9 Summary

Introduction

This chapter presents details of the major changes noted in the data between this and the first edition, as well as some summary measures of the health differentials calculated from the health status and health service utilisation data mapped in Chapters 5 and 6.

Changes in data rates between editions

The reference period for the data in the first and this second edition varies according to the dataset. In general, the Census data in this edition are ten years on from the first edition (Chapter 3: 1986 Census and 1996 Census); and the income support (Chapter 4: 1989 and 1996) and health status (Chapter 5: 1985-89 and 1992-95) datasets are seven years later. The data for hospital admissions (see *Differences in data treatment between editions*, Chapter 6) and services and facilities are not discussed in this chapter because of difficulties in comparing the available series over time.

Readers should note that some variables are not discussed below because the data were available only for the latest period.

Changes in socioeconomic status variables

Marked variations were recorded between 1986 and 1996 for a majority of the socioeconomic status variables mapped for Queensland (**Table 9.1**). For **Brisbane**, the largest increases were for the population of Aboriginal and Torres Strait Islander people (an increase of 94.4 per cent over this ten year period); the occupational grouping of managers and administrators, and professionals (71.9 per cent); housing authority rented dwellings (67.9 per cent); people born overseas in predominantly non-English speaking countries: an increase of 61.2 per cent for those resident for five years or more, of 55.6 per cent for those resident for less than five years, and of 58.3 per cent for those with poor proficiency in English; single parent families (60.8 per cent); and low income families (52.6 per cent). The only decreases recorded over this ten year period were for the variables for early school leavers (down by 3.0 per cent) and unemployment among 15 to 19 year olds (down by 8.4 per cent).

Variations of this order were also recorded in the non-metropolitan areas of Queensland. The major differences from the changes noted for **Brisbane** were the larger increases in the proportion of housing authority rented dwellings and people aged 65 years and over; smaller increases for Indigenous people, the occupations of managers and administrators, and professionals, people born predominantly non-English speaking countries and residents for five years or more, the number of single parent families and low income families; and decreases for the remaining two variables for people born overseas in predominantly non-English speaking countries.

Changes over this period for the major urban centre of **Townsville-Thuringowa** were relatively consistent with those recorded in **Brisbane**. However, there were considerable variations recorded in **Gold Coast-Tweed Heads**, the major

Table 9.1: Changes in demographic and socioeconomic status variables, by Section of State, Queensland
Per cent change

Variable	Brisbane	Other major urban centres			Rest of State	Whole State
		Gold Coast-Tweed Heads	Townsville-Thuringowa	Total		
1986 to 1996						
0 to 4 year olds	21.9	75.6	9.3	48.3	5.5	19.1
65 years & over	35.0	79.3	36.3	71.5	40.1	45.2
Single parent families	60.8	109.5	32.4	82.2	44.7	59.9
Low income families	52.6	54.3	28.3	48.8	34.7	40.4
Unemployed people	26.6	45.1	2.8	33.6	-0.3	18.0
Female labour force participation (20 to 54 years)	13.7	9.7	12.3	10.6	15.4	14.5
Early school leavers	-3.0	29.8	-11.2	17.6	4.6	1.4
Unskilled & semi-skilled workers	5.5	44.5	-12.7	21.3	5.3	8.9
Aboriginal & Torres Strait Islander people	94.4	127.9	8.8	35.4	48.4	55.9
People[1] born overseas & resident for less than 5years	55.6	167.8	13.6	119.7	-2.0	50.3
People[1] born overseas & resident for 5 years or more	61.2	124.3	29.4	100.0	22.4	57.1
People[1] born overseas: speaks English not well/not at all	58.3	219.7	3.7	157.9	-7.7	50.0
Housing authority rented dwellings	67.9	197.0	86.0	133.2	113.9	89.6
Dwellings without a motor vehicle	24.1	56.1	20.7	30.4	30.4	30.3
1989 to 1996						
Age pensioners	1.9	20.0	8.7	17.8	-2.6	7.5
Disability support pensioners	78.2	118.3	73.5	116.1	57.1	72.2
Female sole parent pensioners	56.6	122.1	40.2	93.7	39.1	58.7
Unemployment beneficiaries	153.4	305.2	117.4	246.0	92.6	139.4
Dependent children of selected pensioners & beneficiaries	76.7	174.5	65.9	134.3	44.3	68.8

[1]**Includes people who were born in a predominantly non-English speaking country**

differences being for the population aged from 0 to 4 years, people aged 65 years and over, early school leavers, unskilled and semi-skilled workers, the three variables for people born overseas in predominantly non-English speaking countries and housing authority rented dwellings.

Substantial variations were recorded in income support payments to residents of **Brisbane** for all of the payment types analysed, other than the Age Pension, for which there was a small increase (a decrease of 1.9 per cent). The number of each of the other payment types increased substantially, with the number of unemployment beneficiaries more than doubling (an increase of 153.4 per cent) (**Table 9.1**). Similar, although smaller, increases were recorded in the non-metropolitan areas of Queensland for all of these income support payments other than the Age Pension for which there was a small decrease (2.6 per cent). The increases in **Townsville-Thuringowa** were in line with those recorded for the non-metropolitan areas of the State and with those in **Brisbane**. Between 1986 and 1996 substantial increases were recorded in all income support payments to residents of **Gold Coast-Tweed Heads**.

Changes in health status variables

As noted in Chapter 5 (see *Background*), death rates in Australia have declined for the majority of causes. Queensland is no exception, with lower rates for all of the major causes of death mapped in the atlas: percentage changes between the two periods (from 1985 to 1989 and 1992 to 1995) are shown in **Table 9.2**.

In **Brisbane**, the largest decreases were recorded for the infant death rate (down by 24.7 per cent) and for deaths of people aged from 15 to 64 years from circulatory system diseases (down by 46.5 per cent), respiratory system diseases (down by 38.4 per cent) and all cancers (down by 29.6 per cent) and lung cancer (down by 24.8 per cent). All causes mortality was 29.6 per cent lower over this period, marginally more so for males than for females.

There were reductions in every category in **Table 9.2** for the major urban centre of **Townsville-Thuringowa**. However, in **Gold Coast-Tweed Heads**, increases were recorded for premature deaths of females from all causes, and of males and females from cancer.

There were also reductions in rates of premature death in the non-metropolitan areas of Queensland for all major causes of death. However the reductions were less than those recorded for **Brisbane** for all except infant deaths and accidents, poisonings and violence. The reduction for all causes mortality was just over two thirds (69.3 per cent) that recorded for **Brisbane**.

Table 9.2: Changes in selected health status variables, by Section of State, Queensland
Per cent change[1] 1985-89 to 1992-95

Variable	Brisbane	Other major urban centres			Rest of State	Whole State
		Gold Coast-Tweed Heads	Townsville-Thuringowa	Total		
Infant deaths	-24.7	-16.9	-20.8	-18.4	-25.6	-23.6
Deaths of 15 to 64 year olds						
Males	-31.4	-8.0	-40.1	-19.3	-22.2	-25.8
Females	-27.0	5.0	-28.7	-5.4	-15.7	-19.7
Persons, by cause						
Circulatory system diseases	-46.5	-19.5	-48.4	-29.2	-32.4	-38.3
All cancers (malignant neoplasms)	-22.1	13.7	-21.8	2.9	-6.1	-13.1
Lung cancer	-24.8	9.8	3.0	6.1	-18.9	-20.2
Respiratory system diseases	-38.4	-17.8	-47.2	-28.5	-35.4	-34.8
Accidents, poisonings & violence	-18.6	-18.6	-37.4	-24.4	-24.5	-21.4
Other causes	-19.1	27.9	-31.3	4.6	-11.9	-13.0
All causes	-29.6	-2.3	-36.3	-13.7	-20.5	-23.6

[1] 'Per cent change' represents the difference (between the reference periods) in death rates: for infants, it is the infant death rate (infant deaths per 1,000 live births); and for deaths of 15 to 64 year olds, it is the rate per 100,000 population produced by indirect age (or age-sex) standardisation

Summary of findings by socioeconomic status of area of residence

Background

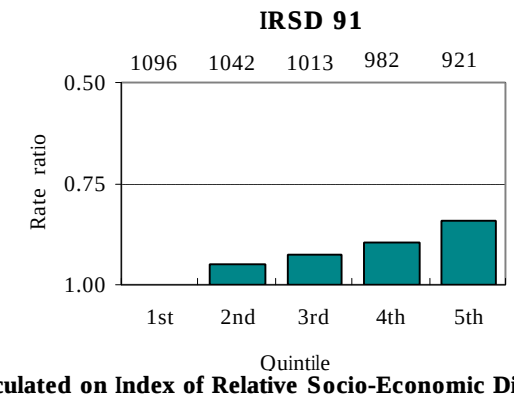
In order to summarise the extent of health inequalities shown in the maps in the earlier chapters, the health status and health service utilisation data are presented in chart form on the following pages. The data have been re-cast to show the average rate (or standardised ratio or percentage) by socioeconomic status of the SLA of address in the records studied. To do this, each SLA in the major urban centres (**Brisbane**, **Gold Coast-Tweed Heads** and **Townsville-Thuringowa**) was allocated to one of five categories (quintiles) based on its Index of Relative Socio-Economic Disadvantage (IRSD) score (this index is described on page 19). Quintile 1 comprises the twenty per cent of SLAs in these major urban centres with the highest IRSD scores, and Quintile 5 comprises the twenty per cent of SLAs with the lowest IRSD scores. The average rate (or standardised ratio or percentage) was then 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 9.2**). This exercise was repeated for SLAs in the non-metropolitan areas of Queensland.

As noted in Chapter 3, the ABS has calculated the IRSD so that low scores indicate greatest disadvantage. This is the reverse of

the way in which other data in the atlas has 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 **Figure 9.1** have been reversed.

Figure 9.1 shows that the average IRSD score in 1991 for Quintile 1 (comprising the most advantaged SLAs) was 1067, decreasing for each quintile to a score of 920 in Quintile 5 (the most disadvantaged SLAs).

Figure 9.1: Differentials in IRSD scores for areas in Brisbane, Coast-Tweed Heads & Townsville-Thuringowa, by quintile of socioeconomic disadvantage of area, 1991



Source: Calculated on Index of Relative Socio-Economic Disadvantage, ABS 1991 Census

The IRSD shown in this graph and used in the health status graphs (**Figure 9.2**) is from the 1991 Census, as the health status data generally relates to the period from 1992 to 1995. The IRSD used for the health service utilisation graphs (**Figure 9.3**) is from the 1996 Census, as the data is for periods close to the 1996 Census. At the 1996 Census, the IRSD scores were, for Quintile 1, 1082; Quintile 2, 1028; Quintile 3, 998; Quintile 4, 966; Quintile 5, 918.

Results

Health status in Brisbane, Gold Coast-Tweed Heads and Townsville-Thuringowa

Figure 9.2 (overleaf) shows similar graphs (to that above) for each of the health status variables for SLAs in **Brisbane, Gold Coast-Tweed Heads** and **Townsville-Thuringowa**.

The bars in the graph show the socioeconomic gradient evident in many of the datasets, with the ratio for Quintile 1 set at 1.0. The actual rate or standardised ratio is shown above the graph, providing an indication of the extent of the differentials between the quintiles. For example, the graph of years of potential life lost (YPLL) from deaths between the ages of 15 to 64 years shows a standardised ratio (SR) for the most advantaged areas of 76 (24 per cent fewer YPLL than were expected from the Queensland State rates). The SR for the most disadvantaged areas was 127, indicating that there were 27 per cent more YPLL than were expected from the State rates. Large differentials were also evident for deaths of 15 to 64 year old males (from an SDR of 72 in Quintile to 129 in Quintile 5) and deaths of 15 to 64 years olds from lung cancer (84 to 122), circulatory system diseases (68 to 135) and respiratory system diseases (57 to 146).

Although there is some variability across the quintiles, the pattern is generally for the highest socioeconomic status SLAs (those in Quintile 1) to have the most advantageous (ie. in the majority of cases, the lowest) rates and, generally, for the most disadvantaged SLAs (those in Quintile 5) to have the highest rates. The exception is the Physical Component Summary (PCS), for which low scores indicate poorer health.

Health service utilisation in Brisbane, Gold Coast-Tweed Heads and Townsville-Thuringowa

Figure 9.3 shows the graphs for each of the health service utilisation variables for SLAs in **Brisbane, Gold Coast-Tweed Heads** and **Townsville-Thuringowa**. Although there is some variability across the quintiles, the pattern is generally for the most advantaged SLAs (those in Quintile 1) to have the lowest rates of admission, and for the most disadvantaged SLAs (those in Quintile 5) to have the highest rates. The exceptions include the graphs for admissions to a private hospital, admissions for all cancers, lung cancer and for breast cancer of females aged 40 years and over, and for the surgical procedures of myringotomy, endoscopy and Caesarean section. Others, including the graphs for admissions for psychosis and same day admissions for a surgical procedure, reveal a less consistent pattern.

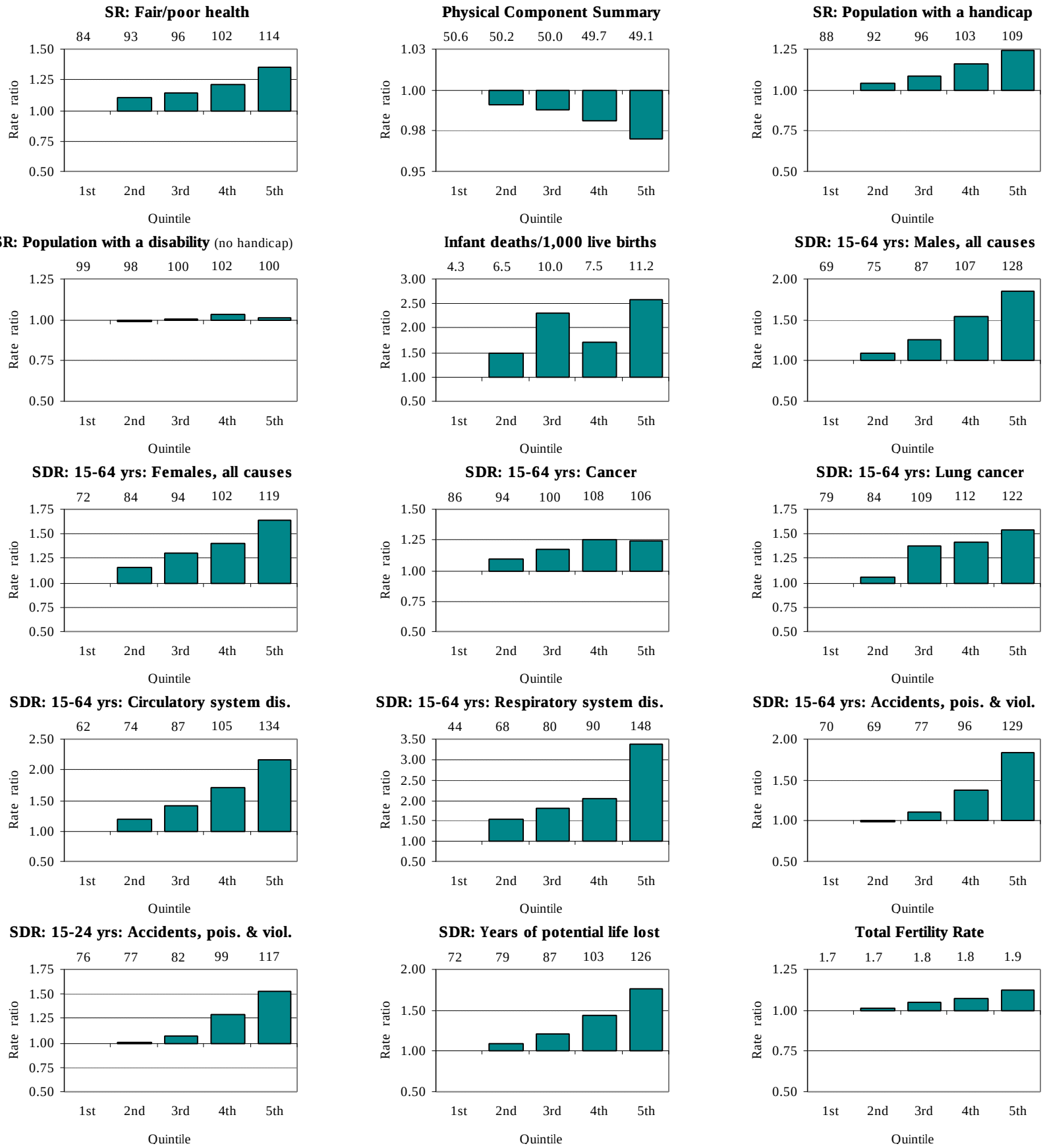
Health status in non-metropolitan Queensland

Figure 9.4 shows the graphs for each of the health status variables for SLAs in the non-metropolitan areas of Queensland. The main differences from the gradients evident for **Brisbane** and the other major urban centres are for infant deaths, premature deaths from lung cancer and the Total Fertility Rate.

Health service utilisation in non-metropolitan Queensland

Figure 9.5 shows the graphs for each of the health service utilisation variables for SLAs in the non-metropolitan areas of Queensland. The main differences from the gradients evident for **Brisbane** and the other major urban centres are for admissions for cancer, psychosis, neurotic, personality or other mental disorders and Caesarean section (for which the gradients are stronger); and admissions for hysterectomy, endoscopy (for which the gradients are reversed). The gradient for general practitioner (GP) services to males and females is also the reverse of that in **Brisbane**. This may reflect higher levels of provision of GP services by providers not included in the Medicare data on which this analysis is based (eg. those working in Aboriginal Medical Services and mining companies).

Figure 9.2: Health status differentials by quintile of socioeconomic disadvantage of area: Brisbane, Gold Coast-Tweed Heads and Townsville-Thuringowa



Note: Quintile of socioeconomic disadvantage of area is based on the ABS SEIFA Index of Relative Socio-Economic Disadvantage. Data for years of potential life lost are for the population aged from 15 to 64 years.

Source: Compiled from project sources

Figure 9.3: Health service utilisation differentials by quintile of socioeconomic disadvantage of area: Brisbane, Gold Coast-Tweed and Townsville-Thuringowa

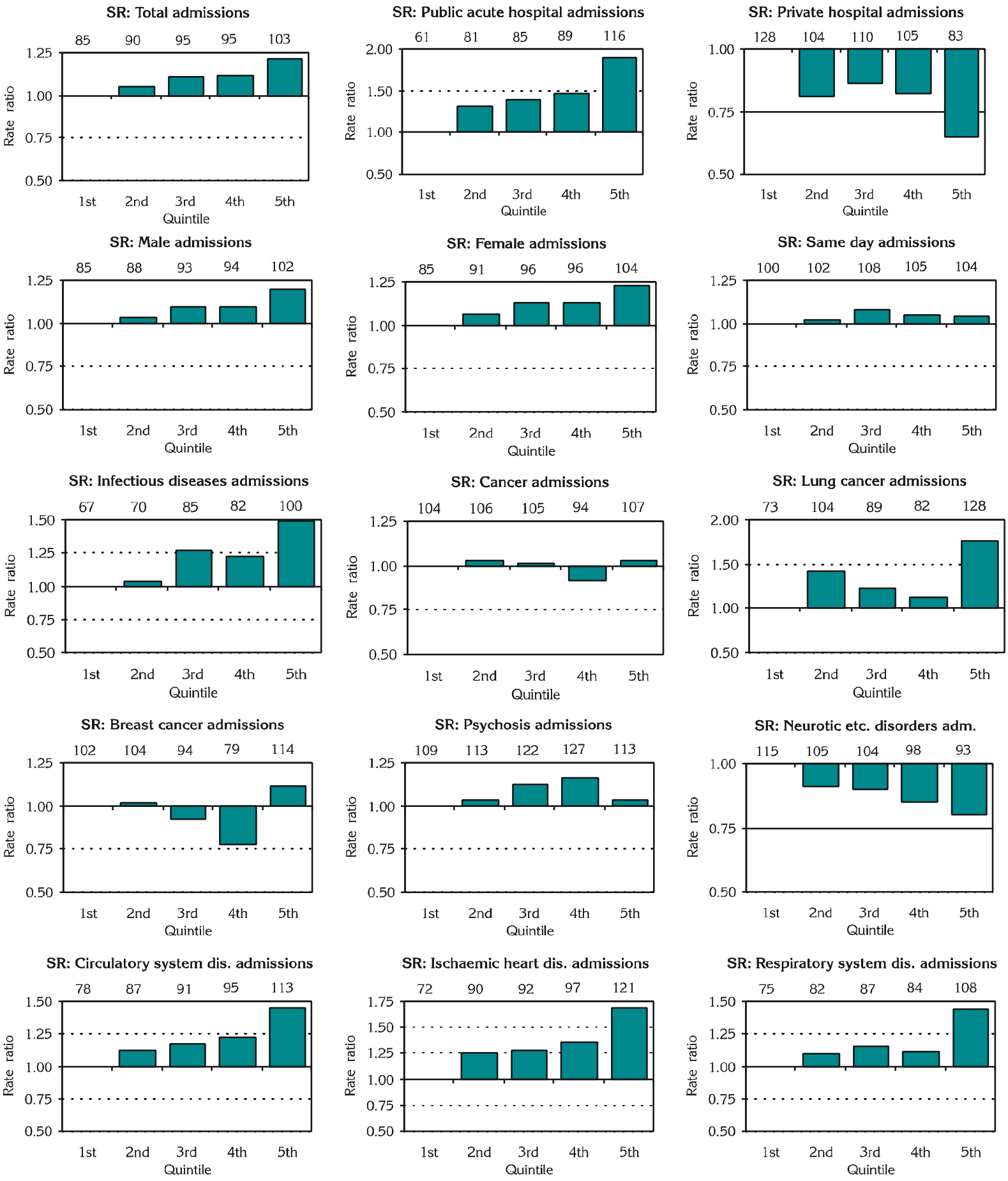
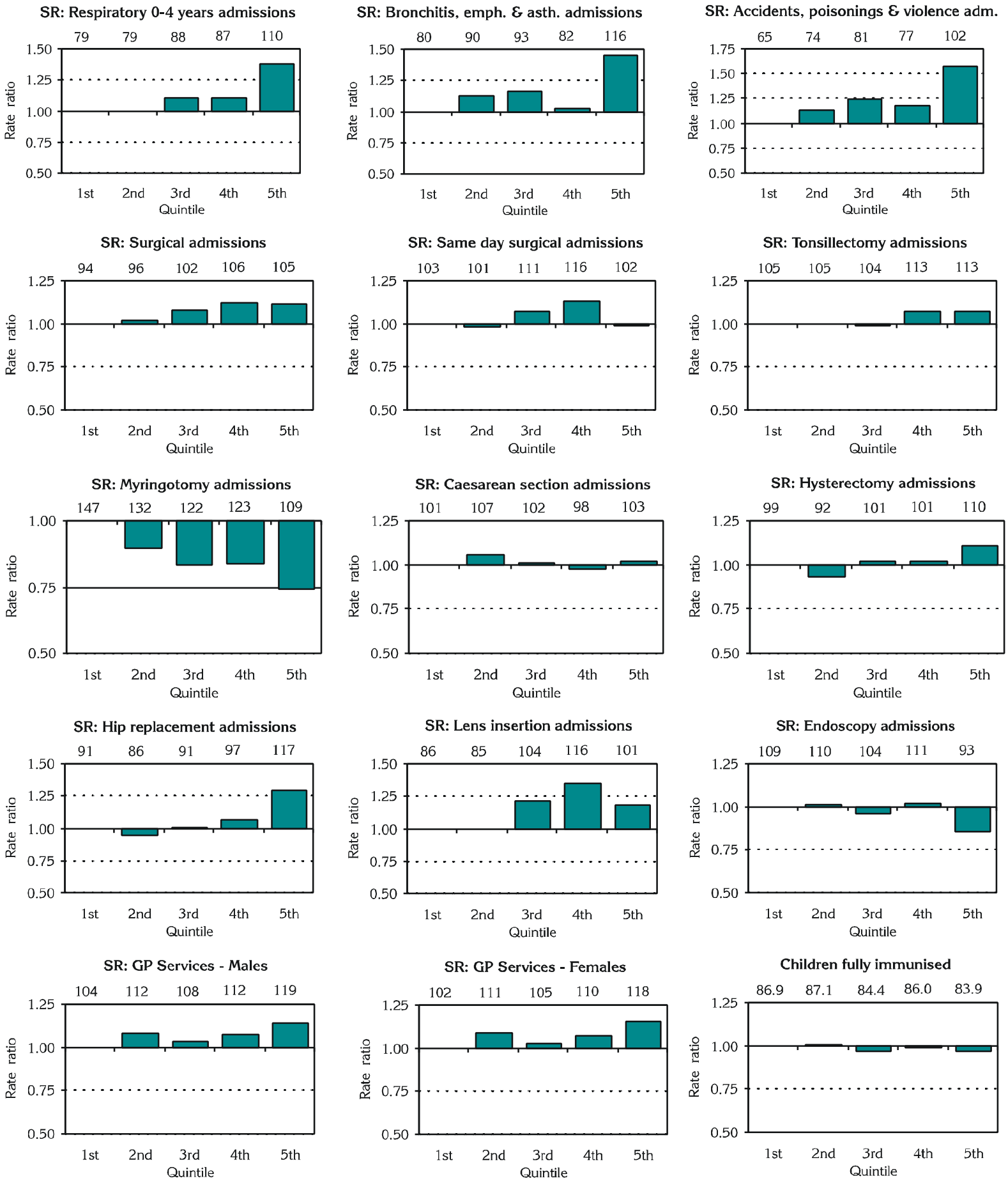
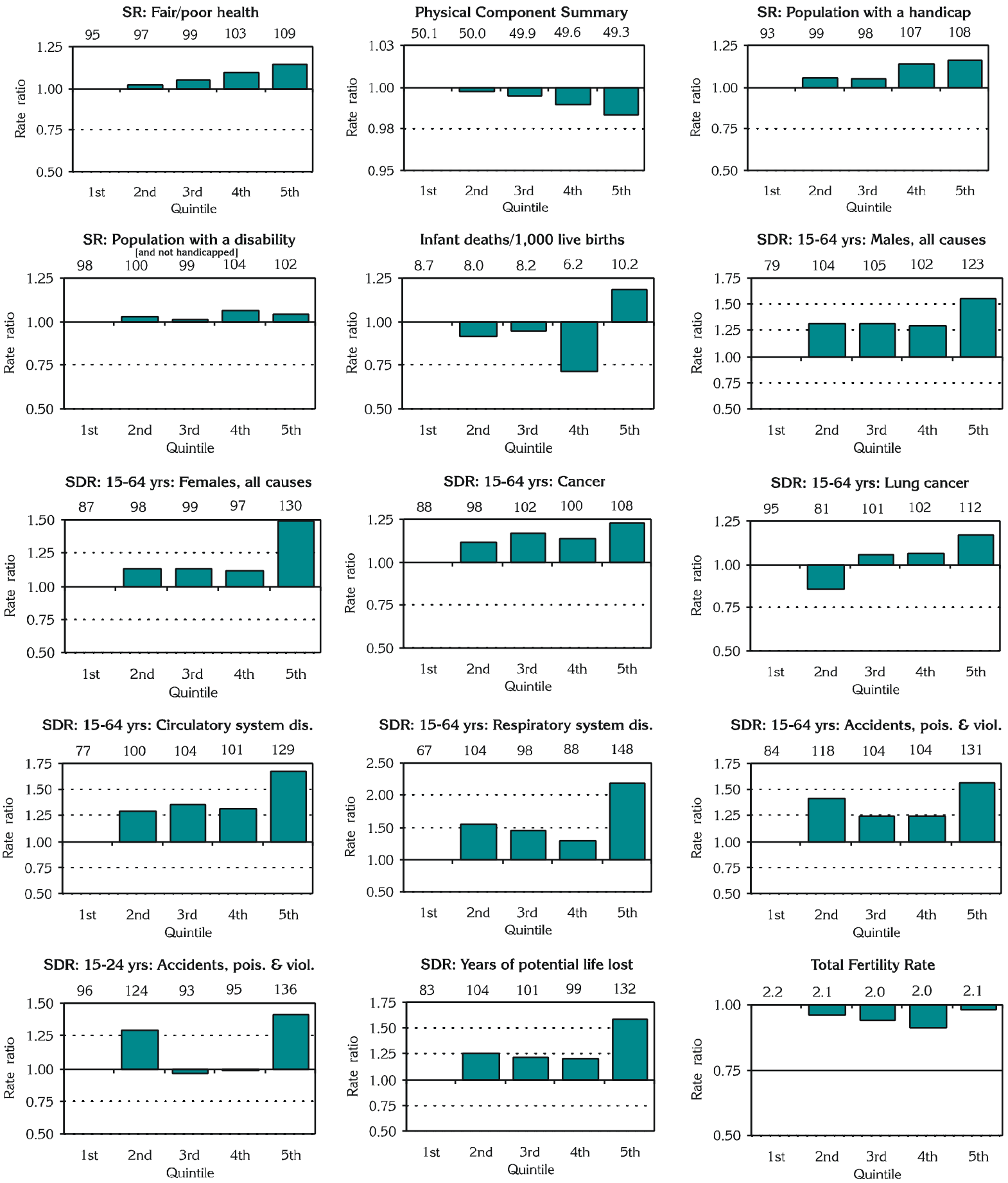


Figure 9.3: Health service utilisation differentials by quintile of socioeconomic disadvantage of area: Brisbane, Gold Coast-Tweed Heads and Townsville-Thuringowa ... *cont*



Note: Quintile of socioeconomic disadvantage of area is based on the ABS SEIFA Index of Relative Socio-Economic Disadvantage.
Source: Compiled from project sources

Figure 9.4: Health status differentials by quintile of socioeconomic disadvantage of area, Rest of State



Note: Quintile of socioeconomic disadvantage of area is based on the ABS SEIFA Index of Relative Socio-Economic Disadvantage. Data for years of potential life lost are for the population aged from 15 to 64 years.

Source: Compiled from project sources

Figure 9.5: Health service utilisation differentials by quintile of socioeconomic disadvantage of area, Rest of State

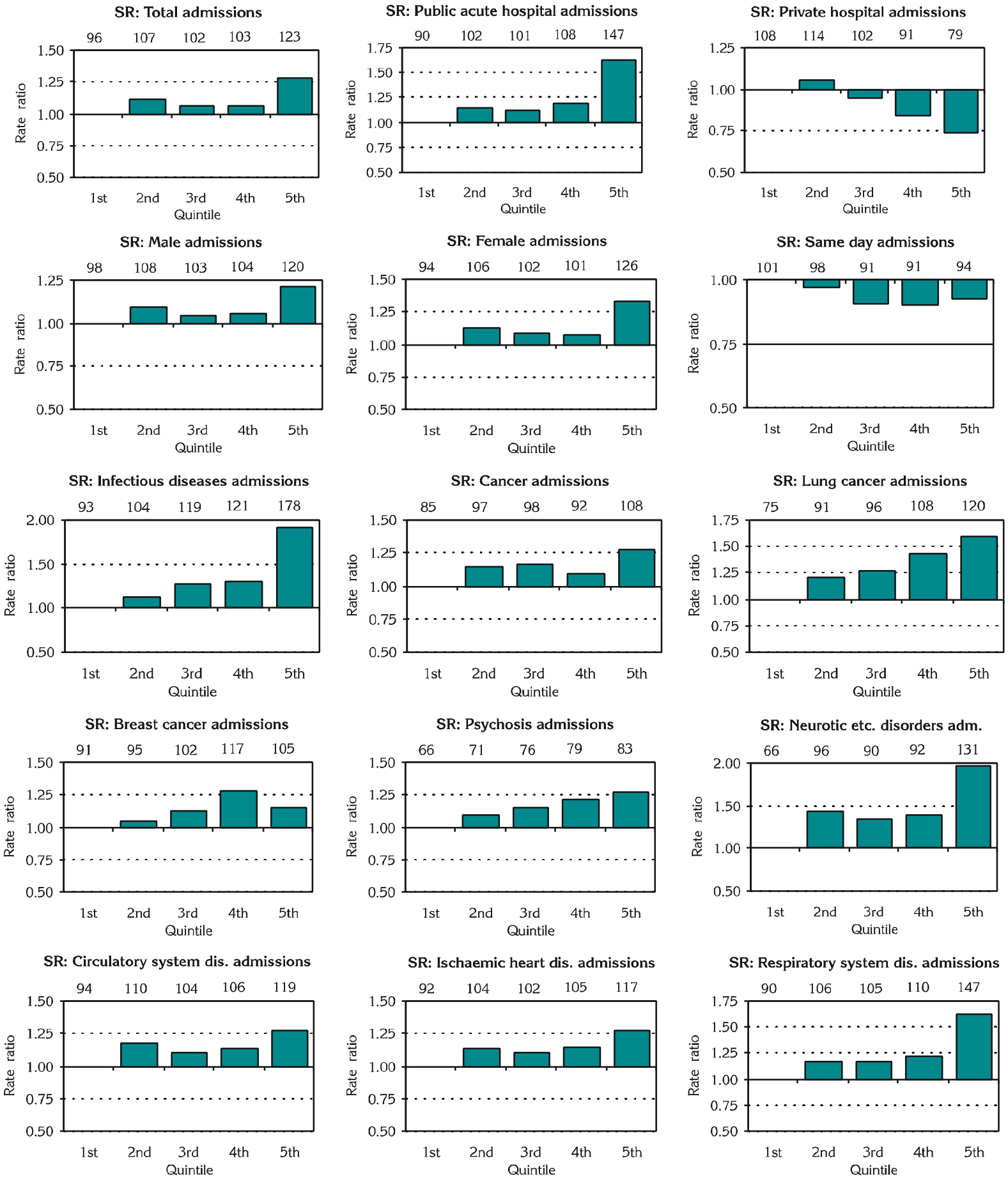
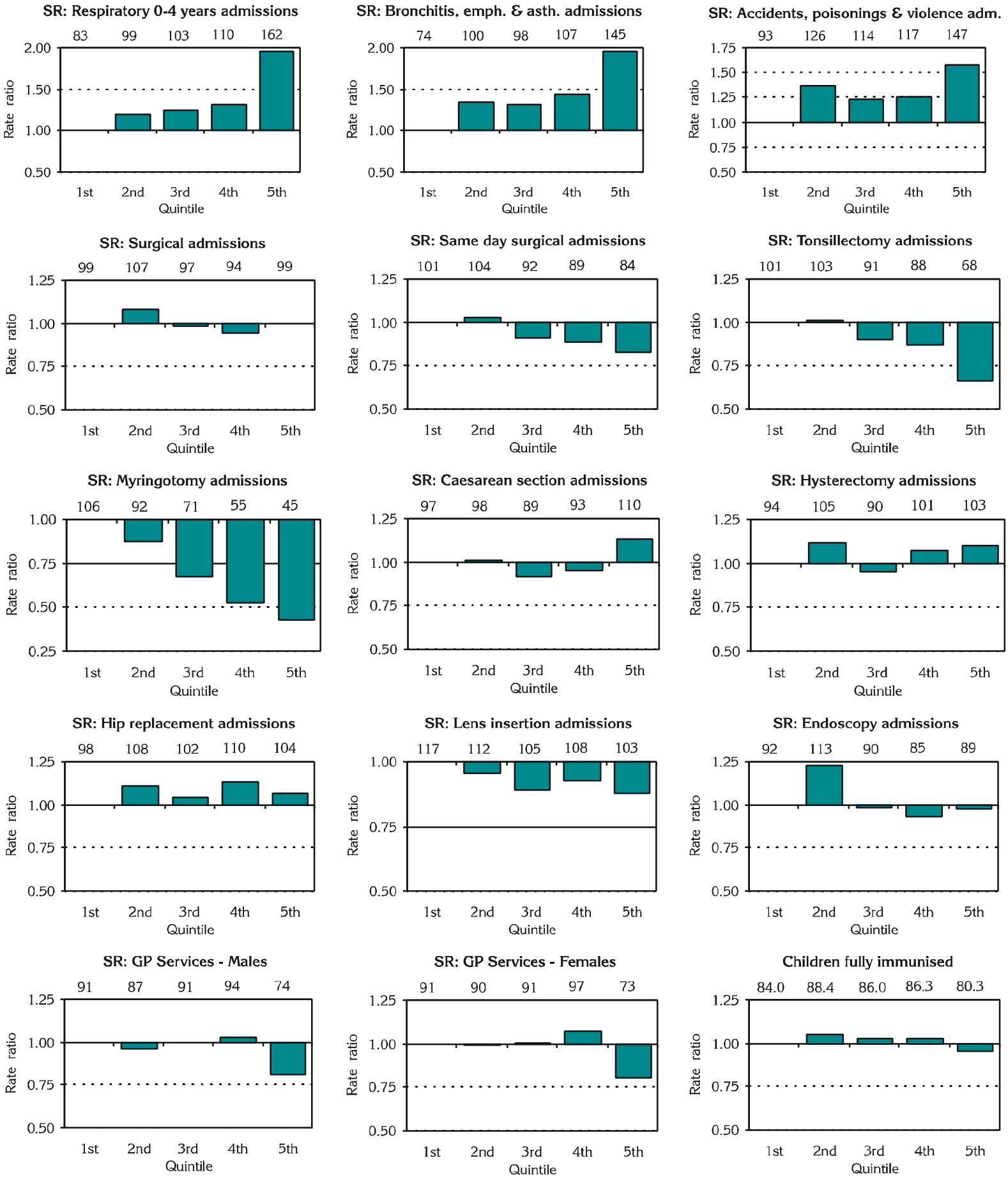


Figure 9.5: Health service utilisation differentials by quintile of socioeconomic disadvantage of area, Rest of State ... *cont*



Note: Quintile of socioeconomic disadvantage of area is based on the ABS SEIFA Index of Relative Socio-Economic Disadvantage.
Source: Compiled from project sources

Changes over time in health status by socioeconomic status of area of residence

The two previous sections have shown the overall decrease in death rates in **Brisbane, Gold Coast-Tweed Heads** and **Townsville-Thuringowa** and in the non-metropolitan areas of Queensland, as well as the differentials in death rates by socioeconomic status of area. In this section, the extent of the change in death rates is again shown, but in a way which highlights the differentials evident by socioeconomic status of area (**Figure 9.6**). As data was not available for non-metropolitan SLAs in the first edition of the atlas, the following comparisons have only been produced for **Brisbane, Gold Coast-Tweed Heads** and **Townsville-Thuringowa**.

Infant death rates (infant deaths per 1,000 live births) in **Brisbane, Gold Coast-Tweed Heads** and **Townsville-Thuringowa** are shown by quintile of socioeconomic status of area for both 1985-89 and 1992-95. There is a gradient evident in the data for both periods, although in both cases one quintile breaks the pattern. In the period 1985-89, infant death rates increase from the lowest rate, of 7.0 in Quintile 1 (the high socioeconomic areas), to the highest rate, of 13.3 in Quintile 5 (Quintile 2 has the lowest rate, of 6.7). In the 1992-95 period, rates increase from 3.9 (Quintile 1) to 9.3 (Quintile 5) . Infant death rates are lower in all quintiles 1992-95 than in 1985-89, although only marginally so in Quintile 2 (down by 53.5 per cent) and with a larger decrease in Quintile 1 than in Quintile 5. This has resulted in the differential in the infant death rate between Quintile 1 (the most advantaged areas) and Quintile 5 (the most disadvantaged areas) increasing, from 1.91 times higher in the most disadvantaged areas in 1985-89 to 2.41 times higher in 1992-95.

It is clear from the graph for males that the strong gradient evident in death rates in 1985-89 remains in 1992-95, despite overall lower death rates. In fact, the differential in death rates for male residents of **Brisbane, Gold Coast-Tweed Heads** and **Townsville-Thuringowa** aged from 15 to 64 years between Quintile 1 (the most advantaged areas) and Quintile 5 (the most disadvantaged areas) increased from 1.63 times higher in the most disadvantaged areas to 1.73 times higher. The percentage decline in death rates between the two periods is similar across all Quintiles.

Death rates for female residents of **Brisbane, Gold Coast-Tweed Heads** and **Townsville-Thuringowa** aged from 15 to 64 years are lower than for males, cover a smaller range, and have a smaller differential between Quintile 1 (the most advantaged areas) and Quintile 5 (the most disadvantaged areas). As shown in **Figure 9.6**, the rates in the later period are lower than in the earlier period for each quintile. The percentage decreases in death rates for females between the two periods also exhibit a gradient, from the largest decrease in Quintile 1 (26.0 per cent) to the smallest in Quintile 5 (13.3 per cent). For females, the differential in death rates between Quintile 1 (the most advantaged areas) and Quintile 5 (the most disadvantaged areas) also increased, from 1.34 times higher in the most disadvantaged areas in 1985-89 to 1.57 times higher in 1992-95.

The graph for deaths of all people aged from 15 to 64 years, the combination of the male and female rates, shows similar gradients to those discussed above. The differential in death rates between Quintile 1 (the most advantaged areas) and Quintile 5 (the most disadvantaged areas) increased from 1.51 times higher in the most disadvantaged areas in 1985-89 to 1.68 times higher in 1992-95.

There are no clear gradients evident for premature deaths from cancer. However, death rates in each of the quintiles is lower in the later period, with the largest decrease occurring in the second most advantaged areas (Quintile 2, down 18.3 per cent). Death rates in Quintile 4 dropped by a lower 8.8 per cent, with the smallest decline recorded in Quintile 5, down by 3.8 per cent. The differential in death rates between Quintile 1 and Quintile 5 increased from 1.05 times higher in the most disadvantaged areas in 1985-89 to 1.21 times higher in 1992-95.

The differential in death rates between Quintile 1 and Quintile 5 for premature deaths from lung cancer in **Brisbane, Gold Coast-Tweed Heads** and **Townsville-Thuringowa** over the period 1992-95 is larger than for all cancers (1.46 compared with 1.21). Rates of death for lung cancer for residents of the areas in Quintile 1 decreased by 28.9 per cent between 1985-89 and 1992-95, while a decrease of around 17 per cent is evident in the remaining Quintiles.

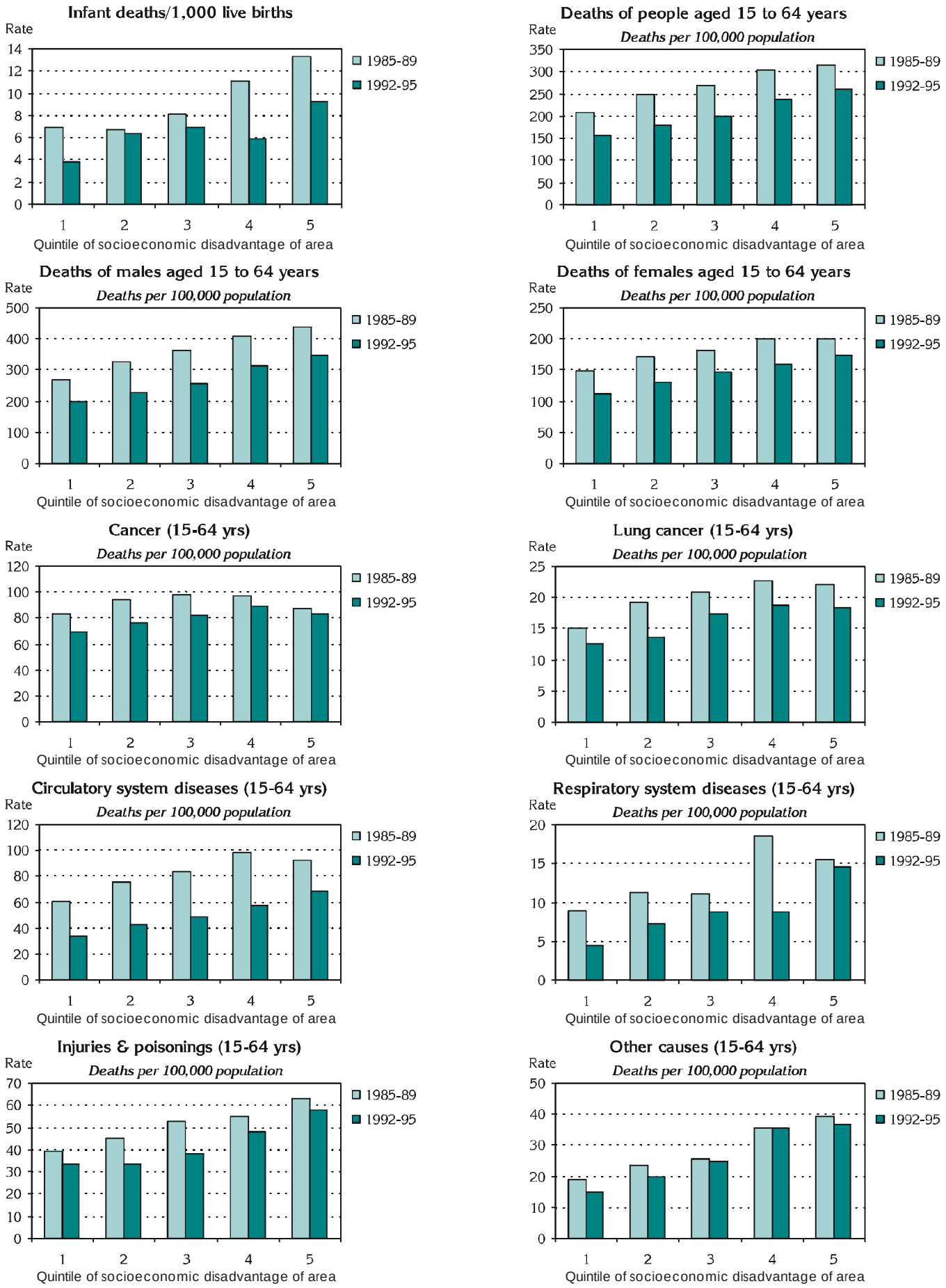
A number of points can be made from an examination of the graph of deaths from circulatory system diseases. For example, overall rates are relatively high, there is a strong gradient and, despite relatively large reductions in death rates across all areas, the differential in death rates between Quintile 1 (the most advantaged areas) and Quintile 5 (the most disadvantaged areas) increased, from 1.53 times higher in the most disadvantaged areas in 1985-89 to 2.03 times higher in 1992-95.

Although death rates from respiratory system diseases are lower than those recorded for circulatory system diseases, the gradients across the quintiles of socioeconomic status of area of address of usual residence in **Brisbane, Gold Coast-Tweed Heads** and **Townsville-Thuringowa** over both periods are particularly strong. In 1985-89, the differential between Quintiles 1 and 5 was 1.74; by 1992-95 this had increased (by 88.9 per cent) to 3.28.

Death rates of 15 to 64 year old people from the external causes of accidents, poisonings and violence are also highest in the most disadvantaged areas of **Brisbane, Gold Coast-Tweed Heads** and **Townsville-Thuringowa**. Again, the differential in 1992-95 is higher than in 1985-89 (up from 1.60 to 1.72). This is a result of the larger declines in death rates in Quintiles 3 (the largest, down by 28.3 per cent) and 2 (-26.3 per cent).

The last graph in **Figure 9.6** shows details for all other causes of death between the ages of 15 and 64 years. Again, there is a clear gradient in the SDRs in both periods, with one of the strongest gradients in SDRs between the most advantaged and most disadvantaged areas. However, unlike the situation shown in the all causes and specific causes graphs (above), overall death rates have only slightly decreased: nor has there been any improvement in the differential between the rates in Quintiles 1 and 5 (2.09 in 1985-89 and 2.47 in 1992-95).

Figure 9.6: Change in health status by quintile of socioeconomic disadvantage of area, Brisbane, Gold Coast-Tweed Heads and Townsville-Thuringowa



Note: Quintile of socioeconomic disadvantage of area is based on the ABS SEIFA Index of Relative Socio-Economic Disadvantage.
Source: Compiled from project sources

Although not included in **Figure 9.6**, death rates of 15 to 24 year olds from the external causes of accidents, poisonings and violence show a different pattern. Rates are relatively high in Quintiles 1 and 2 in 1992-95, although in 1985-89, with higher rates over all the quintiles, the rate in Quintile 4 is highest (at 65.77 deaths per 100,000 population). Unlike deaths from these causes in the 15 to 64 year age group, the differential in 1992-95 is smaller than in 1985-89 (down by 11.3 per cent, from 1.29 to 1.15). The largest declines in death rates were in Quintiles 3 and 4 (down by more than 40 per cent); the smallest of the declines was in Quintile 1 (-15.4 per cent).

Conclusion

There is clear evidence in the data of an association at the SLA level between high premature death rates (for both deaths from all causes and from most specific causes) and socioeconomic disadvantage, as measured by the IRSD. These associations are generally evident not only between the most advantaged (Quintile 1) and disadvantaged areas (Quintile 5), but also at each of the intervening levels of socioeconomic status (Quintiles 2 to 4) (**Figures 9.2 and 9.4**).

Similarly, there are associations between socioeconomic disadvantage and high rates of use of general medical practitioner services in the major urban centres, and for most of the variables for hospital admission in both the major urban centres and the non-metropolitan areas of Queensland (**Figures 9.4 and 9.5**). The gradients by socioeconomic status for admissions are particularly strong in the non-metropolitan SLAs.

It is also clear that, despite the overall improvement in deaths rates from all causes and for a majority of the specific causes studied (**Table 9.2**, **Figure 9.6**), these improvements have not resulted in a reduction in the disparities evident in death rates, for all causes and for a number of specific causes, between residents of the most well off areas and those in the poorest areas (**Figure 9.6**).

The information in this atlas adds to a convincing body of evidence built up over a number of years in Australia as to the striking disparities in health that exist between groups in the population. The challenge for policy makers, health practitioners and governments is to find ways to address these health inequities.