9 Summary

Introduction

This chapter presents details of the major changes noted in the data between this and the first edition, as well as summary measures of health differentials by socioeconomic status of area of residence for the health status and health service utilisation data mapped in Chapters 5 and 6.

Change 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 Tasmania (**Table 9.1**). For **Hobart**, the largest increases were for the population of Aboriginal and Torres Strait Islander people (an increase of 120.3 per cent over this ten year period); low income families (38.2 per cent); single parent families (37.8 per cent); the occupational grouping of managers and administrators, and professionals (35.6 per cent); people aged 65 years and over (24.8 per cent); unemployed people (17.3 per cent); and female labour force participation (10.1 per cent). The largest decreases recorded over this ten year period were for the variables for unskilled and semi-skilled workers (down by 18.5 per cent) and unemployment among 15 to 19 year olds (down by 15.3 per cent).

Variations of this order were also recorded in the non-metropolitan areas of Tasmania. The major differences from the changes noted for **Hobart** were the smaller increases in the population of Aboriginal and Torres Strait Islander people and the occupational grouping of managers and administrators; and larger decrease for unemployment among 15 to 19 year olds.

Substantial variations were recorded in income support payments to residents of **Hobart** for all of the payment types analysed, other than the Age Pension, for which there was a small decrease (a decrease of 5.7 per cent). The number of recipients for each of the other payment types increased substantially, with large increases occurring for disability support pensioners (an increase of 62.6 per cent) and unemployment beneficiaries (61.1 per cent) (**Table 9.1**). Similar, although larger increases were recorded in the non-metropolitan areas of Tasmania for all of these income support payments other than the Age Pension, for which there was a larger decrease (5.9 per cent).

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

Variable	Hobart	Rest of State	Whole State
1986 to 1996			
0 to 4 year olds	-5.2	-4.9	-5.0
65 years & over	24.8	20.2	22.1
Single parent families	37.8	30.3	33.6
Low income families	38.2	37.0	37.4
Unemployed people	17.3	14.9	15.8
Unemployed people aged 15 to 19 years	-15.3	-31.8	-25.8
Female labour force participation (20 to 54 years)	10.1	12.3	11.6
Early school leavers	-8.7	-9.4	-9.1
Unskilled & semi-skilled workers	-18.5	-21.9	-20.8
Managers & administrators, & Professionals	35.6	10.8	20.9
Aboriginal & Torres Strait Islander people	120.3	100.2	106.6
People[1] born overseas & resident for less than five years	7.0	-2.7	2.7
People[1] born overseas & resident for 5 years or more	9.6	7.7	8.7
People[1] born overseas: speaks English not well/not at all	3.6	-9.0	-0.4
Housing authority rented dwellings	-0.9	4.0	1.6
Dwellings without a motor vehicle	9.5	7.6	8.5
1989 to 1996			
Age pensioners	-5.7	-5.9	-5.9
Disability support pensioners	62.6	68.6	66.1
Female sole parent pensioners	25.0	28.7	27.1
Unemployment beneficiaries	61.1	67.1	64.7
Dependent children of selected pensioners & beneficiaries	43.9	45.0	44.6

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

Changes in health status variables

As noted in Chapter 5 (see *Background*), death rates in Australia have declined for the majority of causes. Tasmania 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 **Hobart**, the largest decreases were recorded in the infant death rate (down by 23.2 per cent); and for deaths of people aged from 15 to 64 years from circulatory system diseases (down by 35.0 per cent), lung cancer (down by 29.4 per cent) and respiratory system diseases (down by 15.9 per cent). All causes mortality was 18.4 per cent lower over this period, marginally more so for males than for females.

There were also reductions in rates of premature death in the non-metropolitan areas of Tasmania for all but respiratory system diseases (for which there was a slight increase). However the reductions were all lower, excluding infant deaths and premature deaths from accidents, poisonings and violence, than those recorded for **Hobart**.

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

Variable	Hobart	Rest of State	Whole State
Infant deaths	-23.2	-45.8	-38.5
Deaths of 15 to 64 year olds			
Males	-20.6	-17.8	-18.9
Females	-15.9	-10.2	-12.6
Persons, by cause			
Circulatory system diseases	-35.0	-32.3	-33.2
All cancers (malignant neoplasms)	-10.0	-6.4	-7.9
Lung cancer	-29.4	-26.0	-27.8
Respiratory system diseases	-15.9	1.4	-5.6
Accidents, poisonings & violence	-8.3	-13.3	-11.5
Other causes	-17.6	-1.2	-8.5
All causes	-18.4	-15.6	-16.7

[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 **Hobart** 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 17). 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 Tasmania.

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.

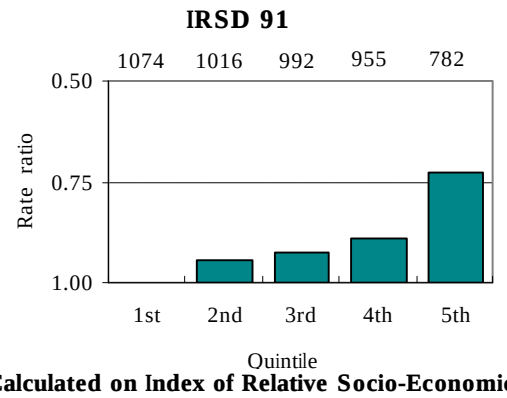
Allocation of SLAs to quintiles in Hobart

The seven SLAs in **Hobart** they have been allocated to the quintiles as it was considered to be preferable to make this data available, despite any limitations arising because of the small number of areas (seven SLAs allocated to five groups).

The composition of the quintiles is: Quintile 5, Brighton; Quintile 4, New Norfolk and Glenorchy; Quintile 3, Sorell; Quintile 4, Clarence and Hobart under the 1991 IRSD and Clarence and Kingborough under the 1996 IRSD; and Quintile 5, Kingborough under the 1991 IRSD and Hobart under the 1996 IRSD.

Figure 9.1 shows that the average IRSD score in 1991 for Quintile 1 (the highest socioeconomically status SLA in **Hobart**) was 1074, decreasing for each quintile to a score of 782 in Quintile 5 (the most disadvantaged SLA). The range of index scores for the non-metropolitan areas of Tasmania was from 1037 to 942.

Figure 9.1: Differentials in IRSD scores for SLAs in Hobart, 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 (**Figures 9.2** and **9.4**) 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** and **9.5**) is from the 1996 Census, as the data is for periods close to the 1996 Census. At the 1996 Census, the IRSD scores in **Hobart** were, for Quintile 1, 1106; Quintile 2, 1056; Quintile 3, 1002; Quintile 4, 963; Quintile 5, 846. The range of index scores for the non-metropolitan areas of Tasmania was from 1050 to 945.

Results

Health status in Hobart

Figure 9.2 shows the rate ratios for each of the health status variables for SLAs in **Hobart**.

The bars in the graph show the rate ratio for the variable in each quintile. The rate ratio is calculated as the value (eg. the standardised ratio (SR) in each quintile divided by the SR in Quintile 1: the rate ratio for Quintile 1 is 1.0). Using the graph of years of potential life lost (YPLL) from deaths between the ages of 15 to 64 years as an example, it can be seen that the rate ratio in Quintile 4 (the quintile with the highest rate) is over 1.5 (ie. the SR in Quintile 4 is more than 50 per cent higher than in the areas in Quintile 1). The actual values of the SRs (shown above the bars) range from 73 in the most advantaged areas (27 per cent fewer YPLL than were expected from the Australian rates) to 115 in Quintile 4 (and a lower 101 in the most disadvantaged areas). Similar differentials were also evident for deaths of 15 to 64 year olds from circulatory system diseases (from an SDR of 74 in Quintile 1 to 115 in Quintile 4 and 110 in Quintile 5) and females (77 in Quintile 1 to 126 in Quintile 4); and deaths of 15 to 64 years olds from respiratory system diseases (48 to 231).

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 for the most disadvantaged SLAs (those in Quintiles 4 and 5) to have the highest rates. The most notable exception is the Physical Component Summary (PCS) score, for which low scores indicate poorer health. There is also a less consistent pattern evident for a number of the variables for premature deaths, with relatively low rates in Quintile 5 (**Figure 9.2**). There was little variability evident in the Total Fertility Rate, other than a lower rate in Quintile 2.

Health service utilisation in Hobart

Figure 9.3 shows the graphs for each of the health service utilisation variables for SLAs in **Hobart**. There is considerable variability in admission rates across the quintiles, although Quintile 5 generally has a higher rate ratio than Quintile 1: the main exceptions are for admissions to private hospitals, same day admissions and admissions for the surgical procedures of myringotomy, lens insertion and endoscopy. There are only minor variations between the quintiles in the percentages for use of general medical practitioner services and immunisation rates of children at age 12 months.

Health status in non-metropolitan Tasmania

Figure 9.4 shows the rate ratios for each of the health status variables for SLAs in the non-metropolitan areas of Tasmania. The main differences from the gradients evident in **Hobart** are the stronger gradients across the quintiles for many of the variables.

Health service utilisation in non-metropolitan Tasmania

Figure 9.5 shows the rate ratios for each of the health service utilisation variables for SLAs in the non-metropolitan areas of Tasmania. The main differences from the charts for **Hobart** are the stronger gradients evident for many of the variables.

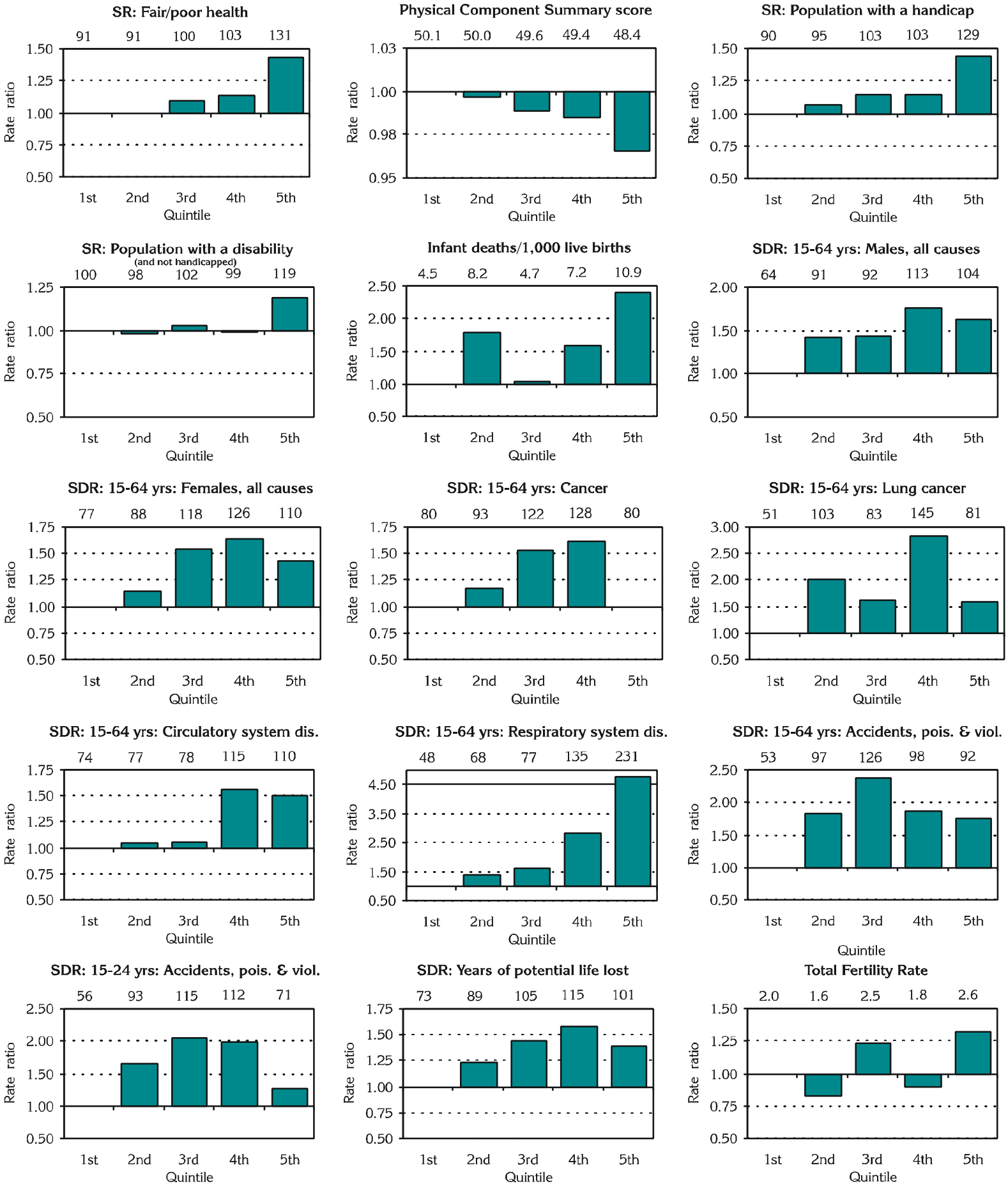
Change in health status by socioeconomic status of area of residence

The two previous sections have shown the overall decrease in death rates in **Hobart** and in the non-metropolitan areas of Tasmania 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 **Hobart**. The non-metropolitan rates will be calculated and posted on the atlas World Wide Web site (www.publichealth.gov.au).

Infant death rates (infant deaths per 1,000 live births) in **Hobart** are shown by quintile of socioeconomic status of area for both 1985-89 and 1992-95. In the earlier period (1985-89), Quintiles 1 and 2 have relatively high rates, with lower rates in Quintiles 3 and 4 and the highest rate in Quintile 5. In 1992-95 there is a strong gradient in infant death rates across the quintiles, broken only by a higher rate in Quintile 2 (a pattern common to many of the variables in this analysis: see **Figure 9.6**). The differential in infant deaths rate between Quintile 1 (the most advantaged areas) and Quintile 5 (the most disadvantaged areas) has increased notably, from five per cent higher in the most disadvantaged areas in 1985-89 (a rate ratio of 1.05) to more than twice as high in 1992-95 (a rate ratio of 2.42). Even combining Quintiles 1 and 2, the differential in rates is 1.4.

It is clear from the graph for males that, despite overall lower death rates, the gradient evident in 1985-89 remains in 1992-95. In fact, the differential in death rates for male residents of **Hobart** aged from 15 to 64 years between Quintile 1 (the most advantaged areas) and Quintile 5 (the most disadvantaged areas) is 2.11 in both periods.

Figure 9.2: Health status differentials by quintile of socioeconomic disadvantage of area, Hobart



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, Hobart

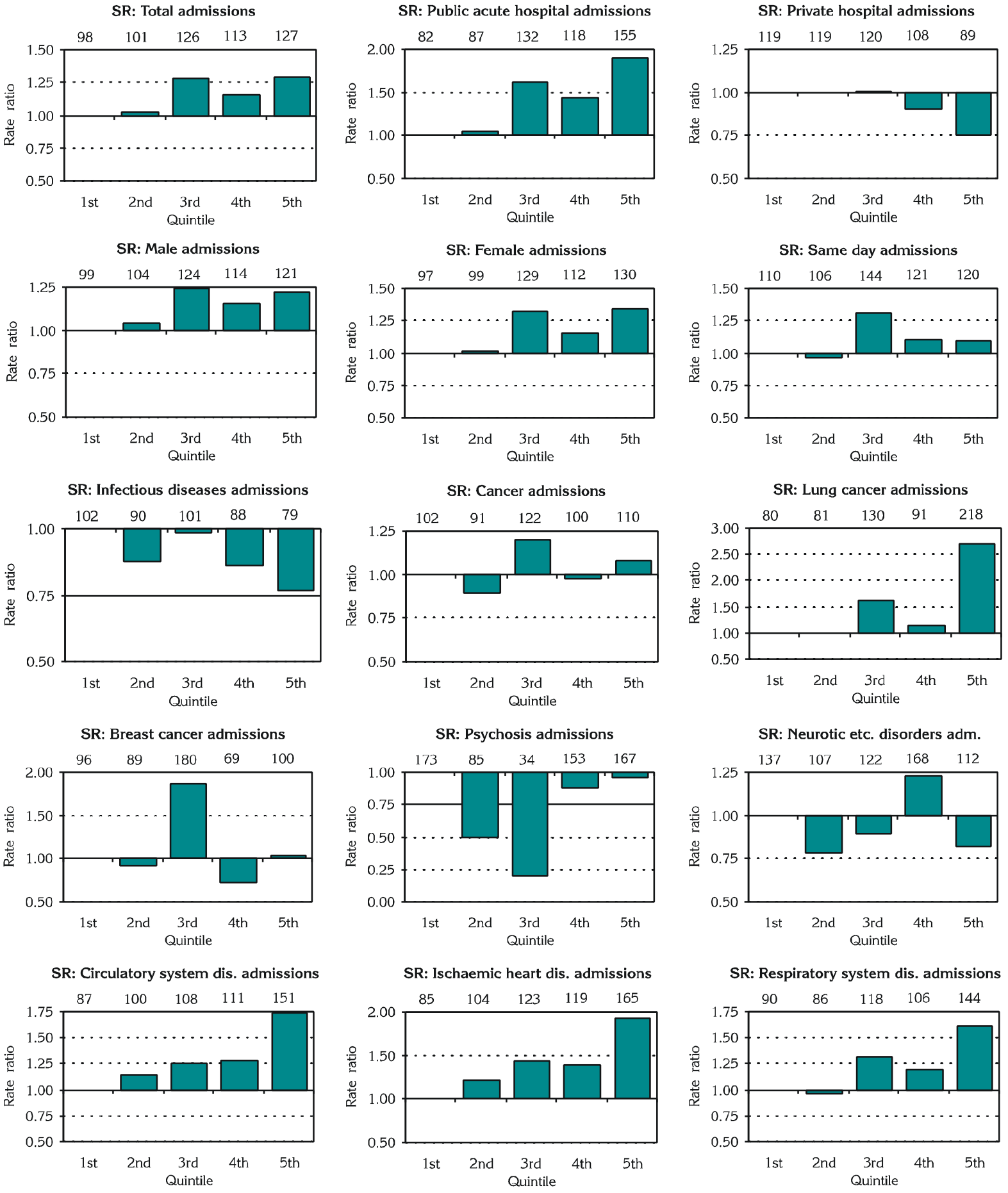
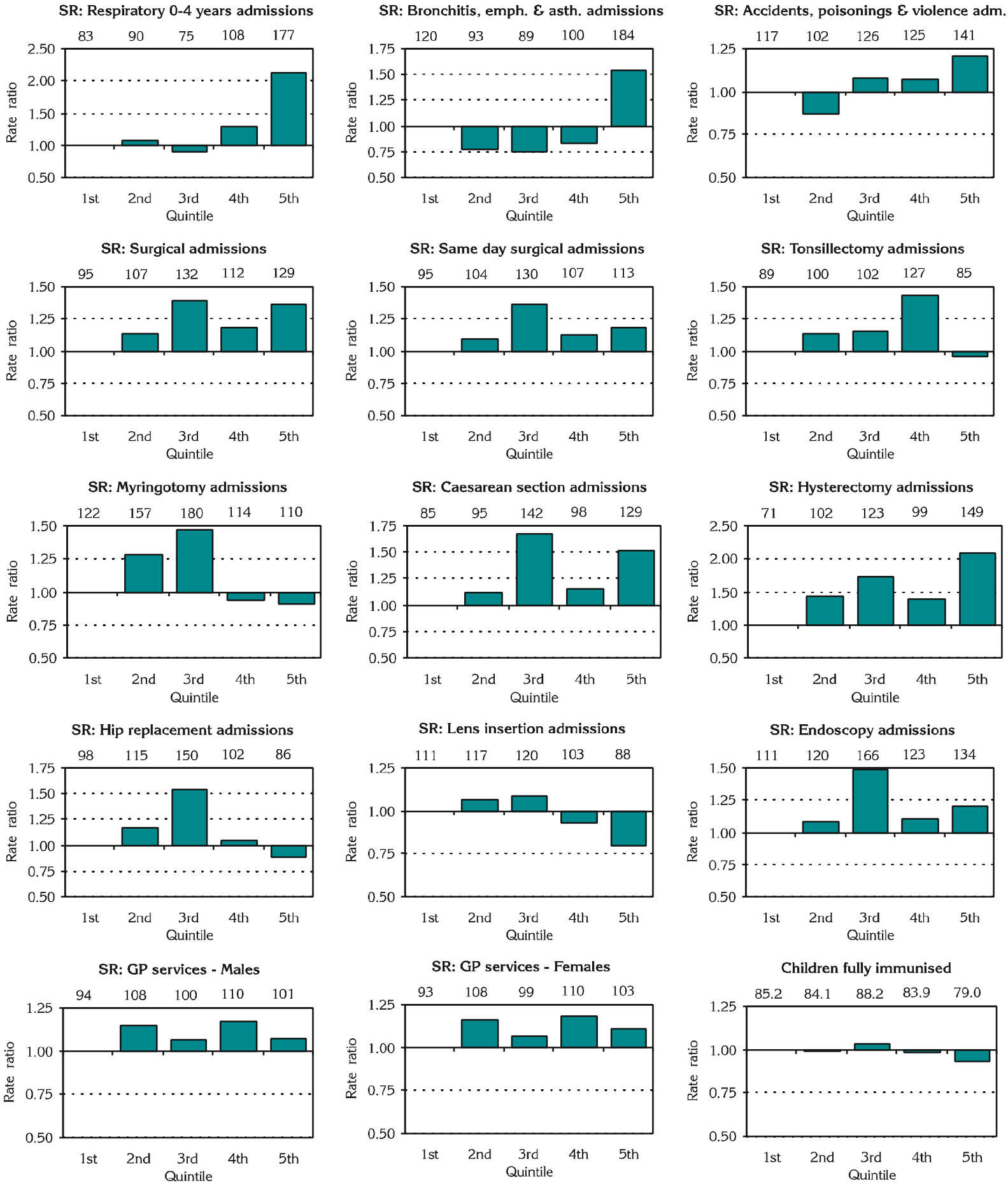
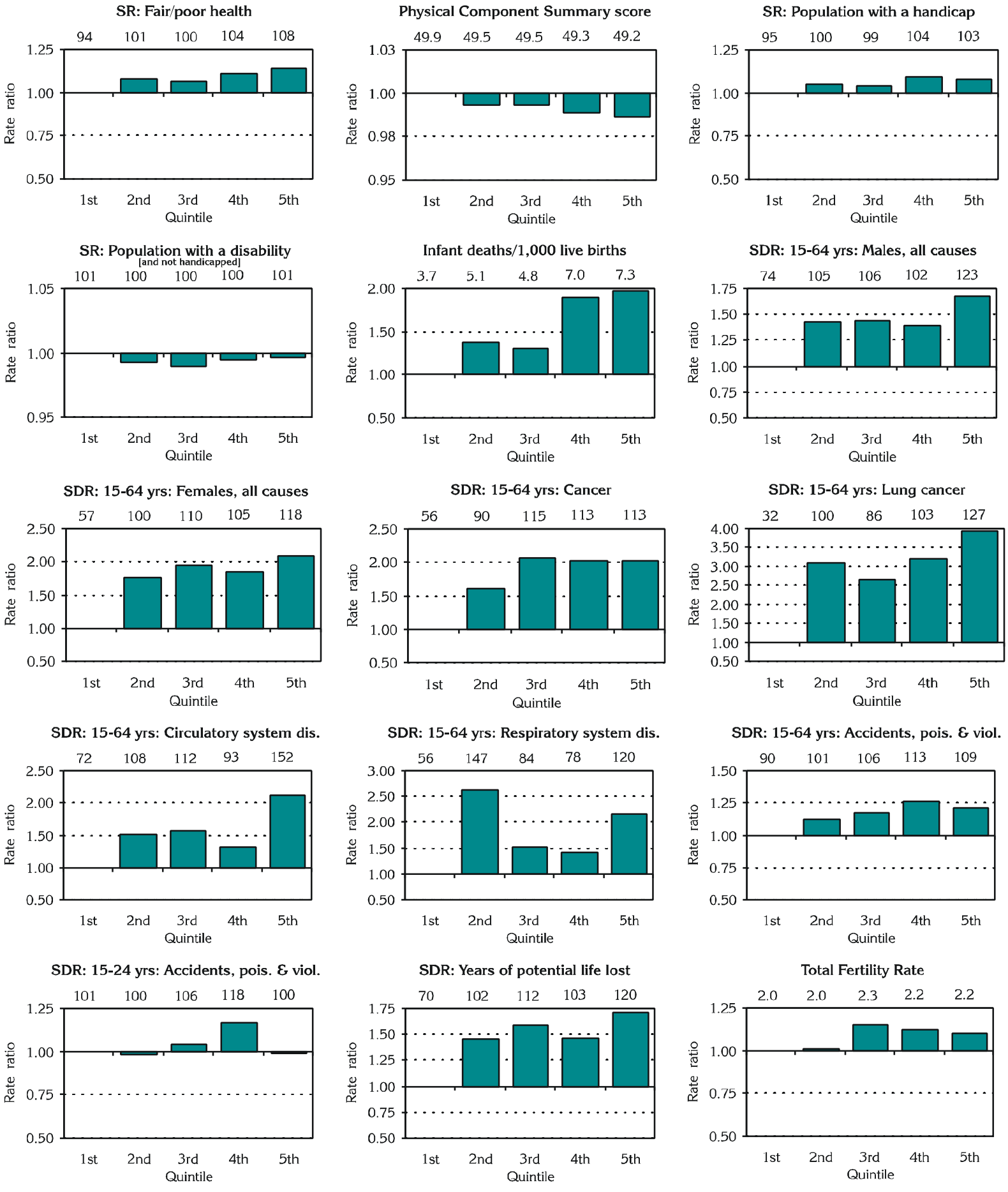


Figure 9.3: Health service utilisation differentials by quintile of socioeconomic disadvantage of area, Hobart ... *cont*



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

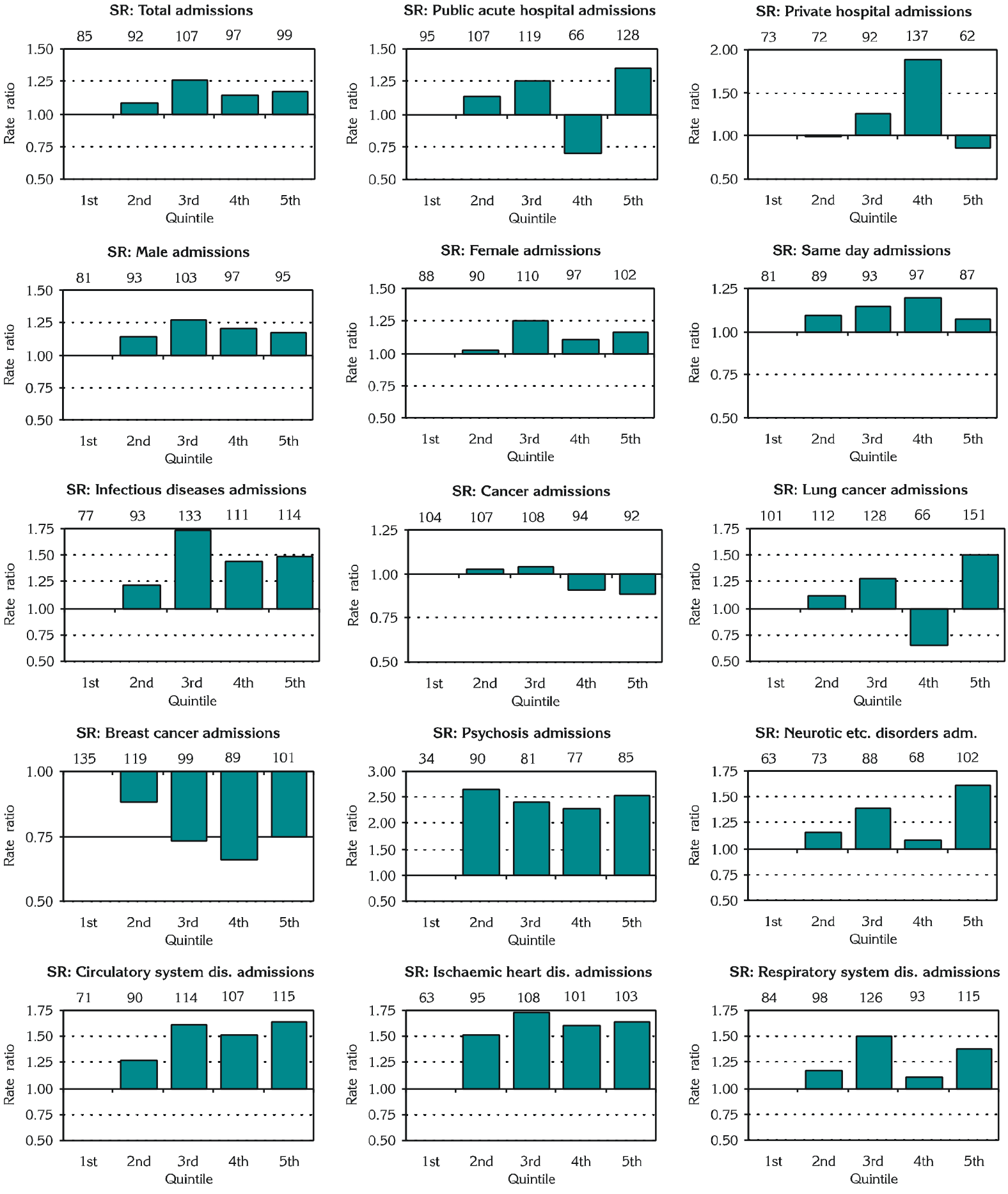
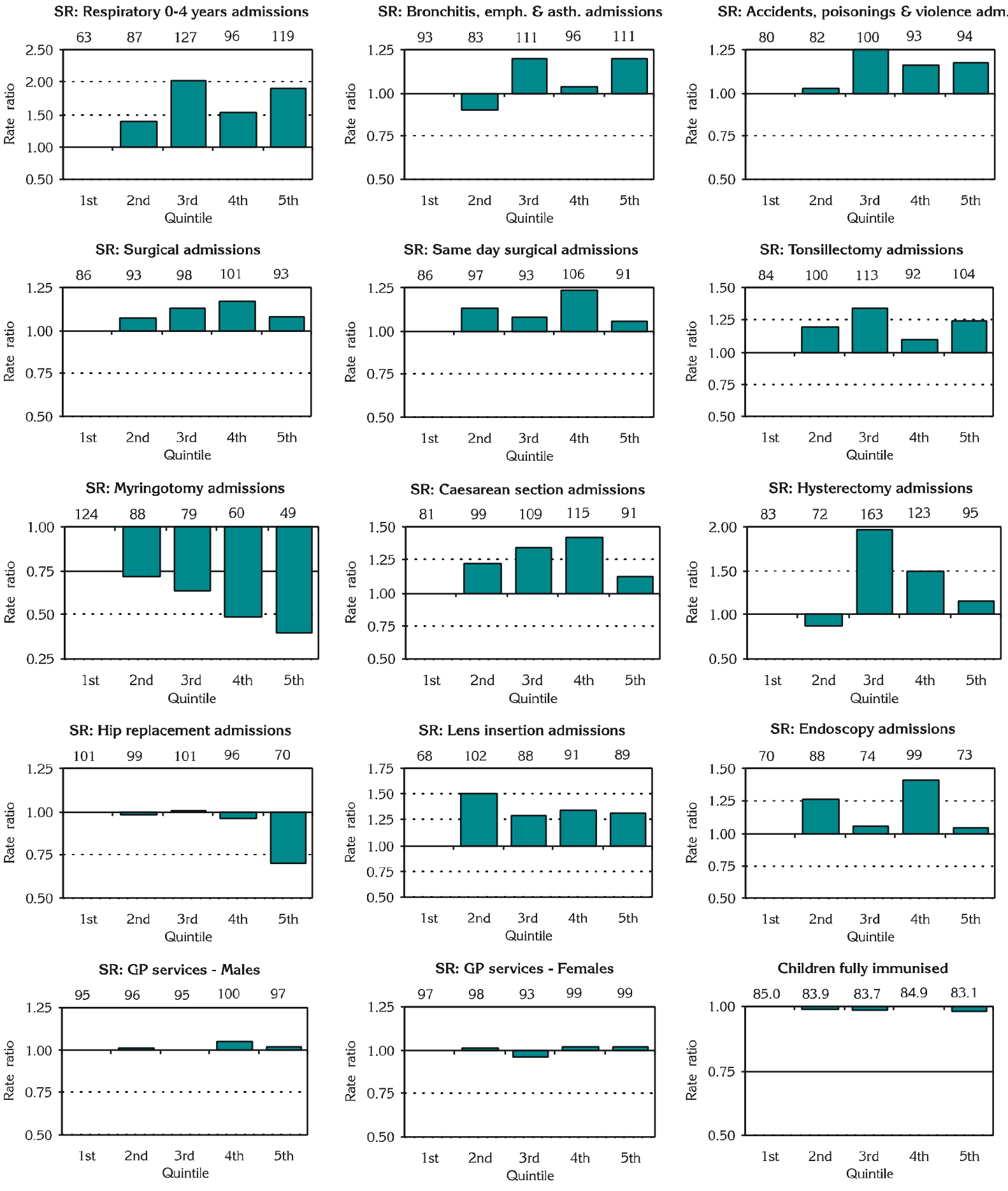


Figure 9.5: Health service utilisation differentials by quintile of socioeconomic disadvantage of area, Rest of State ... *cont*



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

Death rates for females in **Hobart** aged from 15 to 64 years are lower than for males, cover a smaller range, and have a lower 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 differential in death rates between Quintile 1 (the most advantaged areas) and Quintile 5 (the most disadvantaged areas) decreased, from 1.95 times higher in the most disadvantaged areas in 1985-89 to 1.78 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) decreased marginally, from 2.04 times higher in the most disadvantaged areas in 1985-89 to 1.98 times higher in 1992-95.

There are also gradients evident for premature deaths from cancer, although they are not as marked as for deaths of males or females. Death rates in all but Quintile 4 are lower in the later period, with the largest decrease occurring in the most disadvantaged areas (Quintile 5, down by 30.5 per cent). The differential in death rates between Quintile 1 and Quintile 5 decreased from 1.64 times higher in the most disadvantaged areas in 1985-89 to 1.33 times higher in 1992-95.

As a result of the larger decrease in death rates from lung cancer for residents of the areas in Quintile 5 (down by 65.9 per cent), the differential in death rates between Quintile 1 and Quintile 5 has decreased from 3.31 in 1985-89 to 1.84 in 1992-95.

Overall death rates for circulatory system diseases are relatively high 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 2.07 times higher in the most disadvantaged areas in 1985-89 to 2.29 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 first four quintiles of socioeconomic status of area of address of usual residence in **Hobart** over both periods are quite strong. However, in 1985-89, the differential between Quintiles 1 and 5 was 2.61; by 1992-95 this had increased (by 40.6 per cent) to 3.67, the largest of the differentials for the causes studied.

Death rates of 15 to 64 year old people from the external causes of accidents, poisonings and violence have not decreased greatly, and the differential between the rates in the most advantaged and most disadvantaged areas have increased, from 2.68 to 2.85.

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 gradient, with the highest SDRs in the most disadvantaged areas. The differential between the rates in the most advantaged and most disadvantaged areas has increased, from 1.87 in 1985-89 to 1.94 in 1992-95.

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 generally lower and, while the differential between the rates in the most advantaged and most disadvantaged areas has decreased substantially, from 3.12 in 1985-89 to 1.69 in 1992-95, the rate is still 69 per cent higher.

Conclusion

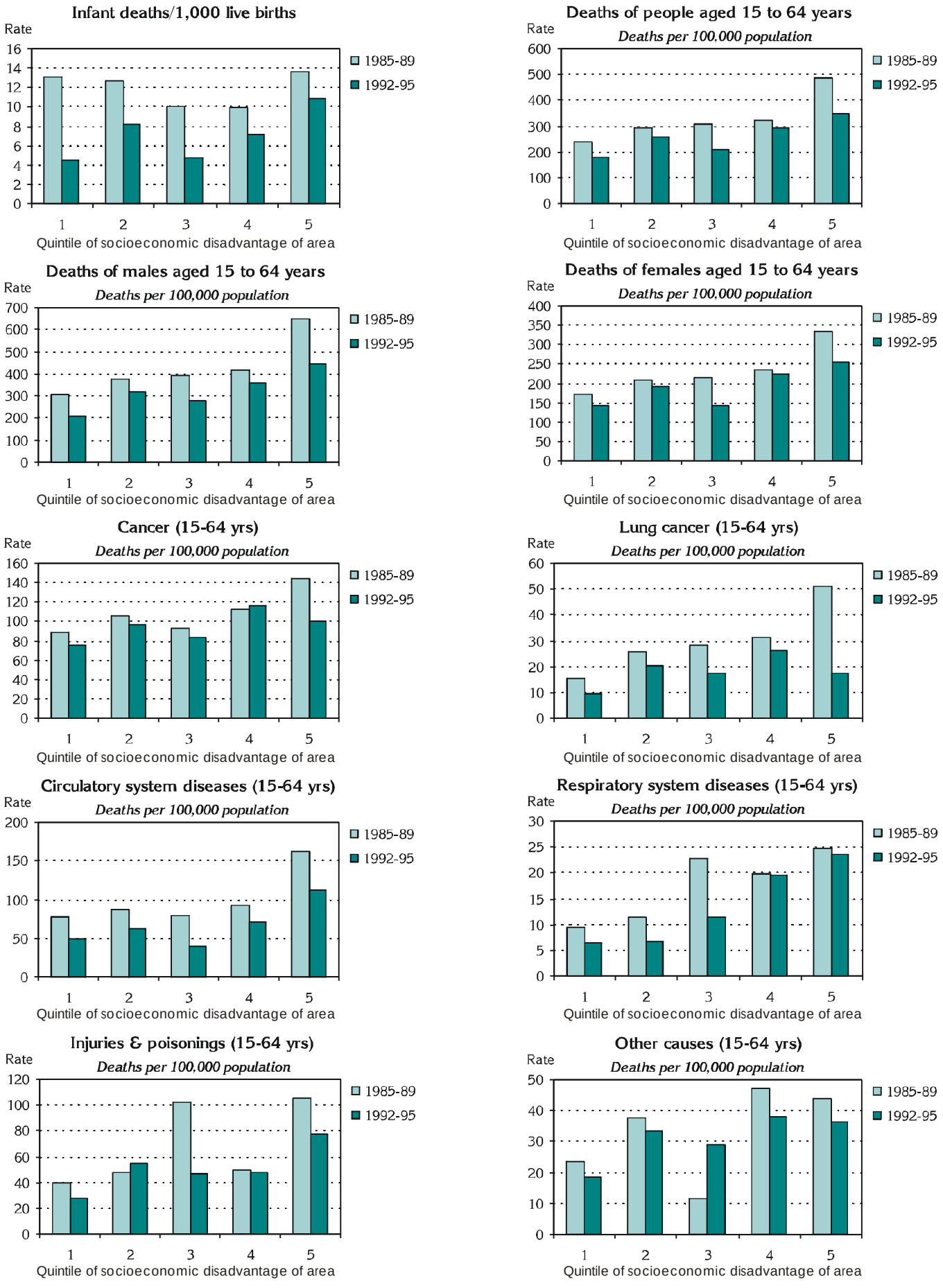
There is clear evidence in the data of an association at the SLA level between high premature death rates (for both deaths from all causes and from most specific causes) and socioeconomic disadvantage, as measured by the IRSD. These associations are generally evident not only between the most advantaged (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 admissions to hospital (**Figures 9.3 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 death rates for **Hobart** (**Table 9.2**, **Figure 9.6**), the disparities evident in death rates between residents of the most well off areas and the poorest areas remain (**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.

Figure 9.6: Change in health status by quintile of socioeconomic disadvantage of area, Hobart



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

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