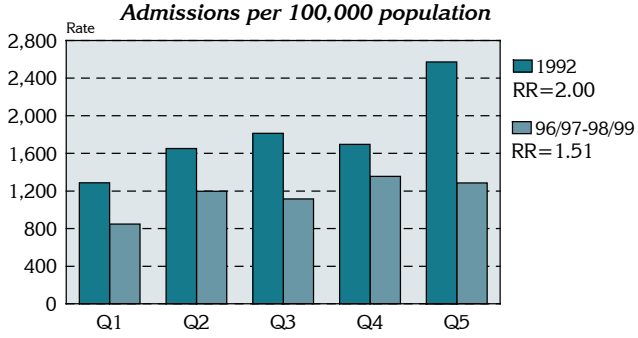
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Admissions for bronch, emph. & asthma (0-14 yrs)

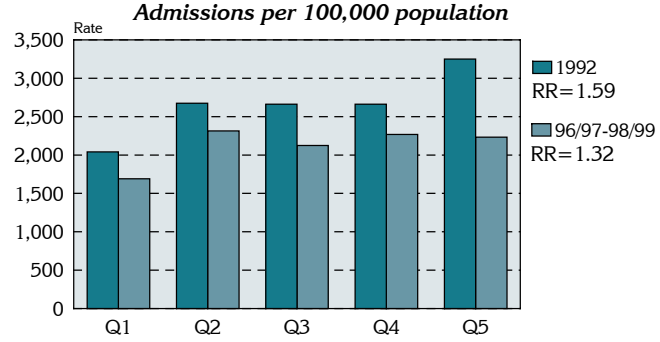
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Admissions for injuries & poisonings (0-14 yrs)

Admissions per 100,000 population



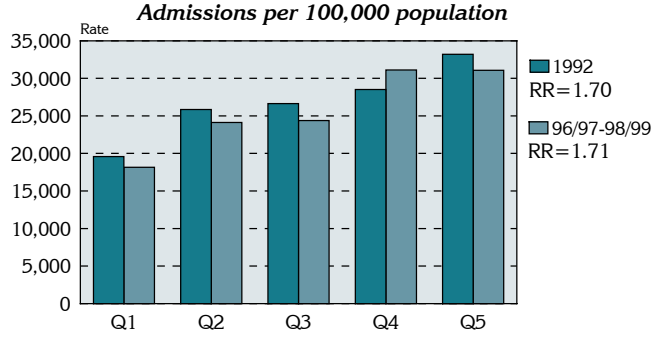
Quintile of socioeconomic disadvantage of area

Figure 7.6: Change in health service utilisation by quintile of socioeconomic disadvantage of area, non-metropolitan areas of South Australia …*cont*

Note that the graphs have different scales

Total admissions (15-24 yrs)

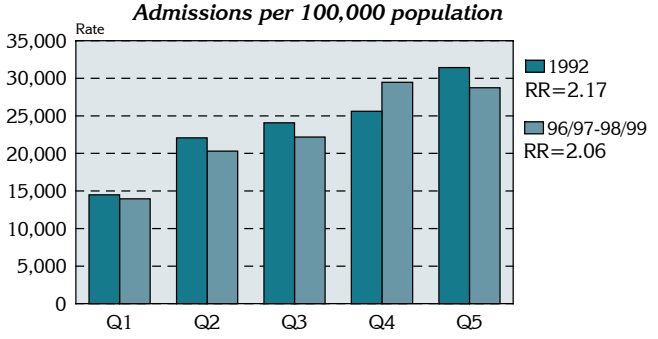
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Public acute hospital admissions (15-24 yrs)

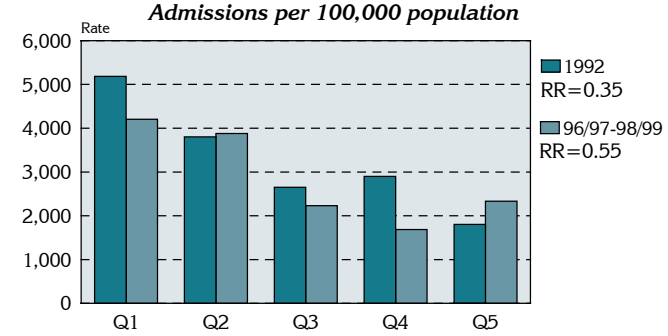
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Private hospital admissions (15-24 yrs)

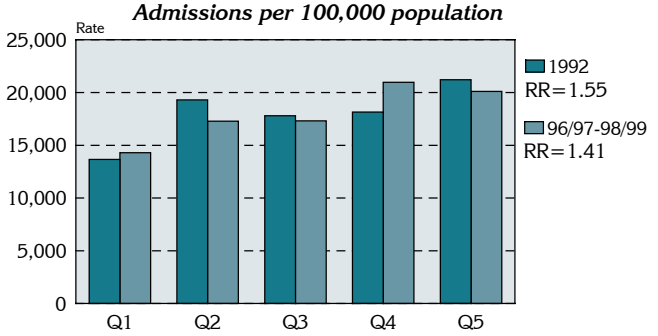
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Male admissions (15-24 yrs)

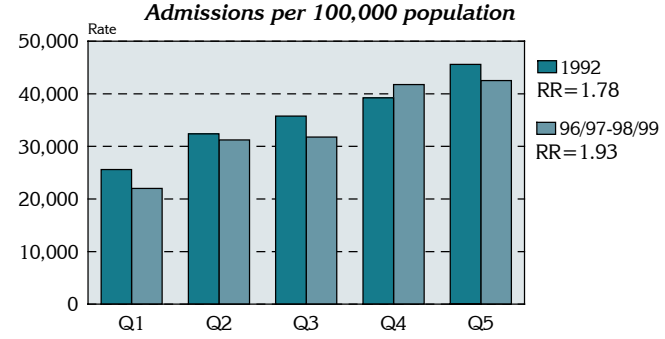
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Female admissions (15-24 yrs)

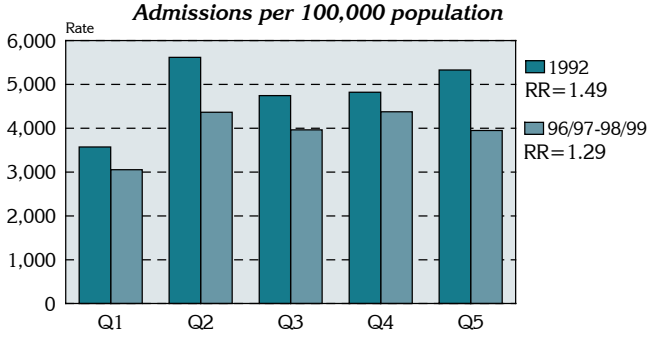
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Admissions for injuries & poisonings (15-24 yrs)

Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Note: RR is the rate ratio (see Glossary)
Source: Compiled from project sources

South Australia

Figure 7.7 and **Table A19** show admission rates for each of the health service utilisation variables by quintile of socioeconomic disadvantage of area for South Australia as a whole. Again, there are clear gradients for all variables which are, on the whole, relatively consistent with those recorded in Adelaide.

The major differences from the changes noted in Adelaide are the decrease in the differential in admission rates between the two periods for admissions for injury and poisoning (from 1.48 in 1992 to 1.34 in 1996/97-1998/99) and the increase recorded for admissions of males aged 15 to 24 years (from 1.15 to 1.27).

Figure 7.7: Change in service utilisation by quintile of socioeconomic disadvantage of area, South Australia

Note that the graphs have different scales

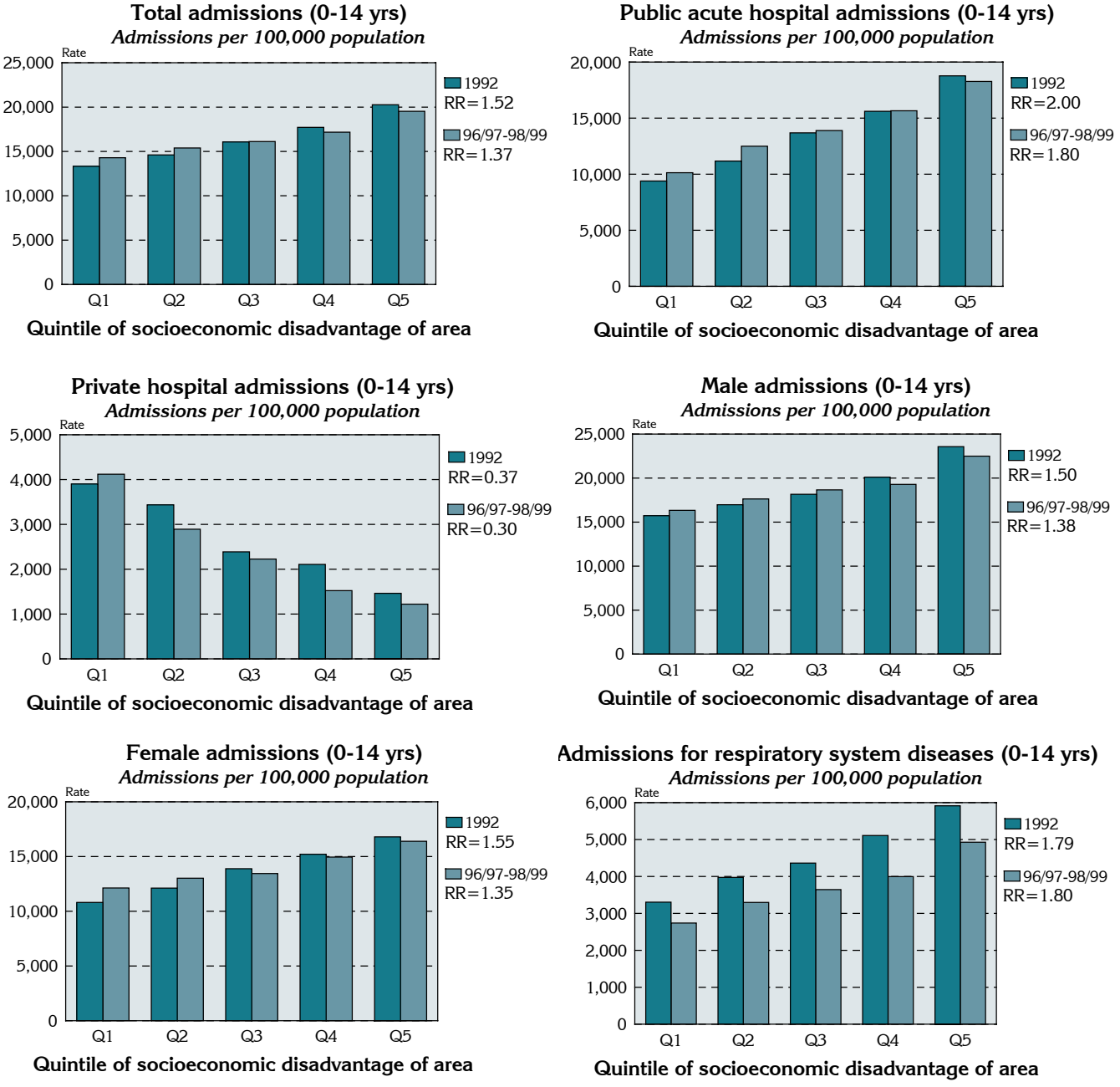
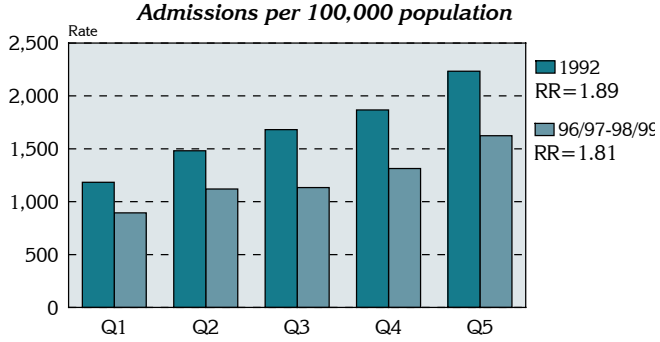


Figure 7.7: Change in service utilisation by quintile of socioeconomic disadvantage of area, South Australia ...*cont*

Note that the graphs have different scales

Admissions for bronch, emph. & asthma (0-14 yrs)

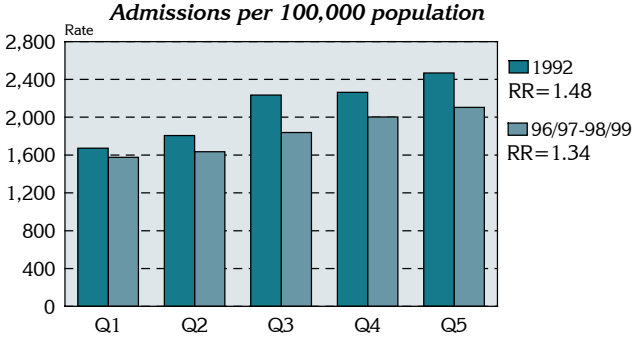
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Admissions for injuries & poisonings (0-14 yrs)

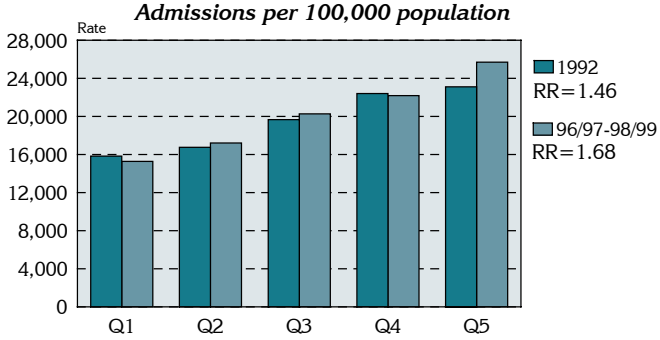
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Total admissions (15-24 yrs)

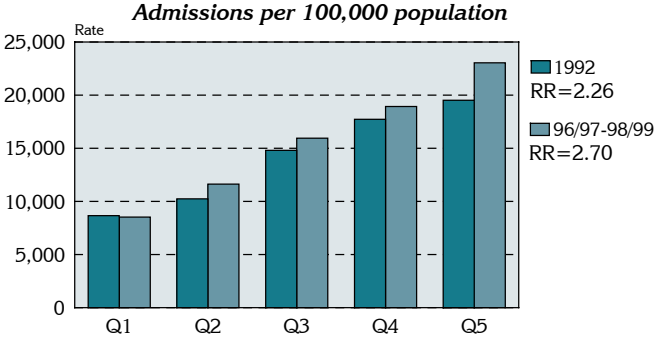
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Public acute hospital admissions (15-24 yrs)

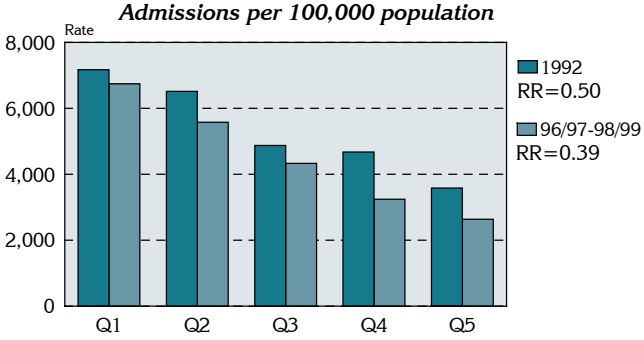
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Private hospital admissions (15-24 yrs)

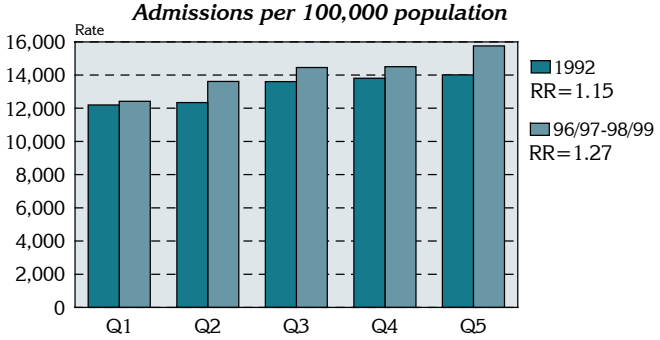
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Male admissions (15-24 yrs)

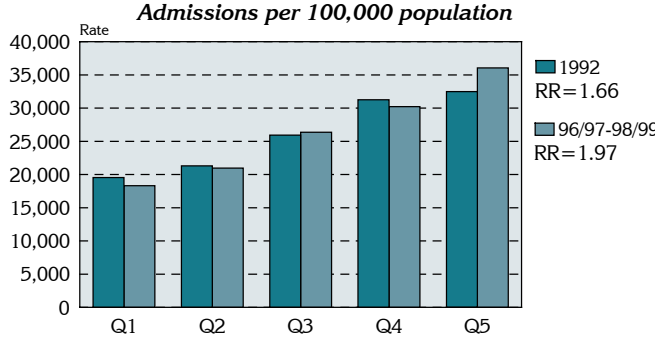
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Female admissions (15-24 yrs)

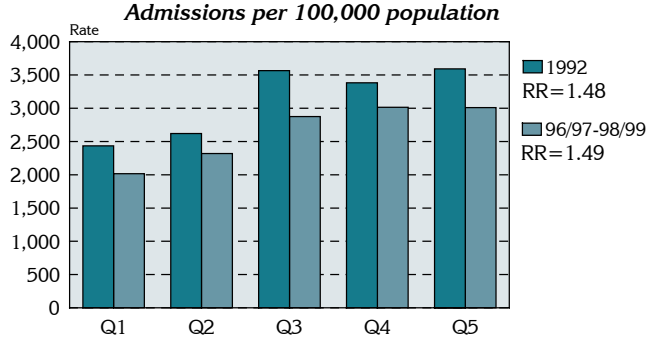
Admissions per 100,000 population



Quintile of socioeconomic disadvantage of area

Admissions for injuries & poisonings (15-24 yrs)

Admissions per 100,000 population



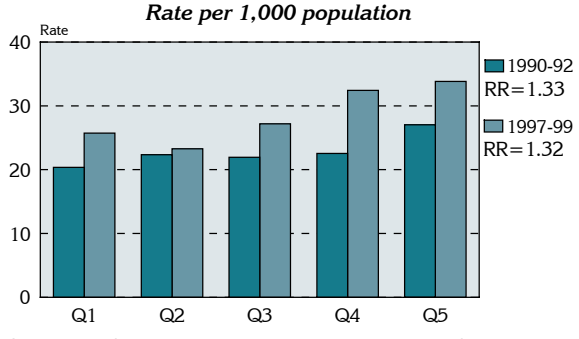
Quintile of socioeconomic disadvantage of area

Figure 7.7: Change in service utilisation by quintile of socioeconomic disadvantage of area, South Australia ...*cont*

Note that the graphs have different scales

Terminations of pregnancy (15-24 yrs)

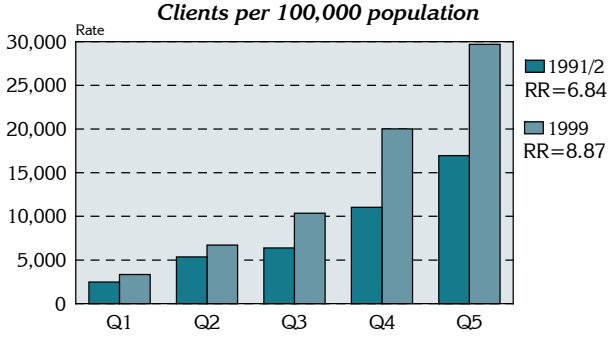
Rate per 1,000 population



Quintile of socioeconomic disadvantage of area

Family and Youth Services clients (0-24 yrs)

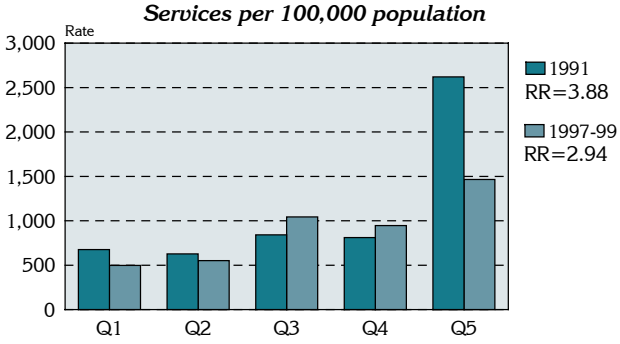
Clients per 100,000 population



Quintile of socioeconomic disadvantage of area

Community health services (0-24 yrs)

Services per 100,000 population

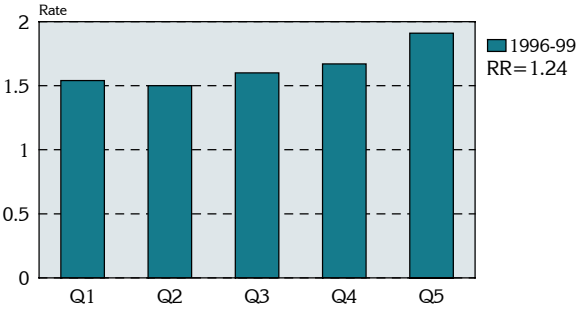


Quintile of socioeconomic disadvantage of area

Note: RR is the rate ratio (see Glossary)
Source: Compiled from project sources

Figure 7.8: Other variables by quintile of socioeconomic disadvantage of area, Adelaide

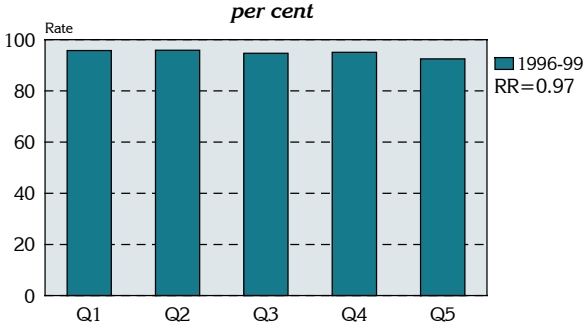
Total Fertility Rate



Quintile of socioeconomic disadvantage of area

Children fully immunised

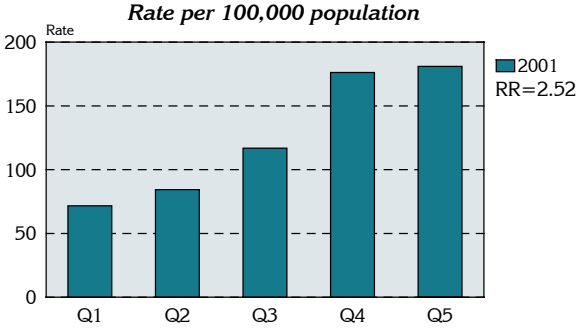
per cent



Quintile of socioeconomic disadvantage of area

Hospital inpatient booking lists

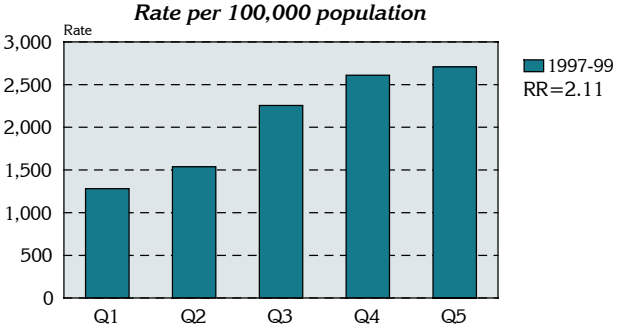
Rate per 100,000 population



Quintile of socioeconomic disadvantage of area

Child and Adolescent Mental Health Service clients

Rate per 100,000 population



Quintile of socioeconomic disadvantage of area

Figure 7.8 shows the indicators for which data were only available for one period.

The Total Fertility Rate (TFR) in 1996-99 for young women aged under 25 years is highest in the most disadvantaged areas, increasing from 1.54 in the most advantaged areas (Quintile 1) to 1.91 in the most disadvantaged areas (Quintile 5), a differential of 1.24.

There is, however, little variation across the quintiles in the proportion of children at 12 months of age who were fully immunised at 17 April 2001, with 3% fewer children immunised in the most disadvantaged areas (a differential of 0.97).

There is a steep gradient in rates by socioeconomic disadvantage of area for both people aged 0 to 24 years on a hospital inpatient booking list (at 30 June 2001) and Child and Adolescent Mental Health Service (CAMHS) clients in 1997-99. Children and young people in the most disadvantaged areas (Quintile 5) are over two and a half times more likely to be on a booking list than residents in the most advantaged areas (a differential of 2.52); and over twice as likely to be clients of CAMHS (a differential of 2.11).

Conclusion

There is clear evidence in the data of an association between socioeconomic disadvantage (as measured by the IRSD) and health status (for premature death, overweight and obese four year old children, low birthweight babies and substantiated cases of child abuse and neglect). These associations are generally evident not only between the most advantaged (Quintile 1) and disadvantaged (Quintile 5) areas, but also in many instances at each of the intervening levels of socioeconomic status (Quintiles 2 to 4) (**Figures 7.3** and **7.4**).

Similarly, there are associations between socioeconomic disadvantage and high rates of hospital admission in the metropolitan and non-metropolitan areas, and in the State as a whole, as well as for hospital inpatient booking lists, terminations of pregnancy, clients of FAYS and CAMHS and community health services in Adelaide (**Figures 7.5** and **7.6**). The gradients by socioeconomic status are particularly strong in the non-metropolitan areas.

It is also clear that, along with the overall improvement in death rates at ages 15 to 24 years (**Table A15**, **Figure 7.3**), there have been marked reductions in disparities in death rates between the poorest areas and the most well off areas. However, the remaining differentials in death rates, of 30% and above, are substantial.

The same cannot be said for the indicators of overweight and obese four year old females, low birthweight babies and substantiated cases of child abuse and neglect: for each of these indicators, the gap has widened. However, for overweight and obese four year old males in Adelaide the gap has narrowed, and for South Australia as a whole, it is static.

While the differential in overall admission rates has been reduced for 0 to 14 year old children (in Adelaide and the non-metropolitan areas), it has increased for those aged 15 to 24 years (in Adelaide). Similarly, the disparity in rates of terminations of pregnancy and FAYS clients, between the poorest areas and most well off areas in Adelaide, has increased.

The information presented in the atlas adds to a convincing body of evidence as to the striking disparities in health that exists between groups in the population. The challenge for policy makers, researchers, health practitioners and governments is to find ways to address these health inequalities and the socioeconomic factors which underpin them.