7 Use of services

Introduction

Health services take many forms and are offered in a variety of settings. They are provided in institutions such as hospitals and nursing homes, and within the community (for example, in community health centres, home nursing and support services, general practice and specialist medical services, mental health services, migrant health centres and Aboriginal-controlled health services). Such services can be focused on health promotion, disease and injury prevention, early intervention, treatment, rehabilitation and palliative care. Other services, such as those offered by the Department for Families and Communities (DFC), have a specific focus on those who are socioeconomically disadvantaged.

The patterns of service use in South Australia are relevant and important. Firstly, they are useful in themselves – as measures of differential use of services and the implications of this for the individual (potential loss of function, time away from family, time off from work, cost) and the health and welfare sectors (resource implications). Secondly, patterns of health service use are indicators of illness (morbidity) in the community, at levels requiring admission to a hospital, attendance at an outpatient clinic or an emergency department; or use of primary health care services from a general medical practitioner or a community-based health service. Patterns of use of services provided by the Department for Families and Communities indicate levels of need by those who are disadvantaged in the community.

Data are presented for the first time on a number of primary health care services, including breast screening and cervical screening participation rates (and diagnostic outcomes), as well as community mental health services. Services provided to those attending outpatient departments (last available some 20 years ago) and Accident and Emergency departments of public acute hospitals (not previously available) are also included, as are attendances for consultations with specialist medical practitioners, either in their private capacity or in an outpatient department.

The geographic distribution of the population by private health insurance cover in 2001 is also provided, illustrating the divide between those whose access is limited to public health services, and those who can also afford to use private health services.

Data mapped

In addition to the new datasets noted above, this chapter includes details of admissions to public and private hospitals, services provided by general medical practitioners (GPs), people on a booking list for elective surgery, those who are clients of the Department for Families and Communities, and attendances at a range of community health services and community-based services delivered in the home (by Domiciliary Care services, Royal District Nursing Service and Meals on Wheels). These are services for which data necessary for the analysis at the small area level can be obtained: such data includes the age, sex and Statistical Local Area (SLA) of the address of usual residence of the patient or client.

Details of the supply of GPs are also included; this indicator is important in describing regional variations in the supply of GPs.

A comparison of the geographic distribution of the population's service use with the data mapped in the other chapters indicates the extent of any association at the small area level between health service use and socioeconomic status or health status. The extent of the association is also indicated by the results of the correlation analysis in Chapter 8.

The chapter has been organised under the following headings.

Community-based services:

- Community health services
- Community mental health services
- Child and Adolescent Mental Health Services
- Department for Families and Communities
- Screening services
- Home and Community Care

Medical services

- General medical practitioners
- Accident & Emergency department attendances
- Outpatient department attendances
- Specialist medical practitioner services
- Private health insurance
- Hospital admissions
- Hospital booking lists

Measures mapped

Age standardised ratios have been calculated (by the indirect method) and mapped for admissions to hospital and other services provided by place of usual residence of the patient or client, to illustrate the extent of variation in service use between the populations of these areas. The ratios are presented as an index, with ratios elevated above

the State rates expressed as index numbers of 101, or higher; and those below the State rates expressed as index numbers of 99, or lower[1]. Thus, an index number of 110 for hospital admissions from an area indicates that there were ten per cent more admissions of residents from that area than expected (compared with the rates for South Australia) for a population with the age and sex distribution of the area. An index number of 87 indicates 13% fewer admissions, and so on.

A description of the technique of standardisation, its purposes and method of calculation, is in Appendix 1.3.

Variables mapped

The variables mapped represent only a selection of the full range of variables that could potentially be mapped from each data set. Many potentially useful variables have not been included due to the relatively small numbers of cases available for analysis at the small area level. The number of variables mapped was also constrained by the size of the atlas and the desire to focus on information not previously published. Data for a number of additional variables can be found on the PHIDU website: www.publichealth.gov.au.

Gaps and deficiencies in the data

Data collections

Over the years since the first edition of the atlas was produced in1990, the range of data has increased, and its quality has improved. However, significant gaps remain in data that can be mapped. For example, details of services provided by GPs or specialist medical practitioners are generally limited to the age and sex of patients. There is, for example, limited information at a small area level which includes other client characteristics, such as reason for attendance (e.g. patient is unwell and the nature of the illness, has an injury, or is seeking advice), type of services provided (e.g. patient referred to another health practitioner, pharmaceutical drugs prescribed), or outcome (e.g. counselling undertaken, course of treatment initiated). The lack of information on GP services represents a major gap in our ability to describe the work of these important primary health care providers, to understand the appropriateness of the services provided, and to assess the outcomes achieved.

Another important gap is the lack of data describing the geographic distribution of the dispensing of prescribed pharmaceutical items.

Other data issues

As discussed in Chapters 1 and 2, the lack of data items, such as income or education, in health statistics collections and the consequent inability to identify and analyse socioeconomic status directly is a major deficiency in the Australian data. Therefore, the socioeconomic status of the area of usual residence of the client or patient is used as a proxy for the socioeconomic status of the client or patient.

The limitations of this approach are discussed in Chapter 2, *Methods* under the heading *Usual residence*.

An over-riding deficiency in the hospital inpatient data is the lack of a unique identifier, which would allow for the analysis of data for individuals rather than for events (admissions). A number of initiatives are under way to address this deficiency. The results of an analysis of one of these approaches are described under *Individuals and events*, page 389.

[1] Variables where data are only available for metropolitan regions are standardised to the population in the metropolitan regions.

Community-based services

Introduction

Community-based services covered in this section include services provided by:

- community health centres and services on a one-to-one basis (excluding group sessions);
- community mental health services;
- Child and Adolescent Mental Health Services;
- Department for Families and Communities;
- centre-based and in-home services provided by the four metropolitan Domiciliary Care services;
- home nursing provided by the Royal District Nursing Service of SA Incorporated (RDNS) in Metropolitan Adelaide; and
- details of meals delivered to eligible people at home by the voluntary Meals on Wheels organisation in Metropolitan Adelaide.

Data mapped

Data for community health centres and services and community mental health services in Metropolitan Adelaide for 1999/2000 were largely provided from the Metropolitan Community Health Services System; data for residents of Adelaide attending Women's Health Statewide and Adelaide Hills Community Health Service were supplied directly by these services. The community health centres' and services' data are not available for country South Australia on a basis consistent with that used for metropolitan services. For example, some services provided from a community health (or domiciliary care) service in the metropolitan area are provided in the country by the local hospital, as an outreach service.

The data for the four metropolitan domiciliary care services were provided from the Home and Community Care (HACC) dataset for 2003. For community health services, data for services to residents of country South Australia, similar to those provided by the metropolitan domiciliary care services, were not available. The Royal District Nursing Service (RDNS) supplied client data for 2003/2004; and data for home-delivered meals were provided by Meals on Wheels; again, data for similar services provided in country areas were not available.

Each of these data sets – community health, domiciliary care and RDNS – depicts the number of individual clients (each client receiving a service in the period is included once only), rather than the total number of services provided in the period, as is the case for the hospital admissions and GP services.

The data for domiciliary care services has been standardised to the population aged 40 years and over, as over 95% of clients are of those ages.

Cautions

A number of factors should be borne in mind when reading the following commentaries and using the data and maps. These include that:

- the rate of use of services can be affected by the location of the services: this is particularly the case with the community-based services included in this chapter;
- the proportion of time spent in health promotion and education and other community development activities can differ significantly between services. Such activities generally require more time, meaning less 'activity' being reported in these head-count statistics for those services;
- similarly, the time spent with clients by staff of community health services can vary significantly. For example, a social worker or community health nurse is likely to have a much greater time involvement with each client than is a GP;
- the data do not cover all activities of these services – for example, details of group activities have not been reported.

Community health services (one-to-one clients), 2001/2002

Community health services offer early intervention, prevention, treatment, and health promotion and education services. Only clients attending for sessions on a one-to-one basis are included (that is, the data exclude group sessions). These data were not available for services in country South Australia on a basis consistent with that for Metropolitan Adelaide.

The age-standardised rate of clients in Metropolitan Adelaide has decreased over this ten-year period, from 1,320 per 100,000 in 1991/1992 to 1,102 in 2001/2002, a decline of 16.5% (Table 7.1). There was a greater decline in Central Northern region (14.0%) than in Southern (9.9%).

Table 7.1: Community health service clients

Age-standardised rate per 100,000

Region	1991/1992	2001/2002	Per cent change[1]
Central Northern (excl. Gawler)	1,311	1,128	-14.0
Southern	1,215	1,095	-9.9
Metropolitan Adelaide (incl. Gawler)	1,320	1,102	-16.5

[1]**Per cent change over ten years in the rate of community health services clients**

Metropolitan regions

There were 11,703 clients of community health services in the metropolitan regions (excluding Gawler) in 2001/2002, with a marked separation between areas with high, and those with low, client numbers (Map 7.1). This is due, in part, to the location and availability of these services, as well as to the limited ability of people in these areas to afford privately funded services of the kind offered at no cost through community health services.

This variable is consistently strongly correlated at the SLA level with variables of socioeconomic disadvantage (Table 8.1). These results, together with the strong inverse correlation with the Index of Relative Socio-Economic Disadvantage, indicate an association at the SLA level, of community health service clients with socioeconomic disadvantage.

Central Northern Adelaide

Some 8,333 people from the Central Northern region attended a community health centre or service in 2001/2002, two per cent more than expected from the rates for the metropolitan regions (a standardised client ratio (SCR) of 102*). There was a substantial variation in ratios mapped in this region, ranging from an SCR of 542** in Port Adelaide Enfield - Port (1,480 clients) down to 5** in Adelaide Hills - Central (six clients).

Very highly elevated ratios were recorded for community health service clients in a number of SLAs in the region. In addition to Port Adelaide Enfield - Port (with an SCR of 542**), these included Charles Sturt - North-East (with over three times the expected number of clients, an SCR of 324**, 902 clients), Port Adelaide Enfield - Coast (259**, 782) and - Inner (150**, 319), and Charles Sturt - Inner East (118**, 276) and - Inner West (112*, 291). The majority of the Playford SLAs had highly elevated ratios, including Playford - Elizabeth (an SCR of 154**, 428), - West (148**, 209), - East Central (131**, 275) and - Hills (117, 35). Salisbury - Central (an SCR of 116**, 345 clients) and - Inner North (114*, 310) also had elevated ratios.

Several SLAs in Central Northern had very low ratios with fewer community health service clients than expected. In addition to Adelaide Hills - Central (an SCR of 5**, six clients), these included Burnside - South-West (8**, 17) and - North-East (12**, 27), Adelaide Hills - Ranges (8**, nine clients), Unley - East (13**, 27), Walkerville (18**, 13), Norwood Payneham St Peters - West (20**, 38) and - East (22**, 39), Unley - West (25**, 45), Campbelltown - East (26**, 76) and - West (30**, 62), Adelaide (46**, 84), Tea Tree Gully - South (50**, 175), - Hills (51**, 67), - Central (53**, 151) and - North (61**, 171), Prospect (58**, 120) and West Torrens - West (60**, 179).

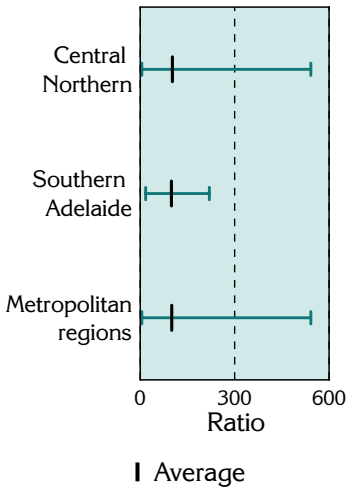
Southern Adelaide

There were one per cent fewer community health service clients in the Southern region than expected for a population of this size and age composition (a standardised client ratio of 99, 3,370 clients). Within the region, the highest ratios were recorded in the Onkaparinga SLAs of - North Coast (an SCR of 220**, 412), - Hackham (210**, 316), - Morphett (185**, 475), - South Coast (170**, 416) and - Woodcroft (128**, 476).

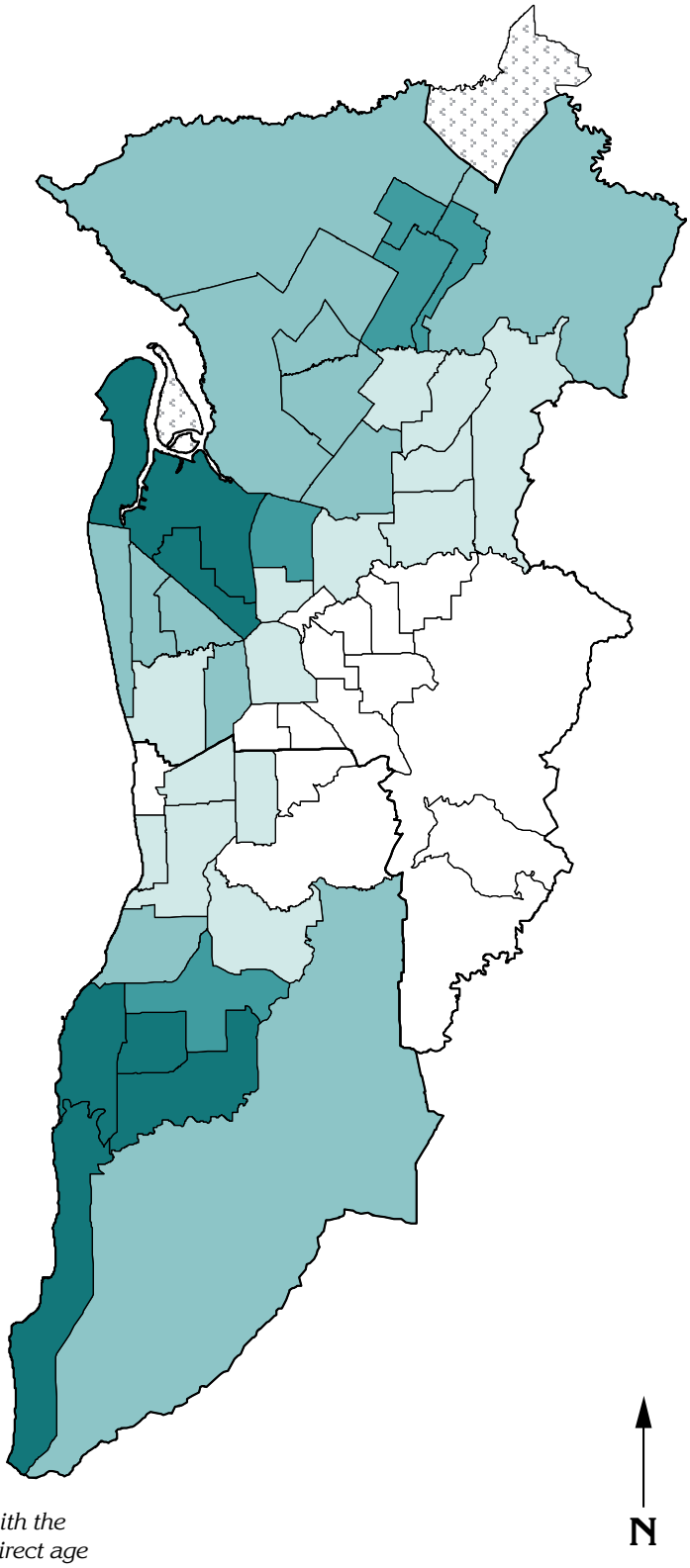
There was also a wide variation in ratios mapped in Southern, with the lowest SCR of 28** recorded for Mitcham - Hills (65 clients). This was followed by Holdfast Bay - North (an SCR of 33**, 68 clients) and Holdfast Bay - South (41**, 61), Mitcham - West (59**, 143), Onkaparinga - Reservoir (62**, 159) and Marion - North (69**, 186), - Central (79**, 271) and - South (an SCR of 89, 187).

[*] **indicates statistical significance: see page 24**

Map 7.1
Community health services (one-to-one clients), metropolitan regions, 2001/2002



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Client Ratio (as an index)*, by SLA

- *160 and above*
- *120 to 159*
- *80 to 119*
- *40 to 79*
- *below 40*
- *data not mapped#*

*Index shows the number of clients in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on totals for the metropolitan regions

#Data were not mapped for Torrens Island (mapped with Port Adelaide), Gawler, or in areas with fewer than five clients

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Community mental health services (one-to-one clients), 1999/2000

Community mental health services offer a wide range of assistance and programs, ranging from acute crisis intervention and assessment, formal case management, rehabilitation and recovery programs, and peer and carer support networks. Community mental health services for adult clients are provided from a number of locations in Adelaide and country South Australia (see Appendix 1.6). Community mental health services for children and adolescents have been mapped separately (see page 326).

In 1999/2000, 13,419 South Australian adult residents were clients of a community mental health service, representing 896 clients per 100,000 population (Table 7.2). The rate was higher in country South Australia than in Metropolitan Adelaide, with 936 and 883 clients per 100,000 population respectively.

Table 7.2: Community mental health service clients, 1999/2000

Age-standardised rate per 100,000

Section of State	No.	Rate
Metropolitan Adelaide (incl. Gawler)	9,813	883
Country	3,606	936
South Australia	13,419	896

Metropolitan regions

There were 9,669 clients of community mental health services living in the metropolitan regions (excluding Gawler) in 1999/2000, slightly lower than expected from the State rates (a standardised client ratio (SCR) of 99) (Table 7.3).

As noted for community health services, there is a marked separation between areas with high, and those with low numbers of community mental health service clients (Map 7.2).

There are very strong correlations between high rates of community mental health service clients and socioeconomic disadvantage. These results, together with a very strong inverse correlation with the Index of Relative Socio-Economic Disadvantage, indicate an association at the SLA level, between community mental health service clients and socioeconomic disadvantage (Table 8.1).

Central Northern Adelaide

Central Northern had two per cent fewer clients than expected (an SCR of 98, with 6,823 clients). There was wide variation in the number of clients between SLAs (see graph opposite). For example, there were nearly two and a half times more clients than expected in Playford - Elizabeth (an SCR of 244**, 528 clients), but just over one quarter the number expected in Adelaide Hills - Central (27**, 29). There were high rates and large numbers of clients in Port Adelaide Enfield - Inner (an SCR of 199**, 368 clients), Playford - West Central (174**, 181), Adelaide (159**, 236), Port Adelaide Enfield - Coast (144**, 362), Charles Sturt - North-East (143**, 346), Port Adelaide Enfield - Port (143**, 340), Salisbury - Central (142**, 341), Campbelltown - West (120**, 215), Charles Sturt - Inner East (119**, 240), Norwood Payneham St Peters - West (119*, 217) and Salisbury - Inner North (an SCR of 112, 234).

There were also relatively large numbers of clients, but lower ratios, in the SLAs of Charles Sturt - Coastal (306 clients, an SCR of 105), Port Adelaide Enfield - East (267, 103), West Torrens - West (225, 84**) and Salisbury - South-East (215, 72**).

Several SLAs had at least 40% fewer clients of community mental health services than expected from the State rates. These were Adelaide Hills - Central (an SCR of 27**, 29 clients), Tea Tree Gully - Hills (31**, 35), Adelaide Hills - Ranges (39**, 34), Tea Tree Gully - Central (42**, 100), Burnside - North-East (44**, 86) and - South-West (50**, 92), Tea Tree Gully - South (50**, 150), Charles Sturt - Inner West (52**, 119), Campbelltown - East (53**, 132), Tea Tree Gully - North (59**, 133) and Playford - West (60**, 41).

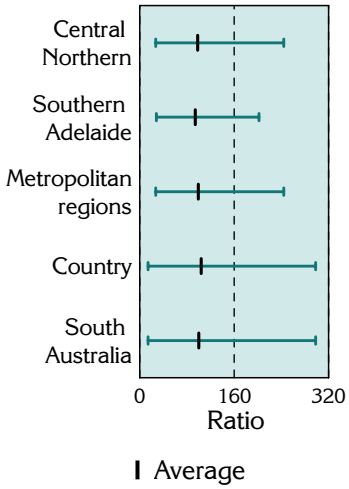
Southern Adelaide

There were six per cent fewer clients than expected in the south (an SCR of 94**, 2,681 clients). However, there were twice as many clients as expected in Onkaparinga - North Coast (an SCR of 202**, 315 clients), and 56% more clients than expected in Onkaparinga - Hackham (156**, 192) and Marion - North (156**, 374). There were also more clients than expected in Onkaparinga - Morphett (an SCR of 123**, 267 clients) and Marion - Central (119**, 363).

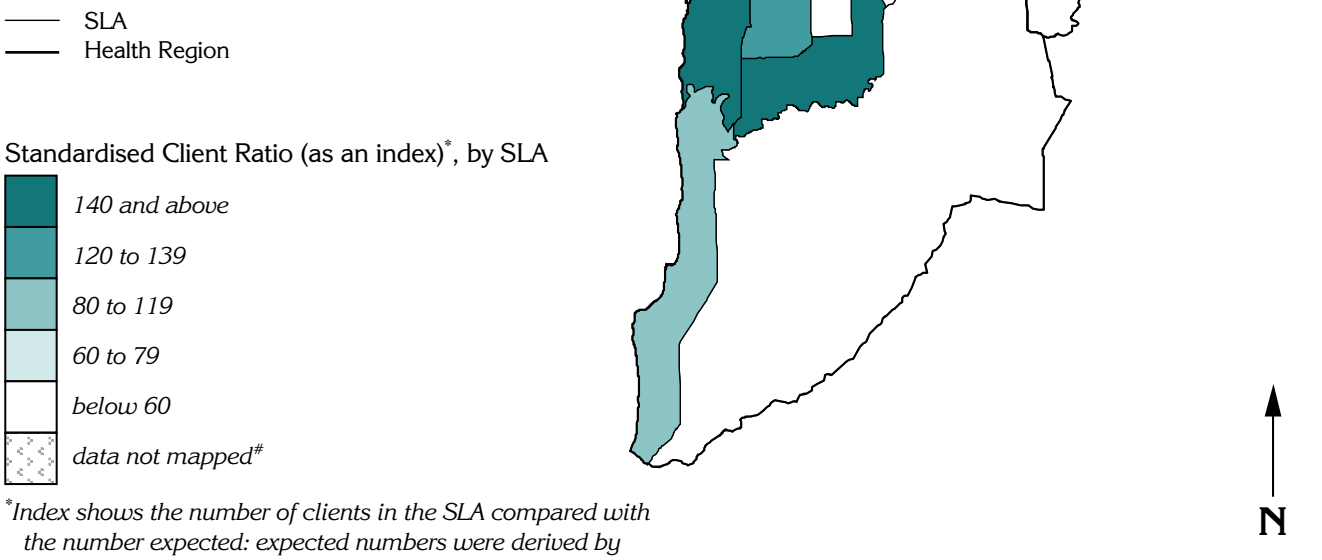
There were very low ratios in the SLAs of Onkaparinga - Hills (an SCR of 28**, 26 clients), - Woodcroft (41**, 119) and - Reservoir (42**, 86). There were also low ratios in Marion - South (47**, 78) and Mitcham - Hills (54**, 112).

* indicates statistical significance: see page 24

Map 7.2
Community mental health services (one-to-one clients), metropolitan regions, 1999/2000



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



*Index shows the number of clients in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped for Torrens Island (mapped with Port Adelaide) or in areas with fewer than five clients: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Community mental health service clients (one-to-one clients), 1999/2000

Country South Australia

There were 3,750 country residents who were clients of community mental health services, four per cent more than expected from the State rates (a standardised client ratio (SCR) of 104**) (Table 7.3). SCRs varied across the State, with the highest rates generally in the towns mapped (Map 7.3).

Table 7.3: Regional totals, community mental health service clients, 1999/2000

Region	No.	SCR
Hills Mallee Southern	819	87**
Wakefield[1]	1,053	128**
South East	161	30**
Northern & Far Western	623	137**
Eyre	425	149**
Mid North	381	141**
Riverland	281	97
Country SA	**3,750**	**104***
Central Northern	6,823	98
Southern	2,681	94**
Metropolitan regions	**9,669**	**99**
South Australia	**13,419**	**100**

[1]**Gawler is included in the Wakefield region**

The correlation analysis shows a weak association at the SLA level between community mental health service clients and socioeconomic disadvantage (Table 8.2).

The Regions

Overall, there were 49% more community mental health service clients in **Eyre** than expected from the State rates, an SCR of 149** (425 clients). There were nearly two and a half times the number of clients from both Ceduna (249**, 74 clients) and Port Lincoln (243**, 277). In contrast, very low SCRs were recorded for Kimba (47, five clients), Streaky Bay (55, nine), Franklin Harbor (56, six), Elliston (58, six) and Tumby Bay (66, 15).

In **Mid North**, there were 41% more clients than expected (a standardised client ratio (SCR) of 141**, 381 clients). The SLAs within this region with elevated ratios included Peterborough (an SCR of 222**, 38 clients) and Port Pirie - City (189**, 234). The SLA with the lowest ratio in this region was Northern Areas (an SCR of 68*, 28 clients).

In **Northern and Far Western,** there was a standardised client ratio of 137** (623 clients), representing 37% more clients than expected from the State rates. Within this region, there were highly elevated ratios in Port Augusta (an SCR of 173**, 204 clients) and Whyalla (166**, 332). The SLAs with the lowest ratios were Unincorporated Far North (an SCR of 32**, 15 clients) and Roxby Downs (56**, 21).

There were 1,053 clients of community mental health services in **Wakefield**, 28% more than expected from the State rates (an SCR of 128**). There were many more clients than expected from the State rates in Copper Coast (an SCR of 202**, 185 clients), Goyder (187**, 70) and Yorke Peninsula - South (182**, 64). Large numbers of clients were recorded in Gawler (144 clients, 93) and Light (117 clients, 102).

There were three per cent fewer clients than expected in **Riverland** (an SCR of 97, 281 clients). The SLA with the lowest ratio in this region was Loxton Waikerie - West (56**, 23).

In **Hills Mallee Southern,** there were 13% fewer clients than expected (an SCR of 87**, 819 clients). There were three times as many clients of community mental health services as expected living on Kangaroo Island (298**, 113) and in Alexandrina - Coastal (167**, 137). There were also large numbers of clients in Murray Bridge (145 clients, 98) and Victor Harbor (115, 127*). There were a number of SLAs with fewer than 70% of the expected number of clients in 1999/2000 including Adelaide Hills Balance (34**, 25), Southern Mallee (36**, seven clients), Mount Barker Balance (39**, 26), Alexandrina - Strathalbyn (42**, 28), Adelaide Hills - North (45**, 25), The Coorong (49**, 25), Karoonda East Murray (64, seven clients), Yankalilla (65*, 22) and Mount Barker - Central (66**, 85).

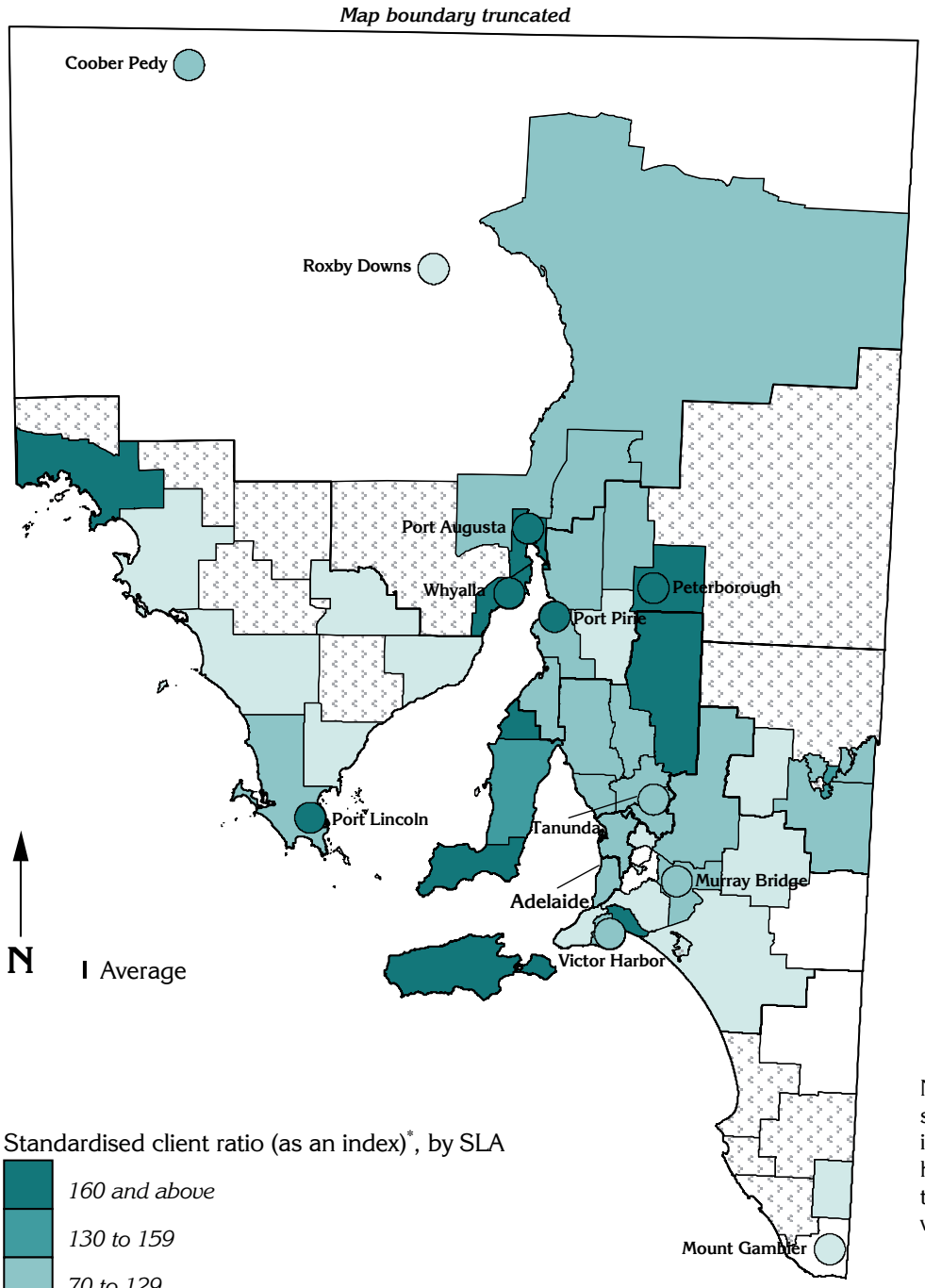
There were 70% fewer clients than expected in **South East** (an SCR of 30**, 161). Mount Gambier had 112 clients and a low SCR of 55**. The other SLAs in this region had very low ratios, including Grant (14**, ten clients), Tatiara (30**, 18) and Wattle Range - East (41**, 12).

ASGC Remoteness Classification

There was a variation in the number of clients of community mental health services living in the various remoteness classes, with similar levels of clients in the Major Cities (an SCR of 98*) and Very Remote (94) areas. Those in the Remote (an SCR of 145**) and Outer Regional (111**) areas had the largest numbers of clients per head of population.

* **indicates statistical significance: see page 24**

Map 7.3
Community mental health service (one-to-one clients), South Australia, 1999/2000



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

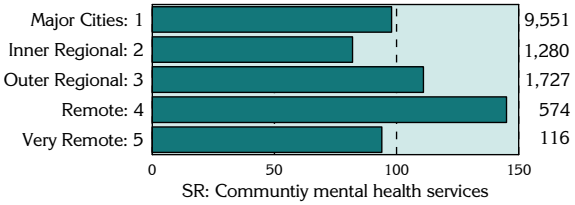
Standardised client ratio (as an index)*, by SLA

- *160 and above*
- *130 to 159*
- *70 to 129*
- *40 to 69*
- *below 40*
- *data not mapped#*

*Index shows the number of clients in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped because the SLA has a population of less than 100 or there were fewer than five clients

ASGC Remoteness classification Clients



Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Child and Adolescent Mental Health Services (one-to-one clients), 2001 to 2003

The Child and Adolescent Mental Health Services (CAMHS) provide a confidential counselling service for children and young people and their families: the majority (99.4%) are aged from 0 to 19 years. Services are provided by child and family specialists including psychologists, psychiatrists, social workers, nurses, occupational therapists and speech pathologists who are experienced in helping children with emotional, behavioural or mental health difficulties, and their families.

Details are available for individual children and young people attending at any one location of CAMHS: that is, while clients attending at more than one location will be counted at each location, multiple attendances at a single location will be recorded as being for one individual. Rates have changed little in Metropolitan Adelaide over recent years, but the number of country residents using these services has increased strongly over each period shown (Table 7.4).

Table 7.4: Child and Adolescent Mental Health Service clients

Age-standardised rate per 100,000 aged 0 to 19 years

Section of State	1997-99	1999-01	2001-03	Per cent change[1]
Metropolitan Adelaide (incl. Gawler)	924	1,034	910	-1.5
Country	948	1,274	1,558	64.3
South Australia	931	1,105	1,103	18.5

[1]**Per cent change over four years in the rate of Child and Adolescent Mental Health Services' clients**

Metropolitan regions

The number of CAMHS clients in the metropolitan regions (excluding Gawler) was 17% fewer than expected from the State rate (a standardised client ratio (SCR) of 83**, 7,489 clients) (Table 7.5).

As noted for other community-based services, there is a marked separation between areas with high, and those with low numbers of CAMHS clients (Map 7.4). There are very strong correlations between high rates of CAMHS clients and the variables for disability support pensioners, low income families and smoking during pregnancy. There were also strong correlations with other indicators of disadvantage. These results, together with a strong inverse correlation with the Index of Relative Socio-Economic Disadvantage, indicate a strong association at the SLA level between CAMHS clients and socioeconomic disadvantage (Table 8.1).

Central Northern Adelaide

There were 22% fewer clients than expected in Central Northern (an SCR of 78**, 4,866 clients). The SLAs in this region with elevated ratios included Port Adelaide Enfield - Coast (160**, 368), Port Adelaide Enfield - Port (138**, 281), Playford - Elizabeth (132**, 322) and Port Adelaide Enfield - Inner (123**, 179).

There were large numbers of clients, but low ratios, in Salisbury - South-East (230 clients, an SCR of 78**), - Central (222, 81**) and - Inner North (213, 76**), and Charles Sturt - Coastal (189 clients, 88).

Many SLAs in Central Northern had low rates of CAMHS clients, including Walkerville (an SCR of 10**, five clients), Burnside - South-West (21**, 35), Unley - East (25**, 34), Burnside - North-East (30**, 51), Norwood Payneham St Peters - West (31**, 36), Adelaide (34**, 20), Unley - West (37**, 43) and Adelaide Hills - Central (48**, 60).

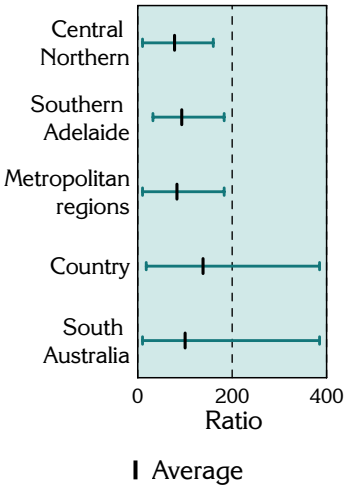
Southern Adelaide

In Southern, there were seven per cent fewer clients than expected from the State rates (an SCR of 93**, 2,623 clients). Elevated ratios were recorded for residents in the Onkaparinga SLAs of - North Coast (183**, 273), - Hackham (131**, 195), - South Coast (129**, 300) and - Morphett (127**, 286), as well as in Marion - Central (122**, 286) and - North (an SCR of 111, 190), and Holdfast Bay - South (an SCR of 108, 99).

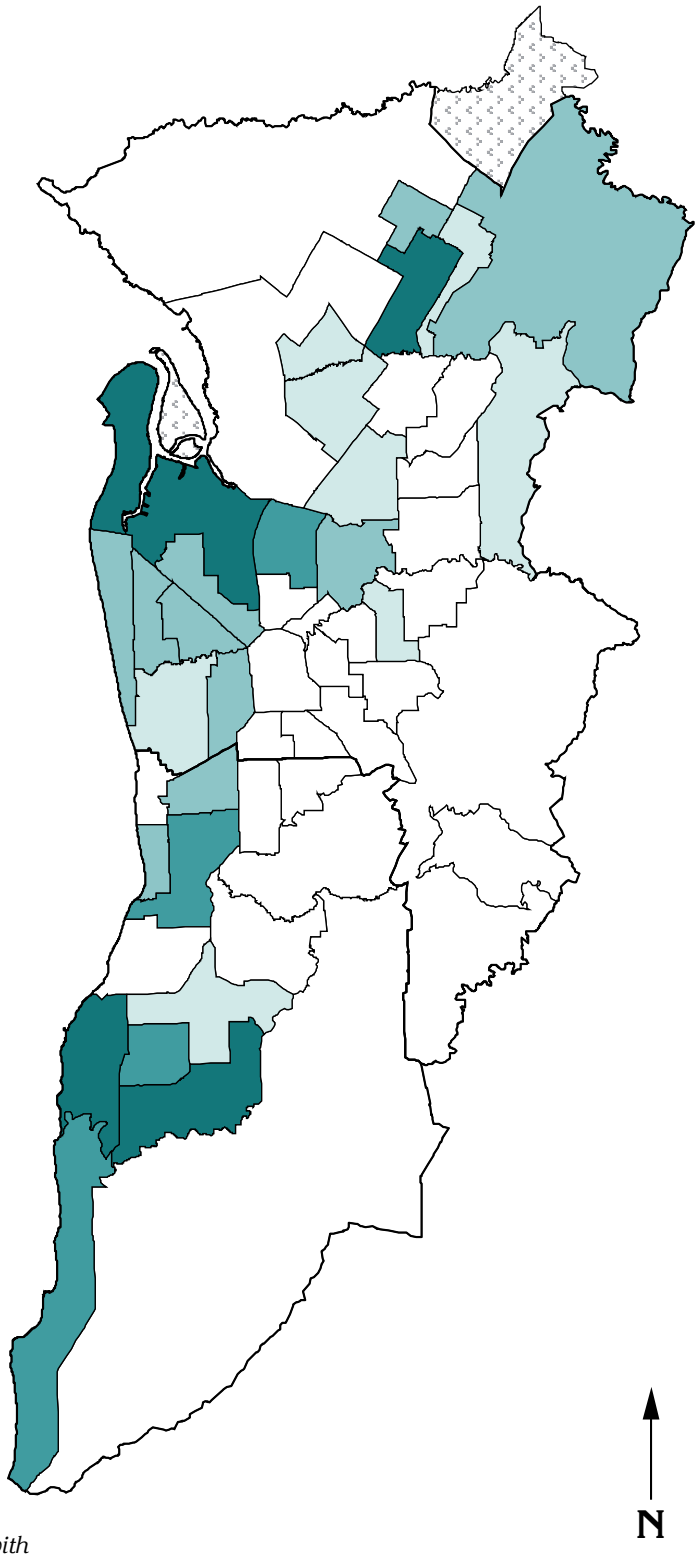
There were large numbers of clients in Onkaparinga - Woodcroft (284 clients, an SCR of 81). The SLAs in Southern with below average standardised client ratios included Mitcham - North-East (32**, 42) and - West (50**, 88), Holdfast Bay - North (54**, 62), Onkaparinga - Hills (63**, 71) and - Reservoir (65**, 170), Marion - South (66**, 149) and Mitcham - Hills (67**, 130).

* **indicates statistical significance: see page 24**

Map 7.4
Child and Adolescent Mental Health Services (one-to-one clients), metropolitan regions, 2001 to 2003



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Client Ratio (as an index)*, by SLA

- *130 and above*
- *115 to 129*
- *85 to 114*
- *70 to 84*
- *below 70*
- *data not mapped#*

*Index shows the number of clients in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped for Torrens Island (mapped with Port Adelaide): Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Child and Adolescent Mental Health Services (one-to-one clients), 2001 to 2003

Country South Australia

The standardised client ratio (SCR) in country South Australia indicated that there were 38% more Child and Adolescent Mental Health Services (CAMHS) clients than expected from the State rates (a standardised client ratio (SCR) of 138**, 5,482 clients) (Table 7.5).

Riverland and **Northern and Far Western** both had highly elevated regional SCRs: the highest rates were generally in the towns mapped, and in the eastern parts of the State (Map 7.5).

Table 7.5: Regional totals, Child and Adolescent Mental Health Service clients, 2001-2003

Region	No. clients	SCR
Hills Mallee Southern	1,409	137**
Wakefield[1]	916	101
South East	790	133**
Northern & Far Western	876	175**
Eyre	347	105
Mid North	467	165**
Riverland	678	219**
Country SA	**5,482**	**138****
Central Northern	4,866	78**
Southern	2,623	93**
Metropolitan regions	**7,489**	**83****
South Australia	**13,013**	**100**

[1]**Gawler is included in the Wakefield region**

The correlation analysis shows a strong association between high rates of CAMHS clients and socioeconomic disadvantage. These results, together with a strong inverse correlation with the Index of Relative Socio-Economic Disadvantage, indicate an association at the SLA level between CAMHS clients and socioeconomic disadvantage (Table 8.2).

The Regions

The SCR for **Riverland** was highly elevated, with more than twice the number of CAMHS clients than expected from the State rates (an SCR of 219**, 678 clients). All of the SLAs in this region had ratios in the highest range with most having SCRs over 200. The highest SCR was mapped for residents of Berri and Barmera - Berri (262**, 166) followed by Berri and Barmera - Barmera (228**, 91), Loxton Waikerie - East (216**, 149), Renmark Paringa - Renmark (205**, 159), Loxton Waikerie - West (192**, 83) and Renmark Paringa - Paringa (175**, 26).

Northern and Far Western also had a highly elevated SCR, of 175** (876 clients). The majority of SLAs were again in the highest range, with the ratio in Unincorporated Whyalla being particularly high, with nearly four times the expected number of clients (an SCR of 385**), but with just five clients. Whyalla (201**, 431), Port Augusta (201**, 266), Flinders Ranges (170**, 28), Coober Pedy (164**, 30), Unincorporated Flinders Ranges (148, 19) and Roxby Downs (142**, 59) all had elevated ratios. There was a low SCR in Unincorporated Far North (59**, 38 clients).

Mid North had 65% more clients than expected from the State rates, an SCR of 165** (467 clients). The SLAs of Peterborough (254**, 43) and Port Pirie - City (208**, 266) were both mapped in the highest range. There was a low SCR in Orroroo/Carrieton (68, six clients).

There were 1,409 CAMHS clients in **Hills Mallee Southern** (an SCR of 137**). There was a highly elevated ratio in Murray Bridge (242**, 390 clients), followed by The Coorong (179**, 98), Mount Barker - Central (157**, 256), Mid Murray (157**, 108), Karoonda East Murray (153, 18) and Victor Harbor (144**, 110). Mount Barker Balance had a large number of CAMHS clients (108 clients, an SCR of 124*). There was a low SCR in Adelaide Hills - North (45**, 32).

South East had an SCR of 133** (790 clients) with elevated ratios in Mount Gambier (163**, 362) and Wattle Range - West (130**, 112).

Eyre had just five per cent more clients than expected from the State rates (an SCR of 105, 347 clients); an elevated ratio of 177** was recorded in Port Lincoln (243 clients). There were low SCRs in the SLAs of Ceduna (18**, seven clients), Streaky Bay (29**, five), Kimba (44, five) and Cleve (62, eleven).

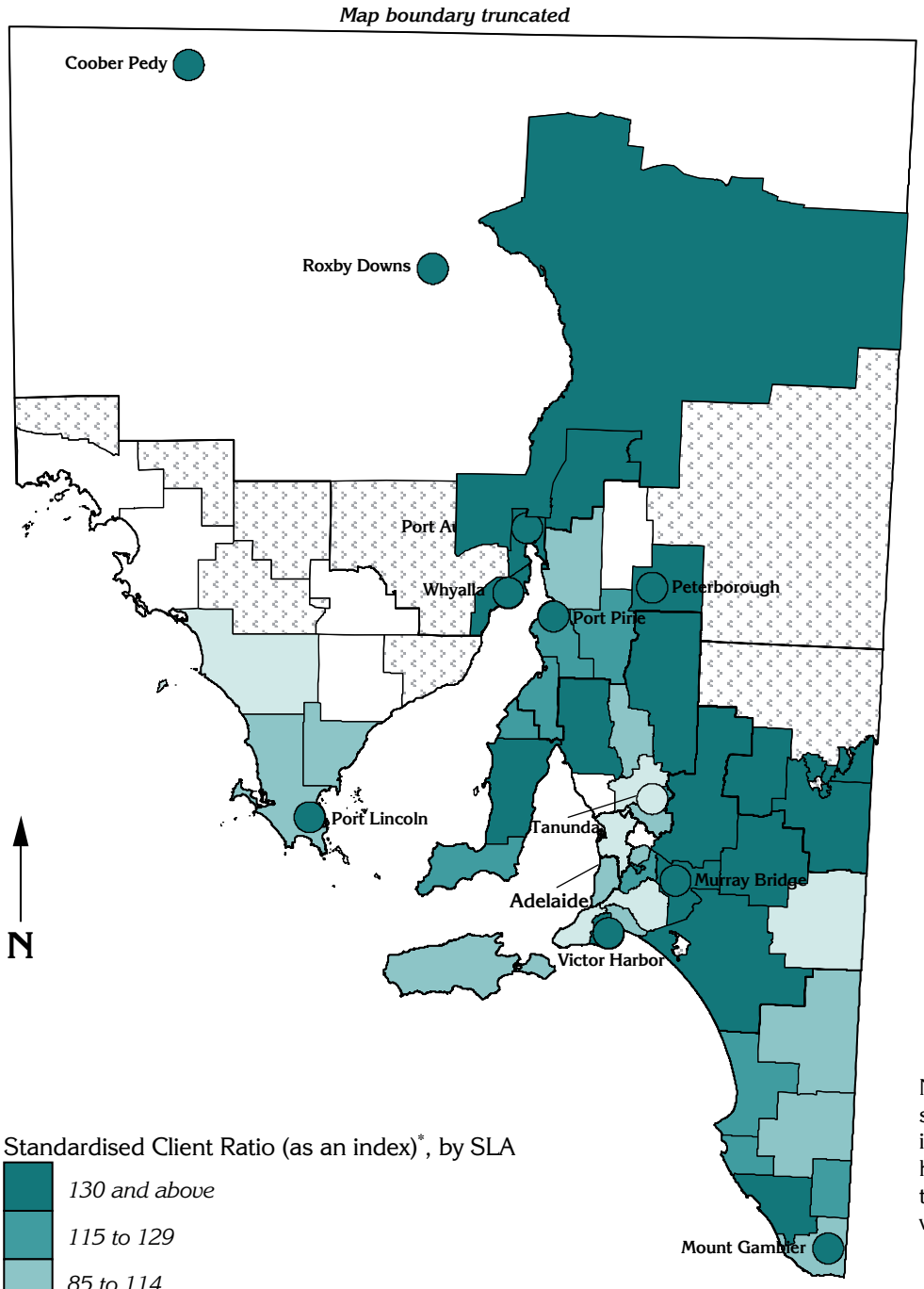
There were 916 clients in **Wakefield**, one per cent more than expected (an SCR of 101). Within this region, there were elevated ratios in Yorke Peninsula - North (146**, 88), Goyder (142**, 55) and Wakefield (140**, 88). There were large numbers of clients in Gawler (137 clients, 78**) and Copper Coast (118, 128**). There was a low SCR in Mallala (65**, 53).

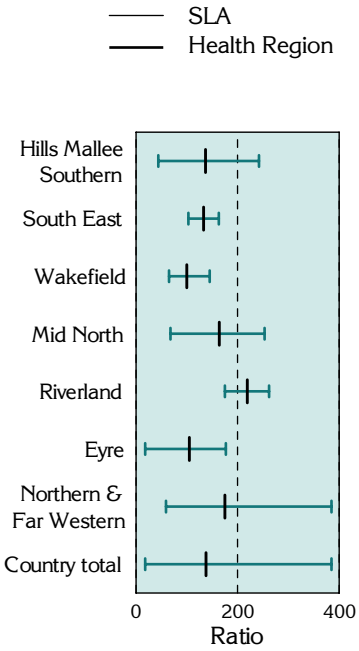
ASGC Remoteness classification

Ratios increased with increasing remoteness, from an SCR of 82 in Major Cities to 166 in Outer Regional. The ratios in both Remote and Very Remote were lower; however, this is likely to reflect the lack of accessible services for children and young people with mental health issues in remote areas, rather than a reduction in need.

* **indicates statistical significance: see page 24**

Map 7.5
Child and Adolescent Mental Health Services (one-to-one clients), South Australia, 2001 to 2003





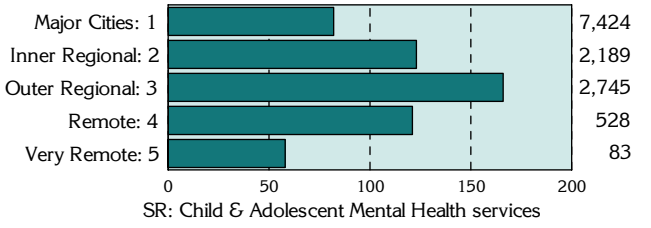
Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Standardised Client Ratio (as an index)*, by SLA

- *130 and above*
- *115 to 129*
- *85 to 114*
- *70 to 84*
- *below 70*
- *data not mapped#*

*Index shows the number of clients in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped because the SLA has a population of less than 100 or there were fewer than five clients



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Department for Families and Communities' clients, 2001 to 2002

The Department for Families and Communities (DFC) offers a range of services to people in the community, including emergency financial assistance, individual and family support, counselling (e.g. personal, financial), crisis care (including after hours care) and child protection. There were 60,158 clients of DFC in 2001 to 2002, a rate of 1,984 clients per 100,000 population. The rate was much higher in country South Australia (2,396 clients per 100,000 population) than in Metropolitan Adelaide (1,769) (Table 7.6).

Table 7.6: Department for Families and Communities' clients, 2001 to 2002

Age-standardised rate per 100,000[1]

Section of State	No.	Rate
Metropolitan Adelaide (incl. Gawler)	39,176	1,769
Country	19,592	2,396
South Australia	60,158	1,984

[1] **2,652 clients excluded from standardisation due to unknown age**

Metropolitan regions

In 2001 to 2002, there were 12% fewer clients in the metropolitan regions (excluding Gawler) than expected from the State rates (a standardised client ratio (SCR) of 88**). Both regions had fewer clients than expected, with a notably lower ratio in Southern than in Central Northern.

Highly elevated ratios were mapped in parts of the north-west, inner and outer north, and outer south, and in the city of Adelaide. SLAs with more clients than expected include some of the most disadvantaged in the metropolitan regions (see Chapters 4 and 5). The elevated ratio for the SLA of Adelaide is likely, in part, to reflect the allocation of Adelaide as the usual address for clients who live in supported accommodation in the city, or who are homeless.

High rates of DFC clients were very strongly correlated with unemployment (the unemployment rate, unemployment beneficiaries and jobless families); being Indigenous; renting from the South Australian Housing Trust; single parent and low income families, children under the age of 15 living in welfare-dependent or other low income families; disability support pensioners and female sole parent pensioners; Accident and Emergency department attendances; avoidable mortality, terminations of pregnancy, GP services, admissions to public acute hospitals and male deaths. These results, together with a very strong inverse correlation with the Index of Relative Socio-Economic Disadvantage, suggest a strong association at the SLA level between DFC clients and socioeconomic disadvantage (Table 8.1).

Central Northern Adelaide

Despite having a low overall SCR of 94** (28,615 clients), there was considerable variation in the region, with the number of clients ranging from over three times more, to fewer than one fifth, the expected number (see graph opposite). The most highly elevated ratio was in Playford - West Central (an SCR of 315**, 1,946 clients), with the SCR in Elizabeth similarly highly elevated (290**, 3,106). More than twice the expected number of clients were recorded in Adelaide (an SCR of 268**, 1,334 clients), and Port Adelaide Enfield - Inner (215**, 1,600) and - Port (203**, 2,020). Salisbury - Central (137**, 1,665) and - Inner North (130**, 1,578), and Charles Sturt - North-East (125**, 1,261) also had highly elevated ratios. Large numbers of clients were recorded in Salisbury - South-East (1,305 clients, an SCR of 93*), Port Adelaide Enfield - East (1,207, 112**) and - Coast (1,064 clients, 98), and Salisbury - North-East (908 clients, 94).

A majority of SLAs in the region had extremely low SCRs. Those with less than half the expected number of clients included Burnside - North-East (an SCR of 19**, 143 clients) and - South-West (29**, 218), Adelaide Hills - Central (25**, 134) and - Ranges (26**, 111), Unley - West (29**, 190), Playford - Hills (30**, 38), Campbelltown - East (31**, 336), Walkerville (38**, 93), Unley - East (39**, 284), and Tea Tree Gully - Hills (32**, 157), Central (48**, 553) and - North (49**, 604).

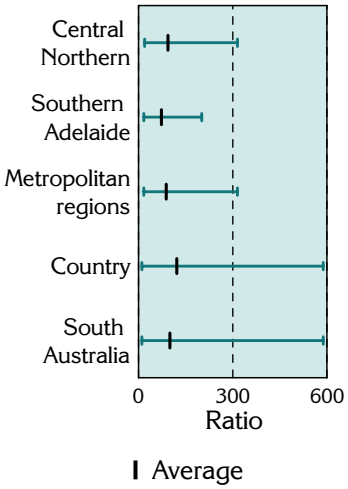
Southern Adelaide

The SCR for Southern was much lower than in Central Northern, with more than one quarter fewer clients than expected (an SCR of 73**, 9,363 clients). Highly elevated SCRs were mapped in the Onkaparinga SLAs of - North Coast (an SCR of 201**, 1,376 clients), - Hackham (181**, 1,157) and - Morphett (132**, 1,363). Marion - Central (1,157 clients, an SCR of 100) and Onkaparinga - South Coast (922, 92*) also had large numbers of clients.

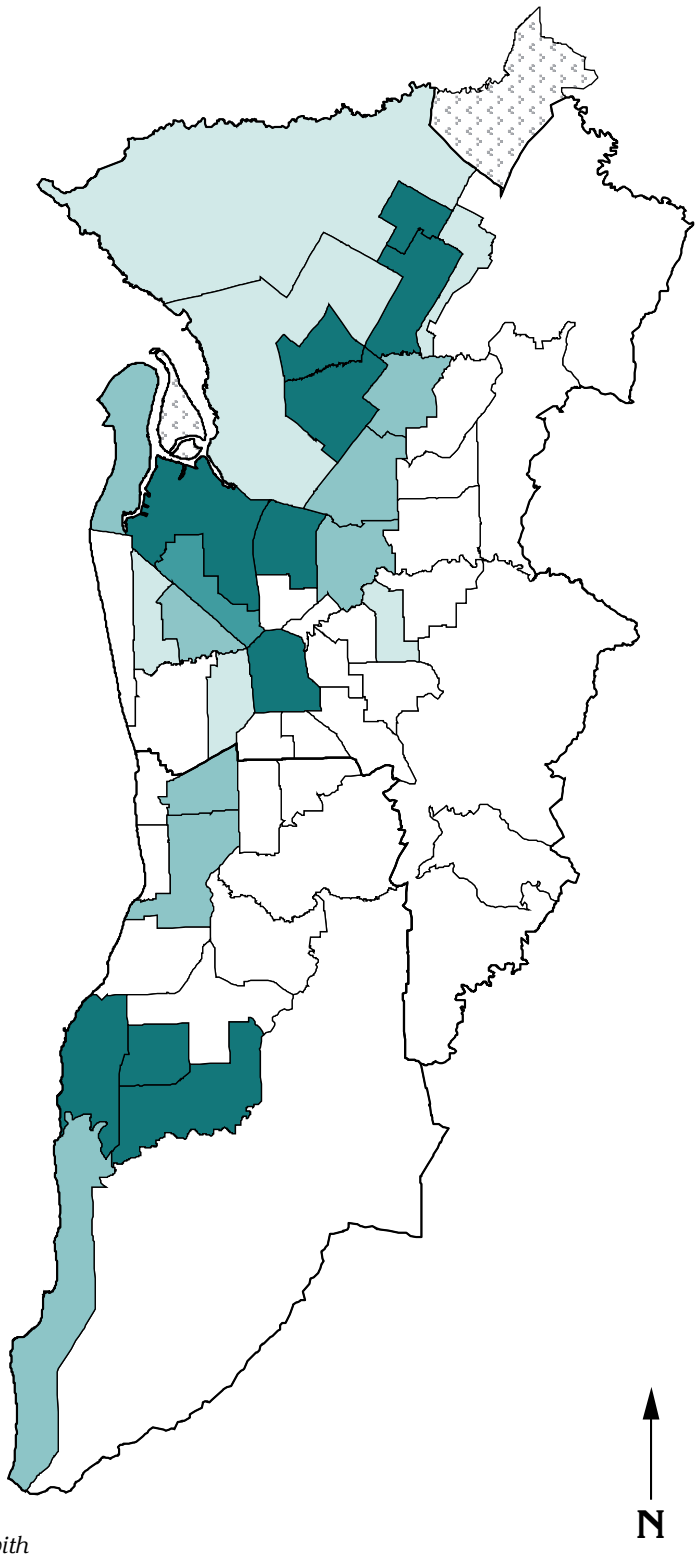
SLAs with low SCRs included Mitcham - North-East (an SCR of 17**, 100 clients), - Hills (22**, 199) and - West (33**, 277), Marion - South (29**, 275), Onkaparinga - Hills (31**, 137), - Reservoir (35**, 393) and - Woodcroft (44, 682), and Holdfast Bay - North (34**, 216) and - South (37**, 173).

* **indicates statistical significance: see page 24**

Map 7.6
Department for Families and Communities' clients, metropolitan regions, 2001 to 2002



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Client Ratio (as an index)*, by SLA

- *130 and above*
- *110 to 129*
- *90 to 109*
- *70 to 89*
- *below 70*
- *data not mapped#*

*Index shows the number of clients in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped for Torrens Island (mapped with Port Adelaide): Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Country South Australia

The standardised client ratio (SCR) for country South Australia was 122**, 22% above the level expected from the State rates (20,790 clients). A number of regions had highly elevated ratios, the highest being in **Northern and Far Western**, with more than twice the expected number of clients (an SCR of 207**) (Table 7.7). In contrast, **South East** had 18% fewer clients than expected, an SCR of 82**. Within the regions, most SLAs had SCRs which were either highly elevated, or more than ten per cent below average: few areas had a ratio near the average (Map 7.7 and graph opposite).

Table 7.7: Regional totals, Department for Families and Communities' clients, 2001 to 2002

Region	No.	SCR
Hills Mallee Southern	3,900	89**
Wakefield[1]	3,773	99
South East	2,150	82**
Northern & Far Western	4,627	207**
Eyre	2,392	169**
Mid North	1,862	155**
Riverland	2,079	153**
Country SA	**20,790**	**122****
Central Northern	28,615	94**
Southern	9,363	73**
Metropolitan regions	**37,978**	**88****
South Australia	**60,158**	**100**

[1]**Gawler is included in the Wakefield region**

High rates of DFC clients were very strongly correlated with the unemployment rate, receiving an unemployment benefit, being Indigenous, children under the age of 15 living in welfare-dependent or other low income families, dwellings without a motor vehicle and admissions to public acute hospitals. These results, together with a strong inverse correlation with the Index of Relative Socio-Economic Disadvantage suggest a strong association at the SLA level between high rates of DFC clients and socioeconomic disadvantage (Table 8.2).

The Regions

Northern and Far Western had the largest number of clients in comparison to its population size, with an SCR of 207** (4,627 clients). Coober Pedy had a very highly elevated SCR of 464** (415 clients). In contrast, Roxby Downs had an SCR of just 37** (72 clients). Highly elevated SCRs were also recorded in Port Augusta (280**, 1,621 clients), the Unincorporated areas of Far North (208**, 639) and Whyalla (197**, 14), and Whyalla City (189**, 1,755). Flinders Ranges (88, 60 clients) and Unincorporated Flinders Ranges (89, 51 clients) had low ratios.

Eyre had over two-thirds more clients than expected from the State rates (an SCR of 169**, 2,392 clients). Unincorporated West Coast had nearly six times the expected number (an SCR of 588**, 180), with highly elevated ratios also in Ceduna (444**, 725) and Port Lincoln (195**, 1,167). The remaining SLAs had low SCRs.

Mid North had more than half as many clients as expected (an SCR of 155**, 1,862 clients). Both Peterborough (an SCR of 265**, 189) and Port Pirie - City (233**, 1,300) had more than twice the expected number of clients. The rest of the region had fewer clients than expected, including Orroroo/Carrieton (42**, 15), Port Pirie Balance (66**, 92) and Northern Areas (67**, 122).

Unlike the other regions, all of the SLAs within the **Riverland** had elevated SCRs, with a regional ratio of 153**, (2,079 clients). Very highly elevated SCRs were mapped in Unincorporated Riverland (an SCR of 426**, 28 clients), Berri and Barmera - Berri (261**, 761) and - Barmera (157**, 264), and Renmark Paringa - Renmark (124**, 415). The lowest SCR of 104 (311 clients) was recorded for Loxton Waikerie - East.

Wakefield had an SCR of 99 (3,773 clients). There was still wide variation within the region, with Copper Coast having an SCR of 168** (642 clients) and Barossa - Tanunda, an SCR of just 24** (41). There were also highly elevated SCRs in Gawler (161**, 1,198) and Yorke Peninsula - North (123**, 309). SLAs with low SCRs included Barossa - Angaston (39**, 118 clients), Yorke Peninsula - South (47**, 61) and Light (58**, 265).

There were 3,900 clients in **Hills Mallee Southern** (an SCR of 89**). Murray Bridge was the only SLA with a highly elevated ratio (202**, 1,412 clients). Victor Harbor also had an elevated SCR (116**, 383 clients). The majority of SLAs in this region had very low SCRs, including Adelaide Hills Balance (24**, 88 clients) and - North (36**, 102), Mount Barker Balance (36**, 130) and Alexandrina - Strathalbyn (44**, 148).

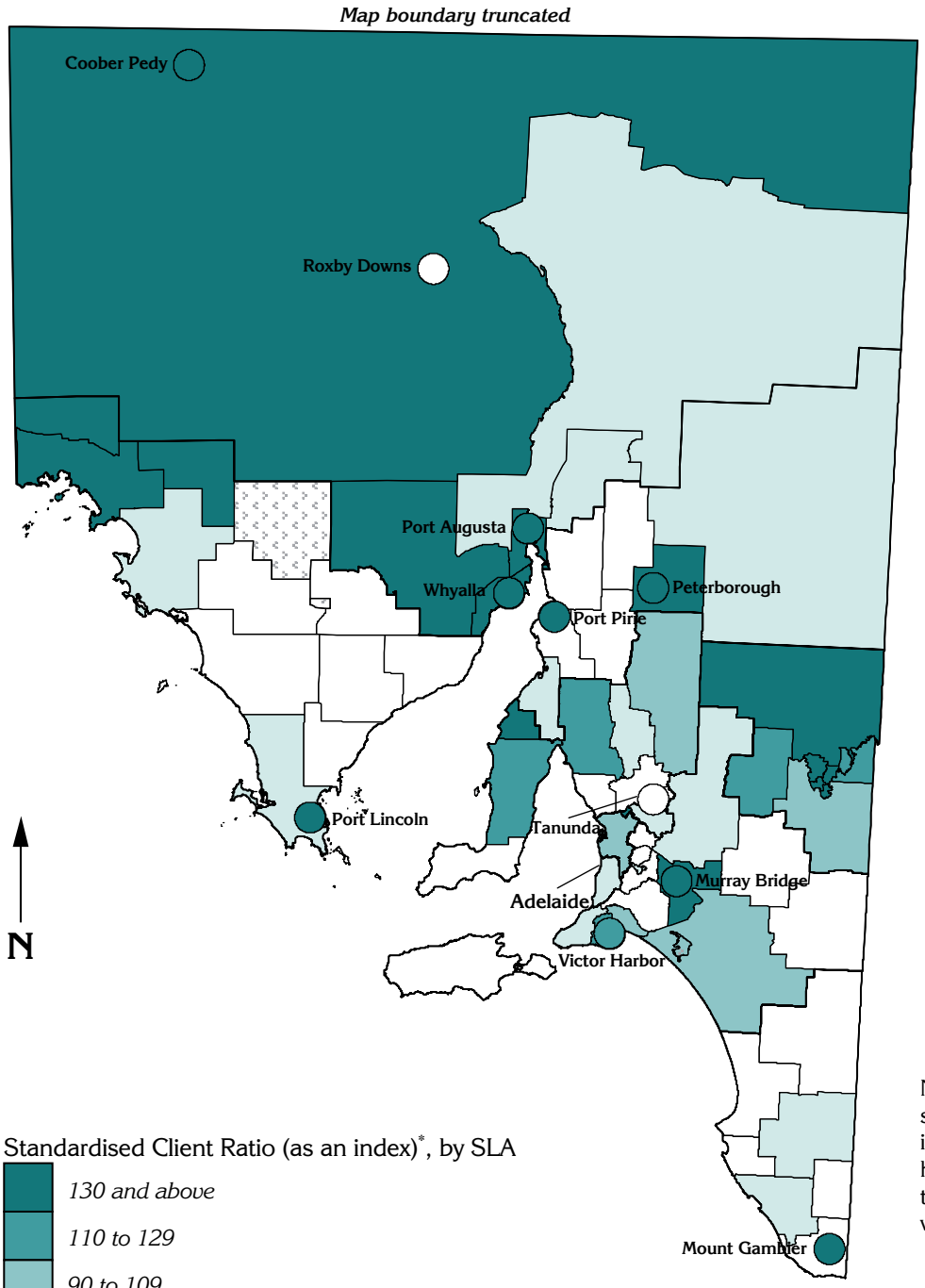
The lowest regional SCR (82**) was recorded for the **South East** (2,150 people). Mount Gambier was the only SLA in the region with an elevated SCR (130**, 1,298 clients). SLAs with low SCRs included Grant (29**, 94 clients), Robe (31**, 16), Tatiara (33**, 99), Lacepede (47**, 42) and Wattle Range - East (49**, 65).

ASGC Remoteness classification

The SCRs for people living in Outer Regional (139**) and Very Remote (288**) were very highly elevated. The remaining areas had either average, or below average numbers of DFC clients.

* **indicates statistical significance: see page 24**

Map 7.7
Department for Families and Communities' clients, South Australia, 2001 to 2002



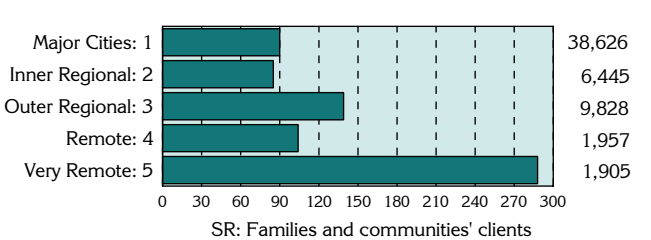
Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Standardised Client Ratio (as an index)*, by SLA

- *130 and above*
- *110 to 129*
- *90 to 109*
- *70 to 89*
- *below 70*
- *data not mapped#*

*Index shows the number of clients in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped because the SLA has a population of less than 100



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Domiciliary Care service clients, 2003

Domiciliary Care service clients receive services which are either centre-based (e.g. podiatry) or are provided in the home, and without which clients would be at risk of institutionalisation. These data were not available for country South Australia.

The trend over time is of an increase in rates from 730 clients per 100,000 population in 1989, to 863 clients per 100,000 population in 2003 (Table 7.8). In 1989, the rates were similar in Central Northern and Southern; however, there was a decline of 14.3% in Southern, compared to an increase of one-third (33.4%) in Central Northern, resulting in lower rates in Southern in each period shown.

Table 7.8: Domiciliary Care service clients

Age-standardised rate per 100,000

Section of State	1989	1994	2003	Per cent change[1]
Central Northern (excl. Gawler)	743	816	991	33.4
Southern	726	615	622	-14.3
Metropolitan Adelaide (incl. Gawler)[2]	730	761	863	18.2

[1]Per cent change over 14 years in the rate of domiciliary care service clients

[2]Regional totals exclude Gawler

Metropolitan regions

In 2003, there were 9,656 domiciliary service clients in the metropolitan regions (excluding Gawler).

The geographic distribution of clients (Map 7.8) is highly consistent with the pattern of socioeconomic disadvantage described in Chapters 4 and 5. This association is supported by the correlation analysis, which shows very strong correlations between high rates of domiciliary care clients and the indicators of socioeconomic disadvantage. These results, together with the very strong inverse correlation with the Index of Relative Socio-Economic Disadvantage, suggest an association at the SLA level between domiciliary care clients and socioeconomic disadvantage (Table 8.1).

Central Northern Adelaide

There were 15% more clients than expected in Central Northern (a standardised client ratio (SCR) of 115**, 7,521 clients), compared to 28% fewer clients than expected in Southern. There was considerable variation in the use of domiciliary care clients within Central Northern, as shown in the graph opposite.

The SLAs with the most highly elevated SCRs, with more than twice the expected number of clients, were Playford - West Central (237**, 138) and Playford - Elizabeth (231**, 534). There were also highly elevated ratios in Port Adelaide Enfield - Port (172**, 426) and - Inner (164**, 370), Salisbury - Inner North (155**, 137), Playford - West (149**, 64), Port Adelaide Enfield - East (148**, 387), Salisbury - Central (144**, 256), Charles Sturt - North-East (143**, 358), Prospect (141**, 234), Salisbury - North-East (133**, 169), Campbelltown - West (129**, 305), Charles Sturt - Inner East (125**, 305) and - Inner West (125**, 328), Salisbury - South-East (121**, 262), Port Adelaide Enfield – Coast (119**, 299) and Norwood Payneham St Peters - East (115**, 254).

There were also large numbers of clients, but lower ratios, in West Torrens - West (328 clients, 89*), Tea Tree Gully - South (287 clients, 107), Charles Sturt - Coastal (244 clients, 71**), West Torrens - East (238 clients, 102) and Campbelltown - East (231 clients, 104).

A number of SLAs had low SCRs: Adelaide Hills - Ranges (23**, 13), Unley - East (62**, 136), Burnside - South-West (69**, 176), Charles Sturt - Coastal (71**, 244), Unley - West (77**, 120), Walkerville (78*, 68), Adelaide (78*, 90), Burnside - North-East (80**, 197) and Tea Tree Gully - Hills (an SCR of 82, 59 clients).

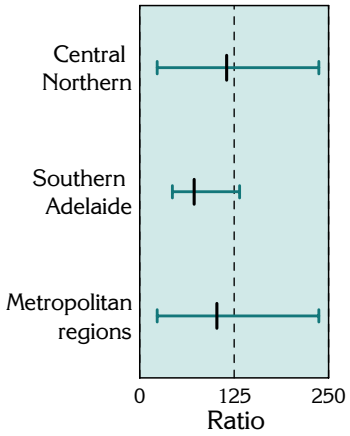
Southern Adelaide

There were 28% fewer clients than expected in the Southern region (an SCR of 72**, 2,127 clients). Within the region, there were elevated SCRs in the SLAs of Onkaparinga - Hackham (132**, 95) and - North Coast (an SCR of 115, 195). Large numbers of clients were recorded in Marion - North (332 clients, 97) and - Central (322 clients, 83**).

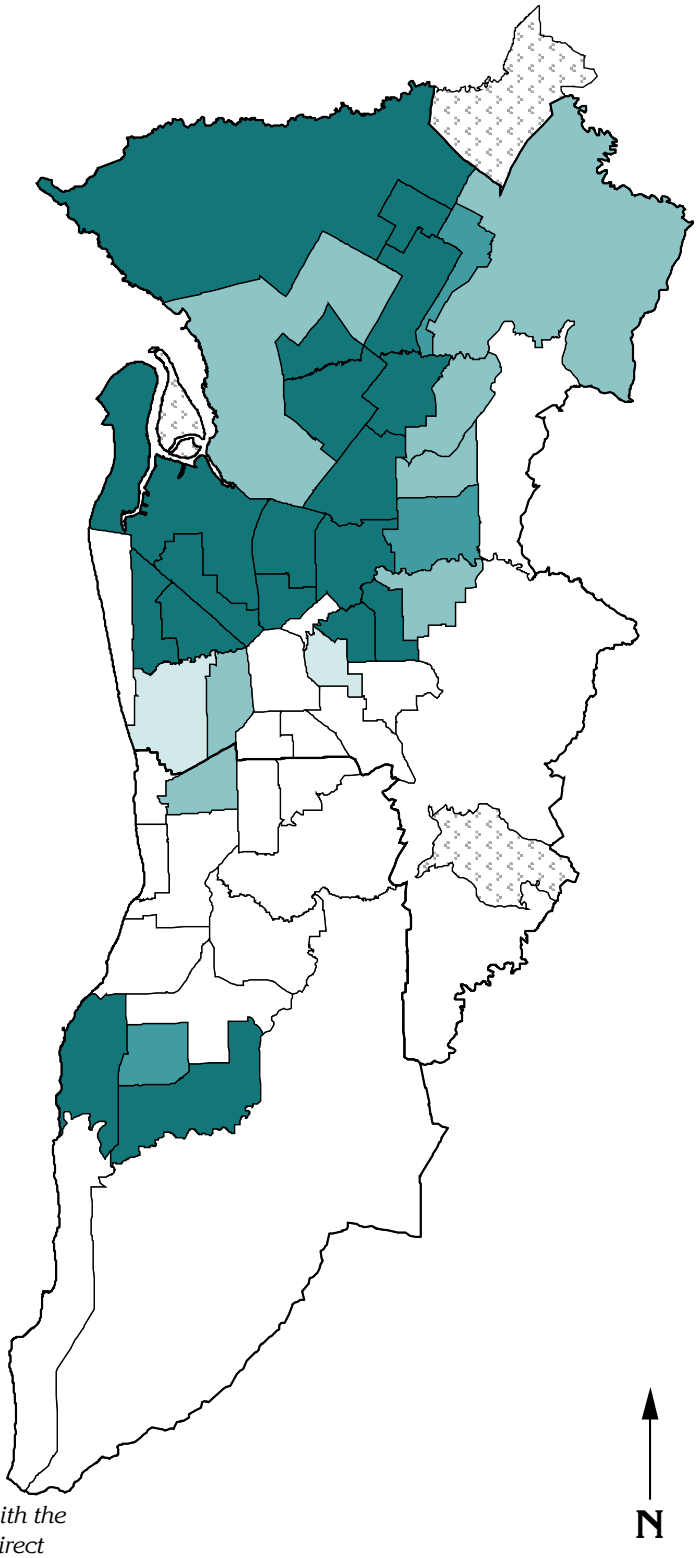
Lower than expected SCRs were recorded in Holdfast Bay - North (43**, 130), Mitcham - Hills (44**, 91), Onkaparinga - Reservoir (48**, 61), Mitcham - North-East (49**, 93), Onkaparinga - Hills (54**, 47), Marion - South (54**, 45), Holdfast Bay - South (55**, 115), Mitcham - West (61**, 160), Onkaparinga - Woodcroft (71**, 131) and - South Coast (82*, 132), and Marion - Central (83**, 322).

* **indicates statistical significance: see page 24**

Map 7.8
Domiciliary Care service clients, metropolitan regions, 2003



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Client Ratio (as an index)*, by SLA

- *115 and above*
- *105 to 114*
- *95 to 104*
- *85 to 94*
- *below 85*
- *data not mapped#*

*Index shows the number of clients in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on totals for the metropolitan regions

#Data were not mapped for Torrens Island (mapped with Port Adelaide) or in areas with fewer than five clients: Gawler has not been mapped

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Royal District Nursing Service clients, 2003/2004

The Royal District Nursing Service (RDNS) provides a range of health care services, including general and specialised nursing, to clients with the dual objectives of improving their health status whilst also enabling them to enjoy the benefits of remaining at home, thus retaining independence and an active role in their health care. There were 14,285 clients in Metropolitan Adelaide in 2003/2004, a rate of 1,276 clients per 100,000 population. The rates in both Central Northern and Southern were similar (Table 7.9).

Table 7.9: Royal District Nursing Service clients, 2003/2004

Age-standardised rate per 100,000

Section of State	No.	Rate
Central Northern (excl. Gawler)	8,867	1,186
Southern	4,334	1,277
Metropolitan Adelaide (incl. Gawler)	14,285	1,276

Data were not mapped for the SLA of Adelaide, because clients who contact Healthcare Access (the RDNS call centre) can choose to remain anonymous, resulting in their suburb being recorded as Adelaide. Further, all homeless clients seen by RDNS are allocated to the SLA of Adelaide.

Metropolitan regions

There were 14,102 clients in the metropolitan regions (excluding Gawler) in 2003/2004 (an SCR of 100). The most highly elevated SCRs were in the northern, western and southern SLAs, with relatively low ratios to the east and south-east of the city (Map 7.9).

High rates of Royal District Nursing Service clients are strongly correlated at the SLA level with indicators of disadvantage. These results, together with a strong inverse correlation with the Index of Relative Socio-Economic Disadvantage, indicate an association at the SLA level between socioeconomic disadvantage and being a client of the Royal District Nursing Service (Table 8.1).

Central Northern Adelaide

There were 901 RDNS clients attributed to the SLA of Adelaide (a SCR of 510**). These clients include those who wish to remain anonymous and all homeless RDNS clients, and so do not reflect the number of RDNS clients who are residents in this SLA. Excluding the large number of clients recorded for Adelaide, there were seven per cent fewer clients in the Central Northern region than expected, based on the rates in the metropolitan regions (93**, 8,867).

The SLA with the most highly elevated SCR (other than Adelaide) was Salisbury - Inner North (133**, 226), with elevated ratios also in Playford - West Central (128**, 127), Port Adelaide Enfield - Coast (127**, 472), - Port (127**, 450) and - Inner (118**, 368), Playford - Elizabeth (114**, 374), Charles Sturt - Inner West (113**, 417) and - Inner East (106, 350), West Torrens - East (an SCR of 105, 356) and Charles Sturt - North-East (an SCR of 105, 382).

Large numbers of RDNS clients, but lower ratios, were found in Charles Sturt - Coastal (443 clients, 92), West Torrens - West (438, 87**), Port Adelaide Enfield - East (358 clients, 94), Burnside - South-West (339 clients, 95), Tea Tree Gully - South (306, 76**) and Salisbury - South-East (302, 87*).

Low SCRs were recorded for Adelaide Hills - Central (an SCR of 4**, six clients) and - Ranges (36**, 33), Tea Tree Gully - Hills (55**, 65), Walkerville (71**, 87), Tea Tree Gully - North (72**, 136), Unley - East (73**, 229), Campbelltown - West (73**, 239), Burnside - North-East (76**, 265), Tea Tree Gully - South (76**, 306) and - Central (77**, 188), Playford - Hills (79, 18), Campbelltown - East (79**, 265) and Salisbury - Central (81**, 227).

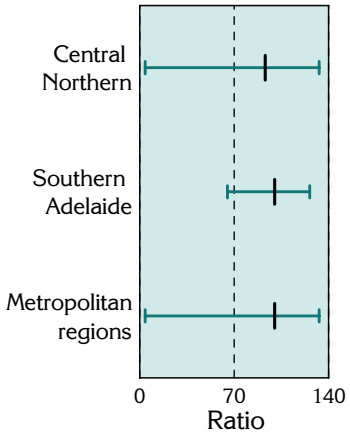
Southern Adelaide

There were 4,334 RDNS clients in Southern (an SCR of 100). Within the region, there were elevated ratios in Holdfast Bay - North (126**, 514 clients), Marion - North (121**, 563), Mitcham - West (113*, 421), Onkaparinga - South Coast (an SCR of 110, 275) and - North Coast (an SCR of 108, 265), and Marion - Central (an SCR of 105, 565).

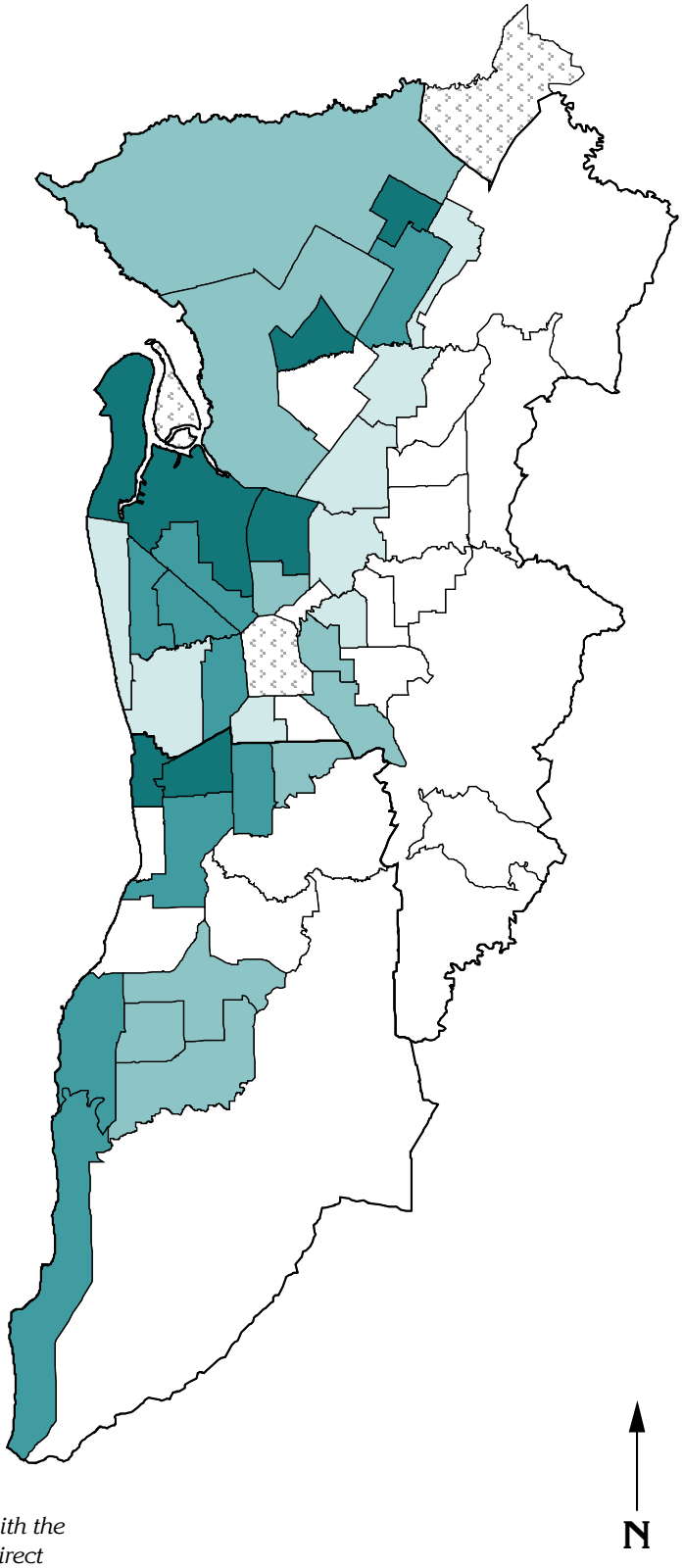
Onkaparinga - Hills (65**, 87 clients), Mitcham - Hills (66**, 205), Marion - South (71**, 109), Onkaparinga - Reservoir (74**, 162) and Holdfast Bay - South (80**, 229) all had below average rates.

* **indicates statistical significance: see page 24**

Map 7.9
Royal District Nursing Service clients, metropolitan regions, 2003/2004



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Client Ratio (as an index)*, by SLA

- *115 and above*
- *105 to 114*
- *95 to 104*
- *85 to 94*
- *below 85*
- *data not mapped#*

*Index shows the number of clients in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on totals for the metropolitan regions

#Data were not mapped for Torrens Island (mapped with Port Adelaide) or in Adelaide due to allocation of non-resident clients (see text page 336): Gawler has not been mapped

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Meals on Wheels clients, 2003

Each weekday, approximately 5,000 meals are delivered to homes throughout South Australia, by people from a pool of 10,000 volunteers. Meals are prepared in 31 kitchens owned and operated by Meals on Wheels Incorporated. Meals are provided to people on a short-term basis (after surgery or illness, as carer support or respite) and on a long-term basis (for people who are aged, chronically ill or disabled). Recurrent funding of Meals on Wheels is derived from the sale of meals (80%), and from the Home and Community Care program (20%). The price of a meal can be kept low ($4.50) because of the assistance of volunteers.

The rate of clients per 100,000 population was notably higher in Southern (1,669) than in Central Northern (1,326) (Table 7.10).

Table 7.10: Meals on Wheels clients, 2003

Age-standardised rate per 100,000

Region	No.	Rate
Central Northern	2,541	1,326
Southern	1,465	1,669
Metropolitan Adelaide (incl. Gawler)	4,085	1,437

Metropolitan regions

There were 4,006 Meals on Wheels clients in the metropolitan regions in 2003 (excludes 79 clients in Gawler).

The geographic distribution of clients (Map 7.10) is different from that in the two previous maps, with the highest rates found in a number of inner and middle SLAs.

This variable is consistently weakly correlated with the indicators of disadvantage. Together with the inverse correlation with the Index of Relative Socio-Economic Disadvantage, this suggests an association at the SLA level between Meals on Wheels clients and socioeconomic disadvantage (Table 8.1).

Central Northern Adelaide

Central Northern had a larger number of Meals on Wheels clients (2,541 clients) than Southern (1,465). However, there were eight per cent fewer clients in Central Northern (a standardised client ratio (SCR) of 92**) than expected from the metropolitan regional rate. The two SLAs in this region with 25% more clients than expected were Adelaide Hills - Ranges (125, 26 clients) and Salisbury - Inner North (125, 37 clients). There were also more clients than expected in the SLAs of Playford - West Central (an SCR of 120, 24 clients), Norwood Payneham St Peters - East (an SCR of 116, 118), Charles Sturt - North-East (an SCR of 113, 125), West Torrens - East (an SCR of 113, 115), West Torrens - West (an SCR of 113, 185), and Charles Sturt - Coastal (an SCR of 112, 166) and - Inner East (an SCR of 111, 112).

No Meals on Wheels clients were recorded in Salisbury Balance. Several SLAs had fewer clients than expected: these included Campbelltown - East (30**, 27 clients), Tea Tree Gully - Hills (33**, nine clients) and - North (35**, eleven), Campbelltown – West (39**, 40), Salisbury - Central (39**, 28), Tea Tree Gully - South (47**, 51), Playford - West (47**, seven clients), Salisbury - North-East (49**, 23), Tea Tree Gully - Central (51**, 28) and Salisbury - South-East (55**, 45).

Southern Adelaide

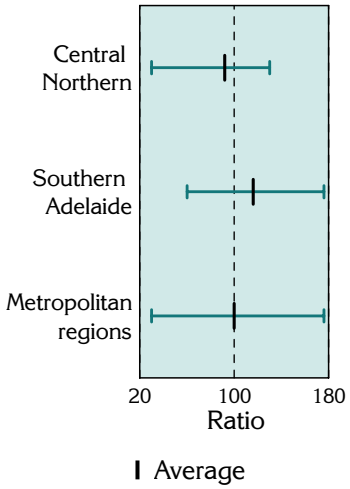
There were 16% more Meals on Wheels clients than expected in the Southern region (an SCR of 116**, 1,465 clients). Onkaparinga - North Coast in the south had the highest ratio of clients (an SCR of 176**, 126 clients) compared to Campbelltown - East in Central Northern which had the lowest ratio (30**, 27 clients) (see graph opposite).

Other SLAs with high ratios of clients included Onkaparinga - Hackham (an SCR of 146*, 39 clients) and Marion - Central (141**, 233). There were also elevated ratios in Holdfast Bay - South (121*, 116), Mitcham - West (an SCR of 117, 142 clients), Mitcham - North-East (an SCR of 112, 98), Marion - South (an SCR of 112, 30) and Onkaparinga - Morphett (an SCR of 111, 75).

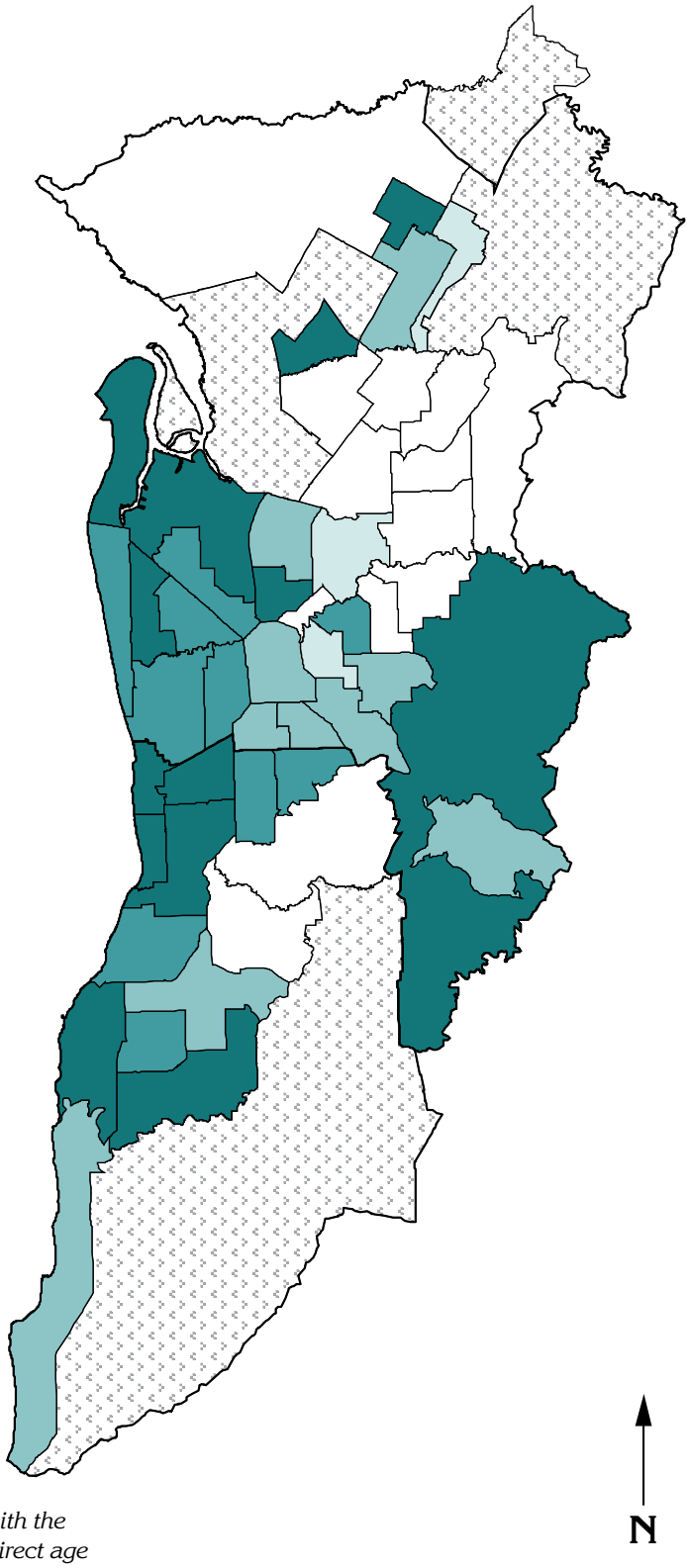
There were no Meals on Wheels clients in Onkaparinga - Hills, with 40% fewer clients than expected in Onkaparinga - Reservoir (60**, 28) and 36% fewer in Mitcham - Hills (64**, 56).

* **indicates statistical significance: see page 24**

Map 7.10
Meals on Wheels clients, metropolitan regions, 2003



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Client Ratio (as an index)*, by SLA

- *120 and above*
- *110 to 119*
- *90 to 109*
- *80 to 89*
- *below 80*
- *data not mapped#*

*Index shows the number of clients in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on totals for the metropolitan regions

#Data were not mapped for Torrens Island (mapped with Port Adelaide) or in areas with fewer than five clients: Gawler has not been mapped

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Breast screening participation, 2001 to 2002

Early detection of breast cancer may improve prognosis. The aim of the BreastScreen Australia program is to facilitate early detection through regular screening of the target population of women aged 50 to 69 years. BreastScreen SA is the South Australian component of BreastScreen Australia, the national breast cancer screening program. The program provides a free screening mammography service on a state-wide basis, with fixed and mobile clinics.

The 24 month screening participation rate is higher among women in country South Australia (68,044 screenings per 100,000 female population aged 50 to 69 years) than in Metropolitan Adelaide (63,511 per 100,000 females) (Table 7.11). The data do not include women who undergo private screening; the extent to which women use alternatives is unknown (Zorbas 2003).

Table 7.11: Breast screening participation, 2001 to 2002

Age standardised rate per 100,000 females aged 50 to 69 years

Section of State	No.	Rate
Metropolitan Adelaide (incl. Gawler)	74,260	63,511
Country	29,453	68,044
South Australia	103,781	64,778

The data shown are the number of attendances for breast screening at any of the six clinics in Adelaide or the three mobile clinics operating across the State. In any two-year period, a small number of women would have had annual screens (about 7.5% per year). The service primarily targets women aged 50 to 69 years (on which the analysis is based), who accounted for over three quarters (77.6%) of the screenings undertaken in 2001 and 2002 (Table 7.12).

Table 7.12: Age of women attending for breast screening, South Australia, 2001 to 2002

Age (yrs)	No.	Per cent
40-44	6,394	4.8
45-49	12,850	9.6
50-54	33,594	25.1
55-59	28,254	21.1
60-64	22,969	17.2
65-69	18,964	14.2
70-74	6,915	5.2
75+	3,969	2.9
Total	**133,909**	**100.0**

Metropolitan regions

The 24 month participation rate of women aged 50 to 69 years in the breast screening program in the metropolitan regions (excluding Gawler) was slightly lower than expected (when compared with state-wide participation rates), with a standardised participation ratio (SPR) of 98** (73,078 participants) (Table 7.13).

The distribution of participation rates across the metropolitan regions (Map 7.11) is not typical of the patterns generally seen in this atlas: where low rates occur in the north-western and outer-northern SLAs, these are usually offset by higher rates in the inner eastern, southern and south eastern SLAs. In this map, very low rates are common in many of these areas, whereas the highest rates are further out, covering much of the southern region. The correlation analysis shows a consistently weak association at the SLA level between participation in breast screening and variables of socioeconomic advantage (Table 8.1).

Central Northern Adelaide

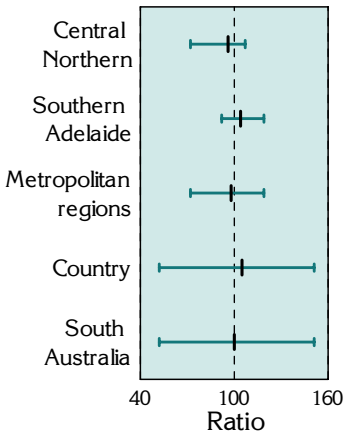
The ratio in Central Northern was four per cent lower than expected (an SPR of 96**, 49,793 participants). The highest level of participation was in Playford - East Central (an SPR of 107*, 946 participants). SLAs with large numbers of women participating included Charles Sturt - Coastal (2,624 participants, an SPR of 100), Salisbury - South-East (2,535, 96*), Tea Tree Gully - South (2,477, 95*), Campbelltown - East (2,182, 99) and West Torrens - West (2,031, 94**). SLAs with notably fewer women participating than expected from the State rates included Playford - Hills (an SPR of 72**, 134 participants) and - Elizabeth (86**, 1,527), Salisbury - Central (78**, 1,334) and Salisbury Balance (86*, 209).

Southern Adelaide

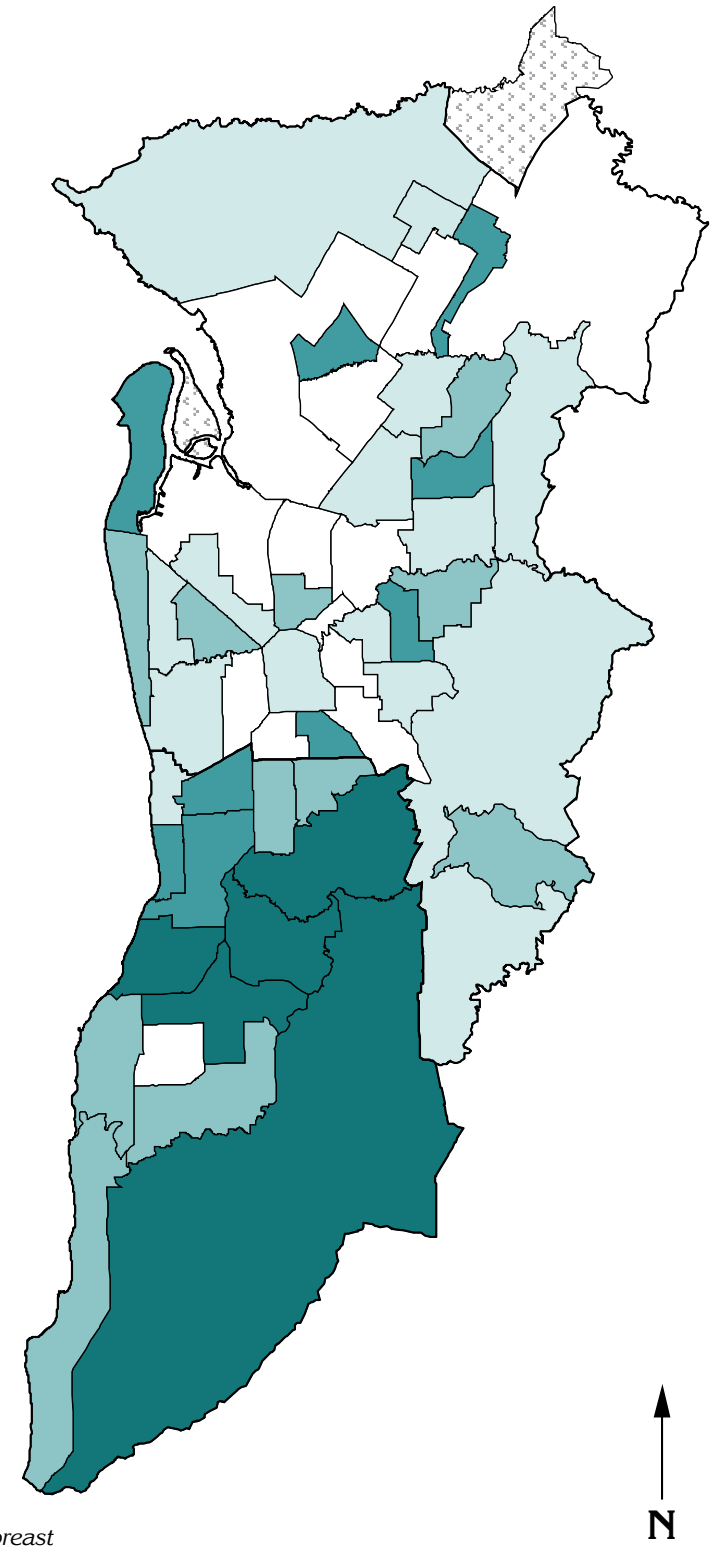
The participation ratio in Southern was higher than in Central Northern (an SPR of 104**, 23,285 participants). There were elevated ratios in Marion - South (an SPR of 119**, 1,258), Onkaparinga - Woodcroft (114**, 2,299), - Hills (112**, 929) and - Reservoir (109**, 1,673), Mitcham - Hills (108**, 2,199) and Holdfast Bay - South (107*, 1,202). Marion - Central (2,779 participants, an SPR of 102) had a large number of participants. Onkaparinga - Morphett had the lowest SPR in the region (an SPR of 92**, 1,536 participants).

* **indicates statistical significance: see page 24**

Map 7.11
Breast screening participation, females aged 50 to 69 years, metropolitan regions, 2001 to 2002



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Participation Ratio (as an index) *, by SLA

- *106 and above*
- *102 to 105*
- *98 to 101*
- *94 to 97*
- *below 94*
- *data not mapped#*

*Index shows the number of women in the SLA having a breast screen compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped for Torrens Island (mapped with Port Adelaide): Gawler has been mapped in the State map

Source: See data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Country South Australia

Some 30,635 women from country areas participated in the breast screening program in 2001 and 2002, five per cent more than expected from the State rates (a standardised participation ratio (SPR) of 105**). All of the regions had elevated participation rates, except for **Northern and Far Western** with 14% fewer participants than expected.

Table 7.13: Regional totals, breast screening participation, 2001 to 2002

Region	No.	SPR
Hills Mallee Southern	8,811	104**
Wakefield[1]	7,482	105**
South East	4,455	113**
Northern & Far Western[2]	2,595	86**
Eyre	2,341	109**
Mid North	2,539	108**
Riverland	2,412	109**
Country SA	30,635	**105****
Central Northern	49,793	96**
Southern	23,285	104**
Metropolitan regions	73,078	98**
South Australia	**103,781**	100

[1]Gawler is included in the Wakefield region

[2]See text under Northern and Far Western, below

High rates of participation in breast screening were strongly correlated with participation in cervical screening; however, there was no consistent relationship at the SLA level between participation in breast screening and socioeconomic status evident from the correlation analysis (Table 8.2).

The Regions

The most highly elevated ratio in country South Australia was recorded for women in **South East** (an SPR of 113**, 4,455 participants). All SLAs within this region had greater participation ratios than expected. The most highly elevated SPR was recorded for Naracoorte and Lucindale (an SPR of 121**, 603 participants), followed by Grant (118**, 597), Wattle Range - West (114**, 693) and - East (111, 231), and Tatiara (113**, 478). In Mount Gambier, there were 1,529 participants (109**).

In **Riverland**, there were nine per cent more participants than expected from the State rates, an SPR of 109** (2,412 participants). SLAs with the most highly elevated ratios were Renmark Paringa - Paringa (123**, 165), Loxton Waikerie - West (115**, 365), and Berri and Barmera - Berri (112*, 467) and - Barmera (108, 340).

Eyre also had an SPR of 109** (2,341 participants), with almost all SLAs mapped in the highest range. There was a highly elevated ratio in Unincorporated West Coast (an SPR of 151*, 36 participants), with other elevated ratios in Lower Eyre Peninsula (117**, 336), Port Lincoln (110**, 927), Streaky Bay (108, 126), Cleve (108, 142), Le Hunte (107, 90), Tumby Bay (105, 224) and Kimba (105, 86).

The SPR in **Mid North** was 102** (10,874 participants) with elevated ratios in Barunga West (an SPR of 124**, 284 participants), Northern Areas (115**, 400) and Port Pirie Balance (112, 275). In Port Pirie - City, 1,095 women participated in breast screening (an SPR of 106). Fewer women than expected were screened in Unincorporated Pirie (an SPR of 91, 15 participants) and Mount Remarkable (92, 218).

In **Wakefield**, there were 7,482 participants (an SPR of 105**). SLAs in this region with the highest participation ratios were Barossa - Tanunda (an SPR of 119**, 360 participants), Yorke Peninsula - North (117**, 807), Barossa - Angaston (117**, 601), Clare and Gilbert Valleys (116**, 720) and Copper Coast (111**, 1,100). There were 1,183 participants in Gawler (an SPR of 96). Mallala (an SPR of 82**, 347 participants) and Wakefield (92, 417) had fewer participants than expected.

There were 8,811 participants in **Hills Mallee Southern** (an SPR of 104**), with elevated ratios in Victor Harbor (an SPR of 120**, 1,319 participants), Southern Mallee (an SPR of 109, 166) and Murray Bridge (107*, 1,276). Large numbers of women participated in screening in Alexandrina - Coastal (975 participants, an SPR of 104), Mid Murray (729, 102) and Alexandrina - Strathalbyn (671, 100). Fewer participants than expected were recorded in the SLAs of Mount Barker Balance (83**, 472) and Karoonda East Murray (an SPR of 96, 87 women).

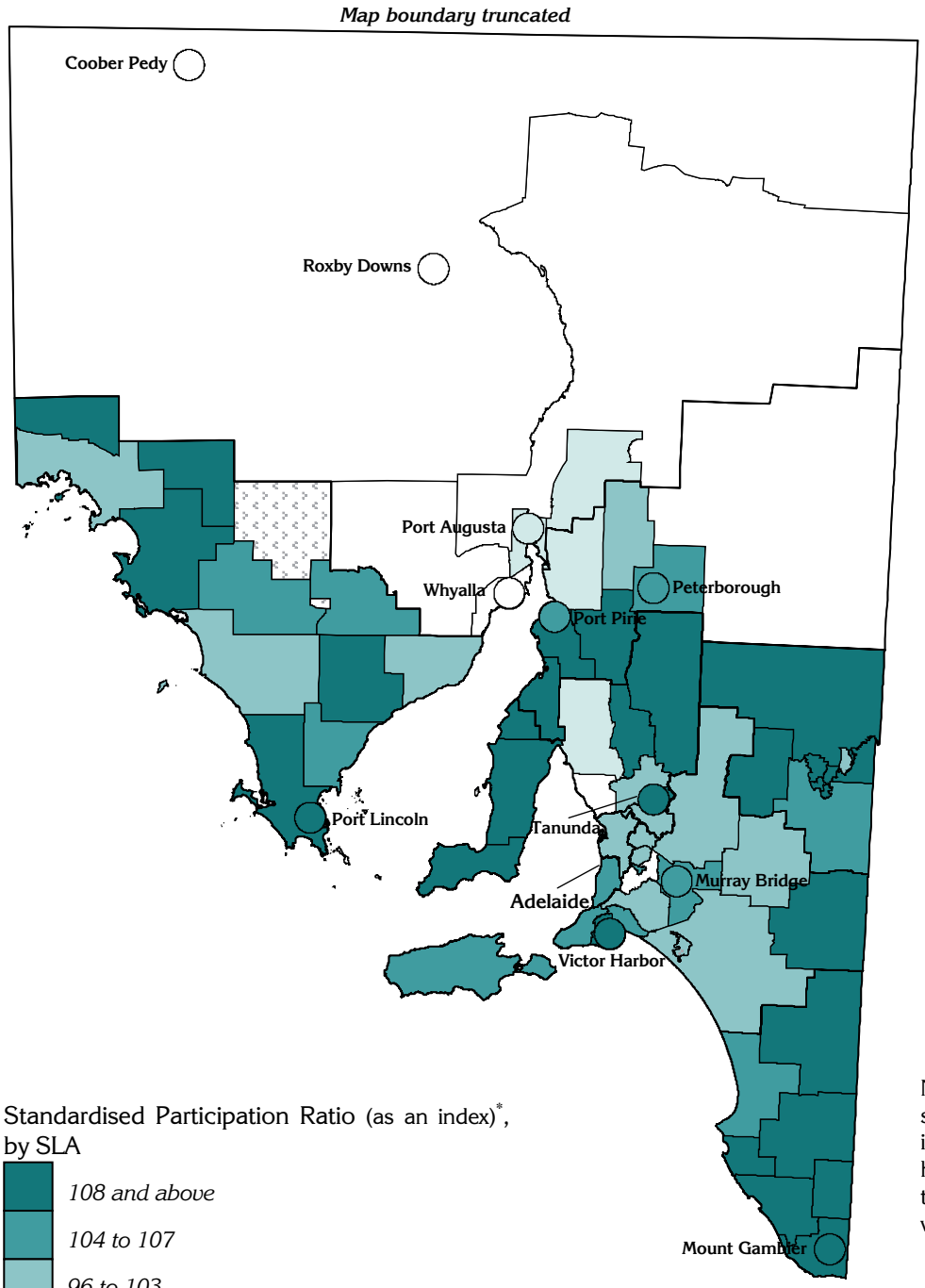
Northern and Far Western was the only region with fewer participants than expected (an SPR of 86**, 2,595) with all SLAs within the region having low ratios. Unincorporated Far North had half the expected number of participants (an SPR of 52**, 116 participants) followed by Unincorporated Flinders Ranges (65*, 36), Coober Pedy (75**, 123) and Unincorporated Whyalla (81, 19 participants). Participation in Whyalla was recorded as being 13% lower than expected (an SPR of 87, 1,301): however, BreastScreen SA has indicated that there is relatively high participation in Whyalla through the mobile unit, which visited this SLA outside of the time frame included here.

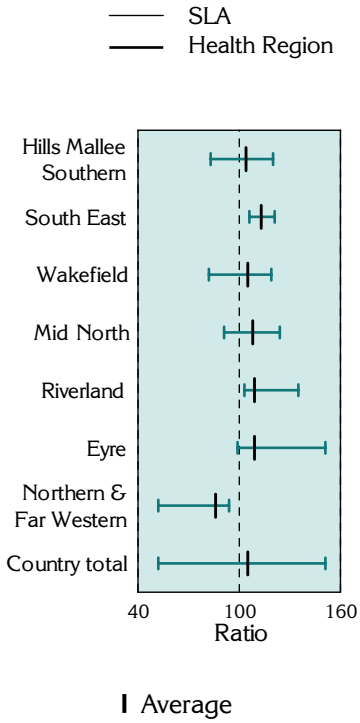
ASGC Remoteness Classification

Participation increases across the remoteness areas, from a standardised participation ratio of 98** in Major Cities, up to 107** in the Remote areas. Women in the Very Remote areas had the lowest SPR of 86**.

* indicates statistical significance: see page 24

Map 7.12
Breast screening participation, females aged 50 to 69 years, South Australia, 2001 to 2002





Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

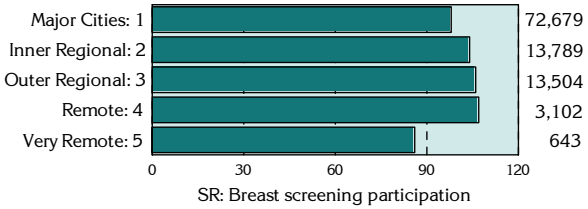
Standardised Participation Ratio (as an index)*, by SLA

- *108 and above*
- *104 to 107*
- *96 to 103*
- *92 to 95*
- *below 92*
- *data not mapped#*

*Index shows the number of women in the SLA having a breast screen compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped because the SLA has a population of less than 100

ASGC Remoteness classification Women



Source: See data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Breast screening outcomes, females aged 50 to 69 years: cancer, 2001 to 2002

In South Australia, over the two years 2001 and 2002, 659 women were diagnosed with breast cancer following screenings undertaken through the BreastScreen SA program (Table 7.14). The rate of cancer diagnosis was higher in Metropolitan Adelaide (636.6 per 100,000) than in country South Australia (632.8).

Table 7.14: Breast screening outcomes: cancer, 2001 to 2002
Age standardised rate per 100,000 females aged 50 to 69 years

Section of State	No.	Rate
Metropolitan Adelaide (incl. Gawler)	475	636.6
Country	184	632.8
South Australia	659	635.0

Metropolitan regions

In 2001 to 2002, 464 women in the metropolitan regions (excluding Gawler) aged 50 to 69 years were diagnosed with breast cancer as a result of screening, two per cent more than expected from the State rates (a standardised ratio (SR) of 100). The most highly elevated ratios were in SLAs in the inner and outer north, and the inner and outer south and south-west (Map 7.13). There was no consistent relationship in the correlation analysis at the SLA level between cancer detected through screening and socioeconomic status (Table 8.1).

Central Northern Adelaide

In Central Northern, 318 women were diagnosed with breast cancer following screening (an SR of 100). Despite having the expected number for the region's population size and structure, there was considerable variation between SLAs, with highly elevated SRs in Unley - West (an SR of 214**, 14 women) and - East (173*, 14) (see graph opposite). The remaining SLAs in the region did not have statistically significant SRs. Other SLAs with high SRs included Salisbury - North-East (an SR of 147, 14) and - South-East (129, 20), Walkerville (146, five), Prospect (138, nine), Playford - Elizabeth (127, 13), Adelaide Hills - Ranges (118, five) and Port Adelaide Enfield - Port (118, eleven).

Tea Tree Gully - South (14 women, an SR of 90) and - Central (13, 109), Port Adelaide Enfield - Coast (14, 108) and West Torrens - West (13, 98), each had higher numbers of women diagnosed with breast cancer through screening, although none of the ratios were statistically significant.

Campbelltown - East had half the expected number of women diagnosed with breast cancer (an SR of 53*, seven women). Other SLAs with low SRs included Burnside - South-West (an SR of 66, six women), Salisbury - Central (72, six), Norwood Payneham St Peters - West (76, five), Charles Sturt - Coastal (82, 14), Campbelltown - West (83, eight), Tea Tree Gully - North (86, seven) and West Torrens - East (89, eight).

Southern Adelaide

In Southern, 146 women were diagnosed with cancer through breast screening (an SR of 100). There was also considerable variation in Southern, with Onkaparinga - Hills having two-thirds more women diagnosed with cancer than expected from the State rate (an SR of 167, ten women), followed by Holdfast Bay - South (159, 12), Mitcham - North-East (128, nine), Onkaparinga - Morphett (124, 12) and - North Coast (123, eleven), Marion - South (117, nine), Onkaparinga - Woodcroft (109, 15) and - South Coast (105, ten), and Holdfast Bay - North (106, nine). None of these SRs were statistically significant.

Mitcham - Hills had less than half the expected number of women diagnosed with breast cancer (an SR of 42*, six women). Other SLAs with low SRs included Onkaparinga - Reservoir (67, seven), Marion - North (81, nine) and - Central (85, 15), and Mitcham - West (86, eight).

Country South Australia (not mapped)

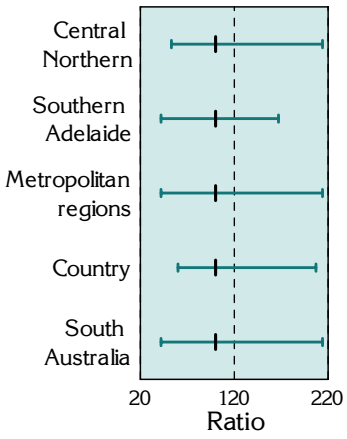
In country South Australia, 195 women were diagnosed with breast cancer through screening (an SR of 100). The highest ratio of 123 was recorded for **Riverland** and the lowest, for **Mid North** (79). None of the regional totals were statistically significant (Table 7.15).

Table 7.15: Regional totals, breast screening outcome: cancer, 2001 to 2002

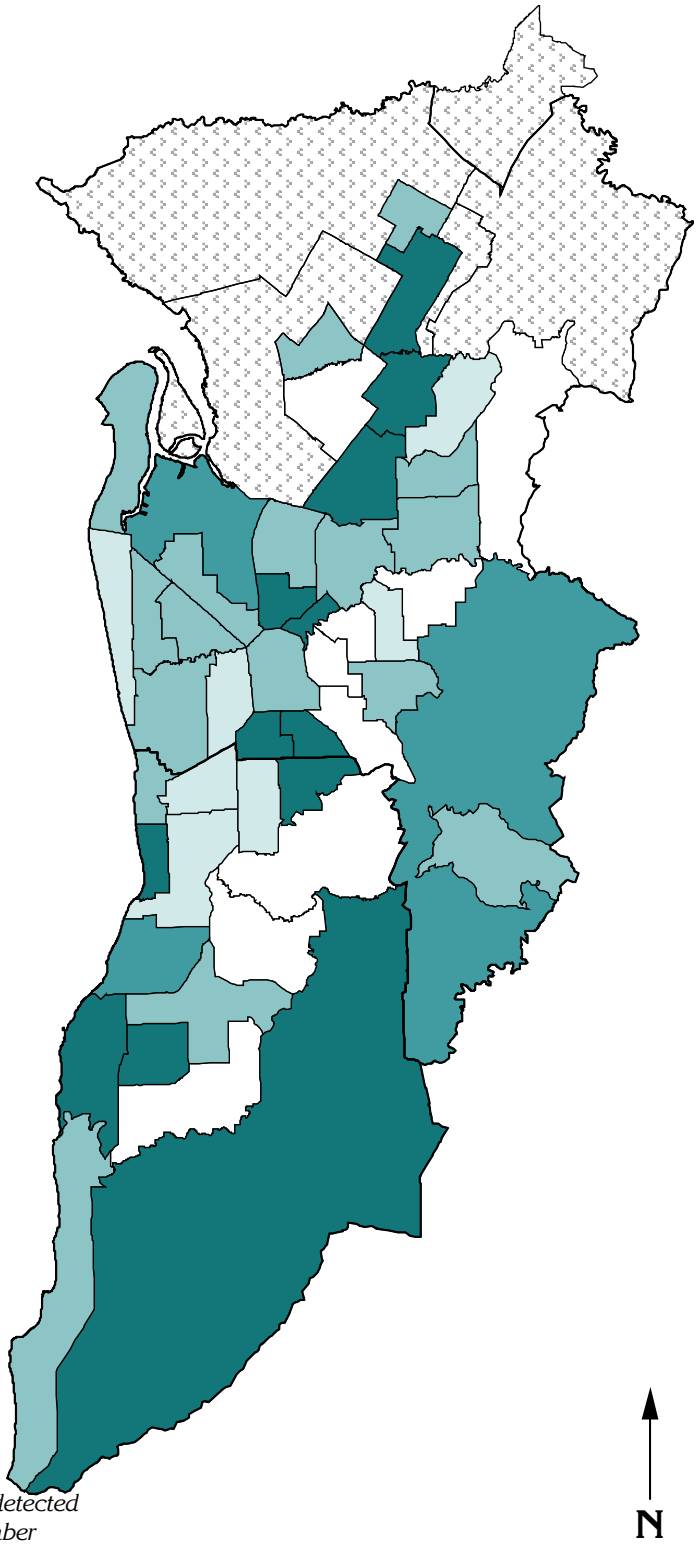
Region	No.	SR
Hills Mallee Southern	66	116
Wakefield[1]	43	90
South East	25	88
Northern & Far Western	16	99
Eyre	13	88
Mid North	13	79
Riverland	19	123
Country SA	**195**	**100**
Central Northern	318	100
Southern	146	100
Metropolitan regions	**464**	**100**
South Australia	**659**	**100**

[1]**Gawler is included in the Wakefield region**

Map 7.13
Breast screening outcomes, females aged 50 to 69 years: cancer, metropolitan regions, 2001 to 2002



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Ratio (as an index) *, by SLA

- *120 and above*
- *110 to 119*
- *90 to 109*
- *80 to 89*
- *below 80*
- *data not mapped*#

*Index shows the number of women in the SLA who were detected with cancer from a breast screen compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped for Torrens Island (mapped with Port Adelaide) or in areas with fewer than five cases: Gawler has not been mapped

Source: See data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Cervical screening participation, 2001 to 2002

Cervical cancer is one of the most preventable and curable cancers. It is the eighteenth most frequent cause of cancer deaths in Australian women; and it is estimated that up to 90% of the commonest type of cervical cancer may be prevented, if cell changes are detected and treated early (AIHW 2003). In 1991, Australia adopted an 'organised approach' to preventing cervical cancer, the National Cervical Screening Program, which recommends and encourages women under 70 years of age who have ever been sexually active to have Pap smears every two years. The key objectives of the Program are to reduce mortality and minimise morbidity from these cancers, and to maximise the efficiency of program delivery and its equity.

Data were provided by the South Australian Cervix Screening Program for women screened in 2001 or 2002 (each woman was counted only once in this two-year period). The data presented are for women aged 20 to 69 years; the denominator population has been adjusted to reflect variations between age groups in hysterectomy rates. The participation rate was similar in both metropolitan and country areas, with an overall rate of 64,597 per 100,000 females aged 20 to 69 years (Table 7.16). Details of the outcomes of cervical screening are shown from page 350, and the number of women participating in such screening is shown in Table 7.21, on page 352.

Table 7.16: Cervical screening participation, 2001 to 2002

Age standardised rate per 100,000 females aged 20 to 69 years

Section of State	No.	Rate
Metropolitan Adelaide (incl. Gawler)	199,557	64,739
Country	67,051	64,189
South Australia	266,634	64,597

Metropolitan regions

The majority of women attending for screening were aged between 20 and 55 years of age (Table 7.21). In 2001 to 2002, 196,432 women participated in cervical screening (an SPR of 100).

The most highly elevated standardised participation ratios (SPRs) were in SLAs covering the city centre and much of the region to the east, south and south-east. Low ratios were found in the outer north, north-west and some outer southern SLAs (Map 7.14). The correlation analysis shows a very strong association between high rates of cervical screening and indicators of socioeconomic advantage, including a very strong positive association with the Index of Relative Socio-Economic Disadvantage. These results suggest an association at the SLA level between socioeconomic advantage and participation in cervical screening (Table 8.1).

Central Northern Adelaide

The SPR for Central Northern (excluding Gawler) was close to average, being one per cent lower than expected from the State rates (an SPR of 99**, 136,931 women). The SLA of Adelaide had the most highly elevated ratio, with nearly one third more women participating in cervical screening than expected (an SPR of 130**, 3,214 women). Other SLAs with elevated ratios included Adelaide Hills - Central (an SPR of 118**, 2,845 women), Walkerville (116**, 1,400), Unley - East (115**, 4,229) and - West (109**, 3,574), Burnside - North-East (114**, 4,317) and - South-West (111**, 4,091), Adelaide Hills - Ranges (110**, 2,068) and Norwood Payneham St Peters - West (107**, 3,733). Large numbers of women in Salisbury - South-East (6,446 women, an SPR of 101), Charles Sturt - Coastal (5,795, 102), Campbelltown - East (5,314, 103*), and Tea Tree Gully - Central (5,217, 104), - South (6,275, 104*) and - North (5,196, 101) participated in cervical screening.

The lowest SPRs in Central Northern were recorded throughout Playford, with the lowest in Playford - Elizabeth (an SPR of 80**, 3,360 women), followed by - East Central (83**, 2,851), - West Central (84**, 1,797), - West (87**, 1,248) and - Hills (89**, 463). Port Adelaide Enfield - Inner (89**, 2,915) also had a low participation ratio.

Southern Adelaide

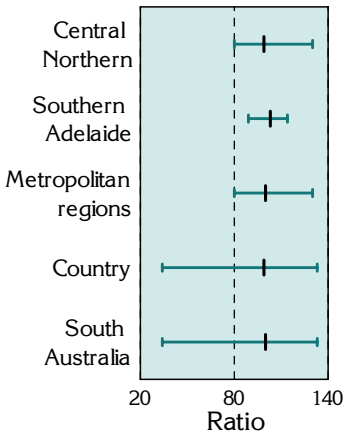
The participation rate in Southern was three per cent higher than expected from the State rates, an SPR of 103** (59,501 women). Elevated ratios were mapped in the SLAs of Mitcham - Hills (an SPR of 114**, 4,979 women), Onkaparinga - Reservoir (111**, 5,099) and - Hills (111**, 2,126), Marion - South (109**, 4,126), Mitcham - North-East (107**, 2,900), and Holdfast Bay - North (107**, 3,523) and - South (107**, 2,666).

Large numbers of women participating in screening lived in Onkaparinga - Woodcroft (6,534 women, an SPR of 101) and Marion - Central (5,941, 102).

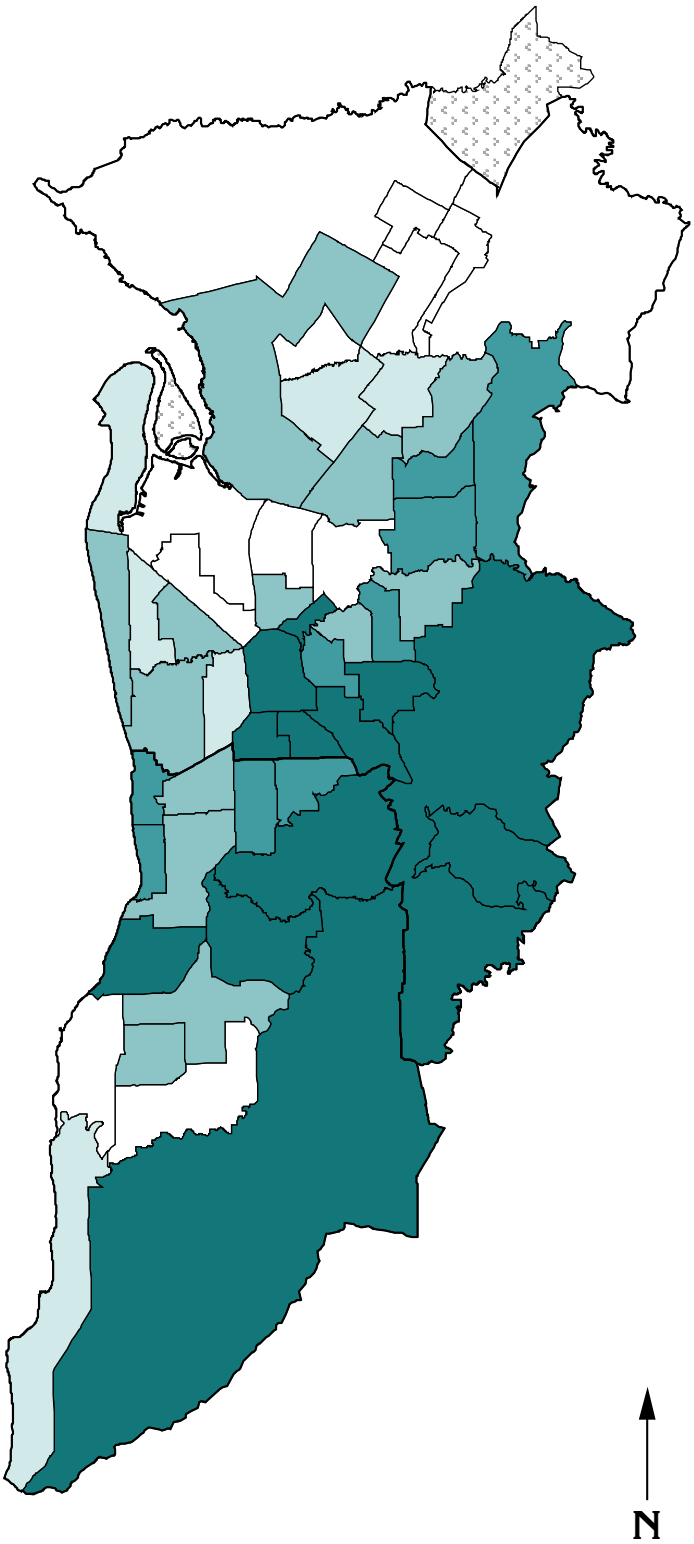
The lowest participation ratios were mapped in the Onkaparinga SLAs of - Hackham (an SPR of 89**, 2,268 women), - North Coast (91**, 2,758), - South Coast (92**, 3,852) and - Morphett (96*, 4,283).

* **indicates statistical significance: see page 24**

Map 7.14
Cervical screening participation, females aged 20 to 69 years, metropolitan regions, 2001 to 2002



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Participation Ratio (as an index) *
by SLA

- *108 and above*
- *104 to 107*
- *96 to 103*
- *92 to 95*
- *below 92*
- *data not mapped#*

*Index shows the number of women in the SLA undergoing screening compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped for Torrens Island (mapped with Port Adelaide): Gawler has been mapped in the State map

Source: See data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Country South Australia

Some 70,176 women in country South Australia aged 20 to 69 years participated in cervical screening over 2001 and 2002 (a standardised participation ratio (SPR) of 99). The majority of regions had marginally elevated ratios. The lowest SPR, of 83**, was in **Northern and Far Western**; however, this participation rate (and that in the Very Remote areas) are considered to under-estimate participation due to use of services in the Northern Territory by South Australian residents. In addition, hysterectomy rates in the region are believed to be high, and women who have undergone a hysterectomy do not require screening.

Table 7.17: Regional totals, Cervical screening participation, 2001 to 2002

Region	No.	SPR
Hills Mallee Southern	19,223	101
Wakefield[1]	16,445	100
South East	10,897	103**
Northern & Far Western	7,087	83**
Eyre	5,948	107**
Mid North	4,650	92**
Riverland	5,926	107**
Country SA	**70,176**	**99**
Central Northern	136,931	99**
Southern	59,501	103**
Metropolitan regions	**196,432**	**100**
South Australia	**266,634**	**100**

[1]**Gawler is included in the Wakefield region**

There is a weak correlation at the SLA level in country South Australia between high rates of participation in cervical screening and socioeconomic advantage (Table 8.2).

The Regions

Eyre had the highest SPR, with a seven per cent higher rate of participation in cervical screening than expected from the State rates (an SPR of 107**, 5,948 women). Other elevated ratios were evident for Kimba (an SPR of 133**, 252 women), Cleve (119**, 352), Unincorporated West Coast (113, 113) and Streaky Bay (112*, 348). A large number of women from Port Lincoln participated in screening (2,485 women, an SPR of 106**). Tumby Bay had a lower participation rate than expected (an SPR of 93, 383 women).

The **Riverland** also had an SPR of 107** (5,926 women), with elevated ratios in Berri and Barmera - Barmera (114**, 800) and - Berri (109**, 1,304), and Renmark Paringa - Paringa (112**, 337). A large number of women in Renmark Paringa - Renmark were screened (1,430, 105). Loxton Waikerie - West was the only SLA with fewer women participating than expected (an SPR of 99, 754 women).

South East had a three per cent higher rate of participation in cervical screening than expected (an SPR of 103**, 10,897 women). Elevated ratios were calculated for Wattle Range - East (an SPR of 110*, 600 women) and Mount Gambier (109**, 4,463). Large numbers of women were screened in Naracoorte and Lucindale (1,471 women, an SPR of 106*) and Wattle Range - West (1,454, 96). There were fewer women participating in screening than expected in Grant (an SPR of 87**, 1,128).

Hills Mallee Southern had an SPR elevated by just one per cent (101, 19,223 women). The SLAs of Southern Mallee (an SPR of 111*, 390 women) and Mount Barker - Central (110**, 3,112) both had elevated SPRs. Murray Bridge (2,830 women, an SPR of 100) and Victor Harbor (1,783, 102) recorded large numbers of women participating in screening. Fewer women than expected from Karoonda East Murray (an SPR of 91, 178 women) and Yankalilla (an SPR of 94, 622) participated in screening.

In **Wakefield**, 16,445 women participated in screening, an SPR of 100. Elevated ratios were recorded in the SLAs of Barossa - Tanunda (an SPR of 122**, 923 women) and - Angaston (120**, 1,544 women), and Clare and Gilbert Valleys (110**, 1,547). A large number of women from Gawler (3,125 women, 99) participated in cervical screening. Fewer women than expected participated in screening in Mallala (an SPR of 85**, 1,123 women) and Wakefield (88**, 916).

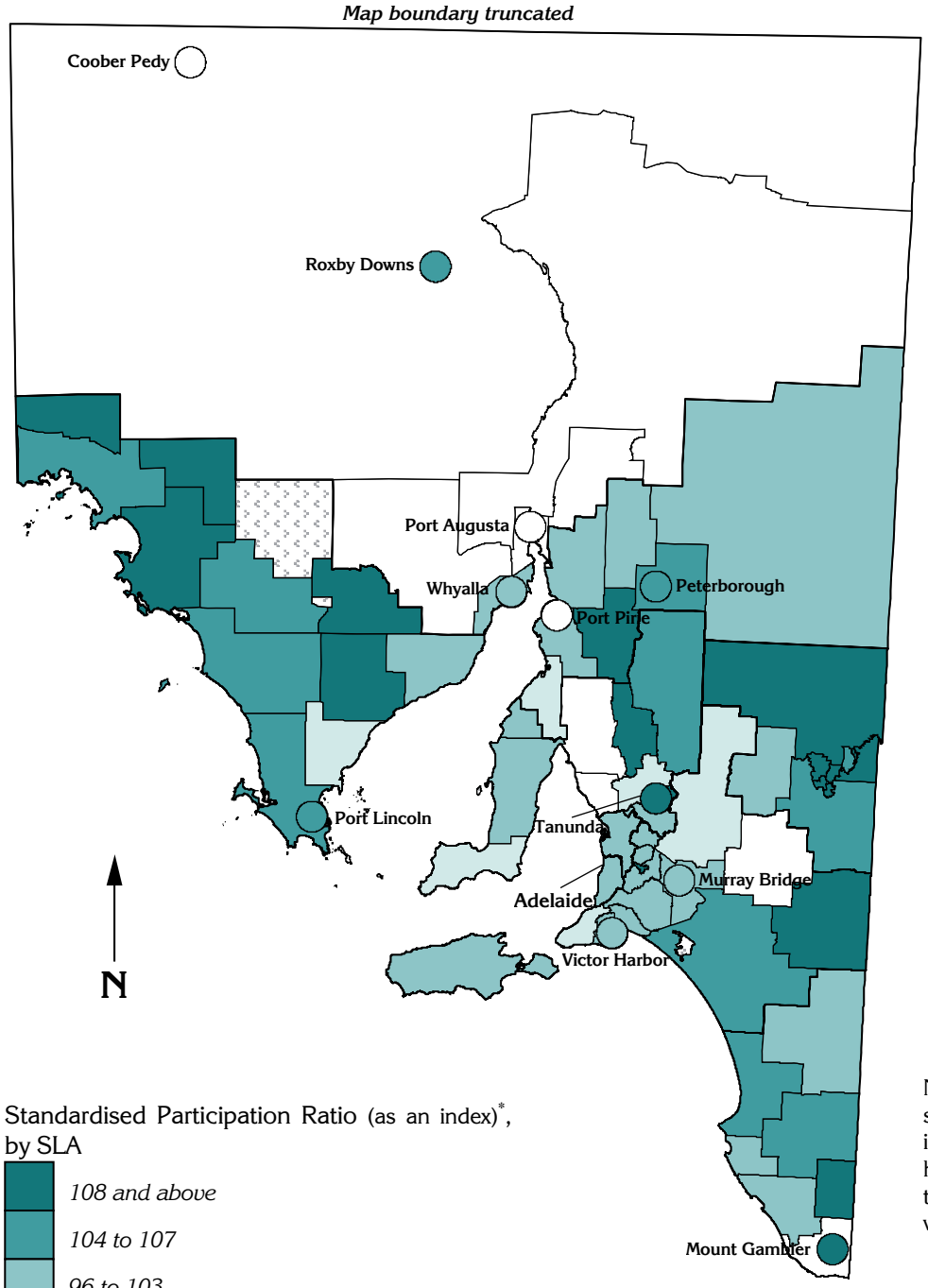
Mid North had eight per cent fewer women who participated than expected (an SPR of 92**, 4,650 women), with elevated ratios in Northern Areas (108*, 823) and Peterborough (an SPR of 107, 340). Both Port Pirie Balance (558 women, an SPR of 101) and Mount Remarkable (472 women, 98) had large numbers of women who participated in screening. Low ratios were recorded in Port Pirie - City (an SPR of 80**, 1,891 women) and Barunga West (92, 375).

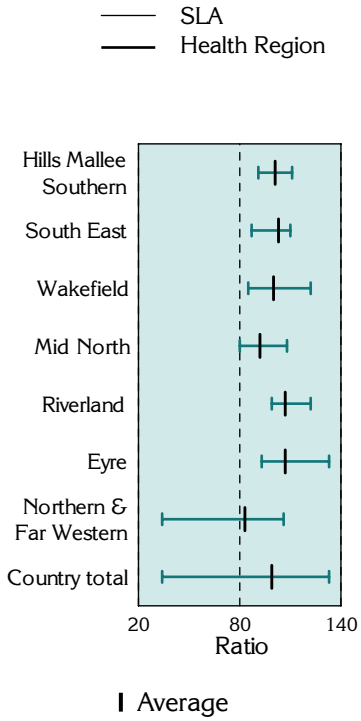
Northern and Far Western had the lowest regional participation rate, with 17% fewer women screened than expected (an SPR of 83**, 7,087 women). Roxby Downs was the only SLA in this region with an elevated SPR (106, 643 women). Whyalla had 3,602 residents who participated in screening (an SPR of 96*). Unincorporated Far North had the lowest SPR, at one third the expected level (an SPR of 34**, 314 women), followed by Unincorporated Flinders Ranges (74**, 166), Flinders Ranges (75**, 219), Port Augusta (77**, 1,796), Coober Pedy (81**, 317) and Unincorporated Whyalla (85, 29).

The AGSC remoteness data are on page 352.

* **indicates statistical significance: see page 24**

Map 7.15
Cervical screening participation, females aged 20 to 69 years, South Australia, 2001 to 2002





Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

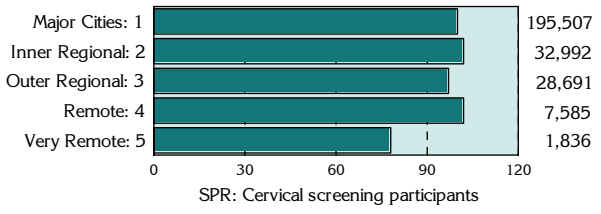
Standardised Participation Ratio (as an index)*, by SLA

- *108 and above*
- *104 to 107*
- *96 to 103*
- *92 to 95*
- *below 92*
- *data not mapped#*

*Index shows the number of women in the SLA having a cervical screen compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped because the SLA has a population of less than 100

ASGC Remoteness classification Women



Source: See data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Cervical screening outcomes, 2001 to 2002

Changes in cervical cells are often repaired naturally by the body and rarely lead to cancer. Detection of an abnormality through pap smears is different to the detection of cancer, where abnormalities are often treatable or will heal on their own. Following detection of an abnormality, the course of action is usually to monitor any changes through more frequent pap smears (rather than the usual once every two years). When the abnormality is repaired, biennial screening can be resumed (SHine SA 2005).

Pathological results of cervical screening undertaken over 2001 and 2002 were reported as normal (94.9%), cancerous (less than 0.1%), high grade abnormality (0.6%, either definite or possible), low grade abnormality (3.2%, either definite or possible) or unsatisfactory and further assessment required (1.3%). Of the high grade abnormalities, over half were assessed as being definite abnormalities (58.3%, 1,032 women), the remainder were assessed as possible abnormalities (41.7%, 737 women). Over one third of low grade abnormalities were assessed as being definite low grade abnormalities (38.0%, 3,472 women) and nearly two thirds were assessed as possible (62.0%, 5,671 women). The data shown in the following pages are for the outcomes assessed as either high (with possible and definite abnormalities grouped) or low (with possible and definite abnormalities grouped).

Rates of high grade and low grade abnormalities detected for women in Metropolitan Adelaide and country South Australia were increased in each case in Metropolitan Adelaide (Table 7.18).

Table 7.18: Cervical screening outcomes: high grade abnormality and low grade abnormality, 2001 to 2002

Age standardised rate per 100,000 females aged 20 to 69 years

Section of State	High grade abnormality		Low grade abnormality	
	No.	Rate	No.	Rate
Metropolitan Adelaide (incl. Gawler)	1,292	641.2	6,263	3,099
Country	391	600.6	1,842	2,855
South Australia	1,683	631.2	8,105	3,040

High grade abnormality

Metropolitan regions

In 2001 and 2002, 1,273 women in the metropolitan regions (excluding Gawler) were assessed as having a high grade abnormality, a standardised ratio (SR) of 102.

SLAs with elevated ratios (Map 7.16a) generally followed the pattern of socioeconomic disadvantage shown in the maps in Chapters 4 and 5. Southern region (with an SR of 107) had a higher ratio than Central Northern (99), although neither ratio was statistically significant (Table 7.19).

The correlation analysis showed a strong association between high rates of high grade abnormalities and many of the indicators of socioeconomic disadvantage, including unemployment; jobless, low income and single parent families; people receiving an unemployment benefit, disability support pensioners and female sole parent pensioners; clients of community mental health services (both adult and CAMHS) and the Department for Families and Communities; poor pregnancy outcomes; attendance at Accident and Emergency and outpatient departments of public acute hospitals; female premature deaths, dwellings rented from the SA Housing Trust; children in welfare-dependent and other low income families; and Aboriginal and Torres Strait Islander people. These results, together with a strong inverse correlation with the Index of Relative Socio-Economic Disadvantage, indicate a strong association at the SLA level between socioeconomic disadvantage and elevated rates of high grade cervical abnormalities (Table 8.1).

Central Northern Adelaide

In Central Northern, 875 women were assessed as having a high grade abnormality (an SR of 99). Elevated ratios were mapped in the SLAs of Port Adelaide Enfield - Coast (an SR of 155**, 45 women) and - Inner (144, 28); Playford - Elizabeth (151*, 34), - West Central (141, 18), - West (110, nine) and - East Central (123, 24); Unley - West (138, 33); Charles Sturt - Coastal (116, 40); Norwood Payneham St Peters - East (115, 21); and Salisbury Balance (111, eight) and - Inner North (110, 31).

Large numbers of women living in Tea Tree Gully - South (37 women, an SR of 94), West Torrens - West (34 women, 107), Port Adelaide Enfield - East (33 women, 106) and Salisbury - Central (31 women, 102) were assessed as having a high grade abnormality.

A large number of SLAs in the region had fewer women assessed as having a high grade abnormality than expected, although none of the SRs were statistically significant.

* **indicates statistical significance: see page 24**

The lowest ratio was recorded for Adelaide Hills - Ranges (an SR of 54, six women), followed by Norwood Payneham St Peters - West (an SR of 70, 18), Tea Tree Gully - Hills (70, eleven), Adelaide Hills - Central (74, 12), Campbelltown - West (74, 16) and - East (74, 24), Salisbury - North-East (81, 20), Tea Tree Gully - Central (82, 27) and - North (82, 28), and Burnside - South-West (84, 21).

Southern Adelaide

Southern region had seven per cent more women assessed as having a high grade abnormality than expected, an SR of 107 (397 women). A number of SLAs had highly elevated ratios, including Onkaparinga - South Coast (an SR of 161**, 40 women) and - North-Coast (159*, 27), and Marion - Central (137*, 50).

The SLA of Onkaparinga - Woodcroft had 39 women assessed as having a high grade abnormality (an SR of 94).

Fewer women than expected were assessed as having high grade abnormalities in the SLAs of Marion - South (an SR of 77, 20 women), Onkaparinga - Hills (83, ten women) and - Reservoir (84, 26), and Holdfast Bay - South (86, 14) and - North (87, 20).

Country South Australia (not mapped)

Country South Australia had a lower rate than expected of women who were assessed as having a high grade abnormality through cervical screening, with an SR of 95 (410 women); neither this ratio nor any of the regional ratios were statistically significant, in part reflecting the small numbers of cases in country South Australia.

The majority of country regions also had ratios below 100, with those that were elevated being only marginally so. The lowest SR of 78, was recorded for **Eyre** (29 women): and the highest SR of 107, was in **Northern and Far Western** (50 women) (Table 7.19).

Table 7.19: Regional totals, cervical screening outcomes: high grade abnormality, 2001 to 2002

Region	No.	SR
Hills Mallee Southern	110	96
Wakefield[1]	86	88
South East	72	104
Northern & Far Western	50	107
Eyre	29	78
Mid North	29	106
Riverland	34	92
Country SA	**410**	**95**
Central Northern	875	99
Southern	397	107
Metropolitan regions	**1,273**	**102**
South Australia	**1,683**	**100**

[1]**Gawler is included in the Wakefield region**

The data were not mapped, because of the small numbers of cases; the only SLA with a ratio of statistical significance was Robe, with an SR of 357**, for five women (Table 8.2).

Low grade abnormality

Metropolitan regions

In 2001 and 2002, 6,170 women in the metropolitan regions (excluding Gawler) were assessed as having a low grade abnormality, an SR of 102.

The geographic distribution of ratios across SLAs is somewhat different to that for high grade abnormalities, with the highest rates exclusively in the south-west and outer south (Map 7.16b). There was no consistent relationship between high rates of low grade abnormalities and socioeconomic status apparent from the correlation analysis. This is due, in part, to the small number of cases at the SLA level (Table 8.1).

Central Northern Adelaide

There were 4,199 women assessed as having a low grade abnormality in Central Northern, two per cent more than expected from the State rates, an SR of 102. Elevated ratios were mapped in the SLAs of Unley - West (an SR of 121*, 140 women); Adelaide (112, 138); West Torrens - East (an SR of 111, 152 women) and - West (108, 164); Tea Tree Gully - Hills (109, 82) and - Central (107, 172); Port Adelaide Enfield - Inner (an SR of 109, 100) and - East (107, 160); and Campbelltown - West (107, 112).

Large numbers of female residents diagnosed as having an abnormality were recorded in the SLAs of Salisbury - South-East (192 women, an SR of 98) and - Central (140, 96); Tea Tree Gully - South (184 women, 97) and - North (147, 91); Charles Sturt - Coastal (157, 93); and Campbelltown - East (151, 98).

Low SRs were mapped in the Playford SLAs of - West (an SR of 57**, 21 women), - Hills (78, 12) and - East Central (an SR of 82, 75); Salisbury Balance (80, 27); Adelaide Hills - Central (88, 73) and - Ranges (88, 53); and Burnside - South-West (89, 108).

Southern Adelaide

In Southern, nine per cent more women were diagnosed as having a low grade abnormality than expected from the State rates, an SR of 109** (1,970 women). Elevated SRs were recorded for Onkaparinga - South Coast (an SR of 131**, 152 women), - North Coast (123*, 104) and - Reservoir (118*, 182); Holdfast Bay - South (124*, 100) and - North (120*, 133); and Marion - Central (121**, 216) and - North (an SR of 116, 160).

Large numbers of women assessed as having a low grade abnormality were also recorded in the SLAs of Onkaparinga - Woodcroft (220 women, an SR of 108) and Mitcham - West (129 women, 104).

Fewer than expected low grade abnormalities following screening were found in women for the SLAs of Marion - South (an SR of 75**, 95 women), Onkaparinga - Morphett (93, 128), and Mitcham - Hills (93, 128) and - North-East (93, 80).

Country South Australia (not mapped)

The majority of regions in country South Australia had fewer women assessed as having a low grade abnormality than expected from the State rates. Overall, the SR was 94**, representing 1,936 women with low grade abnormalities. The only elevated SR, of 114*, was recorded for **South East** (378 women); in contrast, **Mid North** had a very low SR of 53** (69 women).

Table 7.20: Regional totals, cervical screening outcomes: low grade abnormality, 2001 to 2002

Region	No.	SR
Hills Mallee Southern	541	99
Wakefield[1]	428	91
South East	378	114*
Northern & Far Western	213	96
Eyre	153	86
Mid North	69	53**
Riverland	154	87
Country SA	**1,936**	**94****
Central Northern	4,199	102
Southern	1,970	109**
Metropolitan regions	**6,170**	**102**
South Australia	**8,105**	**100**

[1]**Gawler is included in the Wakefield region**

The data were not mapped for country South Australia, because of the small numbers of cases recorded for the majority of SLAs. However, Yankalilla (with an SR of 163*, 27 women), Naracoorte and Lucindale (145**, 63) and Mount Gambier (119*, 165) all had elevated ratios of statistical significance. Ratios of statistical significance, and fewer cases than expected, were recorded for Northern Areas (an SR of 37**, nine women), Yorke Peninsula - North (41**, 12), Port Pirie - City (51**, 29), Copper Coast (59**, 28), and Loxton Waikerie - East (63*, 23).

* **indicates statistical significance: see page 24**

Continued from page 346

Table 7.21: Age of women attending for cervical screening, South Australia, 2001 to 2002

Age (yrs)	No.	Per cent
15-19[1]	10,331	3.6
20-24	25,393	9.0
25-29	30,583	10.8
30-34	35,950	12.7
35-39	36,423	12.9
40-44	36,006	12.7
45-49	31,076	11.0
50-54	26,587	9.4
55-59	19,597	6.9
60-64	14,425	5.1
65-69	10,594	3.7
70+	6,240	2.2
Total	**283,205**	**100**

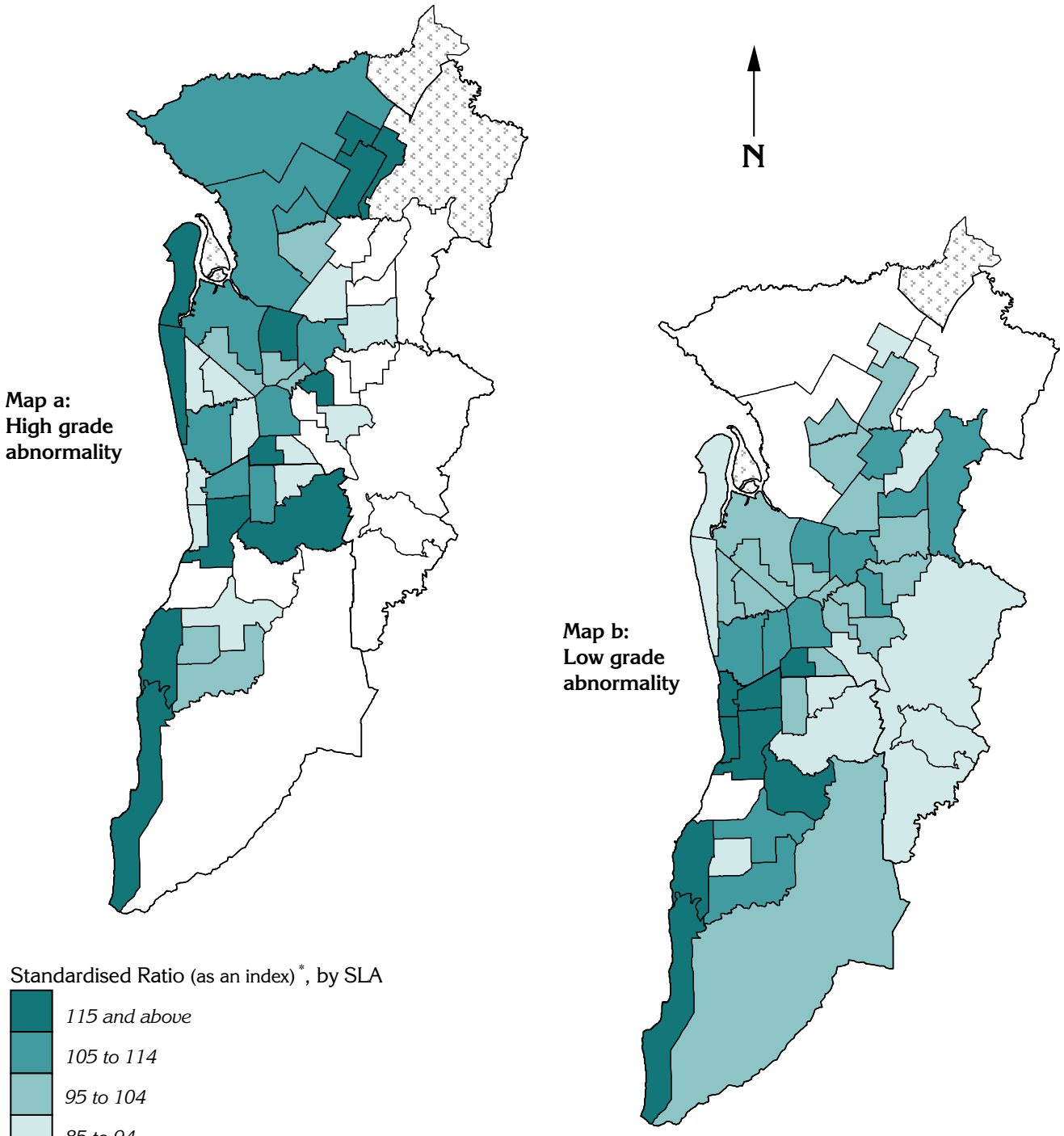
[1]**Includes 80 young women under 15 years of age**

Continued from page 348

ASGC Remoteness Classification

Cervical screening participation rates in the ASGC areas were close to 100, other than for the Very Remote areas, which had a much lower SPR, with 22.0% fewer women participating than expected from the State rates (an SPR of 78**). The notes on page 348 as to the reason for these very low ratios are relevant.

Map 7.16
Cervical screening outcomes, females aged 20 to 69 years, metropolitan regions, 2001 to 2002



*Index shows the number of women in the SLA who were detected with high grade or low grade abnormalities on cervical screening compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped for Torrens Island (mapped with Port Adelaide): Gawler has not been mapped

Source: See data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

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Medical services

Introduction

The intention of this and the previous section (on community-based services) is to provide information on services provided in what are generically called 'ambulatory care' settings. This terminology includes patients seen in hospital outpatient and Accident and Emergency departments (but not admitted), as well as by general and specialist medical practitioners in their practices.

The areas covered in this section are services by general medical practitioners (GPs) and specialist medical practitioners (including those in public acute hospitals), and attendances at Accident and Emergency departments (A & E) and outpatient departments of public acute hospitals. Data are also provided on the supply of GPs.

General medical practitioner services

GPs comprise the largest group of health professionals providing primary health care services in South Australia, with 7.7 million services provided under Medicare in 2002/2003. GPs are frequently the first point of contact with the health care system for the approximately 80% of the population who visit them each year (HIC 2005). As such, they are a significant group of providers of health care.

In addition, some people attending A & E departments in major public acute hospitals receive primary care services of a kind that could be provided by a GP: these are discussed below.

Data for the number of services by GPs funded through Medicare were provided by the Health Insurance Commission (HIC): they also include services for veterans or their dependants, who qualify for benefits under the Department of Veterans' Affairs' National Treatment Account.

Accident and Emergency departments

Details of the number of A & E attendances were provided from the Open Architecture Clinical Information System (Oacis) by postcode of usual residence, age and sex for public acute hospitals in Metropolitan Adelaide; Modbury Hospital is not included. The number of A & E attendances recorded in the Oacis database for Metropolitan Adelaide was 296,925, close to the total reported in the Monthly Management Summary System of 301,106.

The data required for analysis and mapping of country hospitals were not available.

Outpatient department and specialist medical practitioner services

Specialist medical practitioners are also major providers of health care, providing services both in the community (working in a private capacity) and in outpatient departments of public acute hospitals[2]. Specialist practitioner services under Medicare accounted for some 1.9 million services in 2002/2003 (HIC 2003); and those provided in outpatient departments of public acute hospitals accounted for approximately 1.0 million occasions of service in 2002/2003. Specialist services that qualify for benefits under the Department of Veterans' Affairs' National Treatment Account have been included in the data in this section.

In outpatient departments, specialist services are predominantly provided by practitioners acting as agents of (and paid by) the hospital; a small proportion, however, are 'privately' provided, and funded under Medicare (as described above). To avoid double-counting of these privately provided services, the HIC were asked to supply data only for specialist services provided outside a hospital. This also ensured that specialist services provided to inpatients were excluded.

Many other services are provided in outpatient departments of public acute hospitals: these include services by health professionals such as physiotherapists, occupational therapists and social workers (together referred to as 'allied health professionals'); as well as a range of medical specialties including pathology and radiology.

These data have been presented in two ways: one describes the geographic distribution of outpatient department attendances (to allied health professionals and specialist medical practitioners), and the other describes the geographic distribution of all specialist medical consultations, both in outpatient departments and outside a hospital.

The outpatient data were obtained from Oacis, as that is the only source of data of the kind required for analysis and mapping (that is, the postcode of address and age of the person attending outpatients is known). However, there are major limitations in the coverage of these clinics, in addition to the lack of data for Modbury Hospital and country hospitals – see *Data limitations*, below.

[2] Specialist medical services provided in a clinic associated with a private hospital would be billed by the practitioner (not the hospital) and are included in the Medicare data.

General medical practitioners

There has been considerable interest in the supply of GPs, and in particular, the historically low levels of provision in many country areas. With the overall ageing of the medical workforce, supply issues have become more acute in other areas that had not in the past been seen as under-supplied. For example, concern has been expressed at the relatively low levels of supply of GPs in the Southern region of Metropolitan Adelaide, and the impact on A & E services and hospital admissions. The effect on admissions can arise from a lack of adequate access by a patient to a GP for advice, or early management of an illness or condition. The effect on A & E departments can be broadly classified as issues of accessibility, and include the hours at which GPs are available and their cost.

The particular measure of the supply of GPs in this analysis is the full-time workload equivalent (FWE). This value is calculated for each GP location by dividing the GPs' total Medicare and DVA billing (Schedule fee value of services provided during the reference period) by the mean billing of full-time doctors in that derived major specialty for the Reference Period. Thus, a GP earning 20% more than the mean billing of full-time doctors is shown as 1.2 FWE: this differs from full-time equivalent (FTE) counts, where the FTE value of any GP cannot exceed 1.0.

FWEs are shown for the SLA of the location of the practice from which the service was provided. This is possible because practitioners have a provider number, with a separate number for each physical practice location.

Data limitations

General medical practitioner services

The following analysis for GP services uses Medicare statistics for the year 2002/2003. The data include services provided at a surgery or clinic, at the patient's home, or in selected institutions (hostel, nursing home, etc).

GP-type services not covered by Medicare are not available. These are mainly attendances at Accident and Emergency departments of public acute hospitals for GP type services (see comment above as to the likely number of these services) and medical services provided by private companies (e.g. mining companies), the Defence Forces and the Royal Flying Doctor Service (RFDS).

In the past, GP services at some community health services and Aboriginal Health Services were not billed through HIC and therefore not included in Medicare statistics: the number of these services is now very small. The exclusion of such services is unlikely to change the spatial patterns of distribution evident in the maps.

Outpatient department data

Although the data from Oacis provide information of the kind required for the analysis and mapping of outpatients – postcode of usual residence, age and sex – its coverage is incomplete and varies between hospitals. An estimate of the under-count in Oacis can be made by comparing the Oacis totals with those from the Monthly Management Summary System (MMSS), which provides a more complete count of activity in outpatient departments. Overall, Oacis has 30.9% fewer records, with the largest shortfalls at Flinders Medical Centre and the Women's and Children's Hospital (Table 7.22).

The data used in the two topics on pages 372 to 373 and from 374 have been inflated to represent 100% of the MMSS figures, to enable comparisons to be made between the data for specialist medical practitioner consultations in outpatient departments and private specialist consultations outside of a hospital. Note that the data in Table 7.22, on which this calculation is based, are for all outpatient department attendances, not just those with a specialist medical practitioner: the latter group comprise 83.6% of these attendances.

Table 7.22: Comparison of outpatient department activity recorded in Oacis and MMSS, public acute hospitals in Adelaide (excluding Modbury Hospital), 2003/2004

Collection	FMC	LMH	NHS	TQEH	RAH	RGH	WCH	Total
Oacis	102,248	67,489	13,511	121,747	249,671	120,331	111,033	786,030
MMSS	209,508	94,802	11,299	204,203	263,751	123,450	229,918	1,136,931
Difference : no.	107,260	27,313	-2,212	82,456	14,080	3,119	118,885	350,901
%[1]	51.2	28.8	-19.6	40.4	5.3	2.5	51.7	30.9

[1] Per cent is the difference between the MMSS and Oacis figures as per cent of MMSS figure

Note: FMC: Flinders Medical Centre; LMH: The Lyell McEwin Health Service; NHS: Noarlunga Health Service; TQEH: The Queen Elizabeth Hospital; RAH: Royal Adelaide Hospital; RGH: Repatriation General Hospital; WCH: Women's and Children's Hospital

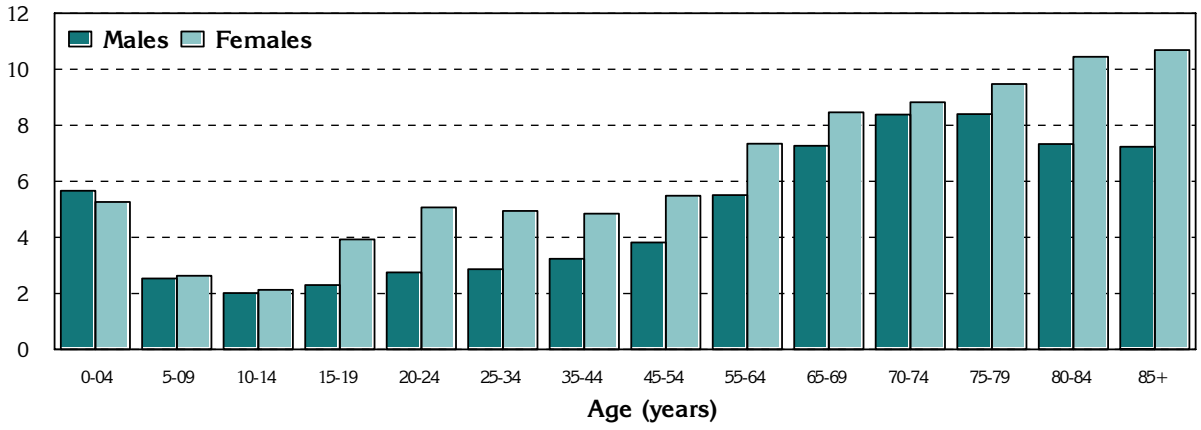
Patient characteristics

GP services

Females used GP services more than males, accounting for 58.9% of services in South Australia in 2002/2003. Overall, there were 5.6 services per head of population for females and 4.0 per head for males. Females were also responsible for more services per patient in each age group, from the 5 to 9 year age group through to 85 years and over, with males accounting for more services only in the 0 to 4 year age group (Figure 7.1).

Figure 7.1: General medical practitioner services, by age and sex, South Australia, 2002/2003

Services per head of population



Population per general medical practitioner, 2002/2003

The full-time workload equivalent (FWE) provides a measure of the supply of GPs and the level of their activity in each SLA. The data mapped are for the full-time workload equivalent GPs (FWE, defined on page 356). However, only full-time equivalent (FTE) data were available for the comparison over time (Table 7.23). Higher population numbers per GP indicate lower levels of supply of GPs.

The population per FTE GP in Metropolitan Adelaide has increased since 1996/1997, from 1,145 people per FTE GP to 1,259 people per FTE GP, an increase of 10.0% (representing a lower level of supply of GPs). Over the same period, the level of provision in country South Australia improved, with 1,339 people per GP in 2002/2003 compared to 1,517 in 1996/1997. The FWE for 2002/2003 was 1,090 people per GP, compared with a higher 1,238 people per GP in country South Australia.

Table 7.23: Population per general medical practitioner

Section of State	Per FTE			Per FWE
	1996/1997	2002/2003	Per cent change[1]	2002/2003
Metropolitan Adelaide (incl. Gawler)	1,145	1,259	10.0	1,090
Country	1,517	1,339	-11.7	1,238
South Australia	**1,225**	**1,280**	**4.5**	**1,126**

[1]**Per cent change over six years in the population per general medical practitioner**

Metropolitan regions

There were 1,005 FWE GPs in the metropolitan regions (excluding Gawler) in 2002/2003: 1,090 people per GP. Female GPs are under-represented in the metropolitan regions, with all but two SLAs having fewer than 50% female GPs. Female GPs comprised less than one-quarter of GPs in over half (58.5%) of all SLAs.

When using these data, readers should be mindful that people living in an SLA with a high rate of population per GP (low level of provision) may use a GP in an adjacent area with a lower rate of population per GP (high level of provision). In some cases, this may be quite close to their home; in others, access may be more difficult, involving travel to a GP. Caution should also be exercised in using the data for the City of Adelaide, where the relatively high supply results from the use in the calculation of the usual resident population, rather than the much larger day-time (working) population.

The overall impression from Map 7.17 is of high rates of provision (areas mapped white) of GPs across the inner, middle and some beachside suburbs, as well as in much of the outer north. Low rates (areas mapped in the darkest shade) are more common in outer SLAs. There was a weak association at the SLA level between rates of GP supply and socioeconomic disadvantage (Table 8.1).

Central Northern Adelaide

In the Central Northern region, there were 1,039 people per GP, with 739 FWE GPs. Within this region, the SLAs with the largest populations per GP were Playford - West (2,883 people per GP, 2.9 FWE GPs), Tea Tree Gully - North (2,762, 9.8), Salisbury - North-East (2,529, 8.9), Port Adelaide Enfield - Inner (2,165, 9.1), Salisbury - South-East (2,126, 16.3), West Torrens - West (2,022, 14.2), Campbelltown - East (1,790, 15.5) and Playford - East Central (1,687, 11.6).

There were no GPs located in Salisbury Balance, despite a population of 5,805 people. In contrast, there were 5.1 FWE GPs in Walkerville (1,383 people per GP), an SLA with a similar population, of 7,052 people. The smallest population per GP occurred in Adelaide (347 people, 38.9 FWE).

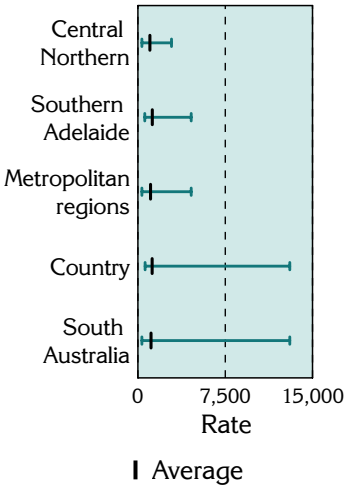
Other SLAs with relatively low population/GP ratios were Norwood Payneham St Peters - West (561 people per GP, 31.9 FWE GPs), Prospect (636, 30.3), Burnside - South-West (659, 32.1), Unley - East (712, 27.6), Salisbury - Inner North (714, 35), Norwood Payneham St Peters - East (714, 22.5), West Torrens - East (752, 31.7), and Charles Sturt - Inner East (757, 28.4) and - North-East (786, 32.9).

Southern Adelaide

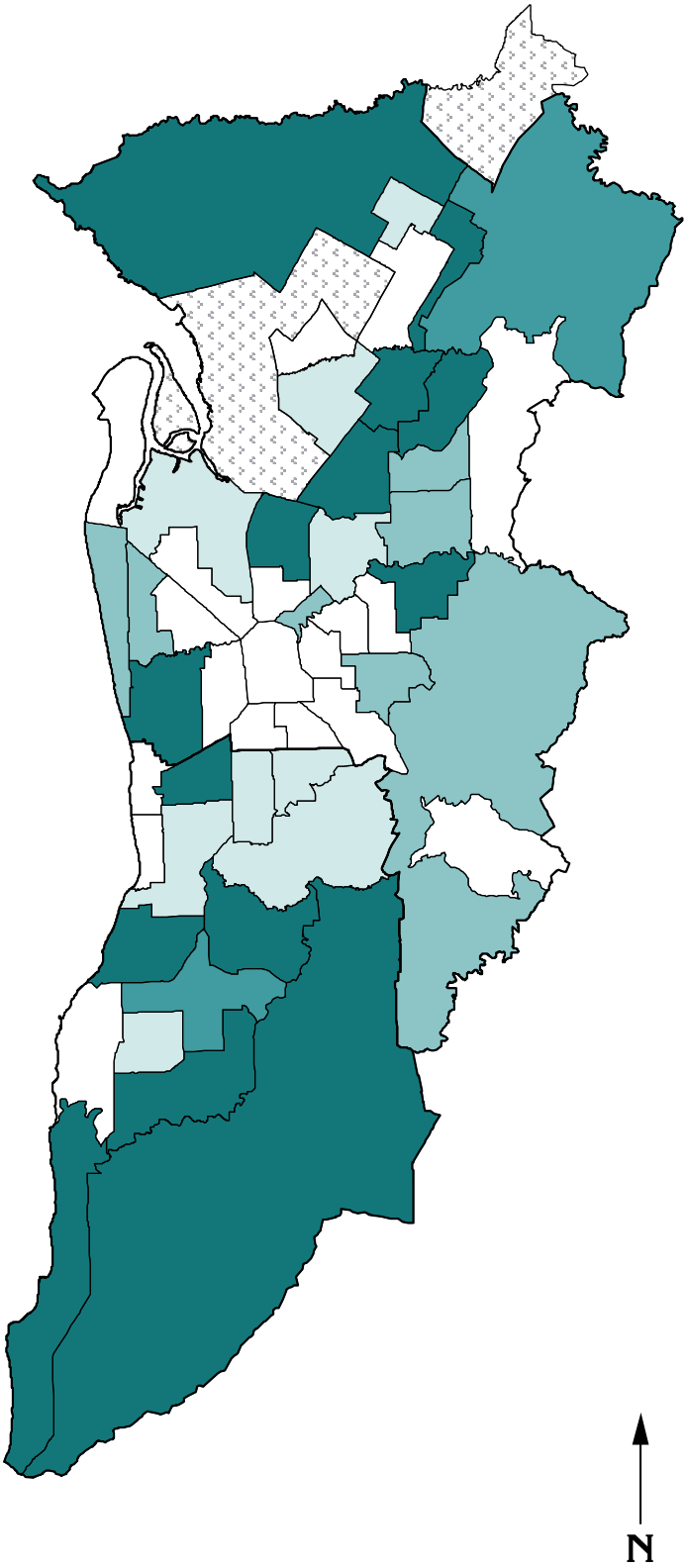
In the Southern region, there were 1,234 people per GP, an FWE of 265.8 GPs. The SLAs with the largest populations per GP were Onkaparinga - Hackham (4,585 people per GP, 3.1 FWE GPs) and - Reservoir (2,462, 10.3), Marion - South (2,142, 9.7), Onkaparinga - South Coast (1,701, 14.0) and - Hills (1,701, 6.6), and Marion - North (1,688, 15.1).

The lowest ratio of people per GP in the south was in the SLA of Holdfast Bay - North (600 people per GP, 32.1 FWE GPs) followed by Onkaparinga - North Coast (670, 26.7) and Holdfast Bay - South (731, 19.8).

Map 7.17
Population per general medical practitioner (GP), metropolitan regions, 2002/2003



Note: The black vertical lines show the average rate for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA boundary
Health Region boundary

Population per GP, by SLA

- *1,600 and above*
- *1,400 to 1,599*
- *1,200 to 1,399*
- *1,000 to 1,199*
- *below 1,000*
- *data not mapped*[#]

[#]*Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map*

Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Population per general medical practitioner, 2002/2003

Country South Australia

There were 345.6 FWE GPs in country South Australia in 2002/2003, or 1,229 people per GP (Table 7.24). This was notably higher than for the metropolitan regions (1,090 people per GP). Female GPs comprised less than one-quarter of GPs in over two thirds (68.8%) of all SLAs.

The population per GP varied across the State, with the highest populations (lowest supply) in the **South East** and **Northern and Far Western** regions.

At the SLA level (Map 7.18), much of the State had medium levels of provision. The exception is the far north, with a very low level of GP provision, despite the relatively large Indigenous population, a population group with a disproportionately high burden of disease.

Table 7.24: Regional totals, population per GP, 2002/2003

Region	Population per GP	FWE
Hills Mallee Southern	1,149	98.7
Wakefield[1]	1,162	84.9
South East	1,524	41.2
Northern & Far Western	1,303	39.1
Eyre	1,144	29.9
Mid North	1,207	25.8
Riverland	1,290	26.0
Country SA	**1,229**	**345.6**
Central Northern	1,039	739.0
Southern	1,234	265.8
Metropolitan regions	**1,090**	**1004.8**
South Australia	**1,126**	**1350.4**

[1]**Gawler is included in the Wakefield region**

There is no consistent evidence in the correlation analysis of an association at the SLA level between rates of GP supply and socioeconomic status (Table 8.2).

The Regions

Readers should note the caution on the previous text page, when using SLA-level data.

The largest regional population per GP in country South Australia was recorded in **South East** (1,524 people per GP, 41.2 FWE). The SLA of Grant had a very high 13,045 people per GP, with just 0.6 FWE. There were also large numbers of people per GP in Wattle Range - East (1,913, 1.7 FWE), Lacepede (1,557, 1.5), Naracoorte and Lucindale (1,483, 5.6) and Mount Gambier (1,425, 16.5).

There were 1,303 people per GP in **Northern and Far Western** region (FWE 39.1), with high ratios of people per FWE GP in Unincorporated Flinders Ranges (6,340 people per GP, 0.2 FWE GPs), Unincorporated Far North (5,153, 1.2) and Roxby Downs (1,681, 2.2). There were no GPs for the population of 226 in Unincorporated Whyalla. The City of Whyalla had an FWE of 17.7, with 1,237 people per GP. There were smaller populations per GP in Coober Pedy (893, 2.6) and Port Augusta (985, 13.8).

In **Riverland**, there were 1,290 people per GP, with an FWE of 26.0. Large populations per GP were found in the SLAs of Loxton Waikerie - East (1,705, 4.4 FWE) and Berri and Barmera - Berri (1,446, 4.8); with low numbers of people per GP in Berri and Barmera - Barmera (851, 5.1) and Renmark Paringa - Paringa (909, 1.9). Unincorporated Riverland had no GPs for a population of 143.

There were 1,207 people per GP in **Mid North**, with an FWE of 25.8 GPs. There were relatively small populations per GP in Barunga West (846, 3.1 FWE) and Orroroo/Carrieton (917, 1.1 FWE); and no GPs in Unincorporated Pirie, with a population of 265.

Wakefield had a population of 1,162 people per GP with an FWE of 84.9. Within this region, Mallala had a large population per GP ratio of 4,172 (1.8 FWE). There were also high ratios in Goyder (1,633, 2.6), Light (1,569, 6.9) and Barossa - Barossa (1,442, 5.2). There were smaller populations per GP in the SLAs of Copper Coast (749, 14.8), Barossa - Angaston (943, 8.2), and Yorke Peninsula - North (974, 7.7).

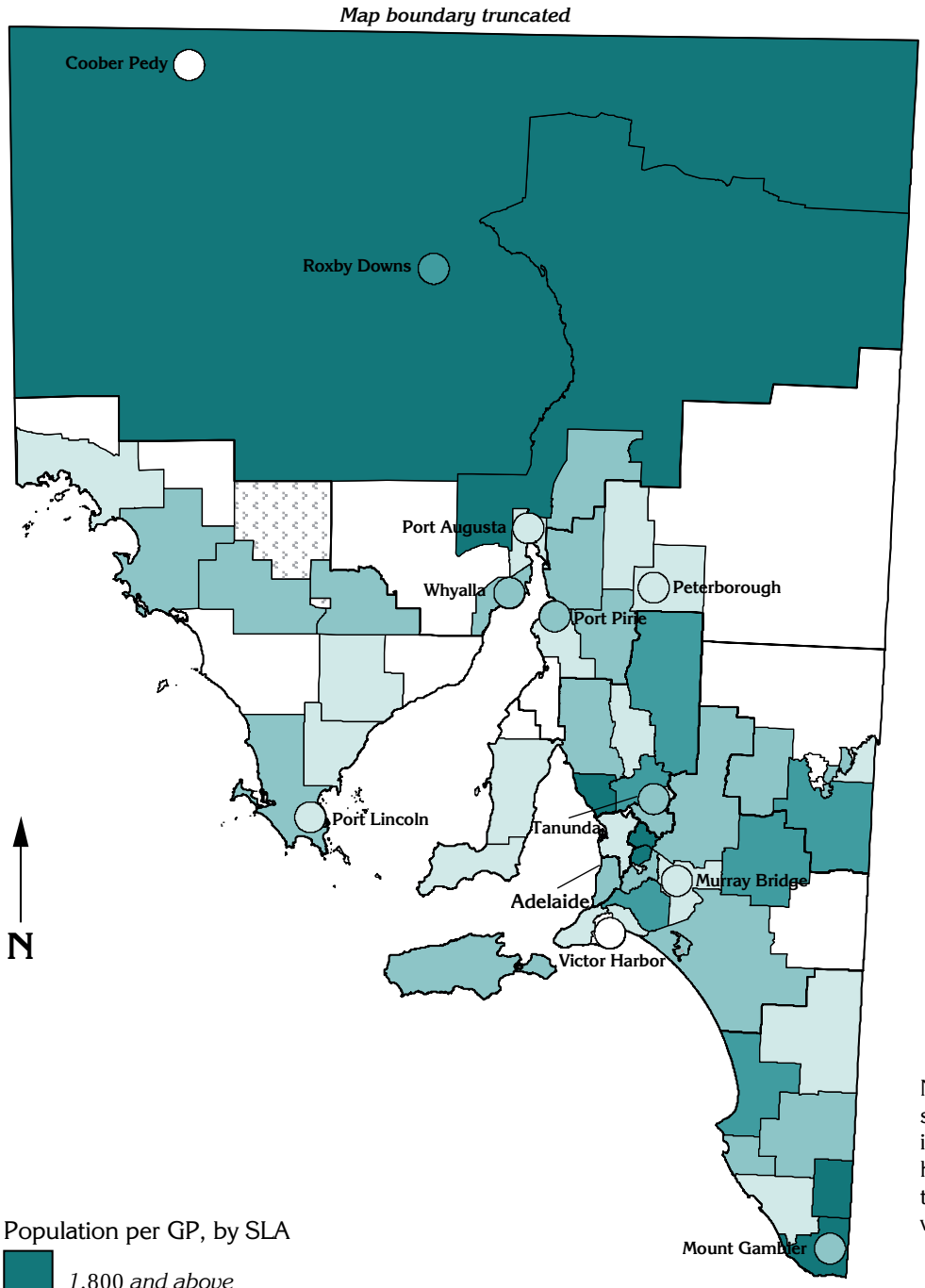
There were 1,149 people per GP in **Hills Mallee Southern** (an FWE of 98.7). There were large populations per GP in the SLAs of Adelaide Hills - North (1,831, 3.7), Adelaide Hills Balance (1,825, 4.8), Karoonda East Murray (1,790, 0.7), Alexandrina - Strathalbyn (1,605, 5.4), Mid Murray (1,479, 5.7) and Kangaroo Island (1,406, 3.1). Much smaller populations per GP were recorded for Victor Harbor (621 people, 18.4 FWE GPs) and Southern Mallee (830, 2.7).

In **Eyre**, there were 1,144 people per GP (29.9 FWEs). There were small populations per GP in the SLAs of Franklin Harbor (873, 1.5) and Ceduna (906, 4.0); and no full-time workload equivalent GPs in Elliston or Unincorporated West Coast.

ASGC Remoteness classification

The supply of GPs decreases with increasing remoteness, illustrated by the population per GP increasing, in a step-wise fashion, from 1082 (with 1,008 FWE GPs) in the Major Cities areas to 1,575 (with 9 FWE GPs) in the Very Remote areas.

Map 7.18
Population per general medical practitioner (GP), South Australia, 2002/2003



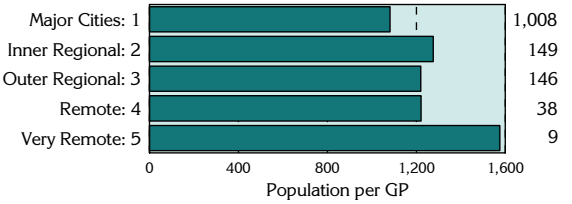
Note: The black vertical lines show the average rate for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Population per GP, by SLA

- *1,800 and above*
- *1,500 to 1,799*
- *1,200 to 1,499*
- *900 to 1,199*
- *below 900*
- *data not mapped*[#]

[#]*Data were not mapped because the SLA has a population of less than 100*

ASGC Remoteness classification FWE GPs



Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

General medical practitioner services to males, 2002/2003

General practitioners offer a wide range of primary health care services and are the 'front line' of the Australian health care system. In metropolitan regions, low socioeconomic (SES) groups consult general practitioners more frequently than high SES groups. The primary reason is their poorer health and hence, greater medical need (however, distributional, operational and financial factors associated with the provision of general practice services are also important).

Between 1992/1993 and 1997/1998, the rate of GP services to males in South Australia increased from 452,995 services per 100,000 population to 484,750 (Table 7.25). By 2002/2003, the rate was a lower 400,594 per 100,000 population, representing a decline of 11.6% over the ten years. The same trend was observed for both Metropolitan Adelaide and country South Australia, although with a larger reduction in Metropolitan Adelaide (13.0%) compared with country South Australia (6.7%). Male rates in Metropolitan Adelaide were 18.5% higher than those in country South Australia in 2002/2003.

Table 7.25: General practitioner services to males

Age-standardised rate per 100,000

Section of State	1992/1993	1997/1998	2002/2003	Per cent change[1]
Metropolitan Adelaide (incl. Gawler)	485,340	522,134	422,359	-13.0
Country	368,966	391,149	344,337	- 6.7
South Australia	452,995	484,750	400,594	-11.6

[1]**Per cent change over ten years in the rate of general practitioner services to males**

Metropolitan regions

In 2002/2003, there were 2,240,162 GP services to males in the metropolitan regions (excluding Gawler). This was six per cent higher than expected from the State rates, with a standardised GP service ratio (SR) of 106** (Table 7.26). As noted for the maps of community-based services, there is a marked separation between areas with high, and those with low use of GP services by males (Map 7.19).

The correlation analysis shows a very strong association at the SLA level between high rates of GP services to males and many indicators of socioeconomic disadvantage. The strength of this association is summarised by the very strong inverse correlation (-0.81) with the Index of Relative Socio-Economic Disadvantage (Table 8.1).

Central Northern Adelaide

In the Central Northern region, there were 1,622,154 GP services to males, nine per cent higher than expected (an SR of 109**). A number of SLAs in the region had a higher than expected number of services for males, including Salisbury - Inner North (an SR of 140**, 62,044 services), Playford - East Central (138**, 47,087) and - Elizabeth (133**, 68,178), and Port Adelaide Enfield - Port (137**, 70,664). There were also elevated ratios in Charles Sturt - North-East (an SR of 129**, 65,680) and - Inner East (118**, 52,142), Adelaide (127**, 34,777 services), Salisbury - Central (126**, 65,507) and - South-East (118**, 77,505), Playford - West Central (125**, 30,299) and - West (120**, 19,600), Port Adelaide Enfield - East (121**, 59,112), and West Torrens - East (115**, 54,668).

The lowest rates of GP services for males were recorded for Burnside - South-West (an SR of 77**, 31,834 services) and - North-East (85**, 36,511), Tea Tree Gully - Hills (80**, 20,417), Walkerville (84**, 12,105), Unley - East (85**, 31,023), and Adelaide Hills - Ranges (85**, 17,430).

The SLAs with the largest numbers of GP services used by males were Port Adelaide Enfield - Coast (69,273 services, an SR of 105**) and - Inner (42,548, 104**); Charles Sturt - Coastal (63,869, 98**) and - Inner West (57,592, 113**); West Torrens - West (60,925, 102**); Campbelltown - East (59,564, 110**) and - West (42,646, 108**); Tea Tree Gully - Central (49,104, 97**), - South (66,424, 101) and - North (45,300, 98**); and Salisbury - North-East (45,370, 104**).

Southern Adelaide

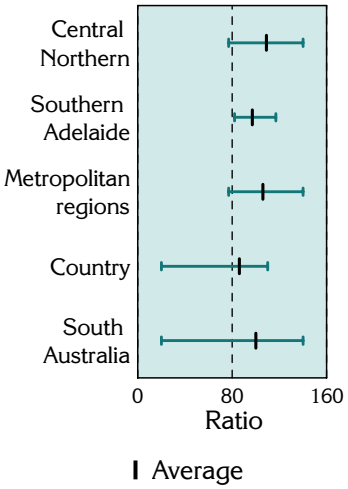
Within the Southern region, there were three per cent fewer services than expected with an SR of 97** (618,008 services). There were relatively high levels of service use in Onkaparinga - North Coast (an SR of 117**, 42,420) and Onkaparinga - Hackham (113**, 29,991).

There was less variation in service use by males in the south than in the north, with the lowest SRs in this region recorded for males resident in Onkaparinga - Hills (an SR of 82**, 18,343) and Mitcham - North-East (83**, 25,083).

The largest numbers of GP services for males in the south were in Marion - Central (68,224 services, an SR of 99*), Onkaparinga - Woodcroft (62,901, 98**), Marion - North (53,481, 104**), Onkaparinga - South Coast (47,348, 104**), Onkaparinga - Morphett (47,073, 103**), Mitcham - West (42,436, 95**), Onkaparinga - Reservoir (41,552, 90**) and Mitcham - Hills (41,408, 86**).

* **indicates statistical significance: see page 24**

Map 7.19
General medical practitioner services to males, metropolitan regions, 2002/2003

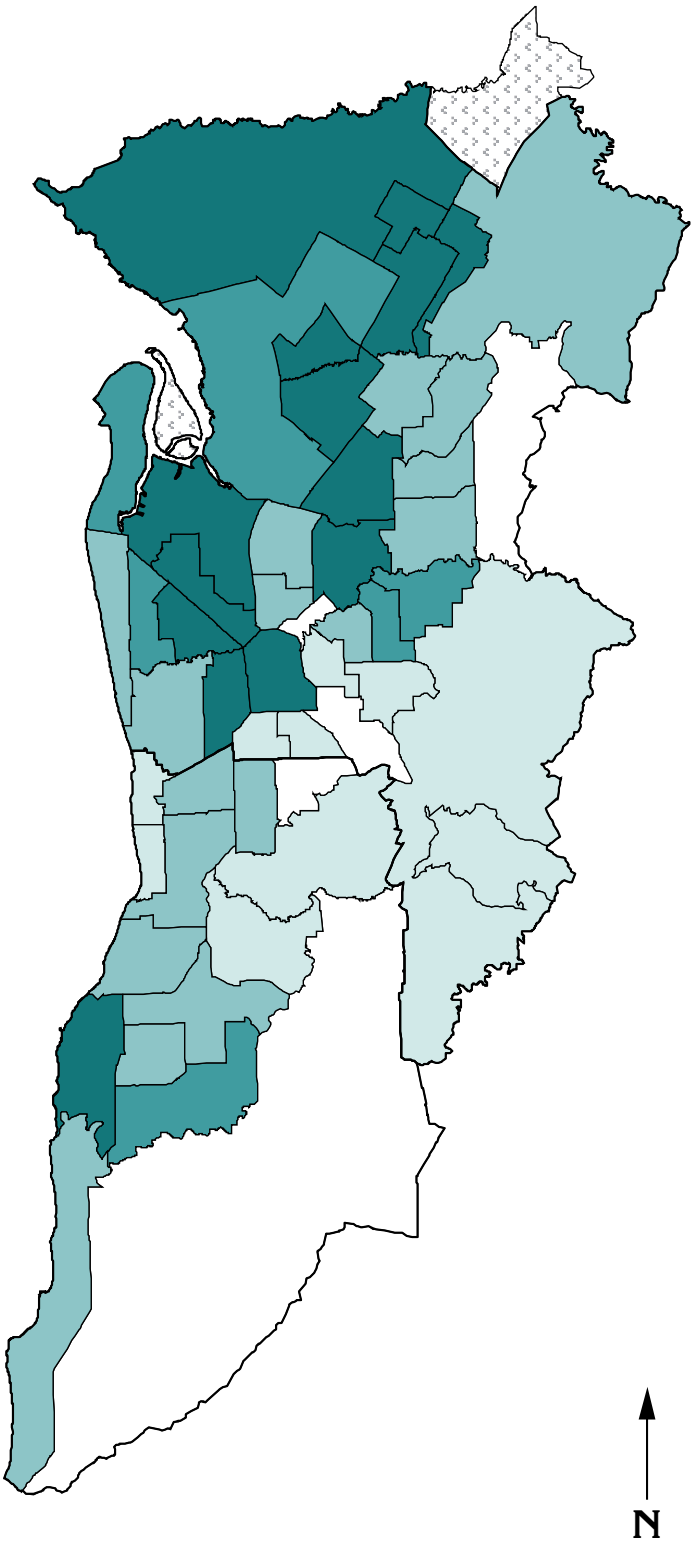


Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

SLA
Health Region

Standardised Ratio (as an index)*, by SLA

- *115 and above*
- *105 to 114*
- *95 to 104*
- *85 to 94*
- *below 85*
- *data not mapped#*



*Index shows the number of services to males in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

General medical practitioner services to males, 2002/2003

Country South Australia

There were 14% fewer GP services to males than expected in country South Australia, a standardised GP service ratio (SR) of 86** (753,323 services).

All of the regional-level ratios were below 100, and the distribution of services showed no particular geographic pattern, other than there being higher rates in some SLAs near Adelaide (Map 7.20).

Table 7.26: Regional totals, GP services to males, 2002/2003

Region	No.	SR
Hills Mallee Southern	220,992	93**
Wakefield[1]	184,540	91**
South East	87,688	71**
Northern & Far Western	91,304	89**
Eyre	58,574	84**
Mid North	57,672	87**
Riverland	52,553	77**
Country SA	753,323	86**
Central Northern	1,622,154	109**
Southern	618,008	97**
Metropolitan regions	2,240,162	106**
South Australia	2,993,485	100

[1]**Gawler is included in the Wakefield region**

There is no consistent evidence in the correlation analysis of an association at the SLA level between high rates of GP service use by males and socioeconomic status (Table 8.2).

The Regions

The region with the highest use of GP services by males in country South Australia was **Hills Mallee Southern,** although this was still seven per cent fewer services than expected from the State rates (an SR of 93**, 220,992 services). Within the region, there were more services than expected in the SLAs of Murray Bridge (108**, 37,851 services), Alexandrina - Coastal (108**, 23,503), Mount Barker - Central (108**, 30,641), Yankalilla (107**, 9,128) and Victor Harbor (101, 26,011). A number of SLAs had ratios more than ten per cent below that expected, including Karoonda East Murray (an SR of 41**, 1,134), Kangaroo Island (70**, 6,228), Mid Murray (79**, 15,088), Mount Barker Balance (85**, 13,617), Adelaide Hills - North (86**, 11,026), Alexandrina - Strathalbyn (88**, 14,817) and Adelaide Hills Balance (88**, 15,194).

Wakefield was the region with the second highest ratio, with nine per cent fewer services than expected (an SR of 91**, 184,540 services). Within the region, Copper Coast was the only SLA with more services than expected (an SR of 106**, 25,889 services). SLAs with fewer services than expected included Barossa - Tanunda (79**, 7,138), Clare and Gilbert Valleys (81**, 14,096), Barossa – Barossa (83**, 12,199), Yorke Peninsula - South (83**, 7,866), Goyder (86**, 7,907), Wakefield (88**, 12,262) and Light (88**, 18,356).

Northern and Far Western had an SR of 89** (91,304). While there were more GP services than expected in Port Augusta (110**, 29,769) and Coober Pedy (104**, 5,956), low SRs were recorded for Unincorporated Far North (38**, 4,698), Unincorporated Whyalla (42**, 235), Unincorporated Flinders Ranges (55**, 1,379), Roxby Downs (57**, 3,768) and Flinders Ranges (71**, 2,754).

There were 13% fewer GP services to males in **Mid North** (an SR of 87**, 57,672). Barunga West had an SR of 102 (6,253 services), with 80% fewer services to males than expected in Unincorporated Pirie (20**, 122). There were also low SRs in Mount Remarkable (70**, 4,708), Port Pirie Balance (78**, 5,897), Northern Areas (82**, 8,310) and Orroroo/Carrieton (86**, 1,822).

There were 16% fewer services for males than expected in **Eyre** (an SR of 84**, 58,574 services). Within this region, there were low ratios in Unincorporated West Coast (50**, 622), Elliston (52**, 1,287), Streaky Bay (76**, 3,337), Ceduna (77**, 5,468), Kimba (79**, 2,085), Le Hunte (80**, 2,377), Lower Eyre Peninsula (80**, 7,253) and Tumby Bay (85**, 4,908).

All of the SLAs combined in **Riverland** had 13% fewer GP services to males than expected from the State rates, with an overall SR of 77** (52,553 services). The lowest SR was recorded for Unincorporated Riverland (57**, 164 services), Loxton Waikerie - East (65**, 10,150), Renmark Paringa - Paringa (72**, 2,676), followed by Loxton Waikerie - West (73**, 7,338), Renmark Paringa - Renmark (75**, 12,298), and Berri and Barmera - Berri (88**, 11,888) and - Barmera (89**, 8,039).

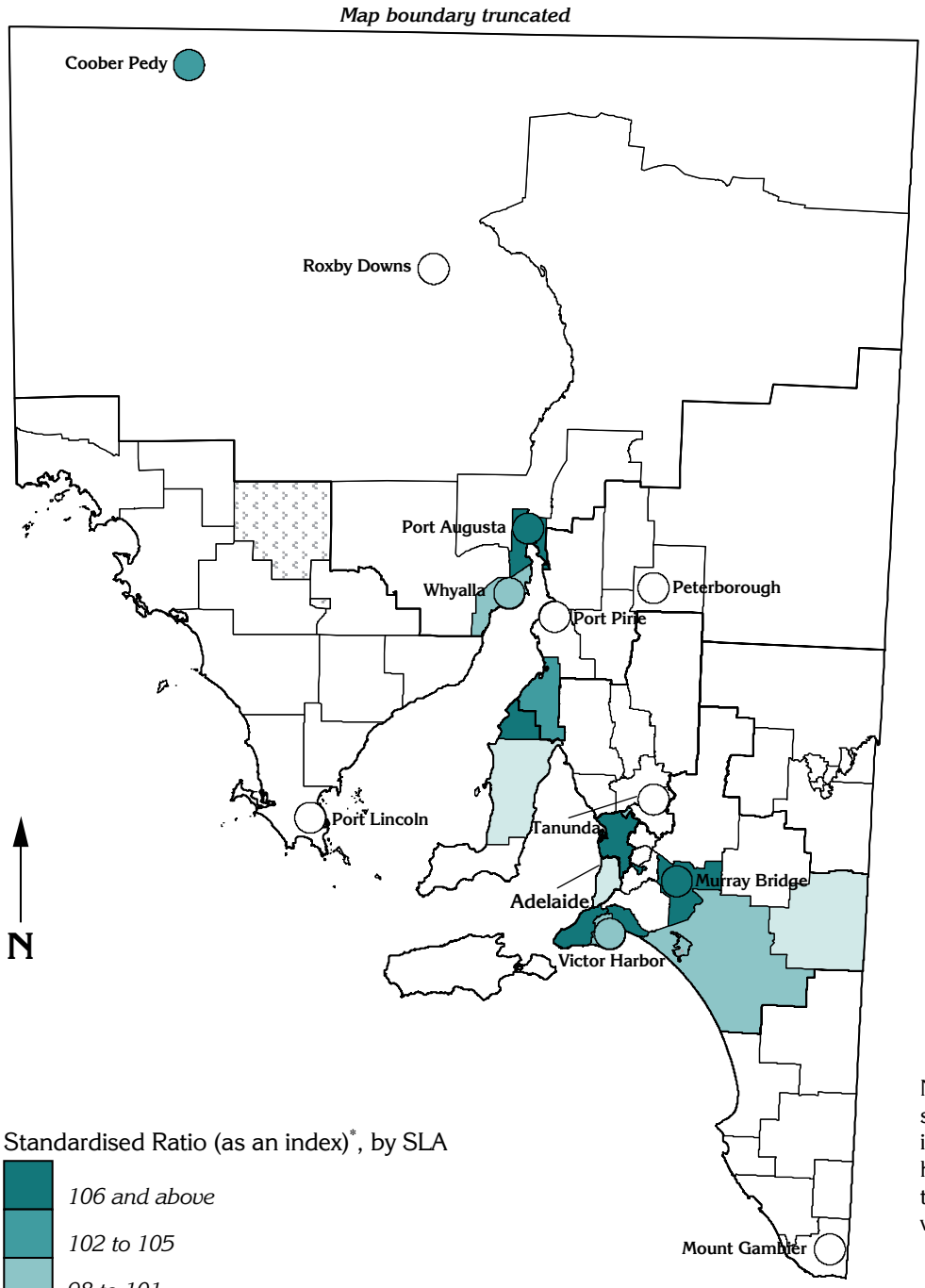
South East had the lowest ratio, with 29% fewer services than expected (an SR of 71**, 87,688 services). A number of SLAs within the region had fewer than expected services, including Grant (30**, 4,731), Robe (53**, 1,563), Lacepede (65**, 3,229), Mount Gambier (75**, 33,766), Tatiara (78**, 11,455), Naracoorte and Lucindale (79**, 13,063), and Wattle Range - West (80**, 14,460) and - East (83**, 5,421).

ASGC Remoteness classification

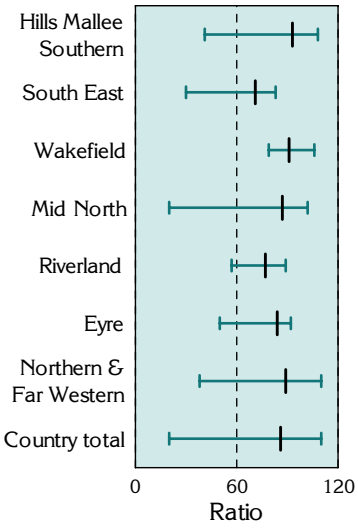
The level of GP services to males declined with increasing remoteness, with the greatest differences in rates of GP services to males being between the two lowest and the two highest remoteness classes (a difference of 13% in each case).

* **indicates statistical significance: see page 24**

Map 7.20
General medical practitioner services to males, South Australia, 2002/2003



SLA
Health Region



Average

Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

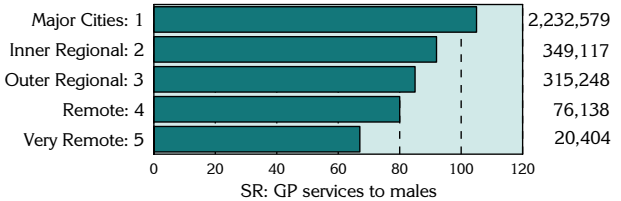
Standardised Ratio (as an index)*, by SLA

- *106 and above*
- *102 to 105*
- *98 to 101*
- *94 to 97*
- *below 94*
- *data not mapped#*

*Index shows the number of services to males in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped because the SLA has a population of less than 100

ASGC Remoteness classification Services



Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

General medical practitioner services to females, 2002/2003

General practitioners offer a wide range of primary health care services and are the 'front line' of the Australian health care system. In metropolitan regions, low socioeconomic (SES) groups consult general practitioners more frequently than high-SES groups. The primary reason is their poorer health and hence greater medical need (however, distributional, operational and financial factors associated with the provision of general practice services are also important).

The rate of GP services to females in South Australia remained fairly stable from 1992/1993 to 1997/1998, but had declined by 2002/2003, with an overall reduction of 12.0% (Table 7.27). The overall decline in services between 1992/1993 and 2002/2003 was greater in the Metropolitan Adelaide (13.6%) than in country South Australia (5.8%). Female rates in Metropolitan Adelaide were 14.7% higher than those in country South Australia in 2002/2003. Female rates were also 28.5% above those for males, 27.5% higher in Metropolitan Adelaide and 30.6% higher in country South Australia.

Table 7.27: General medical practitioner services to females

Age-standardised rate per 100,000

Section of State	1992/1993	1997/1998	2002/2003	Per cent change[1]
Metropolitan Adelaide (incl. Gawler)	673,896	682,719	582,291	-13.6
Country	526,907	524,878	496,465	-5.8
South Australia	636,355	640,895	560,270	-12.0

[1]**Per cent change over ten years in the rate of general practitioner services to females**

Metropolitan regions

There were four per cent more services to females in the metropolitan regions (excluding Gawler) than expected from the State rates (a standardised GP service ratio (SR) of 104**, 3,250,094 services) (Table 7.28). As was the case for males, there is a marked separation between areas with high, and those with low use of GP services by females (Map 7.21).

The correlation analysis shows a very strong association at the SLA level between high rates of GP services to females and socioeconomic disadvantage (Table 8.1). These results, with a very strong inverse correlation with the Index of Relative Socio-Economic Disadvantage, indicate an association at the SLA level between high use of GP services by females and socioeconomic disadvantage.

Central Northern Adelaide

There were six per cent more GP services provided to females in the Central Northern region than expected (106**, 2,330,668), with 44% more services provided to women in Salisbury - Inner North (an SR of 144**, 86,277 services). There were also elevated SRs in Adelaide (139**, 50,182); Playford - East Central (132**, 62,413), - Elizabeth (125**, 93,288), - West (118**, 24,277) and - West Central (129**, 41,474); Port Adelaide Enfield - Port (127**, 95,531) and - Coast (119**, 97,717); Salisbury - Central (120**, 89,300), Balance (113**, 14,702) and - South-East (119**, 109,813); and Charles Sturt - North-East (116**, 87,027).

The SLA with the lowest SR in the metropolitan regions was Walkerville (83**, 18,779). There were also fewer services than expected in Burnside - South-West (85**, 56,514) and - North-East (88**, 59,546); Unley - East (86**, 53,324) and - West (87**, 45,052); Norwood Payneham St Peters - West (87**, 47,128); Adelaide Hills - Ranges (89**, 23,539) and - Central (91**, 31,805); and Tea Tree Gully - Hills (89**, 29,950).

Large numbers of GP services to women were recorded in the SLAs of Tea Tree Gully - South (96,347 services, an SR of 101) and - Central (72,504, 101**); Charles Sturt - Coastal (91,512, 96**) and - Inner West (81,038, 109**); West Torrens - West (90,248, 99*) and - East (74,153, 106**); Port Adelaide Enfield - East (88,420, 108**); and Campbelltown - East (84,323, 107**).

Southern Adelaide

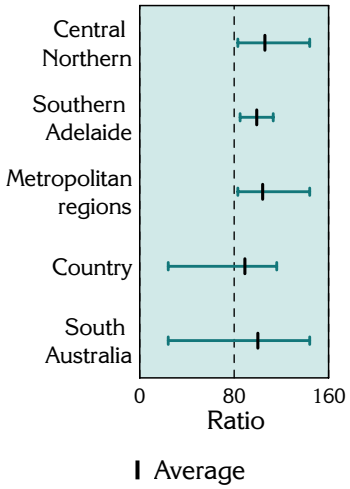
The SR for the south was lower than that for the Central Northern region, with one per cent fewer GP services to females than expected (99**, 928,426 services). The SLAs with the highest SRs in this region were Onkaparinga - North Coast (113**, 58,587 services), - Hackham (111**, 40,634), - South Coast (108**, 66,566), and - Morphett (105**, 70,511).

The SLAs with fewer services than expected in the south were Mitcham - North-East (an SR of 85**, 42,756 services), Onkaparinga - Hills (88**, 26,671), Holdfast Bay - South (91**, 43,993), Mitcham - Hills (91**, 62,924), Holdfast Bay - North (91**, 58,908) and Onkaparinga - Reservoir (92**, 59,491).

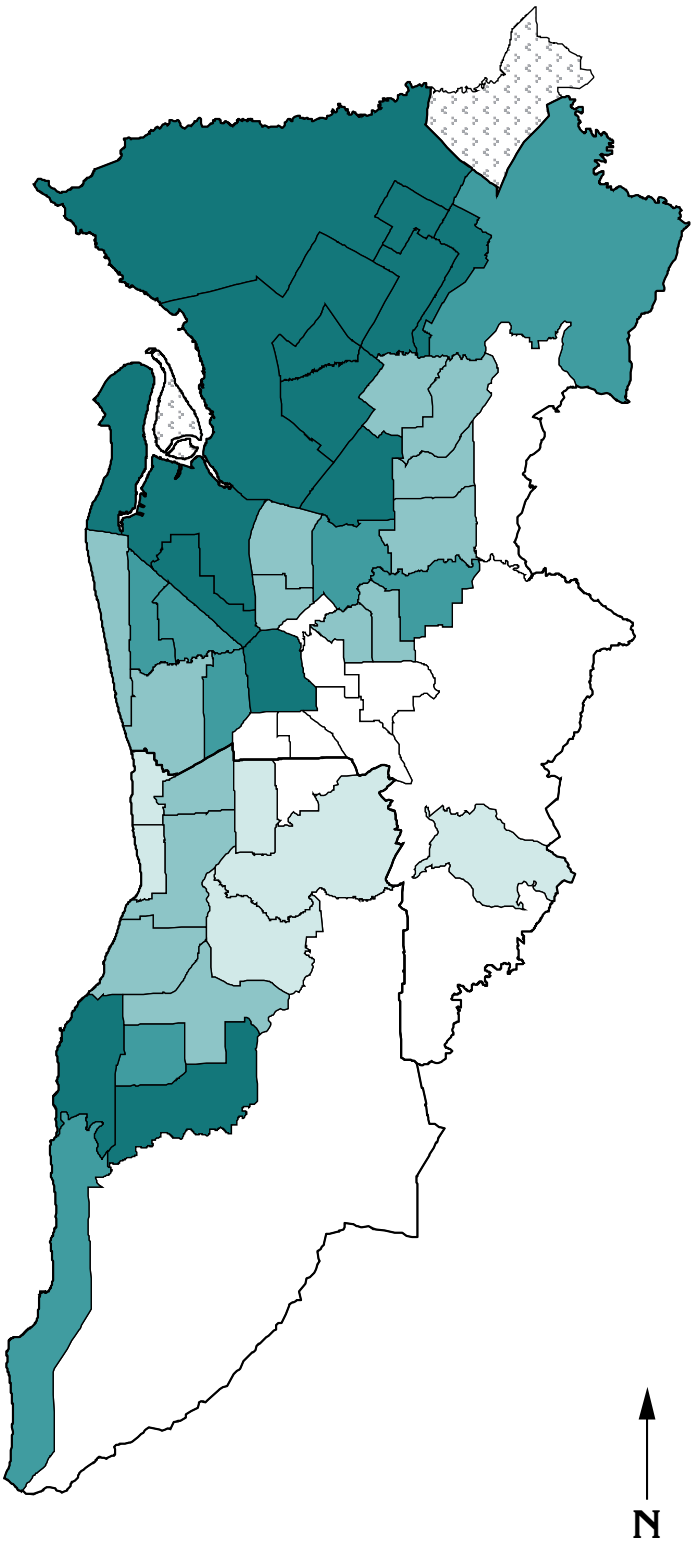
There were large numbers of GP services used by females in Marion - Central (106,081 services, an SR of 102**), Onkaparinga - Woodcroft (92,380, 102**) and Marion - North (85,353, 103**).

* **indicates statistical significance: see page 24**

Map 7.21
General medical practitioner services to females, metropolitan regions, 2002/2003



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Ratio (as an index)*, by SLA

- *110 and above*
- *105 to 109*
- *95 to 104*
- *90 to 94*
- *below 90*
- *data not mapped#*

*Index shows the number of services to females in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

General medical practitioner services to females, 2002/2003

Country South Australia

There were eleven per cent fewer services to females than expected in country South Australia, (a standardised GP service ratio (SR) of 89**, 1,023,978 services). As for males, the distribution of services showed no particular geographic pattern, other than there being higher rates in some SLAs near Adelaide (Map 7.22).

Table 7.28: Regional totals, GP services to females, 2002/2003

Region	No.	SR
Hills Mallee Southern	305,867	98**
Wakefield[1]	249,952	92**
South East	123,720	73**
Northern & Far Western	121,449	94**
Eyre	79,380	88**
Mid North	75,267	85**
Riverland	68,329	75**
Country SA	**1,023,978**	**89****
Central Northern	2,330,668	106**
Southern	928,426	99**
Metropolitan regions	**3,250,094**	**104****
South Australia	**4,283,072**	**100**

[1]**Gawler is included in the Wakefield region**

There is no consistent evidence in the correlation analysis of an association at the SLA level between high rates of GP services' use by females and socioeconomic status (Table 8.2).

The Regions

Hills Mallee Southern had the highest ratio, with two per cent fewer services to females than expected (an SR of 98**, 305,867 services). More services than expected were found in the SLAs of Murray Bridge (an SR of 112**, 52,639), Mount Barker - Central (107**, 45,984) and Yankalilla (107**, 11,585). Karoonda East Murray had 51% fewer services to females than expected (an SR of 49**, 1,648 services) with low SRs also in Kangaroo Island (74**, 8,272), Adelaide Hills - North (84**, 14,213), Mount Barker Balance (86**, 18,031) and Mid Murray (86**, 19,076). There were also large numbers of services to females in Victor Harbor (39,241, an SR of 105**), Alexandrina - Coastal (30,775, 105**), Adelaide Hills Balance (21,520, 92**) and Alexandrina - Strathalbyn (21,077, 91**).

There was an SR of 94** in **Northern and Far Western** (121,449 services), with the most highly elevated ratio in Port Augusta (116**, 42,378 services). In contrast, there were 59% fewer services than expected for females in Unincorporated Far North (41**, 5,132) and 52% fewer in Unincorporated Whyalla (48**, 300). There was also a low SR in Roxby Downs (61**, 4,430). Females in Whyalla received 58,133 GP services (an SR of 98**).

There were eight per cent fewer services than expected in **Wakefield (**92**, 249,952), with relatively low ratios recorded in many areas, including Barossa - Tanunda (82**, 10,872) and - Barossa (83**, 15,952), and Yorke Peninsula - South (84**, 9,826). Females in Gawler (50,170, 96**), Copper Coast (34,736, 105**), Light (25,000, 91**) and Yorke Peninsula - North (20,593, 94**) had large numbers of services.

Eyre had an SR of 88**, and 79,380 services. There were 43% more services to females in Unincorporated Lincoln (143*, 39 services) than expected from the State rates; in contrast, there were 49% fewer than expected in Elliston (51**, 1,430). There were also fewer services than expected in Unincorporated West Coast (an SR of 72**, 938), Streaky Bay (80**, 3,939), Ceduna (81**, 7,611), Le Hunte (86**, 3,273) and Lower Eyre Peninsula (88**, 9,147). Port Lincoln had 34,973 services (an SR of 91**).

Women in **Mid North** had 15% fewer services than expected (an SR of 85**, 75,267). At the SLA level, Barunga West had a slightly elevated SR (106**, 7,821 services) and Unincorporated Pirie had 75% fewer services than expected (24**, 153). There were also fewer services than expected, and larger numbers, in Mount Remarkable (75**, 6,154), Northern Areas (78**, 10,447), Peterborough (81**, 4,732) and Port Pirie - City (87**, 35,534).

There were 25% fewer services to females in **Riverland** than expected from the State rates (an SR of 75**, 68,329). Low ratios were recorded for Unincorporated Riverland (an SR of 54**, 179), Loxton Waikerie - East (68**, 13,786), Loxton Waikerie - West (71**, 9,130), Renmark Paringa - Renmark (72**, 15,986) and - Paringa (72**, 3,096), and Berri and Barmera - Berri (80**, 15,082). There were 11,070 services to females in Berri and Barmera - Barmera (90**).

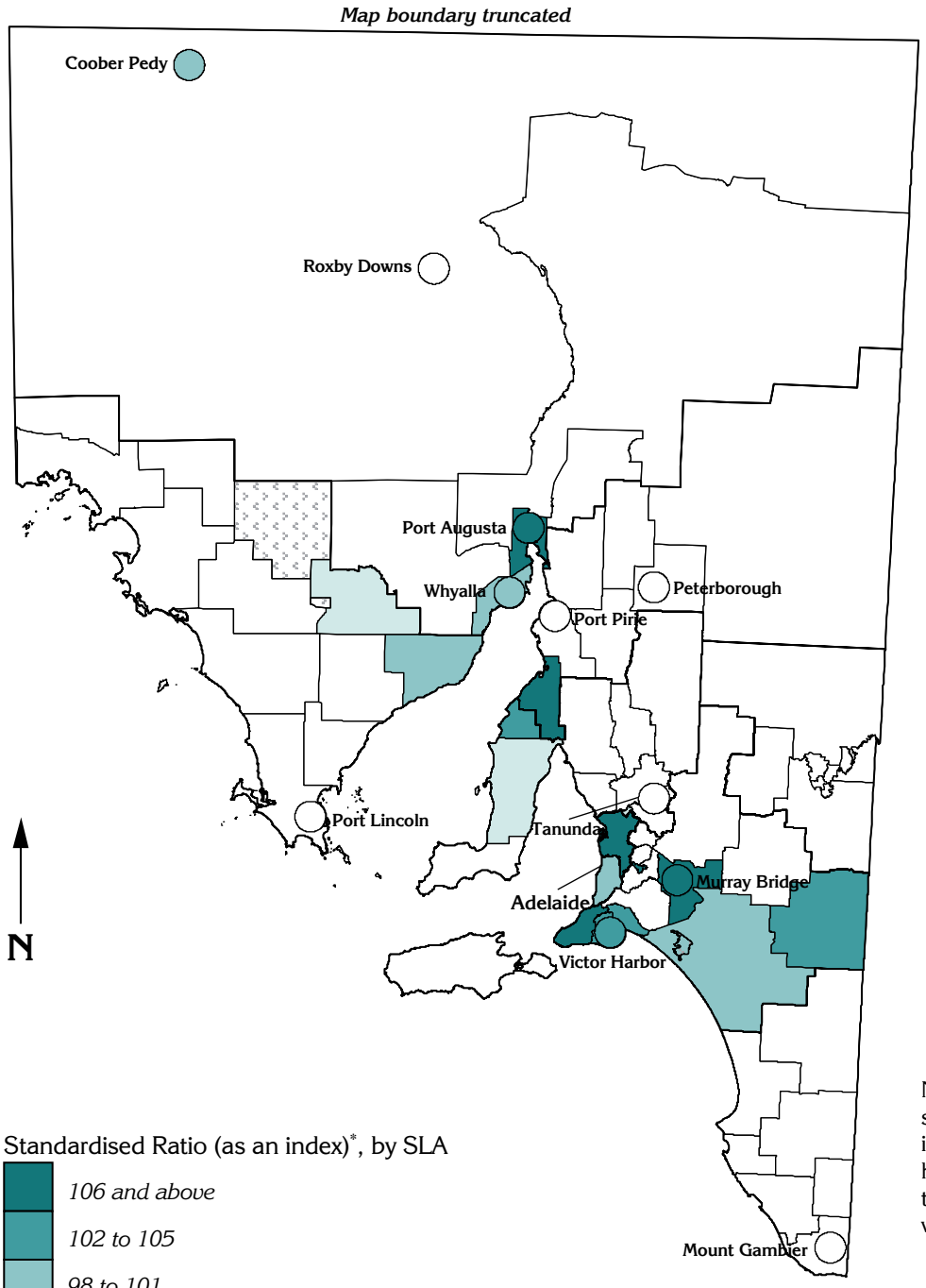
In **South East**, there were 123,720 services, 27% fewer than expected (an SR of 73**). Grant had a very low SR of 32** (6,070 services), with low SRs also in Robe (62**, 2,437), Lacepede (71**, 4,594), Naracoorte and Lucindale (75**, 16,680) and Mount Gambier (79**, 51,917).

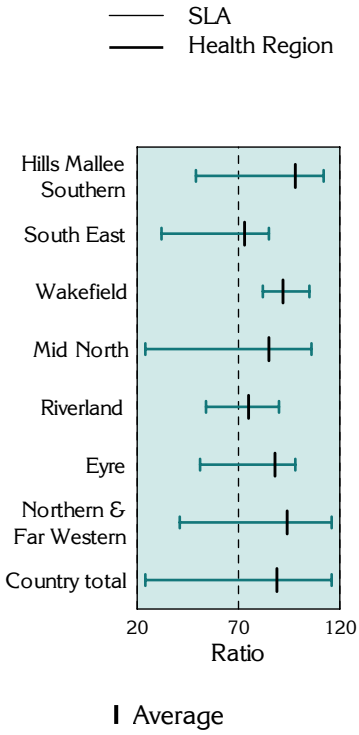
ASGC Remoteness classification

The level of GP services to females declined with increasing remoteness, from an SR of 104** in the Major Cities areas to 70** in Very Remote; rates of use of GP services in the Outer Regional and Remote classes were similar, with ratios of 86** and 85**, respectively.

* **indicates statistical significance: see page 24**

Map 7.22
General medical practitioner services to females, South Australia, 2002/2003





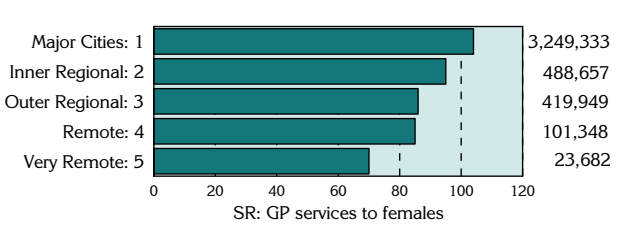
Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Standardised Ratio (as an index)*, by SLA

- *106 and above*
- *102 to 105*
- *98 to 101*
- *94 to 97*
- *below 94*
- *data not mapped#*

*Index shows the number of services to females in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped because the SLA has a population of less than 100



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Accident & Emergency department attendances, 2003/2004

Public hospital Accident and Emergency (A & E) departments are accessible 24 hours a day, seven days a week, to provide acute and emergency care to patients arriving either by ambulance or by other means. While some people require immediate attention for life-threatening conditions or trauma, most require less urgent care. Timely access to care is a high priority for patients, health care providers and the public at large.

A & E waiting times are categorised by triage, which indicates the urgency of a patient's need for medical and nursing care. The benchmarks, set according to triage category, are as follows: need for resuscitation – patients seen immediately (category 1); emergency – patients seen within ten minutes (category 2); urgent – patients seen within 30 minutes (category 3); semi-urgent – patients seen within 60 minutes (category 4); non-urgent – patients seen within 120 minutes (category 5) (NHDC 2003).

There were 26,620 A & E attendances per 100,000 residents of Metropolitan Adelaide at public acute hospitals (excluding Modbury Hospital) in 2003/2004, with a slightly higher rate for residents of the Southern region (28,217 per 100,000) than the Northern region (26,172 per 100,000). The rate of less urgent A & E attendances (classified as triage 4 or 5) was higher than those classified as emergency/ urgent (triage 1, 2 or 3), with 14,636 and 11,984 attendances per 100,000 population, respectively (Table 7.29).

Table 7.29: Accident & Emergency department[1] attendances by triage, 2003/2004

Age-standardised rate per 100,000

Section of State	Total	Triage 1,2 & 3	Triage 4 & 5
Central Northern (excl. Gawler)	26,172	12,199	13,975
Southern	28,217	11,632	16,592
Metropolitan Adelaide (incl. Gawler)	26,620	11,984	14,636

[1]**Includes patients seen in the Accident & Emergency Departments of public acute hospitals**

Metropolitan regions

In 2003/2004, there were 294,648 Accident & Emergency department (A & E) attendances at public acute hospitals (excluding Modbury Hospital) recorded for residents in the metropolitan regions (excluding Gawler). Of these, 132,301 attendances were classified as emergency/ urgent (44.9%) and 162,347 were classified as being of lesser urgency (55.1%).

The distribution of total A & E attendances (first map) shows that the highest rates were largely located in a number of north-western and outer northern and southern SLAs. The distribution of attendances classified as being of lesser urgency is similar to the overall distribution, with emergency/ urgent patients more concentrated in the outer northern and southern areas (Map 7.23).

The correlation analysis shows a very strong association at the SLA level between high rates of A & E department attendances and many indicators of socioeconomic disadvantage (Table 8.1). The strength of this association is summarised by the very strong inverse correlation (-0.75) with the Index of Relative Socio-Economic Disadvantage.

Central Northern Adelaide

There were slightly fewer A & E attendances recorded for residents of the Central Northern region than were expected (a standardised ratio (SR) of 98** and 202,008 attendances).

Residents of Playford - Elizabeth had twice the number of A & E attendances than expected (an SR of 200**), and the highest number of attendances across the metropolitan regions (14,176 attendances).

Highly elevated ratios were also recorded in the SLAs of Adelaide (an SR 163**, 5,912 attendances), Playford - West Central (153**, 5,352), and Salisbury - Inner North (150**, 10,006) and - Central (141**, 10,388).

Areas with 50% or fewer attendances than expected included Adelaide Hills - Central (an SR of 35**, 1,146), Burnside - North-East (47**, 2,661), Adelaide Hills - Ranges (49, 1,249) and Burnside - South-West (49**, 2,754).

Southern Adelaide

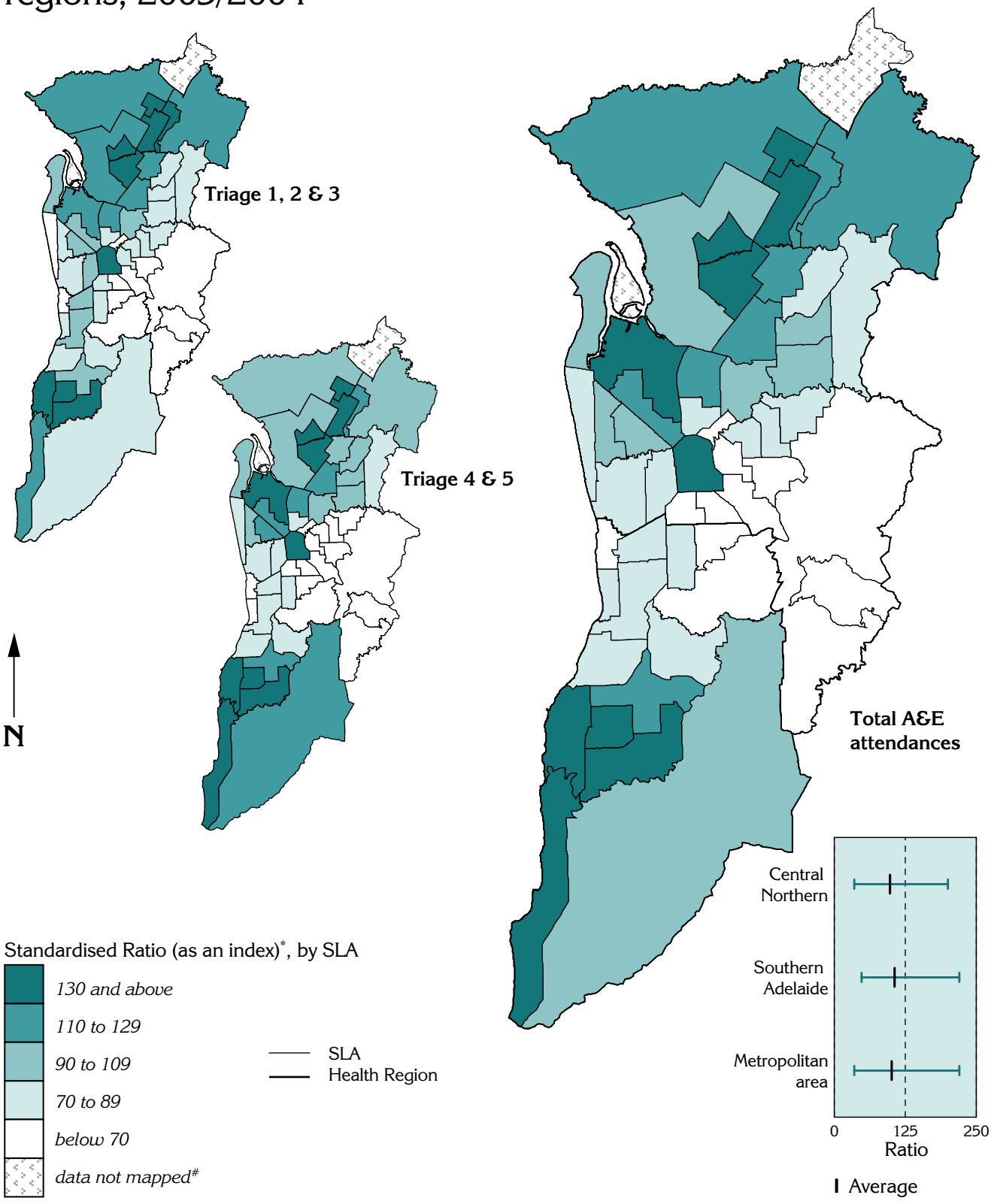
There were 92,639 A & E attendances in the Southern region in 2003/2004, six per cent more than were expected from the rates for the metropolitan regions (an SR of 106**).

The SLAs in Onkaparinga had the most highly elevated ratios in the Southern region, with more than double the number of attendances in Onkaparinga - Hackham (an SR of 220**, 8,099 attendances). Onkaparinga - North Coast (216**, 10,390), - Morphett (169**, 10,872) and - South Coast (157**, 9,957) also had ratios well above the level expected.

The lowest ratios in the Southern region were recorded in the SLAs of Mitcham - North-East (48**, 2,016), Mitcham - Hills (58**, 3,599), and Holdfast Bay - North (59**, 3,199) and - South (70**, 2,730).

* **indicates statistical significance: see page 24**

Map 7.23
Accident & Emergency department attendances, metropolitan regions, 2003/2004



*Index shows the number of attendances recorded for people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on totals for the metropolitan regions

#Data for Torrens Island are mapped with Port Adelaide: Gawler has not been mapped

Note: The black vertical lines show the average ratio for total consultations in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Outpatient department attendances, 2003/2004

Outpatient departments of public hospitals provide an important range of specialist medical and non-medical (allied) health services to the population, in particular to the most disadvantaged groups who do not have private health insurance, and therefore, have limited access to these services operating in private practice.

The data for outpatient departments have been estimated (based on the Monthly Management Summary System), due to incomplete coverage, see page 356 for further details. Consultations with specialist medical practitioners and allied health professionals are included in these data.

The rate of attendances was similar in both regions (Table 7.30). The highest rates of outpatient department attendances were recorded at older ages: 321,881 per 100,000 population for those aged 80 to 84 years; 254,443 per 100,000 for the 75 to 79 year age group; and 238,665 per 100,000 for those aged 85 years and over.

Table 7.30: Outpatient department attendances[1] at public acute hospitals, 2003/2004

Age-standardised rate per 100,000

Section of State	No.	Rate
Central Northern (excl. Gawler)	684,436	88,739
Southern	296,842	89,221
Metropolitan Adelaide (incl. Gawler)	990,980	88,504

[1]Includes patients seen by specialist practitioners and allied health professionals in outpatient departments of public acute hospitals

Metropolitan regions

There were 981,278 outpatient attendances at public acute hospitals in the metropolitan regions (excluding Gawler) in 2003/2004. The SLAs with the most highly elevated ratios were situated in the west and north-west, and outer north and south, with low ratios to the east of the city (Map 7.24).

Data collected in a one-week survey of outpatients in 1981 show a strikingly similar pattern: these data are shown in Chapter 9, Figure 9.11, by five groupings of socioeconomic status of area.

Attendance at outpatient departments is strongly or very strongly correlated with the majority of the indicators of socioeconomic disadvantage. These results, together with a very strong inverse correlation with the Index of Relative Socio-Economic Disadvantage, indicate a strong association at the SLA level between socioeconomic disadvantage and high rates of attendance at outpatient departments of public acute hospitals (Table 8.1)

Central Northern Adelaide

Residents of Central Northern had 684,436 outpatient attendances in 2003/2004 (a standardised ratio (SR) of 100). People in Port Adelaide Enfield - Port had 71% more attendances than expected (an SR of 171**, 41,013 attendances), while those in Playford - Elizabeth (156**, 36,482) and - West Central (156**, 15,032), and Charles Sturt - North-East (151**, 35,624) had over 50% more attendances than expected. There were also elevated ratios in Salisbury - Inner North (146**, 25,924), and - Central (131**, 29,380); Port Adelaide Enfield - Coast (137**, 35,128) and - Inner (122**, 23,494); Charles Sturt - Inner East (132**, 27,546) and - Inner West (120**, 29,049); Playford - East Central (121**, 17,555); and West Torrens - East (121**, 26,726).

Large numbers of attendances were also recorded for people in the SLAs of Salisbury - South-East (29,608, 100), West Torrens - West (27,056, 92**), Charles Sturt - Coastal (26,809, 88**) and Port Adelaide Enfield - East (25,761, 96**).

Fewer than half the expected number of outpatient attendances at public acute hospitals were recorded for Adelaide Hills - Central (46**, 4,904 attendances) and Tea Tree Gully - Hills (49**, 5,121). Low ratios were also recorded in Burnside - North-East (52**, 10,966), Walkerville (55**, 3,874) and Burnside - South-West (59**, 12,299).

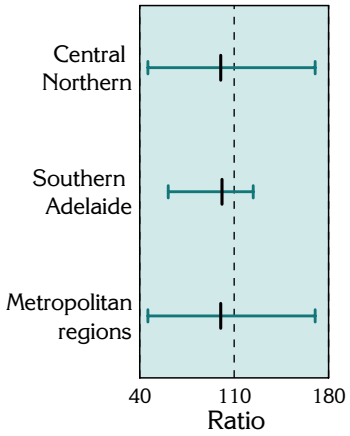
Southern Adelaide

Southern region residents had one per cent more outpatient attendances than expected from the rates for the metropolitan regions (an SR of 101**, 296,842 attendances). Marion - North (125**, 33,064), Onkaparinga - Hackham (121**, 13,147) and Marion - Central (120**, 40,173) all had 20% or more attendances than expected. The SLAs of Onkaparinga - Woodcroft (27,383, 101), Mitcham - West (24,801, 114**), and Onkaparinga - Morphett (23,325, 116**), - North Coast (19,423, 117**) and - South Coast (18,810, 94**), all had large numbers of outpatient attendances.

The lowest ratios in Southern region were found in Onkaparinga - Hills (an SR of 61**, 5,977 attendances), Mitcham - North-East (76**, 11,541), Holdfast Bay - North (82**, 17,031) and Marion - South (82**, 12,606).

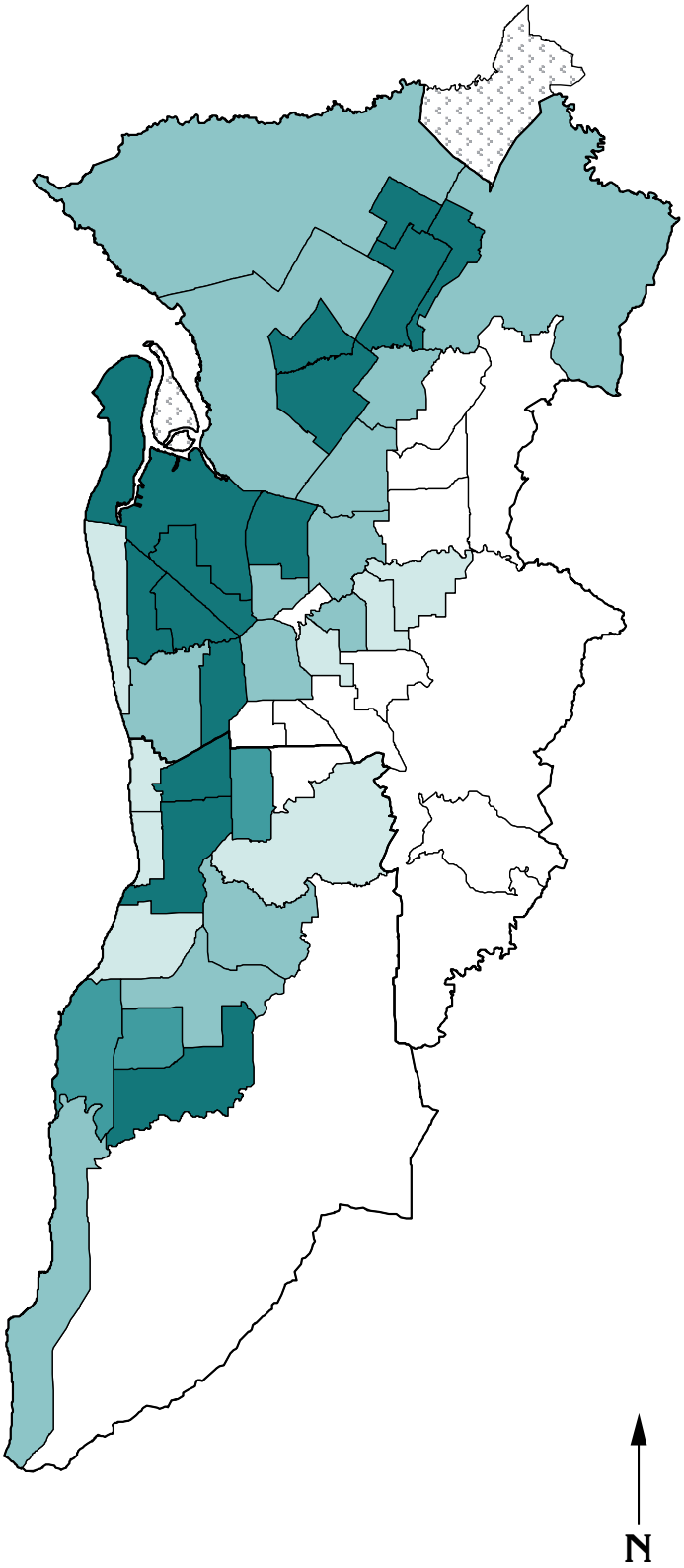
* **indicates statistical significance: see page 24**

Map 7.24
Outpatient department attendances, metropolitan regions, 2003/2004



Average

Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Ratio (as an index)*, by SLA

- *120 and above*
- *110 to 119*
- *90 to 109*
- *80 to 89*
- *below 80*
- *data not mapped#*

N

*Index shows the number of attendances of people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on totals for the metropolitan regions

#Data for Torrens Island are mapped with Port Adelaide: Gawler has not been mapped

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Specialist medical practitioner consultations, 2003/2004

Outpatient departments of public hospitals provide an important range of specialist medical services to the population, in particular to the most disadvantaged groups, who do not have private health insurance and therefore have limited access to these services operating in private practice.

The data shown here include consultations[3] with a specialist medical practitioner, either at an outpatient department of a public acute hospital or in the private practitioner's own rooms (whether at a hospital, or not) and funded through Medicare; the total of all specialist consultations is also shown. The data for specialist consultations in outpatient departments are estimated, due to incomplete coverage: see page 356 for details. There were 192,719 specialist practitioner consultations per 100,000 population provided in Metropolitan Adelaide in 2003/2004, of which 112,920 (58.6%) were private consultations (Table 7.31). The rate of specialist consultations was higher in Central Northern (195,052 per 100,000 population) than in Southern (189,927).

Table 7.31: Specialist medical practitioner consultations[1], 2003/2004

Age-standardised rate per 100,000

Section of State	Total	OPD[1]	Private consultations[1]
Central Northern (excl. Gawler)	195,052	80,607	114,444
Southern	189,927	79,835	110,089
Metropolitan Adelaide (incl. Gawler)	192,719	79,800	112,920

[1]Includes people seen by specialist practitioners in outpatient departments (OPD) of public acute hospitals, or in the private practitioner's rooms and funded through Medicare (Private consultations)

[3] A 'consultation' may include a range of services e.g. an examination, minor surgical procedure, etc. Variations in the number of services per patient billed under Medicare are unlikely to affect these geographic comparisons.

Metropolitan regions

There were an estimated 2,130,321 specialist consultations for people in the metropolitan regions (excluding Gawler) in 2003/2004. Private consultations by specialist medical practitioners were concentrated in a band of higher socioeconomic status SLAs (Map 7.25). The pattern for consultations in outpatient departments in public hospitals is almost the reverse, in line with the pattern of socioeconomic disadvantage. When combined, the map of total consultations resembles the pattern of socioeconomic disadvantage, highlighting the importance of access to specialist medical practitioners in public hospitals, for the populations in these areas.

The variable for private consultations with specialist medical practitioners funded through Medicare is strongly correlated with socioeconomic advantage (a correlation of 0.64 with the IRSD). Consultation with these practitioners in outpatient departments is very strongly correlated with socioeconomic disadvantage (an inverse correlation with the IRSD of -0.85); and total consultations are weakly correlated with the IRSD (-0.45), suggesting a weak association at the SLA level between total specialist medical practitioner consultations and socioeconomic disadvantage (Table 8.1).

Central Northern Adelaide

All consultations

There were 1,500,985 specialist consultations recorded for people from Central Northern (a standardised ratio (SR) of 101**). The highest ratio was in Salisbury, with 20% more consultations than expected from the State rates (an SR of 120**, 47,521 consultations). Other SLAs with elevated ratios included Playford - West Central (an SR of 118**, 25,050 consultations) and - Elizabeth (117**, 58,392); Port Adelaide Enfield - Port (117**, 60,231) and - Coast (110**, 61,478); Adelaide (116**, 30,211); Charles Sturt - Inner-East (115**, 51,525), - North-East (115**, 58,402) and - Inner-West (111**, 57,650); West Torrens - East (111**, 52367); and Norwood Payneham St Peters - West (110**, 38,145).

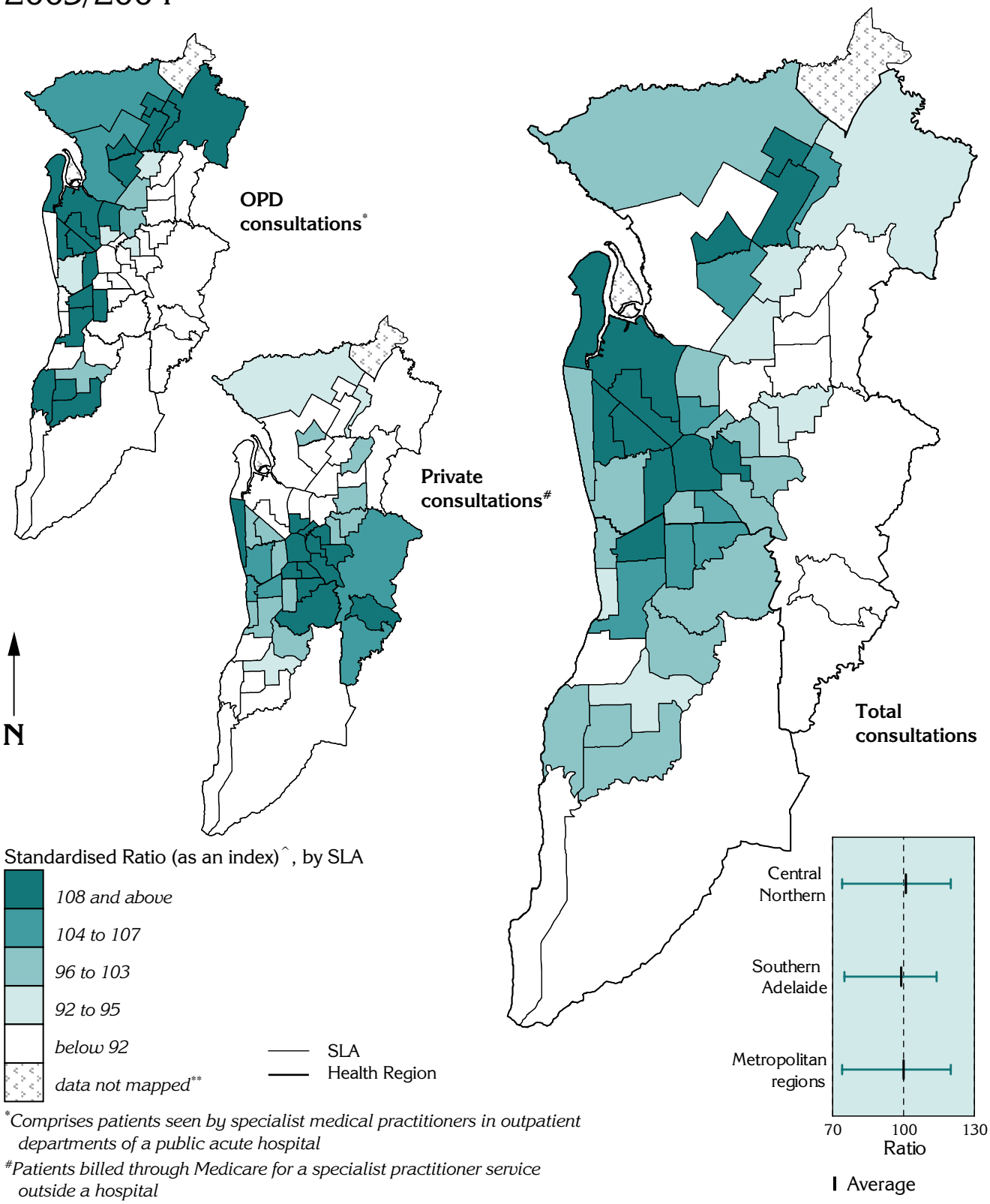
Large numbers of consultations were in Charles Sturt - Coastal (66,683, an SR of 101*), West Torrens - West (62,955, 101), Salisbury - South-East (62,147, 95**) and - Central (52,773, 107**), and Campbelltown - East (49,838, 93**).

There were fewer consultations than expected in Tea Tree Gully - Hills (an SR of 74**, 17,214), - Central (80**, 37,962), - North (82**, 36,829), and - South (84**, 53,906); and low ratios in Adelaide Hills - Central (an SR of 85**, 20,162) and - Ranges (86**, 15,959); Salisbury Balance (86**, 8,561); and Port Adelaide Enfield - East (91**, 52,889).

Consultations in outpatient departments

There were 619,881 consultations in hospital outpatient departments in 2003/2004, one per cent more than expected (an SR of 101**). A number of SLAs in the region had highly elevated ratios, reflecting the reliance of the population in these areas on accessing specialists through public hospitals. These included Port Adelaide Enfield - Port (an SR of 173**, 37,352 consultations), - Coast

Map 7.25
Specialist medical practitioner services, metropolitan regions, 2003/2004



*Comprises patients seen by specialist medical practitioners in outpatient departments of a public acute hospital

#Patients billed through Medicare for a specialist practitioner service outside a hospital

^Index shows the number of consultations for people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on totals for the metropolitan regions

**Data for Torrens Island are mapped with Port Adelaide: Gawler has not been mapped

Note: The black vertical lines show the average ratio for total consultations in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

(139**, 32,095) and - Inner (124**, 21,279); Playford - Elizabeth (158**, 33,076), - West Central (156**, 13,610) and - East Central (122**, 15,931); Charles Sturt - North-East (153**, 32,411), - Inner East (134**, 25,067) and - Inner West (122**, 26,516); Salisbury - Inner North (147**, 23,528) and - Central (134**, 27,047); and West Torrens - East (122**, 24,038).

Relatively large numbers of consultations in hospitals were recorded for residents of Salisbury - South-East (27,269 consultations, an SR of 103**), West Torrens - West (24,320, 92**), Charles Sturt - Coastal (24,154, 88**), Port Adelaide Enfield - East (17,828, 81**), Campbelltown - East (17,828, 81**) and Salisbury - North-East (15,339, 95**).

The lowest ratios were mapped in a number of socioeconomically advantaged SLAs including Adelaide Hills - Central (an SR of 45**, 4,309 consultations), Tea Tree Gully - Hills (49**, 4,613), Burnside - North-East (52**, 9,757), Walkerville (54**, 3,412), Burnside - South-West (58**, 10,742), Adelaide Hills - Ranges (60**, 4,459), Tea Tree Gully - North (62**, 11,202), - Central (63**, 12,076) and - South (65**, 17,246), and Unley - East (71**, 11,560).

Private consultations

In contrast to specialist consultations through hospital outpatient departments, high rates of private consultations mapped to traditional socioeconomically advantaged SLAs. SLAs with the highest ratios included Adelaide (an SR of 133**, 20,441 consultations), Burnside - South-West (133**, 34,151), Unley - East (132**, 29,813), Walkerville (131**, 11,506), Norwood Payneham St Peters - West (131**, 26,625), Burnside - North-East (127**, 33,541), Unley - West (118**, 22,658), Prospect (117**, 24,910), Adelaide Hills - Central (112**, 15,853), Charles Sturt - Coastal (110**, 42,529) and Norwood Payneham St Peters - East (110**, 22,193).

Large numbers of private consultations were also recorded in the SLAs of West Torrens - West (38,635 consultations, an SR of 107**), Tea Tree Gully - South (36,660, 97**), Salisbury - South-East (34,878, 90**), Campbelltown - East (32,010, 101*) and Charles Sturt - Inner West (31,134, 103**).

SLAs with relatively low rates of these consultations included Salisbury Balance (an SR of 74**, 4,390 consultations); Port Adelaide Enfield - Port (76**, 22,879), - Inner (85**, 19,880) and - East (87**, 25,316); Playford - Hills (85**, 2,654) and - Elizabeth (87**, 25,316); Charles Sturt - North-East (88**, 25,991); and Salisbury - Central (89**, 25,276).

Southern Adelaide

All consultations

One per cent fewer consultations with specialist medical practitioners than expected were recorded for people in Southern (an SR of 99**, 629,355 consultations). The few SLAs in the region with elevated ratios included Marion - North (114**, 63,166) and - Central (106**, 76,190), and Mitcham - West (107**, 49,381).

The largest number of consultations were provided to people from Onkaparinga - Woodcroft (57,692 consultations, an SR of 95**). There were also large numbers in Mitcham - Hills (47,700, 101) and Onkaparinga - Morphett (43,819, 99*).

SLAs with relatively low ratios in Southern were Onkaparinga - Hills (an SR of 75**, 16,163 consultations) and - South Coast (88**, 38,804), and Marion - South (87**, 30,476).

Consultations in outpatient departments

There were 264,896 consultations with specialist medical practitioners in outpatient departments recorded for residents of the Southern region (an SR of 100). SLAs with high rates of consultations included Marion - North (an SR of 125**, 29,706 consultations) and - Central (121**, 36,245); Onkaparinga - Hackham (117**, 11,542), - North Coast (114**, 17,013) and - Morphett (113**, 20,538); and Mitcham - West (115**, 22,312). In Onkaparinga - Woodcroft, there were 24,347 consultations (an SR of 99).

Fewer consultations than expected were recorded for residents of Onkaparinga - Hills (an SR of 59**, 5,217 consultations), Mitcham - North-East (75**, 10,294), Marion - South (82**, 11,452), Holdfast Bay - North (82**, 15,207), Mitcham - Hills (85**, 16,467) and Holdfast Bay - South (88**, 12,233).

Private consultations

There were three per cent fewer private consultations than expected for residents of the Southern region (an SR of 97**, 364,439 consultations). Mitcham - North-East had 25% more consultations than expected (an SR of 125**, 23,579 consultations), followed by Mitcham - Hills (112**, 31,233), Holdfast Bay - North (107**, 26,631) and Marion - North (105**, 33,460). Large numbers of private consultations were recorded for residents of Marion - Central (39,945 consultations, an SR of 96**) and Onkaparinga - Woodcroft (33,345, 93**).

SLAs with the lowest ratios were all in Onkaparinga, including - North Coast (an SR of 83**, 17,468 consultations), - Hackham (84**, 12,117), - Hills (86**, 10,946), - South Coast (86**, 22,351) and - Morphett (89**, 23,281).

* indicates statistical significance: see page 24

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Private health insurance, 30 June 2001

Having private health insurance increases the range of health services that can be accessed, both in-hospital services and services provided by medical and dental practitioners, psychologists, physiotherapists and so on. Information as to the coverage of private health insurance is not generally available at a small area level. However, with the introduction of the thirty per cent rebate and an associated registration process[4], data of acceptable validity are available for the coverage of the population at 30 June 2001; more recent data are not available, as registration was a once-only process. Just over half of the population in Metropolitan Adelaide were estimated to be covered by private health insurance on 30 June 2001 (54.3%, 581,632 people); coverage in country South Australia was a lower 43.6% (Table 7.32).

Table 7.32: People covered by private health insurance, 30 June 2001

Per cent

Section of State	No.	%
Metropolitan Adelaide (incl. Gawler)	581,632	54.3
Country	172,918	43.6
South Australia	754,551	51.4

[4] At 30 June 2001, all Australians, eligible for Medicare and covered by a health insurance policy offered by a registered health fund, were eligible for a rebate of 30% on the cost of private health insurance premiums on hospital cover, ancillary cover and a combination of both. The rebate can be taken as a direct premium reduction, a refundable tax offset or a direct payment available from Medicare offices: the data shown here do not include claims made as a tax refund. The Health Insurance Commission, which provided these data, advises that the number of people reported is, therefore, an underestimate of the total number with private health insurance cover; they also advise that the extent of understatement varies between regions. The authors' view is that any understatement in the level of cover is likely to be of people in higher (rather than lower) socioeconomic status areas due to the delay associated with receiving the rebate through tax returns.

Metropolitan regions

The geographic distribution in the metropolitan regions of the population with private health insurance cover (Map 7.26) is consistent with that of higher socioeconomic status residents shown in Chapters 4 and 5. The correlation analysis also shows a very strong association at the SLA level between high rates of private health insurance cover and socioeconomic advantage: the strength of this association is summarised by the very strong correlation (0.86) with the Index of Relative Socio-Economic Disadvantage (Table 8.1).

Central Northern Adelaide

There were 393,238 people with private health insurance in Central Northern, 53.1% of the population in the region (Table 7.33). Approximately three quarters of the populations in the SLAs of Adelaide Hills - Central (76.4%, 9,345 people), Burnside - North-East (76.2%, 15,026) and Burnside - South-West (73.4%, 14,785) had private health insurance. There were also high coverage rates in the SLAs of Walkerville (71.9%, 4,920 people), Adelaide Hills - Ranges (69.3%, 7,576), Charles Sturt - Coastal (68.4%, 20,669) and Unley - East (68.2%, 13,075).

There were large numbers of people with private health insurance cover in the SLAs of Tea Tree Gully - South (20,229 people, 61.5%), Campbelltown - East (17,313, 66.3%) and West Torrens - West (16,508, 59.7%).

The SLAs with the lowest rates of private health insurance cover in the region were Playford - Elizabeth (30.0%, 8,152 people), - West Central (32.4%, 4,098), - Hills (41.5%, 1,111), - East Central (38.0%, 6,017) and - West (41.2%, 3,251); Port Adelaide Enfield - Port (31.0%, 7,791), - Inner (37.7%, 7,350) and - East (43.0%, 11,718); Salisbury Balance (32.4%, 1,473), - Central (36.3%, 9,781) and - Inner North (37.1%, 8,782); Adelaide (37.1%, 6,629), and Charles Sturt - North-East (40.0%, 9,715 people).

Southern Adelaide

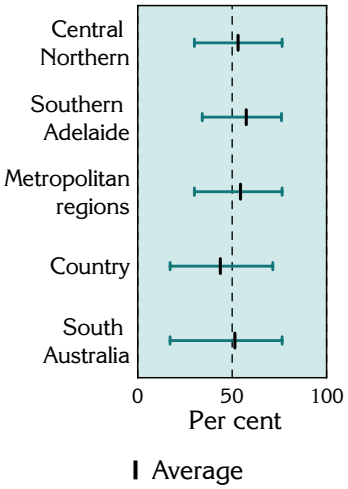
Rates of private health insurance cover in Southern region were higher than in Central Northern region, with 57.4% insured (179,967 people). The SLAs with the highest coverage rates were Mitcham - North-East (76.1%, 11,554 people) and - Hills (73.5%, 16,944), and Onkaparinga - Reservoir (68.4%, 16,162).

Large numbers of residents in Onkaparinga - Woodcroft (19,035 people, 57.6%) and Marion - Central (18,480, 57.9%) had private health insurance.

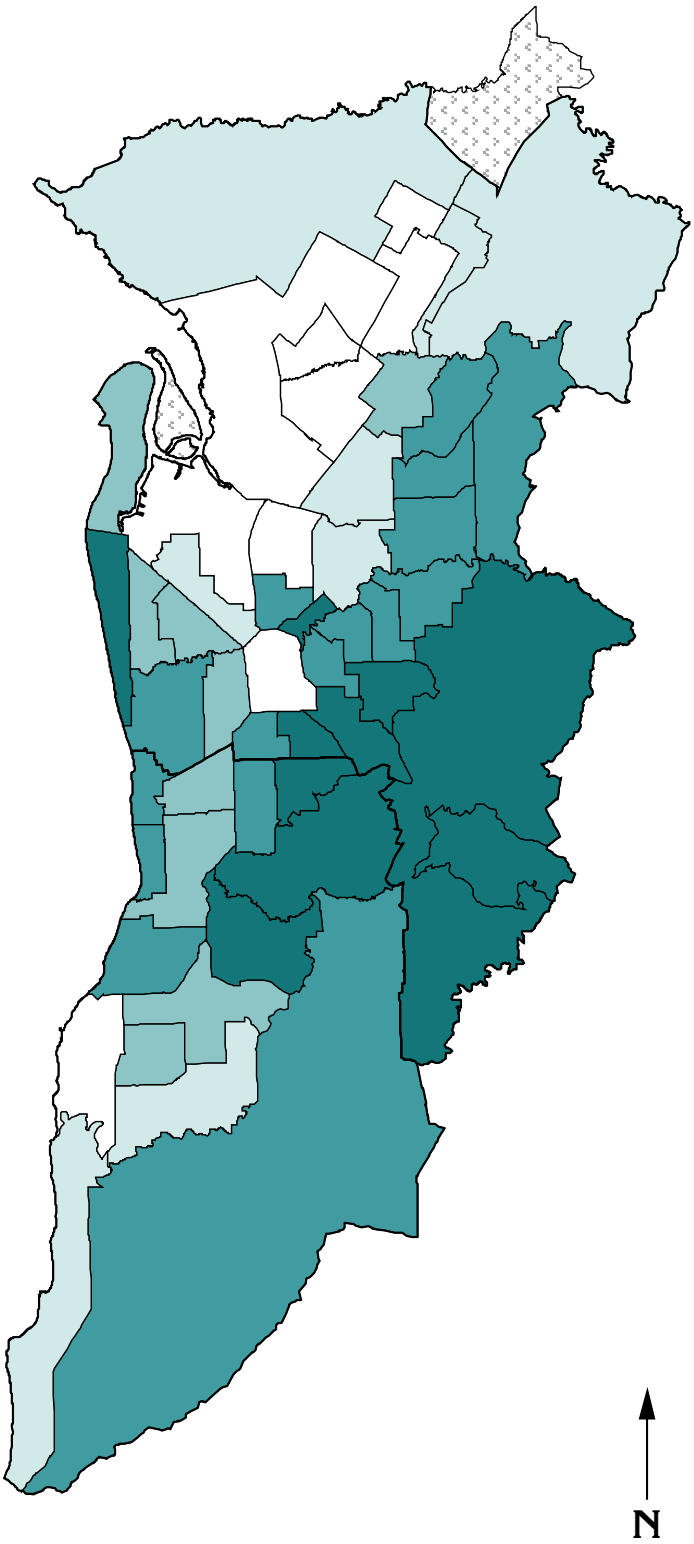
There were fewer SLAs with low coverage rates in the south, with Onkaparinga - North Coast (34.1%, 5,821 people) the only SLA mapped in the lowest range. There were also low proportions of insured residents in the Onkaparinga SLAs of - South Coast (39.5%, 8,861), - Hackham (40.1%, 5,465) and - Morphett (48.4%, 12,177).

* **indicates statistical significance: see page 24**

Map 7.26
People covered by private health insurance, metropolitan regions, 30 June 2001



Note: The black vertical lines show the average proportion for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Per cent covered by private health insurance, by SLA

- *68.0% or more*
- *58.0 to 67.9%*
- *48.0 to 57.9%*
- *38.0 to 47.9%*
- *fewer than 38.0%*
- *data not mapped#*

#*Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map*

Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Country South Australia

There were 181,346 people with private health insurance in country South Australia at 30 June 2001, or less than half of the population (43.7%), compared with over half (54.4%) in the metropolitan regions (Table 7.33). The lack of easy access to private hospitals for country residents is likely to be part of the reason for the lower level of uptake of private health insurance.

Table 7.33: Regional totals, private health insurance, 30 June 2001

Region	No.	% of Region	% of State
Hills Mallee Southern	50,192	46.4	3.4
Wakefield[1]	44,880	47.1	3.0
South East	28,715	47.2	1.9
Northern & Far Western	17,901	33.9	1.2
Eyre	13,231	39.4	0.9
Mid North	12,906	41.9	0.9
Riverland	13,521	40.5	0.9
Country SA	**181,346**	**43.7**	**11.6**
Central Northern	393,238	53.1	26.3
Southern	179,967	57.4	12.0
Metropolitan regions	**573,205**	**54.4**	**38.9**
South Australia	**754,551**	**51.4**	**100.0**

[1]**Gawler is included in the Wakefield region**

The correlation analysis shows a weak association at the SLA level between high rates of private health insurance and socioeconomic advantage (Table 8.2).

The Regions

The highest rate of coverage was in **South East** (47.2%, 28,715 people). Around half the residents in Mount Gambier (52.5%, 10,463), Naracoorte and Lucindale (51.9%, 3,985) and Tatiara (49.9%, 3,627) had private health insurance. There were also relatively large numbers of privately insured people in Wattle Range - West (3,919, 43.2%), Tatiara (3,627, 49.9%), Grant (3,516, 35.3%), Wattle Range - East (1,537, 48.5%), and Lacepede (1,024, 45.0%).

A similar proportion of residents in **Wakefield** had private health insurance (47.1%, 44,880 people). The SLAs with the highest proportions of insured residents were Barossa - Tanunda (56.4%, 2,420), - Angaston (53.4%, 3,763) and - Barossa (51.6%, 3,747); Yorke Peninsula - North (51.9%, 3,908); and Clare and Gilbert Valleys (50.9%, 4,114). Gawler had 8,427 residents with private health insurance (45.9%).

In **Hills Mallee Southern**, 50,192 people had private health insurance, representing 46.4% of the population. The highest rates of coverage were in Adelaide Hills Balance (60.4%, 5,013), Adelaide Hills - North (59.5%, 3,981), Southern Mallee (56.9%, 1,195), The Coorong (53.9%, 2,981), Mount Barker Balance (52.4%, 4,171), Mount Barker - Central (50.6%, 7,246), Yankalilla (50.3%, 1,815) and Alexandrina - Strathalbyn (50.1%, 4,254). The lowest rates were in Kangaroo Island (33.4%, 1,689), Mid Murray (33.6%, 2,914) and Karoonda East Murray (33.8%, 536). There were also large numbers of insured in Murray Bridge (5,778, 36.2%) and Victor Harbor (4,874, 46.1%).

In **Mid North**, 41.9% of residents were insured (12,906 people). The highest proportion of residents with private health insurance in country South Australia was located in Orroroo/Carrieton (71.5%, 600 people); and half the population in Unincorporated Pirie had this cover (50.2%, 181). The SLA with the lowest proportion of insured residents was Peterborough (28.0%, 589). There were larger numbers of insured in Port Pirie - City (5,250, 38.2%), Northern Areas (2,302, 49.2%), Port Pirie Balance (1,624, 49.6%) and Mount Remarkable (1,367, 42.9%).

In **Riverland**, 40.5% of residents had private health insurance (13,521 people). Although none of the SLAs mapped in the highest range, there were relatively large numbers of insured residents in Renmark Paringa - Renmark (3,195, 39.7%), Loxton Waikerie - East (3,120, 41.9%) and Berri and Barmera - Berri (2,814, 40.3%).

In **Eyre**, 39.4% of residents had private health insurance (13,231 people). Within this region, the SLAs with the highest rates were Cleve (56.6%, 1,060) and Kimba (55.8%, 641). There were low proportions of insured residents in Unincorporated West Coast (26.2%, 211) and Ceduna (27.2%, 1,013). Port Lincoln (5,117, 37.6%), Lower Eyre Peninsula (1,502, 38.4%) and Tumby Bay (1,149, 43.2%) had relatively larger numbers of insured residents.

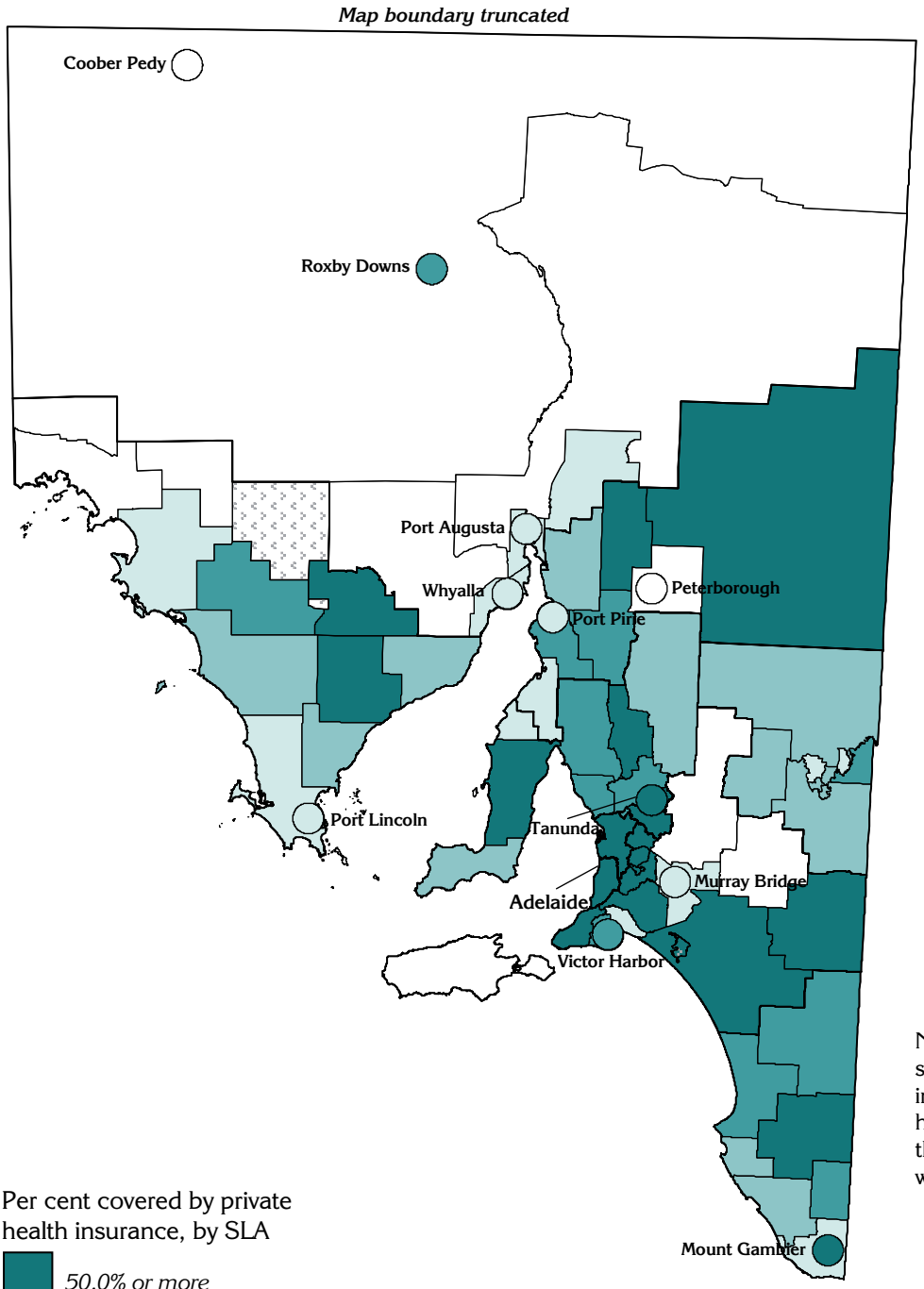
Just one third of the population in **Northern and Far Western** had private health insurance (33.9%, 17,901 people). The SLAs with the lowest rates were Unincorporated Far North (17.1%, 888 people), Coober Pedy (18.9%, 561), Unincorporated Flinders Ranges (23.7%, 476) and Unincorporated Whyalla (33.7%, 129). There were much larger numbers of insured residents in Whyalla (7,954 people, 37.0%), Port Augusta (4,889, 35.6%) and Roxby Downs (2,294, 45.6%).

ASGC remoteness classification

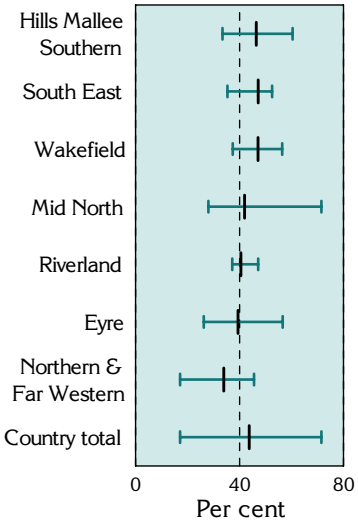
The level of private health insurance cover drops off rapidly across the remoteness classes, from 54.3% in the Major Cities areas, to less than half of that in the Very Remote areas (25.3%).

* **indicates statistical significance: see page 24**

Map 7.27
People covered by private health insurance, South Australia, 30 June 2001



SLA
Health Region



Average

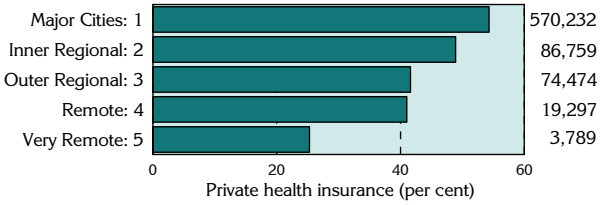
Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Per cent covered by private health insurance, by SLA

- *50.0% or more*
- *45.0 to 49.9%*
- *40.0 to 44.9%*
- *35.0 to 39.9%*
- *fewer than 35.0%*
- *data not mapped#*

#Data were not mapped because the SLA has a population of less than 100

ASGC Remoteness classification People



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

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Hospital admissions

Introduction

Information available for hospital admissions includes the age, sex, diagnoses and surgical and other procedures, as recorded in the patient's case notes at the time of discharge, transfer or death. Importantly, for spatial analysis, the postcode or SLA of the address of usual residence of the patient is also recorded.

Admissions are of South Australian residents admitted to a hospital in Australia: the SLA data mapped is the SLA of the usual residential address.

Terminology

The technical term describing a completed hospital episode (i.e. the discharge, death or transfer of a patient) is a 'separation'.

At the time of admission, the age, sex, address of usual residence and other personal details of the patient are recorded. At the end of the episode, at the time of separation from hospital, details of the episode itself are recorded, including the principal diagnosis (and other diagnoses), principal procedure (and other procedures), and the date, time and method (discharge, transfer or death) of separation.

Consequently, hospital inpatient data collections are based on separations.

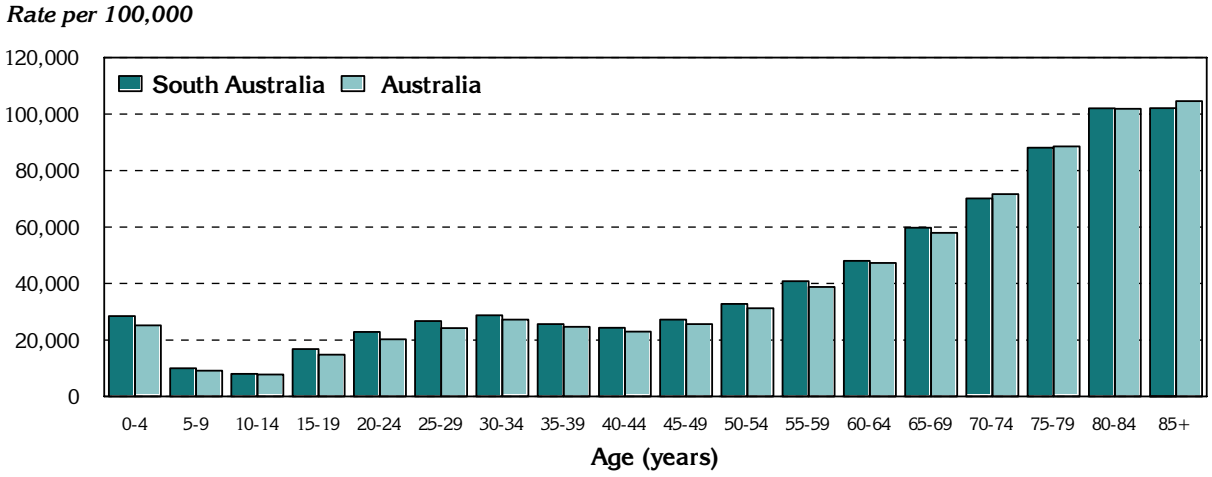
In this atlas, the more commonly used term of 'admission' has been used. In an analysis such as this, which excludes long stay patients (other than the few long stay acute patients), there is little difference between the number of admissions and the number of separations in a year. Also, 'admission' is a much more familiar term to many people who will use this atlas.

The maps in this chapter show the spatial patterns of admissions and procedures. The following text describes some of the differences evident in the data in hospitalisation rates for specific population groups. Where available, comparisons are made with the data from earlier periods.

Differences between South Australia and Australia

Admission rates for residents of South Australia and Australia were similar across the age groups, although there were higher rates recorded in South Australia for all people other than those aged 70 to 74, 75 to 79 and 85 years and over (Figure 7.2).

Figure 7.2: Admissions to public acute and private hospitals by age, South Australia and Australia, 2003/2004



Differences related to age, sex and hospital type

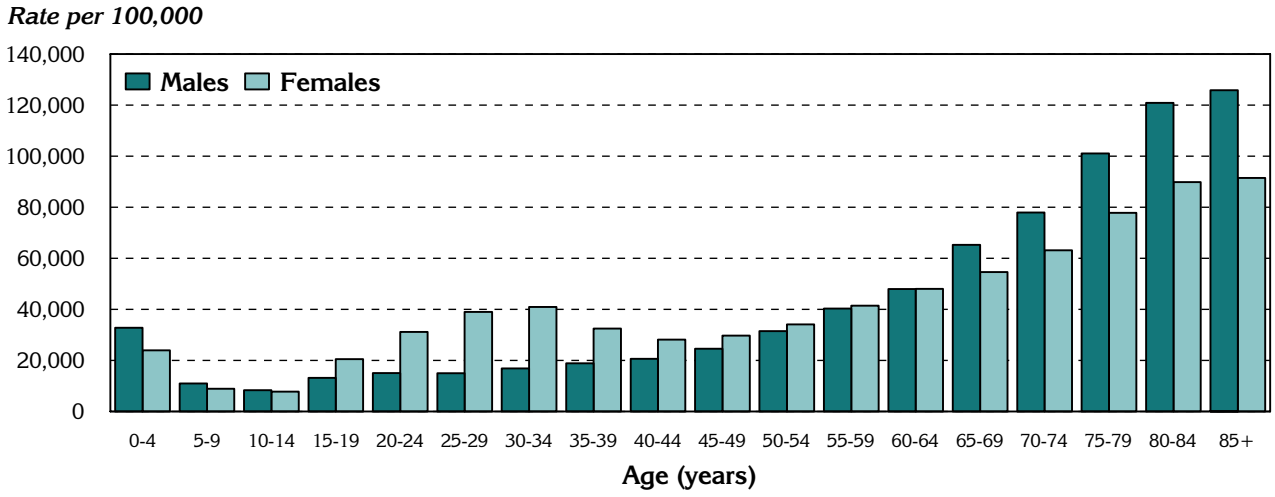
Figures 7.3 to 7.5 show the rates of admission per 100,000 population to public acute and private hospitals of residents of South Australia, for each five-year age group.

Females accounted for just over half (54.9%) of all admissions in 2003/2004 (Figure 7.3). However, this pattern is not consistent across all age groups. The largest divergence in admission rates for males and females occurs in the 25 to 29 year age group, with the female rate 2.6 times that for males.

The difference in rates in the 20 to 24 (2.1 times), 30 to 34 (2.4 times) and 35 to 39 (1.7 times) year age groups were slightly smaller, but female admission rates were still well above those for males. The higher admission rates at these ages largely reflect episodes of hospitalisation for childbirth and associated admissions.

In contrast, admission rates for males were higher than for females at ages 0 to 14 years (most notably at ages 0 to 4, with males' rates 1.4 times higher), and from age 65 (with the greatest disparities in admission rates at ages 75 to 84 years with a differential of 1.3; and at 85 years and over, with a differential of 1.4).

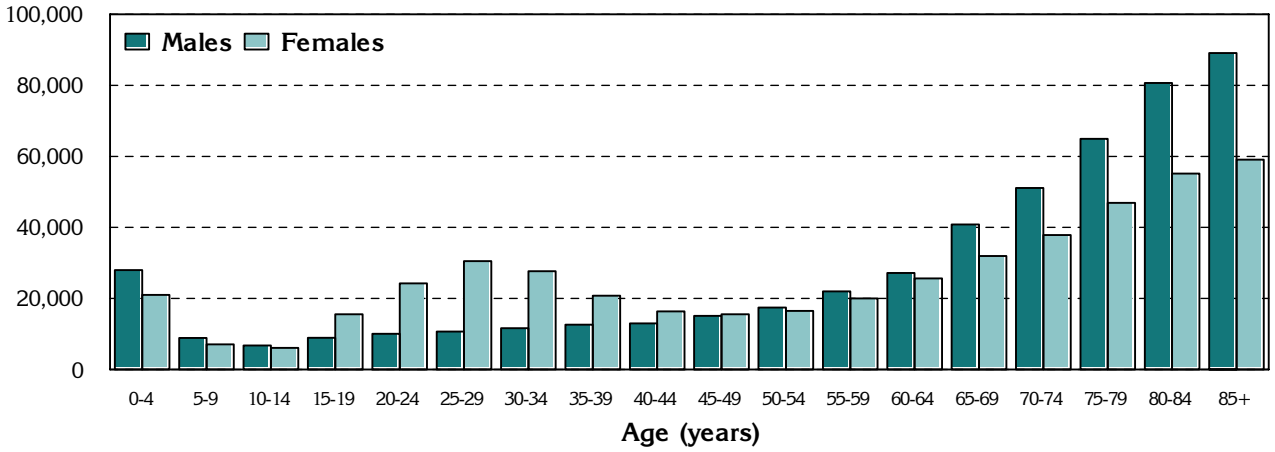
Figure 7.3: Admissions to public acute and private hospitals, by age and sex, South Australia, 2003/2004



The profile of admissions to public acute hospitals (Figure 7.4) is markedly similar to that for all admissions (Figure 7.3). Higher rates of admissions of females are evident from the 15 to 19 year age group through to the 45 to 49 year age group. Male admission rates are highest at the youngest ages, and from the 50 to 54 year age group, onwards.

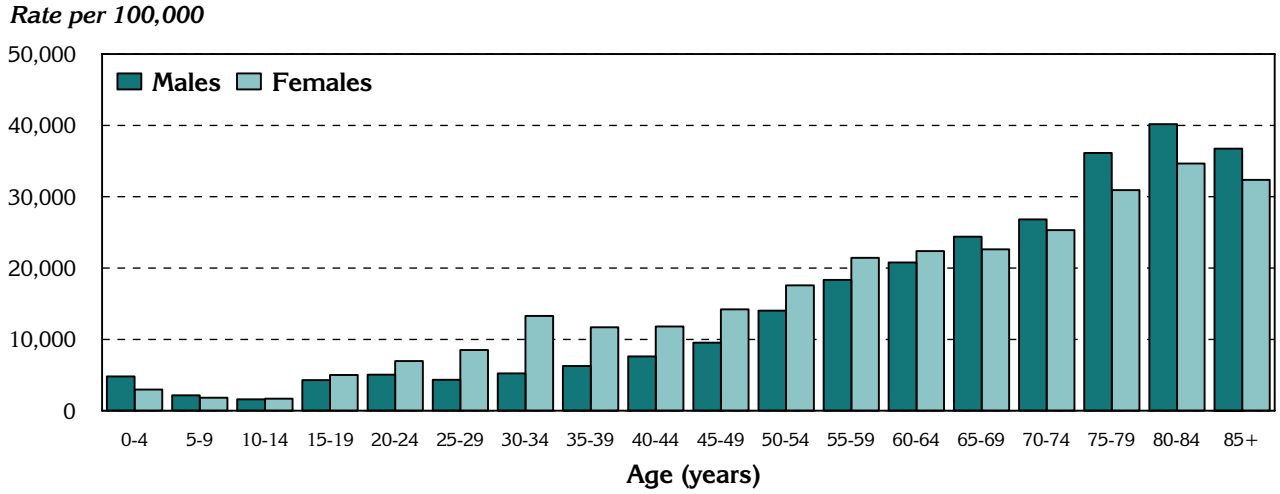
Overall, private hospital admissions accounted for 36.0% of all admissions analysed for South Australia. Females make greater use of private hospitals than do males, with admissions to private hospitals representing 37.1% of all female admissions studied (compared with 34.7% for males) and accounting for 56.5% of private hospital admissions (53.9% in public acute hospitals).

Figure 7.4: Admissions to public acute hospitals, by age and sex, South Australia, 2003/2004



The pattern of admissions to private hospitals by age and sex (Figure 7.5) is again similar to that in the previous graphs. The most noticeable differences are the lower overall rates of admission and the decreased differential between males and female admissions among those aged 15 to 44 years.

Figure 7.5: Admissions to private hospitals, by age and sex, South Australia, 2003/2004



Differences related to area of residence

In addition to the differences described above (as to variations in admission rates between population groups), there have, for many years, been notable variations in admission rates between residents of Metropolitan Adelaide and country South Australia. Generally, admission rates are higher for country residents than they are for city residents, when allowance is made for country residents admitted to city hospitals (and for the much smaller number of admissions of city residents to country hospitals). Examples of these differences can be seen throughout this chapter. However, the differential is now considerably less than it has been in the past, as a result of the substantially stronger growth in admission rates for residents of Metropolitan Adelaide; this is discussed on page 387, in relation to public acute and private hospitals, and also in relation to the variables mapped on subsequent pages.

Some suggested reasons for the higher admission rates of country residents include the following factors.

Isolation and distance

Factors such as distance and the isolation of people living in these, often remote, areas are important. In country areas, people are more likely to be admitted 'for observation' than to be sent home, if their usual residences are a significant distance from the hospital.

Higher risks of injury

A higher proportion of the population of country areas is engaged in activities in agriculture and the mining industry, which have relatively high rates of accidents and injuries, often leading to hospitalisation. A higher rate of motor vehicle traffic accidents for people living in rural and remote areas, who are driving both longer distances and more frequently, is also a contributing factor.

Limited range of, and access to, community-based care and respite care services

In the absence of a full range of community-based care, respite care and other services, hospitals in country areas often have a 'surrogate' caring role. This includes, in some instances, admitting people who would otherwise go to specialist psychiatric hospitals; or providing the respite care found in other types of institutions in major urban centres for the aged and younger people with physical and intellectual disabilities. There are also occasions where the circumstances of individuals or families are such that they do not have adequate resources and/or support available, leading to hospital admission. For example, a child of a single parent, living in a country town where there are limited family or community support services, is more likely to be admitted to hospital for a minor condition, or for observation. This type of situation is often referred to as a 'social admission'.

Ready availability of beds

There is clear evidence that if there is a ready supply of hospital beds, they will be used; this is particularly likely to occur when linked with a lack of appropriate alternative services as mentioned above. Generally more beds are available in country areas, per head of population, than in city hospitals.

Differences related to Indigenous status

In addition to the greater burden of ill health noted earlier, higher rates of hospitalisation are evident for the Indigenous population in some country areas with relatively larger Indigenous populations. This is generally not so for the **Northern and Far**

Western region where, despite a relative large Indigenous population, admission rates are among the State's lowest. The low rates arise from a mix of factors, including the lack of hospitals in the area, with admissions that do occur being to hospitals in Alice Springs or in Adelaide, and often not being correctly linked back to the region. This is also likely to be an issue for other areas with relatively large Indigenous populations, keeping the admission rates lower than they actually are.

Explanatory notes

Classification of hospitals

Hospitals can be classified as 'acute hospitals' or 'psychiatric hospitals'. Acute hospitals are those which

> "*provide at least minimal medical, surgical or obstetrical services for inpatients, and which provide round-the-clock comprehensive qualified nursing services as well as other necessary professional services. They must be licensed by the State health authority controlled by government departments. Most of the patients have acute conditions or temporary ailments and the average stay per admission is relatively short*" (AIHW 1999).

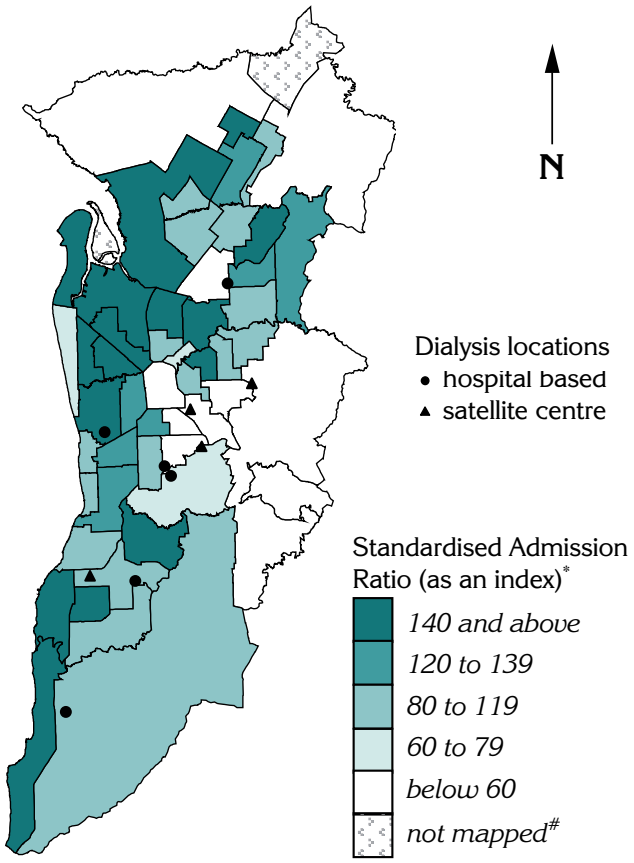
Acute hospitals are further classified as 'public' (those hospitals recognised under the Medicare agreement, plus Veterans' Affairs' hospitals) or 'private'. Psychiatric hospitals mainly provide treatment and care to patients with psychiatric, mental or behavioural disorders. Public psychiatric hospitals treat people with the most severe psychiatric conditions and are not included in this analysis (this group tends to be mainly older people and to have longer lengths of stay). Public acute and private (acute and psychiatric) hospitals treat people with less severe psychiatric conditions[5] and are included in the analysis.

Coverage

Hospital admissions' data presented here include episodes of hospitalisation in public acute and private (acute and psychiatric) hospitals. All admissions have been included, with the exception of same day admissions for renal dialysis.

Same day admissions for renal dialysis have been excluded as they cover many repeat visits by a relatively small number of patients, who may have several admissions in a week. Further, an examination of the data has, in the past, suggested that some patients have changed address to live close to the location of renal dialysis facilities, thus distorting the patterns of use by address of usual residence. The current pattern (Map 7.28) suggests that although the western and north-western SLAs still predominate in the rates, the effect described above may have lessened, as dialysis has been provided at more locations.

Map 7.28: Same day admissions for renal dialysis, metropolitan regions, 2003/2004



*Index shows the number of admissions of people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data for Torrens Island are mapped with Port Adelaide: Gawler not mapped

Removing these admissions from the analysis resulted in the exclusion of 51,491 admissions in 2003/2004, ten per cent of all admissions and 17.1% of same day admissions (Table 7.34). In this way, the major distorting influence is removed, but the large number of other same day admissions is included. It should be noted that admissions for renal dialysis which were excluded were those admissions specifically for dialysis (i.e. for continuous ambulatory dialysis). Admissions, during which renal dialysis was undertaken as an integral component of the episode, are included.

It should also be noted that the acute episodes analysed include repeat admissions, although not to the extent occurring among same day patients (in particular same day admissions for chemotherapy, or renal dialysis).

[5]A small number of public acute hospitals have dedicated psychiatric units. Patients treated in these hospitals (but not in the psychiatric unit) as well as in private hospitals may, at the end of their hospital episode, be given a diagnosis indicating their principal condition was a psychiatric disorder. These cases are included in the maps in this atlas.

Table 7.34: Hospital admissions by principal diagnosis and procedure, South Australia, 2003/2004

Principal diagnosis/procedure	Same day		Overnight		Total	
	No.	%	No.	%	No.	%
Principal diagnosis						
Infectious and parasitic diseases	1,784	0.7	5,403	2.0	7,187	1.4
Cancer						
lung cancer	409	0.2	1,436	0.5	1,845	0.4
cancer of the female breast	264	0.1	1,485	0.5	1,749	0.3
Total cancer	24,341	10.0	19,864	7.3	44,205	8.6
Mental disorders						
psychosis	2,815	1.2	11,868	4.4	14,683	2.9
neurotic, personality or other mental disorder	788	0.3	3,720	1.4	4,508	0.9
Total mental disorders	3,611	1.5	15,611	5.7	19,222	3.7
Circulatory system diseases						
ischaemic heart disease	3,973	1.6	22,095	8.1	26,068	5.1
Total circulatory system diseases	8,788	3.6	28,359	10.4	37,147	7.2
Respiratory system diseases						
bronchitis, emphysema or asthma	1,114	0.5	9,753	3.6	10,867	2.1
0 to 4 year olds	890	0.4	4,989	1.8	5,879	1.1
Total respiratory system diseases	4,088	1.7	26,865	9.9	30,953	6.0
Accidents, poisonings and violence	9,605	4.0	25,053	9.2	34,658	6.7
All causes (excl. renal dialysis)						
males	111,099	45.8	121,362	44.6	232,461	45.1
females	131,740	54.2	150,784	55.4	282,524	54.9
Public acute hospitals (excl. renal dialysis)	142,620	58.7	186,821	68.6	329,441	64.0
Private acute & psychiatric hospitals (excl. renal dialysis)	100,219	41.3	85,325	31.4	185,544	36.0
Total admissions (excl. renal dialysis)	242,839	100.0	272,146	100.0	514,985	100.0
Total admissions						
admissions for renal dialysis	58,707	19.5	11	0.0	58,718	10.2
all other admissions	242,839	80.5	272,146	100.0	514,985	89.8
Total admissions (incl. renal dialysis)	301,546	100.0	272,157	100.0	573,703	100.0

Change in number and rate of hospital admissions

Over the period 1992/1993 to 2003/2004, there was strong growth in hospital admissions, with notable changes in the mix of admission type, sector of service provider and location of patient residence (Table 7.35).

Overall, admissions have increased by 36.5% over this eleven-year period; when adjusted for population growth, the increase is 25.9%.

By admission type

Growth in same day admissions (excluding admissions for renal dialysis) accounts for all of the increase in admissions over this eleven-year period. The number of admissions has increased by 143.5%, and is still more than double the number in 1992/1993, after adjusting for population growth (an increase of 124.6%). At the same time, admissions involving an overnight stay have declined by 2.0% (9.6% when adjusted for population growth).

In 1992/1993, renal dialysis accounted for 28,652 same day admissions, over and above the 71,091 same day admissions for other reasons; by 2003/2004, the respective figures were 58,707 and 184,132.

Thus, while same day admissions (excluding those for renal dialysis) have increased by 143.5%, admissions for renal dialysis have also shown a notable increase, of 104.9% (89.0% when adjusted for population growth).

By sector

The strongest growth has been in the private sector, with admissions up by almost two thirds (61.3%), or nearly one half (48.8%) after allowing for population growth. The public sector growth rate was substantially lower, at one quarter (25.6%, or 15.8% allowing for population growth).

Growth in the private sector has come from same day admissions, with declines in overnight stays (217.4%; 192.8% after adjusting for population growth), compared with a growth of 109.2% (93.0% after adjusting for population growth).

By residence of the patient

Overall, the rate of growth in admission rates from 1992/1993 to 2003/2004 for city residents (43.5%) was 2.4 times higher than that for country residents (20.7%); the respective rates after adjusting for population growth were 30.9% and 14.8%, with a smaller differential, of 2.1 times.

The difference in growth of city to country rates in the public sector is substantially greater, with an increase (after adjusting for population change) of 23.0% for city residents, compared with 5.3% for country residents.

Growth in admission rates to private hospitals of country residents were, however, substantially (69.0%) higher than for city residents over this period (74.2% compared to 43.9%).

After allowing for population change, growth is almost exclusively driven by the increase in same day admissions, for both city and country residents, and for public and private hospitals. Admission rates for city residents admitted overnight were down by 7.9% (at the same time as same day admission rates more than doubled, to be up by 130.8%); for country residents, overnight admissions were down by 12.7%. In Metropolitan Adelaide, there were declines in both public and private rates of overnight admissions (down by 7.0% and 9.3% respectively). Residents of country South Australia also had fewer admissions to public hospitals per head of population (16.6%); in contrast, admission rates to private hospitals for country residents increased by 13.0%.

The rate of growth in renal (same day) admissions was also higher for city residents, up by 94.5% compared with strong growth of 56.7% for country residents (both after allowing for population growth), a differential of 1.7 times.

Table 7.35: Change in hospital admissions by admission type, South Australia, 1992/1993 to 2003/2004

Per cent change

Admission type	Hospital type	Metropolitan Adelaide		Country South Australia		South Australia	
		No.	Rate	No.	Rate	No.	Rate
Same day	**Total**	153.0	130.8	117.5	106.9	143.5	124.6
	Public	119.8	100.3	88.4	79.6	109.2	93.0
	Private	207.3	180.7	290.3	269.8	217.4	192.8
	Renal	111.1	94.5	69.3	56.7	104.9	89.0
Overnight	**Total**[1]	1.0	-7.9	-8.2	-12.7	-2.0	-9.6
	Public	2.0	-7.0	-12.5	-16.6	-3.8	-11.2
	Private	-0.8	-9.3	19.3	13.0	2.2	-5.7
Total	**Total**	43.5	30.9	20.7	14.8	36.5	25.9
	Public	34.9	23.0	10.5	5.3	25.6	15.8
	Private	57.6	43.9	83.9	74.2	61.3	48.8
	Renal	110.9	94.3	69.3	56.7	104.7	88.8

[1]**Includes a small number of renal patients staying overnight**

Data issues

Data mapped

The analysis presented in this report has been restricted to admissions for all causes, separately for public acute and private hospitals, and for females and males. Admission rates for selected diagnoses (based on the patient's principal diagnosis) and selected procedures (based on the patient's principal procedure) can be found on the PHIDU website at: www.publichealth.gov.au.

Measure mapped

Standardised admission ratios (SARs) have been calculated at the SLA level by indirect age standardisation; the ratios are presented as an index, with ratios elevated above the State ratio expressed as index numbers of 101, or higher; and those below the State ratio expressed as index numbers of 99, or lower. An SAR of 120 for an SLA indicates that there were 20% more admissions from that SLA than were expected from the State rates. An SAR of 90 indicates that there were ten per cent fewer admissions from that SLA than would be expected from the State rates. A description of the technique of standardisation is in Appendix 1.3.

For ease of reading, SARs are on occasion referred as being 'above' or 'below' the State average, rather than as being higher or lower than 'expected from the State rates'.

Admissions of Indigenous peoples

Identification of Aboriginal and Torres Strait Islander peoples in hospital inpatient collections is inconsistent and subject to variability between geographic regions: this is relevant to admission rates of people from **Northern and Far Western** region (see Caution, page 385). Readers are also referred to the South Australian Aboriginal Health Partnership's *Knowing the Business* (SAAHP 2005).

Individuals and events

Background

The lack of a unique patient identifier[6] in the hospital inpatient data collection means that data are only available for the number of events (admissions), rather than for the individuals admitted. Although many hospitals have unique identifiers for patients within their hospitals, such identifiers are not available between hospitals. Thus, the data presented in this chapter include repeat admissions and are, therefore, of limited value in describing patterns of hospitalisation for individuals, as it is unclear to what extent variations between areas in admission rates reflect, for example, more individuals being admitted to hospital, more admissions per person, or a mix of both. This issue also applies to other collections of service utilisation data, such as general medical practitioner services.

Where data are available for both individuals and admissions, they can be used to determine if area-based analyses using admissions (rather than individuals) provide valid results. Such data are available from the Western Australian Data Linkage System (WADLS)[7]: an analysis of the WADLS showed there to be both more people admitted from Perth's most disadvantaged areas (13% more), and more admissions per person from these areas (47% more), than from the most advantaged areas (Glover et al. 2004).

A recent development has made it possible to obtain an insight into the extent to which the Western Australian data reflects the situation in South Australia. Inpatient data with a unique patient identifier are now available for a majority of the public acute hospitals in Metropolitan Adelaide from Oacis, an open architecture clinical information system. An application was made to the Departmental Human Research Ethics Committee for access to de-identified, unit record data for individuals admitted to hospital in 2003/2004.

The application was approved and the requested data were supplied by the Clinical Reporting Repository, Department of Health, for the Flinders Medical Centre, Lyell McEwin Hospital, Noarlunga Health Service, The Queen Elizabeth Hospital, Royal Adelaide Hospital, Repatriation General Hospital and the Women's and Children's Hospital. Data for Modbury Hospital and private hospitals in Adelaide are not available. Patients from outside of Metropolitan Adelaide attending the hospitals were analysed separately.

The data were age-standardised, and an analysis was undertaken to identify geographic variations in hospital episodes for individuals and admissions. A summary of the results of the analysis follows.

Results for public acute hospitals: residents of Metropolitan Adelaide

In 2003/2004, there were 188,291 admissions of Adelaide residents to public acute hospitals (excluding Modbury) in Metropolitan Adelaide (including Gawler), representing 103,077 individuals or an average of 1.8 admissions per person (Table 7.36). Of the 103,077 individuals admitted, just over two thirds (67.0%) were admitted once, a further 18.0% were admitted twice, 6.7% were admitted three times and 8.3% were admitted four or more times. This latter group (with four or more admissions) accounted for almost one third (32.5%) of all admissions: the potential impact of this group on the use of resources is highlighted by a comparison with individuals admitted only once who, despite representing two thirds of individuals, accounted for only 36.7% of admissions.

Thus, the one third of Metropolitan Adelaide residents with multiple admissions to these hospitals accounted for almost two thirds of admissions (the actual proportions are 33.0% of individuals and 63.3% of admissions, respectively).

Country residents

Some 17,113 people from country South Australia (excluding Gawler) were admitted to these hospitals, with a total of 28,741 admissions (Table 7.36). This is an average of 1.7 admissions per person, just below the average for residents of Metropolitan Adelaide (1.8 admissions per person). Country residents admitted to these hospitals differed most from city residents in having proportionately more single admissions to these public acute hospitals in 2003/2004, with fewer people being recorded with three admissions.

Additional details on country residents admitted to the hospitals in this analysis are on page 385.

[6] Many hospitals have unique identifiers for patients within their hospitals; however, such identifiers are not available between hospitals. Although potentially useful as an identifier, the Medicare number is not always included on inpatient records; nor is it a unique identifier, with some individuals having more than one number.

[7] The aim of WALDS is to link unit records from core Department of Health data collections and other relevant data collections, for the purpose of providing linked data to support health planning, purchasing, evaluation and public health research.

Table 7.36: Metropolitan Adelaide residents admitted to selected public acute hospitals[1], 2003/2004

Admissions per person	Metropolitan Adelaide (incl. Gawler)				Country South Australia			
	Individuals		Admissions		Individuals		Admissions	
	No.	%	No.	%	No.	%	No.	%
Individuals admitted								
• once	69,104	67.0	69,104	36.7	12,511	73.1	12,511	43.5
• twice	18,605	18.0	37,210	19.8	2,753	16.1	5,506	19.2
• three times	6,902	6.7	20,706	11.0	823	4.8	2,469	8.6
• four or more times	8,466	8.3	61,271	32.5	1,026	6.0	8,255	28.7
Total	**103,077**	**100.0**	**188,291**	**100.0**	**17,113**	**100.0**	**28,741**	**100.0**

[1]Excludes Modbury Hospital and admissions for renal dialysis

The number of admissions per individual shows little variation at the SLA level (Table 7.37), although admissions are somewhat lower in Southern region than in Central Northern region.

Table 7.37: Admissions and individuals admitted to selected public acute hospitals[1], Metropolitan Adelaide residents, 2003/2004

SLA	Admissions		Individuals		Admissions per individual
	No.	Ratio	No.	Ratio	
Charles Sturt - Inner East	5,135	128	2,612	121	1.97
Charles Sturt - North-East	6,542	145	3,462	141	1.89
Playford - East Central	3,139	131	1,745	127	1.80
Playford - Elizabeth	6,692	142	3,590	138	1.86
Playford - West Central	2,716	140	1,480	133	1.84
Port Adelaide Enfield - Coast	6,696	136	3,429	128	1.95
Port Adelaide Enfield - Port	7,381	160	3,868	154	1.91
Salisbury - Central	5,255	131	2,931	128	1.79
Salisbury - Inner North	4,694	132	2,643	130	1.78
Central Northern Adelaide[2]	**123,909**	**96**	**66,601**	**94**	**1.86**
Onkaparinga - Hackham	3,391	167	2,041	177	1.66
Onkaparinga - Morphett	6,303	161	3,486	157	1.81
Onkaparinga - North Coast	5,262	172	2,885	174	1.82
Onkaparinga - South Coast	5,222	144	3,210	159	1.63
Onkaparinga - Woodcroft	6,604	130	3,792	133	1.74
Southern Adelaide[2]	**61,517**	**113**	**34,829**	**117**	**1.77**

[1]Excludes Modbury Hospital and admissions for renal dialysis
[2]Region total includes all other SLAs in the region

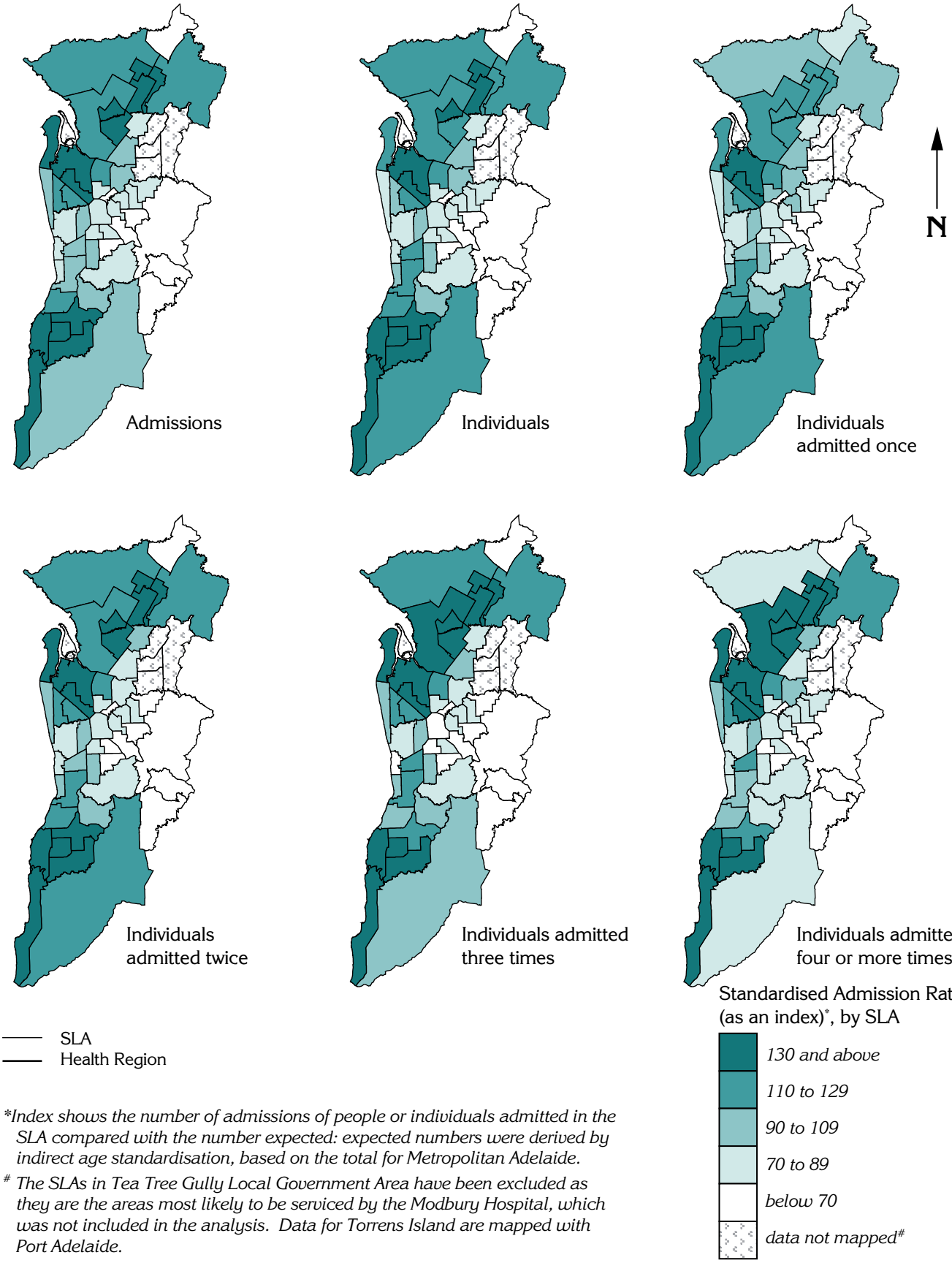
Admission rates vary considerably across Metropolitan Adelaide (Map 7.29), with the north-western, outer northern and outer southern SLAs generally having the highest admission rates; SLAs in and around the city centre and to the east and south-east have the lowest rates.

There is little difference in the geographic distribution of total admissions and admissions of individuals, other than a slightly higher concentration of the highest rates in a smaller number of SLAs, in the north-west and outer northern suburbs. These are Port Adelaide Enfield - Port and Charles Sturt - North-East in the north-west; and the Playford SLAs of - Elizabeth and - East and - West Central; and Salisbury - Inner North in the outer north (Table 7.37).

These variations show that people resident in these areas, together with the Onkaparinga SLAs (other than the - Hills SLA), were the most likely to be admitted to hospital in this 12-month period. No SLA has moved more than one range in the legend mapped, with most movement being down a range, and very few moving up a range.

Further analysis of these data could be undertaken, including by age, for Aboriginal and Torres Strait Islander peoples, and by diagnosis.

Map 7.29
Hospital episodes for total admissions and individuals admitted, Metropolitan Adelaide, 2003/2004



*Index shows the number of admissions of people or individuals admitted in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on the total for Metropolitan Adelaide.

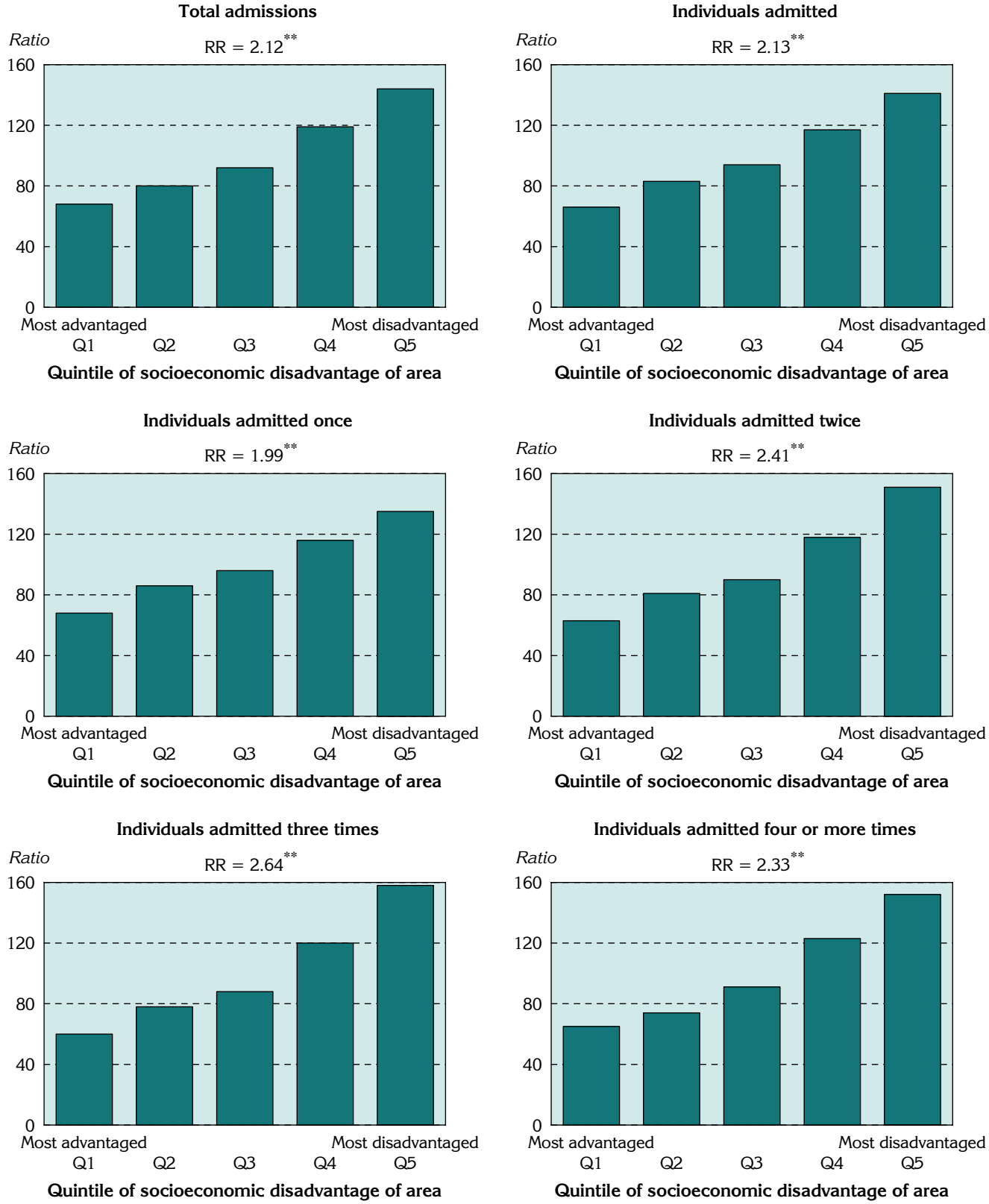
The SLAs in Tea Tree Gully Local Government Area have been excluded as they are the areas most likely to be serviced by the Modbury Hospital, which was not included in the analysis. Data for Torrens Island are mapped with Port Adelaide.

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Figure 7.6 shows the distribution of total admissions and individuals admitted (by number of admissions) by quintile of socioeconomic disadvantage of area for residents of Metropolitan Adelaide. There is a clear socioeconomic gradient in each of the graphs, from the lowest rates in the most advantaged areas to the highest in the most disadvantaged areas.

For total admissions, there are more than twice the numbers of admissions in the most disadvantaged areas (Quintile 5) than in the advantaged areas (Quintile 1), a rate ratio of 2.12. The differential in rates for individuals admitted increases from 2.13 among residents admitted once, to 2.64 and 2.33 among those admitted three, and four or more times, respectively.

Figure 7.6: Hospital episodes for admissions and individuals, by quintile of socioeconomic disadvantage of area, Metropolitan Adelaide, 2003/2004



Results for public acute hospitals: residents of country South Australia

The data presented here are limited to details of admissions of country residents to the public acute hospitals in Metropolitan Adelaide listed on page 434. Table 7.38 shows the number of admissions, the number of individuals admitted and the number of admissions per individual in 2003/2004 of country residents to these hospitals.

The number of admissions per individual for country residents is slightly lower (8.2%) than for metropolitan residents.

Table 7.38: Admissions and individuals admitted to selected public acute hospitals[1] in Metropolitan Adelaide, by health region, 2003/2004

Region	Admissions		Individuals		Admissions per individual
	Number	Ratio	Number	Ratio	
Hills Mallee Southern	10,644	67	6,393	73	1.66
Wakefield (includes Gawler)	8,682	60	4,973	62	1.75
South East	2,721	32	1,629	34	1.67
Northern & Far Western	2,943	41	1,731	43	1.70
Eyre	1,966	41	1,175	44	1.67
Mid North	2,048	44	1,267	50	1.62
Riverland	1,708	35	1,071	40	1.59
Country SA (incl. Gawler)	**30,712**	**51**	**18,239**	**55**	**1.68**
Central Northern Adelaide	**123,909**	**96**	**66,601**	**94**	**1.86**
Southern Adelaide	**61,517**	**113**	**34,829**	**117**	**1.77**
Metropolitan Adelaide (incl. Gawler)[2]	**187,421**	**100**	**102,574**	**100**	**1.83**

[1]Excludes Modbury Hospital and admissions for renal dialysis

[2]Regional totals do not add to the Metropolitan Adelaide total, which includes Gawler

Admissions to public acute and private hospitals, 2003/2004

Patients are usually admitted to hospital either as an emergency or as a booked admission. Emergency admission patients are admitted through the A & E Department. These are seriously injured or ill patients who need immediate treatment. Most patients come into hospital as a booked admission, either as a day patient or an inpatient. A day patient comes to hospital for a test or treatment and returns home the same day. They usually will not stay overnight. An inpatient stays overnight or for a few days at the hospital.

The increase in admission rates of 25.9% over the eleven years from 1992/1993 (Table 7.39) has been due to the increase in same day admissions, and has occurred despite a decline in overnight stays (Table 7.34, page 387). The increase is substantially more marked (2.1 times) in Metropolitan Adelaide (30.9%) than in country South Australia (14.8%), where the rate declined between 1992/1993 and 2003/2004. This has resulted in a substantial decline in the differential in admission rates between country and city residents, from 19.5% in 1992/1993 to 4.8% in 2003/2004: the difference was two per cent in 1998/1999.

Table 7.39: Admissions[1] to public acute and private hospitals

Age-standardised rate per 100,000

Section of State	1992/1993	1998/1999	2003/2004	Per cent change[2]
Metropolitan Adelaide (incl. Gawler)	25,436	33,230	33,297	30.9
Country	30,401	33,894	34,907	14.8
South Australia	26,788	33,390	33,722	25.9

[1] Includes admissions to public acute hospitals, private hospitals and day surgery facilities, including admissions of same day patients, other than for renal dialysis

[2]Per cent change over eleven years in the rate of admissions to public acute and private hospitals

Metropolitan regions

There were 368,141 admissions to public acute and private hospitals of residents of the metropolitan regions (excluding Gawler) in 2003/2004, one per cent fewer than expected from the State rates (a standardised admission ratio (SAR) of 99**); this reflects the higher admission rate for country residents compared with city residents (Table 7.40). Overall, females accounted for over half (55.7%) of admissions.

The correlation analysis shows a weak association at the SLA level between high rates of hospital admission and socioeconomic disadvantage (Table 8.1).

Central Northern Adelaide

The SAR for the Central Northern region was two per cent lower than expected (an SAR of 98**), with 255,027 admissions. This near-average ratio is comprised of both very high and very low ratios, from an SAR of 162** (1,435 admissions) for residents of Playford - Hills, to an SAR of 70** (4,529 admissions) for Prospect (see graph opposite).

High SARs were recorded the SLAs of Salisbury Balance (161**, 2,768) and - Inner North (108**, 7,393); Adelaide Hills - Ranges (128**, 4,033); Playford - Elizabeth (119**, 10,493), - West Central (111**, 4,085) and - West (110**, 2,771); West Torrens - West (114**, 12,706); Port Adelaide Enfield - Coast (109**, 10,668) and - Inner (107**, 7,782); and Charles Sturt - Inner East (108**, 8,500) and - North-East (108**, 9,680).

Large numbers of admissions were recorded in Tea Tree Gully - South (11,379 admissions, an SAR of 101); Salisbury - South-East (10,977, 97**) and - Central (8,719, 101); Port Adelaide Enfield - East (10,666, 104**) and - Port (9,077, 100); and Charles Sturt - Coastal (10,655, 92**) and - Inner West (9,517, 104**).

Metropolitan SLAs with low ratios included Prospect (an SAR of 70**, 4,529 admissions), Playford - East Central (73**, 4,070), West Torrens - East (77**, 6,510), Burnside - North-East (79**, 6,294), Tea Tree Gully - Central (81**, 6,635), Campbelltown - East (83**, 7,713), Walkerville (85**, 2,278), Unley - East (88**, 6,180) and Norwood Payneham St Peters - West (89**, 5,515).

Southern Adelaide

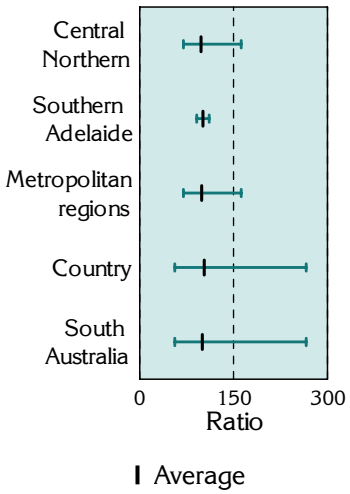
There were 113,114 admissions of residents of the Southern region, one per cent more than expected. Onkaparinga - North Coast (an SAR of 111**, 6,983 admissions) and - Morphett (109**, 8,396), and Marion - North (110**, 11,013) had elevated ratios.

Large numbers of admissions were recorded for the SLAs of Marion - Central (12,641, 100), Onkaparinga - Woodcroft (10,765, 103**) and - Reservoir (7,297, 98), Holdfast Bay - North (8,067, 102), and Mitcham - West (8,032, 97) and - Hills (7,979, 96**).

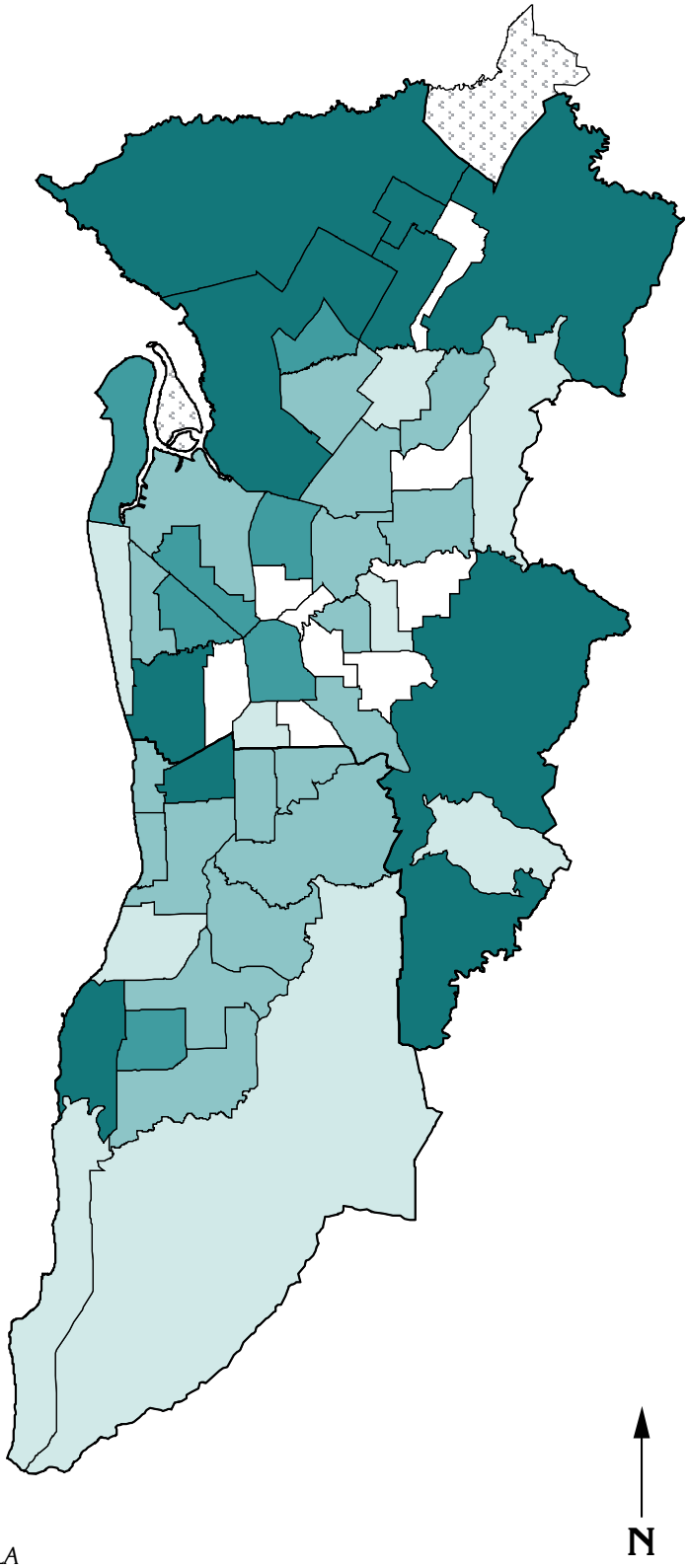
Relatively low ratios were calculated for Onkaparinga - Hills (91**, 3,389 admissions) and - South Coast (94**, 7,175), and Marion - South (91**, 5,420).

* **indicates statistical significance: see page 24**

Map 7.30
Admissions to public acute and private hospitals, metropolitan regions, 2003/2004



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Admission Ratio (as an index)*, by SLA

- *110 and above*
- *105 to 109*
- *95 to 104*
- *90 to 94*
- *below 90*
- *data not mapped#*

**Index shows the number of admissions of people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#*Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map*

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Country South Australia

There were 146,714 admissions to public acute and private hospitals in country South Australia, in 2003/2004, three per cent more than expected from the State rates. The majority of these admissions were to public acute hospitals (78.8%). The **Northern and Far Western** and **Mid North** regions had the highest regional admission ratios in the State (Table 7.40 and Map 7.31).

Table 7.40: Regional totals, admissions to public acute and private hospitals, 2003/2004

Region	No.	SAR
Hills Mallee Southern	37,360	95**
Wakefield[1]	34,797	102**
South East	19,405	95**
Northern & Far Western	19,112	125**
Eyre	11,657	104**
Mid North	12,296	113**
Riverland	12,087	109**
Country SA	**146,714**	**103****
Central Northern	255,027	98**
Southern	113,114	101**
Metropolitan regions	**368,141**	**99****
South Australia	**514,985**	**100**

[1]**Gawler is included in the Wakefield region**

The correlation analysis shows there is a weak association at the SLA level between high rates of hospital admission and socioeconomic disadvantage (Table 8.2).

The Regions

The highest regional standardised admission ratio (SAR) was recorded in **Northern and Far Western**, with 25% more admissions than expected from the State rates (an SAR of 125**, 19,112 admissions). Within the region, elevated ratios were recorded for people living in Port Augusta (an SAR of 146**, 6,357), Whyalla (131**, 9,099), Unincorporated Flinders Ranges (122**, 419), Unincorporated Whyalla (131**, 9,099), Flinders Ranges (121**, 739) and Coober Pedy (119**, 865). The SAR in Roxby Downs had a low 85** (752 admissions), reflecting the higher socioeconomic status of this mining town. The very low ratio in Unincorporated Far North (an SAR of 56**, with 774 admissions) is likely to be due to patients being admitted to hospitals outside of the region, rather than fewer residents being admitted to hospital (see note *Differences due to Indigenous status*, page 385).

Mid North had an elevated SAR of 113** (12,296 admissions). Port Pirie Balance (an SAR of 136**, 1,623 admissions), Peterborough (133**, 958), Barunga West (124**, 1,244) and Orroroo/Carrieton (123**, 460) all had highly elevated ratios. A large number of admissions were recorded for Port Pirie - City (5,191, 108**). Unincorporated Pirie had a low SAR of 62** (49 admissions).

The **Riverland** had an SAR of 109** (12,087 admissions). Unincorporated Riverland had a very highly elevated ratio of 166** (although a small number of 66 admissions). Elevated ratios were also recorded for Berri and Barmera - Barmera (an SAR of131**, 1,974) and - Berri (112**, 2,484), and Renmark Paringa - Paringa (114**, 617).

There were four per cent more admissions than expected in **Eyre** (an SAR of 104**, 11,657). Unincorporated West Coast had the most highly elevated SAR in country South Australia, with more than two and a half times the expected number of admissions (an SAR of 266**, 429 admissions). Port Lincoln recorded 4,240 admissions (an SAR of 92**). Franklin Harbor had over one quarter fewer admissions than expected (73**, 343).

The admission rate in **Wakefield** was slightly above average (102**, 34,797 admissions), with elevated ratios in Yorke Peninsula - North (117**, 3,382), Wakefield (109**, 2,491), Barossa - Tanunda (108**, 1,746), Clare and Gilbert Valleys (108**, 3,133) and Copper Coast (108**, 4,580). Large numbers of admissions were recorded for Gawler (5,940, an SAR of 94**) and Light (3,388, 96**).

South East had five per cent fewer admissions than expected, an SAR of 95** (19,405 admissions). Elevated ratios were recorded in Tatiara (128**, 2,871) and Wattle Range - West (112**, 3,371). Naracoorte and Lucindale had 2,871 admissions (an SAR of 106**). Grant (59**, 1,450), Lacepede (86**, 693) and Mount Gambier (87**, 6,618) all had low ratios.

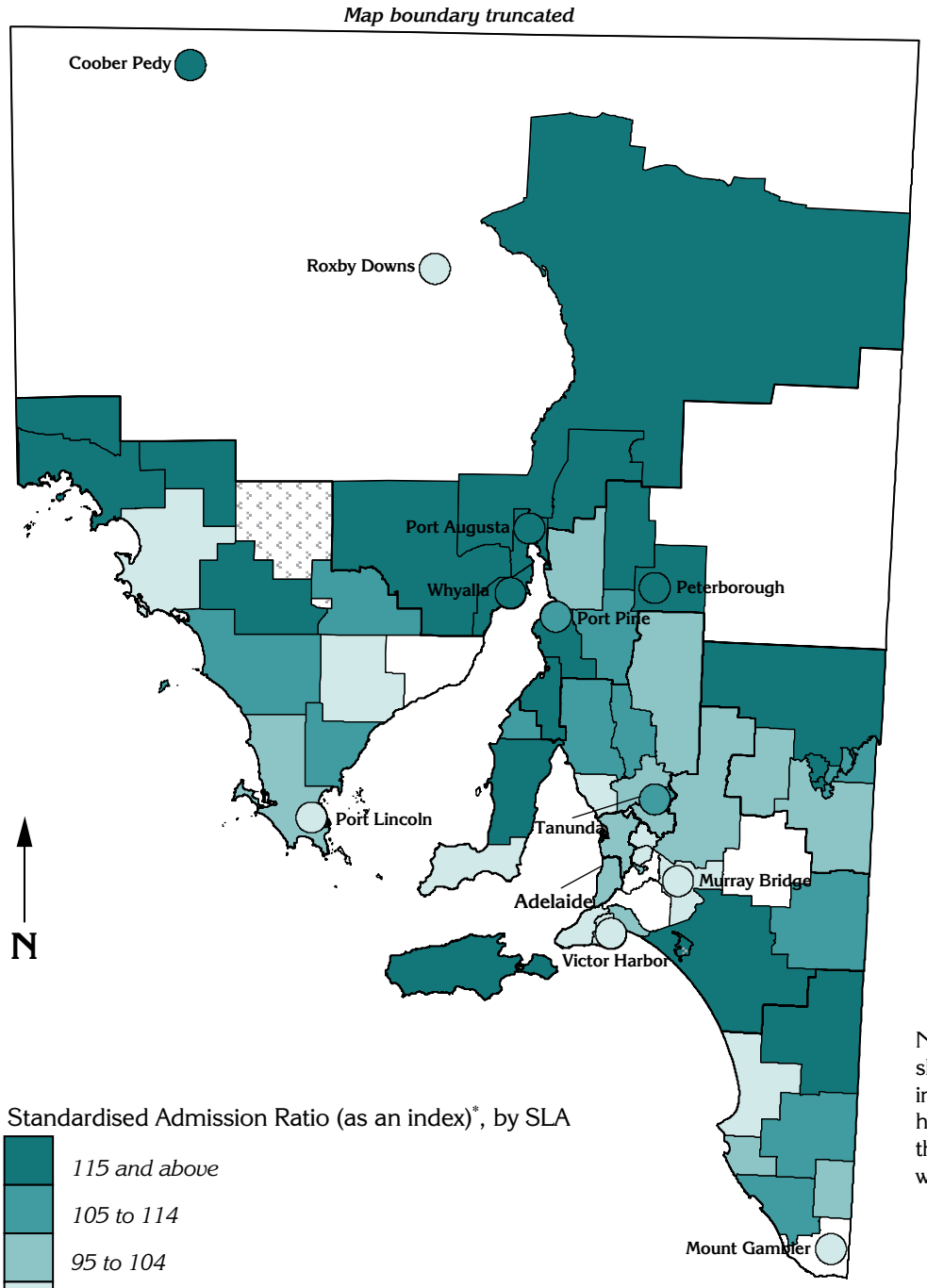
Hills Mallee Southern also had an SAR of 95** (37,360 admissions). The Coorong (141**, 2,746), Kangaroo Island (119**, 1,716) and Southern Mallee (114**, 856) all had elevated ratios. Relatively large numbers of admissions were recorded in Murray Bridge (5,469 admissions, an SAR of 93**), Mount Barker - Central (4,938, 98), Victor Harbor (4,814, 93**), Alexandrina - Coastal (3,737, 96*) and Mid Murray (3,120, 104*). The SLAs of Mount Barker Balance (an SAR of 66**, 1,645 admissions), Alexandrina - Strathalbyn (82**, 2,418), Karoonda East Murray (83**, 339) and Yankalilla (85**, 1,208) had low ratios.

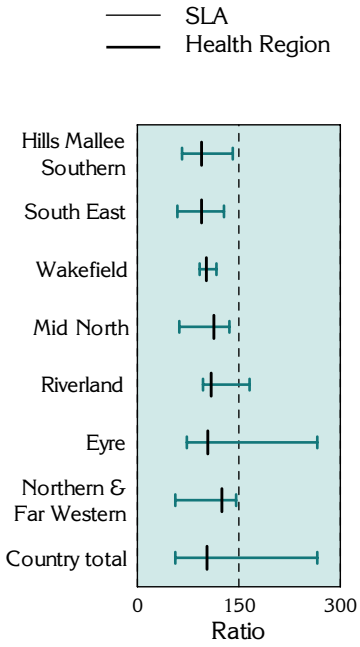
ASGC Remoteness classification

SARs for public acute and private hospitals decreased from 99** in the Major Cities areas to a low of 95** in the Inner Regional areas, before increasing to a high of 114** in the Outer Regional areas. An above-average ratio was also recorded in the Very Remote areas (an SAR of 112**).

* **indicates statistical significance: see page 24**

Map 7.31
Admissions to public acute and private hospitals, South Australia, 2003/2004





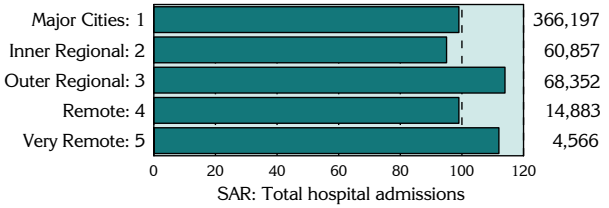
Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Standardised Admission Ratio (as an index)*, by SLA

- *115 and above*
- *105 to 114*
- *95 to 104*
- *85 to 94*
- *below 85*
- *data not mapped#*

*Index shows the number of admissions of people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped because the SLA has a population of less than 100



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Admissions to public acute hospitals, 2003/2004

Patients are usually admitted to public acute hospitals either as an emergency or as a booked admission. Emergency admission patients are admitted through the A & E Department. These are seriously injured or ill patients who need immediate treatment. Most patients come into public acute hospitals as a booked admission, either as a day patient or an inpatient. Rates of admission to public acute hospitals have increased by 15.8% over the eleven years to 2003/2004, largely in Metropolitan Adelaide (23.0%, compared with 5.3% in country areas: Table 7.41) and far less so than for private hospitals (48.8%: Table 7.43, page 402). As noted for total admissions, the increase has been driven by increased same day admissions, at a time of decline in overnight stays. Rates of admission of both city and country residents showed small declines in 2003/2004, when compared with 1998/1999.

Table 7.41: Admissions[1] to public acute hospitals

Age-standardised rate per 100,000

Section of State	1992/1993	1998/1999	2003/2004	Per cent change[2]
Metropolitan Adelaide (incl. Gawler)	15,798	21,660	19,427	23.0
Country	26,169	29,031	27,569	5.3
South Australia	18,622	23,440	21,572	15.8

[1]Includes same day admissions other than for renal dialysis

[2]Per cent change over eleven years in the rate of admissions to public acute hospitals

Metropolitan regions

The rate of admissions of residents of the metropolitan regions (excluding Gawler) to public acute hospitals in 2003/2004 was ten per cent below the State rates (a standardised admission ratio (SAR) of 90**, 213,760 admissions) (Table 7.42). The map (Map 7.32) shows a striking separation between areas with the highest and those with the lowest ratios. Just as striking is a comparison with many of the maps of socioeconomic disadvantage, in Chapters 4 and 5.

The correlation analysis also shows there is a very strong association at the SLA level between high rates of admission to public acute hospitals and socioeconomic disadvantage; the strength of this association is summarised by the very strong inverse correlation (-0.89) with the Index of Relative Socio-Economic Disadvantage (Table 8.1).

Central Northern Adelaide

Residents of the Central Northern region had ten per cent fewer public acute hospital admissions than expected from the State rates (an SAR of 90**, 150,520). This near-average ratio represents both highly elevated and very low ratios, from 79% above average (Salisbury Balance) to 61% below average (Burnside - North-East) (see graph opposite).

In addition to the highly elevated ratio in Salisbury Balance (an SAR of 179**, 2,036 admissions), other SLAs with highly elevated ratios included Playford - West Central (155**, 3,758) and - Elizabeth (151**, 8,596), Port Adelaide Enfield - Port (131**, 7,634) and Charles Sturt - North-East (126**, 7,275). Salisbury - Central had a less highly elevated ratio (an SAR of 118**, 6,576 admissions). SLAs with a large number of admissions include Salisbury - South-East (7,842 admissions, an SAR of 108**), Port Adelaide Enfield - Coast (6,942, 112**), Tea Tree Gully - South (6,798, 95**), Port Adelaide Enfield - East (6,569, 100), Charles Sturt - Inner West (5,582, 96**) and Port Adelaide Enfield - Inner (5,345, 114**).

A large number of SLAs in the regions had very low ratios, including Burnside - North-East (an SAR of 39**, 1,962 admissions) and - South-West (51**, 2,518); Walkerville (49**, 824); Adelaide Hills - Central (50**, 1,282) and - Ranges (63**, 1,252); Campbelltown - East (61**, 3,625) and - West (84**, 4,001); Playford - Hills (61**, 347); Unley - West (61**, 2,278) and - East (63**, 2,862); Charles Sturt - Coastal (66**, 4,849); Norwood Payneham St Peters - West (70**, 2,814) and - East (77**, 3,130); Tea Tree Gully - Central (70**, 3,682), - North (82**, 4,066) and - Hills (75**, 1,884); West Torrens - East (73**, 3,985) and - West (82**, 5,808); and Prospect (55**, 2,300).

Southern Adelaide

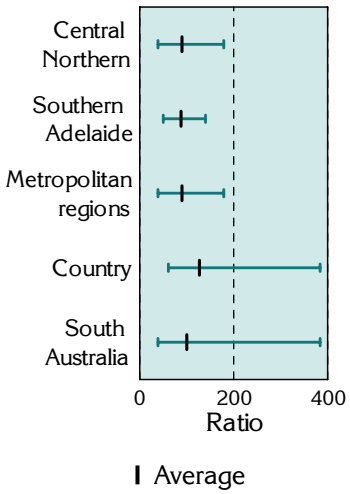
There were 12% fewer admissions to public acute hospitals than expected in the Southern region, with an SAR of 88** (63,240 admissions). The SLAs of Onkaparinga - North Coast (140**, 5,611), - Morphett (128**, 6,365) and - Hackham (121**, 3,239) all had ratios above the State average.

Large numbers of residents in the SLAs of Marion - Central (7,388 admissions, an SAR of 92**), Onkaparinga - Woodcroft (6,541, 97**) and Marion - North (6,327, 99) were admitted to public acute hospitals in 2003/2004.

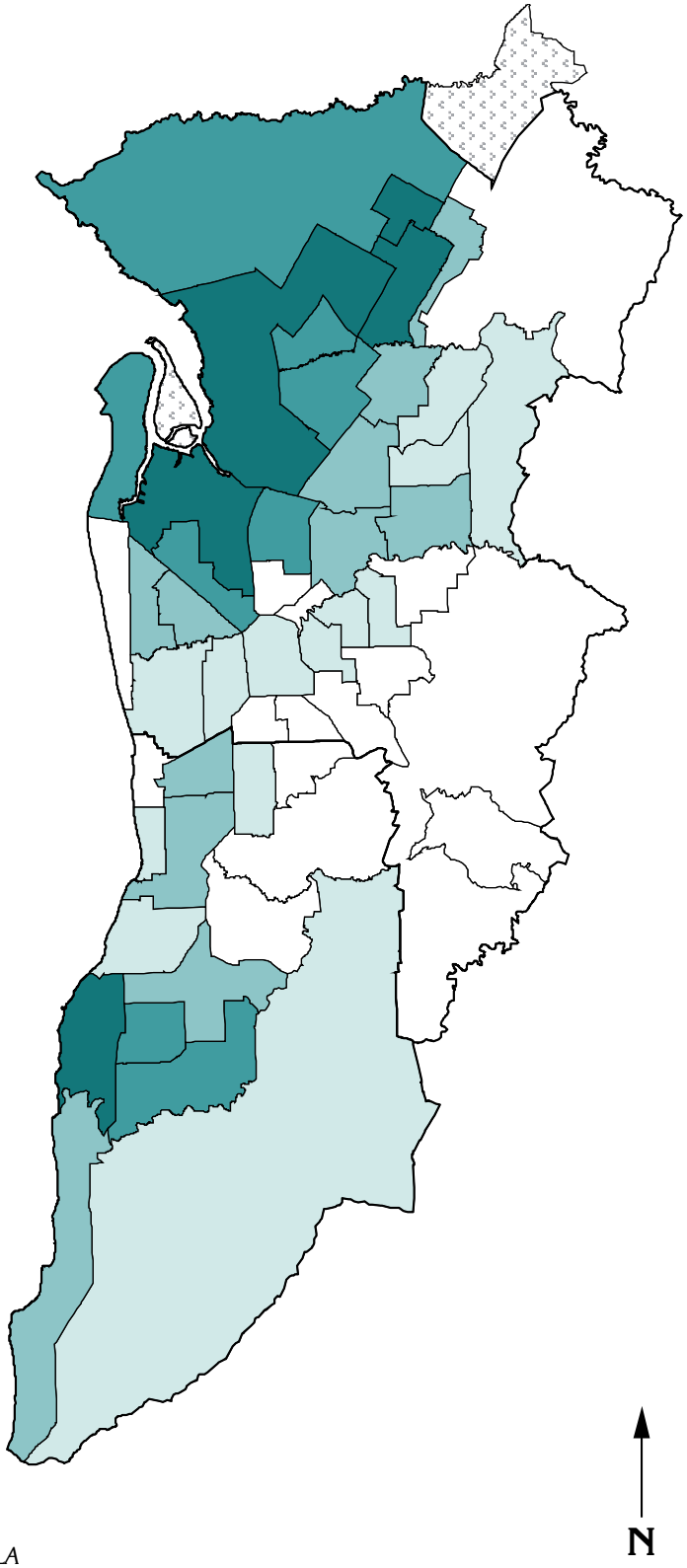
The lowest ratios in the south were recorded for people living in Mitcham - North-East (an SAR of 50**, 1,820 admissions), - West (74**, 3,934) and - Hills (64**, 3,333); Holdfast Bay - North (65**, 3,250) and - South (70**, 2,596); Onkaparinga - Reservoir (69**, 3,289) and - Hills (72**, 1,699); and Marion - South (77**, 2,934).

* **indicates statistical significance: see page 24**

Map 7.32
Admissions to public acute hospitals, metropolitan regions, 2003/2004



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Admission Ratio (as an index)*, by SLA

- *130 and above*
- *110 to 129*
- *90 to 109*
- *70 to 89*
- *below*
- *data not mapped#*

**Index shows the number of admissions of people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Country South Australia

The standardised admission ratio (SAR) for admission of residents of country South Australia to a public acute hospital in 2003/2004 was 27% above the State average (an SAR of 127**, and 115,674 admissions). In contrast, the rate of admission to private hospitals is 40% below the State average. Highly elevated ratios are recorded throughout much of the State, with the lowest ratios in SLAs nearer Adelaide, and in the far north-west (Table 7.42 and Map 7.33 and graph opposite).

Table 7.42: Regional totals, admissions to public acute hospitals, 2003/2004

Region	Number	SAR
Hills Mallee Southern	26,314	106**
Wakefield[1]	25,711	119**
South East	15,500	118**
Northern & Far Western	17,483	176**
Eyre	10,056	140**
Mid North	10,535	152**
Riverland	10,075	142**
Country SA	**115,674**	**127****
Central Northern	150,520	90**
Southern	63,240	88**
Metropolitan regions	**213,760**	**90****
South Australia	**329,441**	**100**

[1]**Gawler is included in the Wakefield region**

The correlation analysis shows there is a weak association at the SLA level between high rates of admission to public hospitals and socioeconomic disadvantage (Table 8.2).

The Regions

Northern and Far Western region had the highest regional SAR, with 76% more admissions to public acute hospitals than expected from the State rates (an SAR of 176**, 17,483 admissions). A number of SLAs in this region had highly elevated ratios, including Port Augusta (206**, 5,766 admissions), Whyalla (195**, 8,682), Unincorporated Whyalla (187**, 101), Coober Pedy (176**, 804), Unincorporated Flinders Ranges (170**, 377) and Flinders Ranges (165**, 638). Low ratios were mapped in Unincorporated Far North (an SAR of 63**, 591 admissions) and Roxby Downs (86**, 524).

The SAR in **Mid North** was also highly elevated, at 52% above the State average (an SAR of 152**, 10,535 admissions). The majority of SLAs in this region had highly elevated SARs, including Peterborough (192**, 867), Port Pirie Balance (176**, 1,329), Orroroo/Carrieton (167**, 392), Port Pirie - City (154**, 4,756), Barunga West (149**, 941), Northern Areas (137**, 1,444) and Mount Remarkable (119**, 773).

Riverland had an SAR of 142** (10,075 admissions), 42% more admissions than expected for a region of its population's size and age composition. Highly elevated ratios were mapped in the SLAs of Berri and Barmera - Barmera (179**, 1,718) and - Berri (139**, 1,985); Renmark Paringa - Renmark (143**, 2,453) and - Paringa (128**, 440); Unincorporated Riverland (135, 34); and Loxton Waikerie - West (131**, 1,352) and - East (130**, 2,093).

The rate of admissions to public acute hospitals of **Eyre** residents was similarly high, an SAR of 140** (10,056 admissions). The majority of SLAs in this region had very highly or highly elevated ratios; these included Unincorporated West Coast (384**, 404), Ceduna (204**, 1,441), Le Hunte (166**, 506), Tumby Bay (151**, 937), Elliston (143**, 329), Kimba (134**, 360), Streaky Bay (129**, 538), Port Lincoln (127**, 3,784), Cleve (120**, 494) and Lower Eyre Peninsula (114**, 980).

Residents of **South East** had an admission rate 18% above the State average (an SAR of 118**, 15,500 admissions). Wattle Range - West (157**, 3,029), Naracoorte and Lucindale (139**, 2,418), Wattle Range - East (136**, 895), Tatiara (127**, 1,844) and Mount Gambier (112**, 5,500) all had elevated ratios. Grant had a low SAR of 61** (955 admissions).

The SAR for the **Wakefield** region was 19% above average (119**, 25,711 admissions). Elevated ratios were mapped in the SLAs of Clare and Gilbert Valleys (135**, 2,461), Barossa - Tanunda (132**, 1,364), Wakefield (132**, 1,918), Goyder (131**, 1,197), Yorke Peninsula - North (129**, 2,327), Barossa - Angaston (120**, 2,090), Copper Coast (118**, 3,160), Gawler (117**, 4,726) and Barossa - Barossa (114**, 1,702).

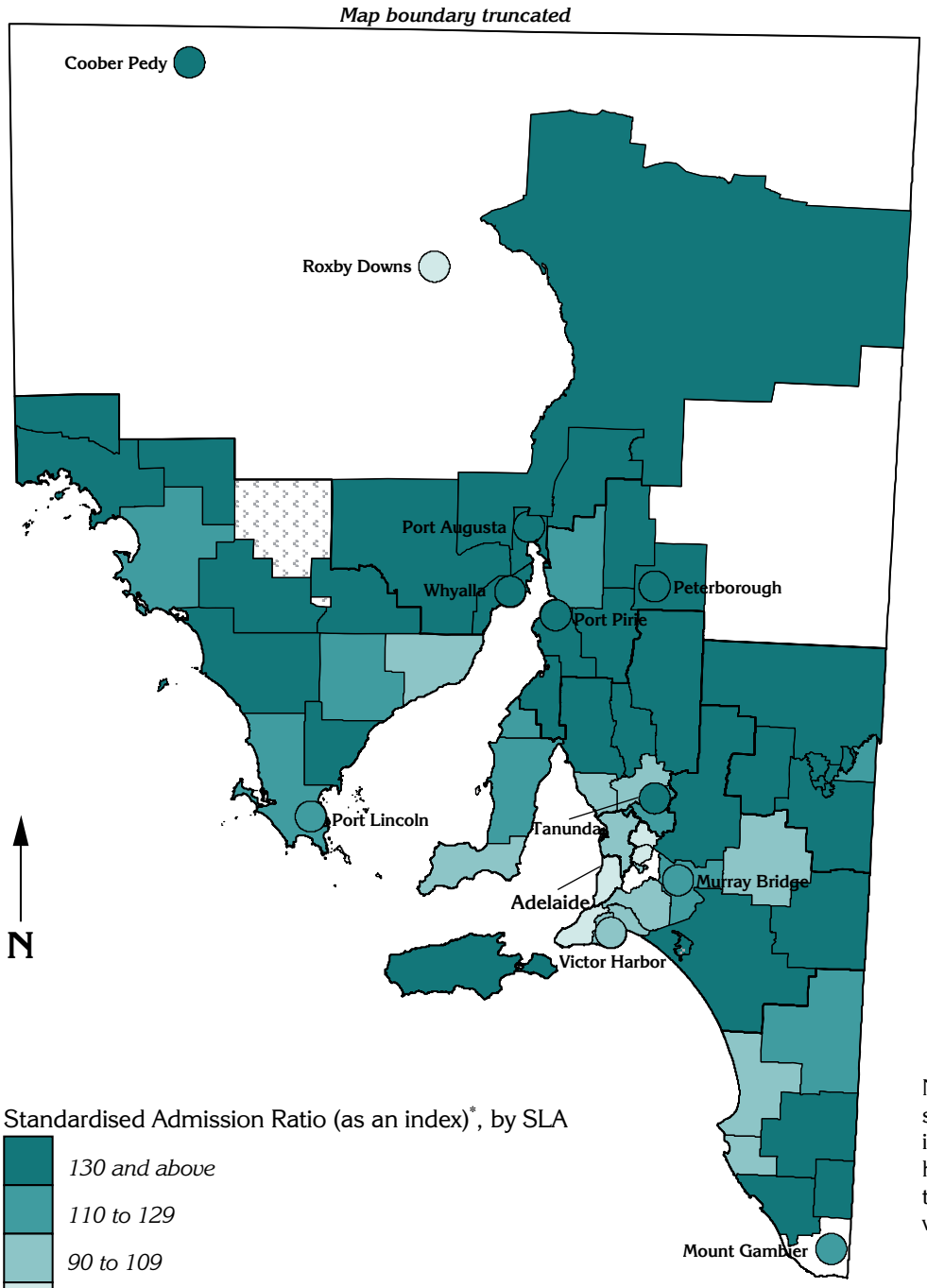
Hills Mallee Southern had a slightly higher SAR than expected (106**, 26,314). The Coorong (179**, 2,213), Kangaroo Island (162**, 1,479), Mid Murray (139**, 2,593), Southern Mallee (136**, 648) and Murray Bridge (122**, 4,574) all had highly elevated ratios. The SLAs of Mount Barker Balance (66**, 1,052), Adelaide Hills Balance (74**, 1,349) and - North (79**, 1,009), and Yankalilla (83**, 730) had fewer admissions than expected.

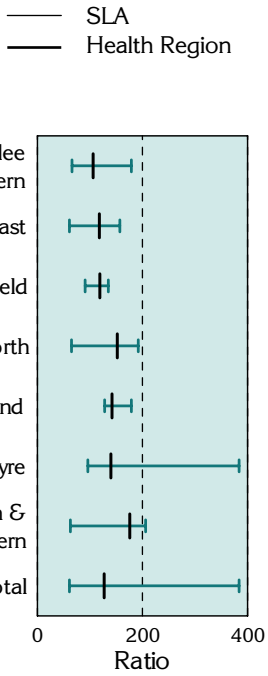
ASGC Remoteness classification

Rates of admission to public acute hospitals increased markedly by remoteness, from an SAR of 90** in Major Cities to 153** in the Very Remote areas: the continuous gradient in ratios is broken by the higher SAR of 149** in Outer Regional.

* **indicates statistical significance: see page 24**

Map 7.33
Admissions to public acute hospitals, South Australia, 2003/2004





Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

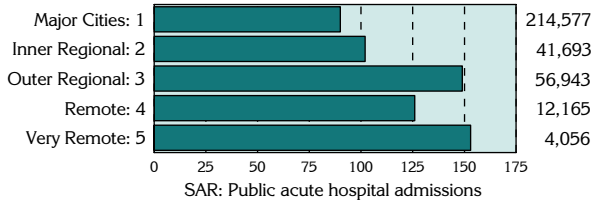
Standardised Admission Ratio (as an index)*, by SLA

- *130 and above*
- *110 to 129*
- *90 to 109*
- *70 to 89*
- *below 70*
- *data not mapped#*

**Index shows the number of admissions of people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data were not mapped because the SLA has a population of less than 100

ASGC Remoteness classification Admissions



Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Admissions to private hospitals, 2003/2004

Patients are admitted to hospital as an emergency or as a booked admission. Most patients come into private hospitals as a booked admission, either as a day patient or an inpatient. The majority of admitted patients have private health insurance to cover all or a majority of the cost of their hospital episode.

Admission rates to private hospitals have increased strongly over the eleven years to 2003/2004, for both city and country residents (Table 7.43); the greatest increase occurred over the second half of this period. The increases are higher than those for public acute hospitals (Table 7.41, page 398).

Table 7.43: Admissions[1] to private hospitals

Age-standardised rate per 100,000

Section of State	1992/1993	1998/1999	2003/2004	Per cent change[2]
Metropolitan Adelaide (incl. Gawler)	9,639	11,571	13,874	43.9
Country	4,232	4,863	7,371	74.2
South Australia	8,166	9,951	12,150	48.8

[1]**Includes same day admissions other than for renal dialysis**

[2]**Per cent change over eleven years in the rate of admissions to private hospitals**

Metropolitan regions

There were 154,381 admissions to private hospitals of residents of the metropolitan regions (excluding Gawler) in 2003/2004, a standardised admission ratio (SAR) of 115** (Table 7.44).

The map (Map 7.34) shows the widespread use of private hospitals by people across the metropolitan regions. Two thirds (67.3%) of the metropolitan SLAs had ratios above the State average, and 38.5% had ratios elevated by 25% or more: this compares with just 15.4% of SLAs with ratios 25% or more below the State average. The most disadvantaged SLAs have rates mapped in the two lowest ranges (see graph opposite).

The correlation analysis shows there is a strong association at the SLA level between high rates of admission to private hospitals and socioeconomic advantage (Table 8.1).

Central Northern Adelaide

Residents of Central Northern region had an admission rate to private hospitals 12% above the State average (an SAR of 112** and 104,507 admissions).

A large number of SLAs in the region had very highly elevated ratios. Playford - Hills had nearly three and a half times the expected number of admissions to private hospitals (an SAR of 340**, 1,088). Other SLAs with very highly to highly elevated ratios included Adelaide Hills - Ranges (237**, 2,781) and - Central (161**, 2,426); Burnside - South-West (175**, 5,095) and - North-East (147**, 4,332); West Torrens - West (171**, 6,898); Unley - West (152**, 3,186); and Walkerville (147**, 1,454). Highly elevated ratios were also mapped in Charles Sturt - Coastal (135**, 5,806); Norwood Payneham St Peters - East (134**, 3,035) and - West (122**, 2,701); Unley - East (133**, 3,318); Adelaide (132**, 2,218); Salisbury Balance (125**, 732); Campbelltown - East (120**, 4,088); Tea Tree Gully - North (120**, 3,219) and - Hills (119**, 1,772); and Charles Sturt - Inner West (118**, 3,935) and - Inner East (117**, 3,324).

In contrast, just one quarter of the expected number of admissions to private hospitals were recorded for residents of Playford - West Central (26**, 327 admissions). Other SLAs with low SARs included Playford - East Central (38**, 718), Port Adelaide Enfield - Port (44**, 1,443), Playford - Elizabeth (61**, 1,897), Salisbury - Central (71**, 2,143), Charles Sturt - North-East (75**, 2,405), Salisbury - South-East (77**, 3,135) and West Torrens - East (85**, 2,525).

Southern Adelaide

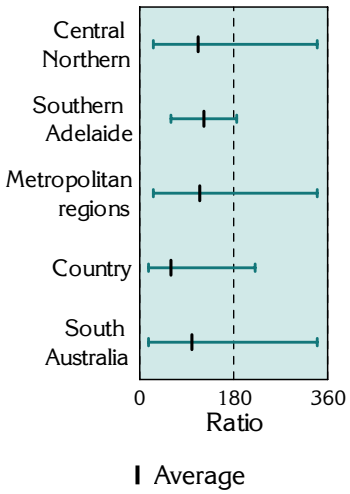
There was a higher standardised admission ratio in Southern region than in Central Northern region, an SAR of 123** (49,874 admissions). Highly elevated ratios were mapped in the SLAs of Mitcham - North-East (186**, 3,944), Holdfast Bay - North (167**, 4,817) and - South (153**, 3,301), Mitcham - Hills (152**, 4,646), Onkaparinga - Reservoir (149**, 4,008), Mitcham - West (139**, 4,098), Marion - North (131**, 4,686), Onkaparinga - Hills (123**, 1,690) and Marion - South (118**, 2,486).

The largest number of admissions to private hospitals from this region were recorded in Marion - Central (5,253 admissions, an SAR of 113**).

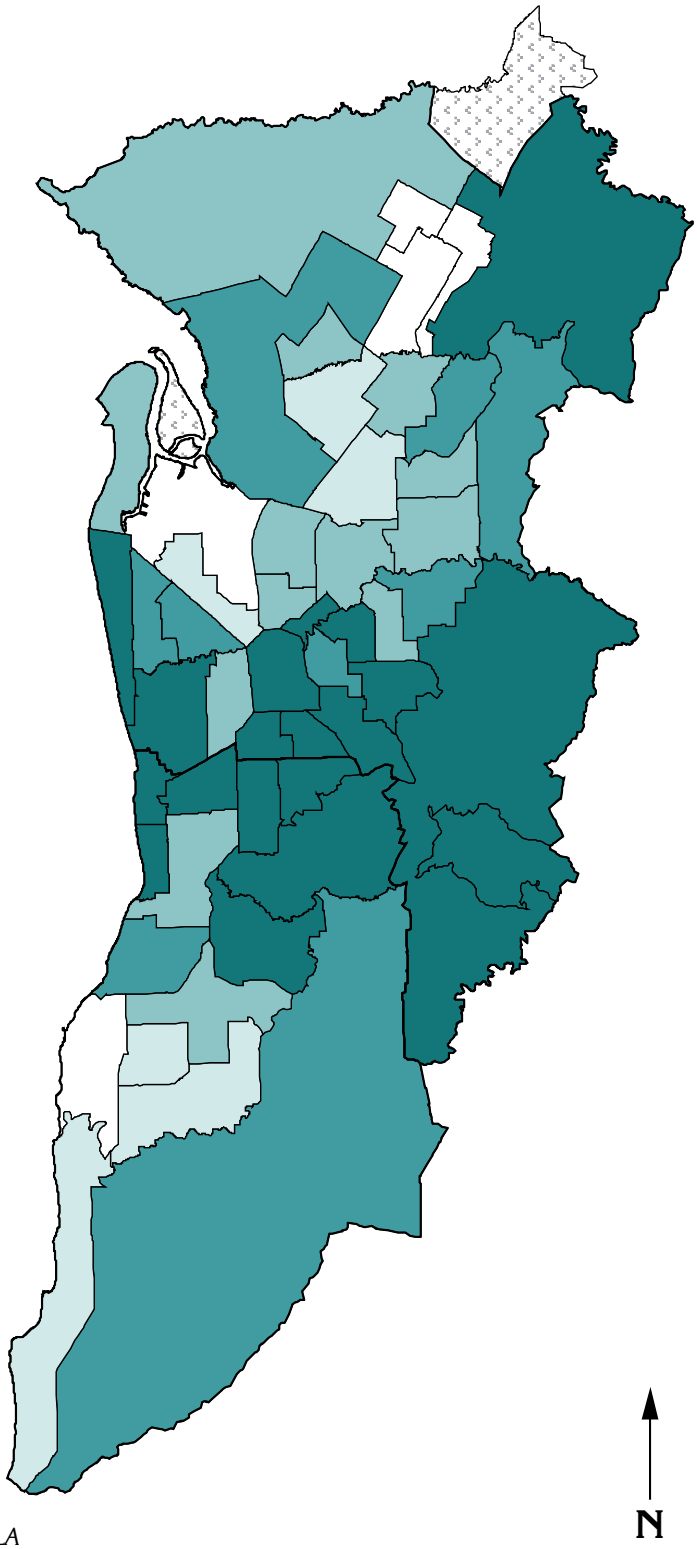
The SLAs with low ratios were all located in Onkaparinga, including - North Coast (60**, 1,372), - Hackham (71**, 1,057), - Morphett (74**, 2,031) and - South Coast (83**, 2,261).

* **indicates statistical significance: see page 24**

Map 7.34
Admissions to private hospitals, metropolitan regions, 2003/2004



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Admission Ratio (as an index)*, by SLA

- *130 and above*
- *115 to 129*
- *85 to 114*
- *70 to 84*
- *below 70*
- *data not mapped#*

**Index shows the number of admissions of people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Country South Australia

Residents of country South Australia had a very low rate of admission to private hospitals (a standardised admission ratio (SAR) of 60**, and 31,040 admissions), largely reflecting the lack of private hospitals in country areas.

There were low SARs throughout country areas, with SLAs not mapped in the lowest range generally being relatively close to Adelaide, with the notable exception of Riverland, Renmark Paringa - Renmark and, to a lesser extent, Roxby Downs (Map 7.35). Ratios at the regional level were all low (Table 7.44), with the lowest being those at greatest distance from the metropolitan regions.

Table 7.44: Regional totals, admissions to private hospitals, 2003/2004

Region	No.	SAR
Hills Mallee Southern	11,046	77**
Wakefield[1]	9,086	73**
South East	3,905	54**
Northern & Far Western	1,629	30**
Eyre	1,601	40**
Mid North	1,761	44**
Riverland	2,012	50**
Country SA	**31,040**	**60****
Central Northern	104,507	112**
Southern	49,874	123**
Metropolitan regions	**154,381**	**115****
South Australia	**185,544**	**100**

[1]**Gawler is included in the Wakefield region**

The correlation analysis shows there is a weak association at the SLA level between high rates of admission to private hospitals and socioeconomic advantage (Table 8.2).

The Regions

The highest SAR in country South Australia was recorded for residents of **Hills Mallee Southern** (an SAR of 77**, 11,046 admissions). Adelaide Hills Balance was the only SLA with an above average standardised admission ratio, with 24% more admissions to private hospitals than expected (an SAR of 124**, 1,266). A number of SLAs had low SARs, including Karoonda East Murray (37**, 57 admissions), Murray Bridge (42**, 895), Kangaroo Island (45**, 237) and Mid Murray (47**, 527).

In **Wakefield**, there were 27% fewer admissions than expected from the State rates (an SAR of 73**, 9,086 admissions). All of the SLAs in this region had below average rates of admission to private hospitals. The highest ratios were mapped in the SLAs of Yorke Peninsula - North (97, 1,055 admissions) and Mallala (92*, 733). Light had a relatively large number of 1,008 admissions (an SAR of 80**). SLAs with low ratios included Goyder (39**, 207) and Gawler (53**, 1,214).

There were just over half the number of admissions expected for a population of the size and composition of the **South East** region (an SAR of 54**, 3,905 admissions). Tatiara had 29% more admissions to private hospitals than expected (an SAR of 129**, 1,027). All other SLAs in the region had below average admissions, most notably Wattle Range - West (31**, 342 admissions), Mount Gambier (42**, 1,118) and Wattle Range - East (44**, 163).

The population of **Riverland** had half the State average number of admissions, with an SAR of 50** (2,012 admissions). Unincorporated Riverland had over twice the expected number with an SAR of 221** (32 admissions). Low ratios were mapped in the SLAs of Loxton Waikerie - East (an SR of 39**, 359), Renmark Paringa - Renmark (40**, 378) and Berri and Barmera - Barmera (47**, 256).

Mid North had less than half the expected number of admissions to private hospitals with an SAR of 44** (1,761 admissions). All of the SLAs in this region had below average admission rates, with the highest SAR mapping in Barunga West (81**, 303). Port Pirie - City had one quarter the expected number of admissions (an SAR of 25**, 435), followed by Peterborough (34**, 91) and Orroroo/Carrieton (49**, 68).

Eyre had a very low SAR, of 40** (1,601 admissions). Lower Eyre Peninsula had an SAR of 80** (394 admissions). A large proportion of the SLAs in this region had very low SARs, including Port Lincoln (28**, 456), Ceduna (28**, 107), Streaky Bay (32**, 74), Tumby Bay (33**, 122) and Franklin Harbor (35**, 60).

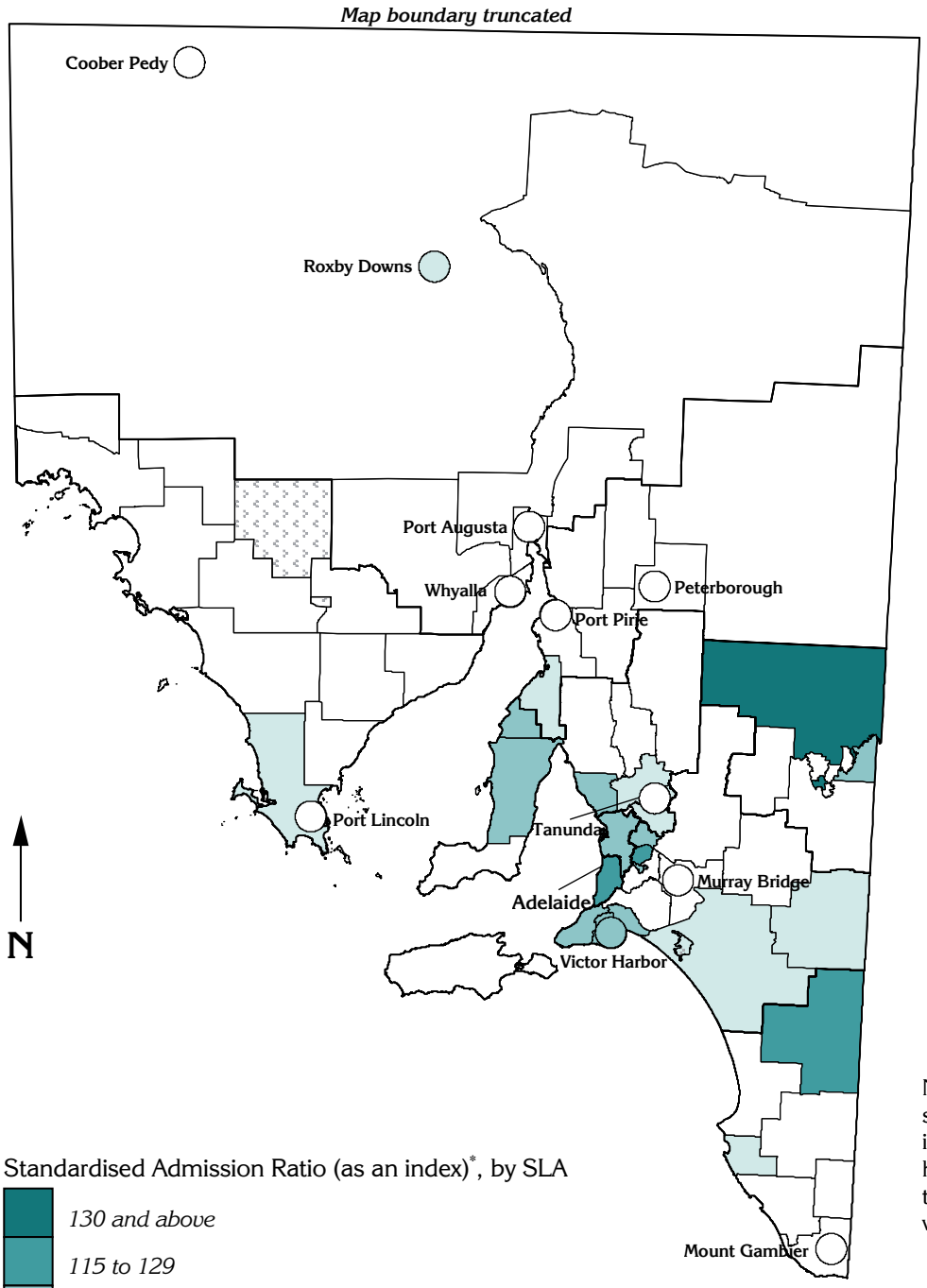
The lowest regional SAR for private hospital admissions was recorded for people in **Northern and Far Western** region (an SAR of 30**, 1,629 admissions). The highest SAR was mapped in Roxby Downs (83**, 228). Whyalla had the lowest SAR (17**, 417), followed by Unincorporated Whyalla (18**, six), Coober Pedy (22**, 61), Unincorporated Flinders Ranges (35**, 42) and Port Augusta (38**, 591).

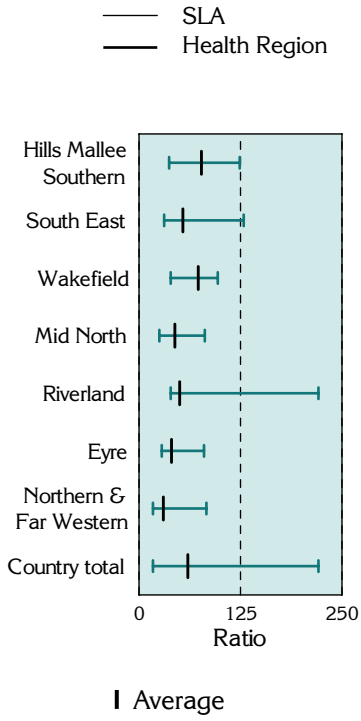
ASGC Remoteness classification

Residents of the Major Cities area accounted for the majority of admissions to private hospitals (81.8%) and had the only elevated SAR (113**), reflecting the greater availability of these facilities in the most accessible areas. Ratios in the other areas were all lower, dropping to an SAR of 36** in the Very Remote class.

* **indicates statistical significance: see page 24**

Map 7.35
Admissions to private hospitals, South Australia, 2003/2004





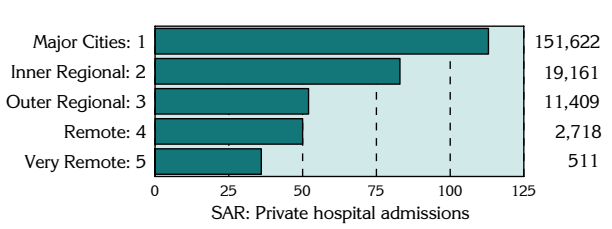
Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Standardised Admission Ratio (as an index)*, by SLA

- *130 and above*
- *115 to 129*
- *85 to 114*
- *70 to 84*
- *below 70*
- *data not mapped#*

**Expected numbers of admissions of people in the SLA were derived by indirect age-sex standardisation, based on SA totals*

#Data were not mapped because the SLA has a population of less than 100, or there were fewer than five admissions



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Admissions of males, 2003/2004

Patients are usually admitted to hospital either as an emergency or as a booked admission. Emergency admission patients are admitted through the A & E Department. These are seriously injured or ill patients who need immediate treatment. Most patients come into hospital as a booked admission, either as a day patient or an inpatient. A day patient comes to hospital for a test or treatment and returns home the same day. They usually will not stay overnight. An inpatient stays overnight or for a few days at the hospital.

Admission rates for males in Metropolitan Adelaide increased by 21.2% over the eleven years to 2003/2004, compared with a much lower 10.4% for country residents (Table 7.45). As a result, admission rates in country South Australia were only 4.8% higher than for males in the city in 2003/2004, compared with a gap of 20.4% in 1992/1993. The overall increase in rates in Metropolitan Adelaide included a decline from 1998/1999; rates in country South Australia showed little change between 1998/1999 and 2003/2004.

Table 7.45: Admissions[1] of males

Age-standardised rate per 100,000

Section of State	1992/1993	1998/1999	2003/2004	Per cent change[2]
Metropolitan Adelaide (incl. Gawler)	23,955	32,185	30,356	26.7
Country	28,830	31,552	31,819	10.4
South Australia	25,377	32,026	30,760	21.2

[1]Includes admissions to public acute hospitals, private hospitals and day surgery facilities, including admissions of same day patients, other than for renal dialysis

[2]Per cent change between 1992/1993 and 2003/2004 in the rate of admissions of males

Metropolitan regions

There was a slightly lower than expected standardised admission ratio (SAR) for males in the metropolitan regions, excluding Gawler (99**, 163,205 admissions) (Table 7.46). The most highly elevated SARs were located in the outer north, west and the outer east.

The correlation analysis shows there is a weak association at the SLA level between high rates of admissions of males and socioeconomic disadvantage (Table 8.1).

Central Northern Adelaide

There were 113,004 admissions of males living in Central Northern, two per cent fewer than expected from the State rates (98**).

Ratios in the region ranged from 41% above to 30% below the State average. The most highly elevated ratio in the metropolitan regions was in Salisbury Balance (141**, 1,132 admissions), followed by Playford - Hills (137**, 584), Adelaide Hills - Ranges (127**, 1,916), West Torrens - West (119**, 5,898), Playford - Elizabeth (114**, 4,468) and - West (113**, 1,368), and Adelaide (112**, 2,383).

Large numbers of admissions were recorded for males resident in Tea Tree Gully - South (5,120 admissions, an SAR of 102), Charles Sturt - Coastal (4,911, 92**), Salisbury - South-East (4,796, 94**), Port Adelaide Enfield - Coast (4,770, 108**) and - East (4,734, 104*), Charles Sturt - North-East (4,349, 109**) and - Inner West (4,349, 105**), and Port Adelaide Enfield - Port (4,131, 102).

The SLAs with fewer admissions of males than expected included Playford - East Central (70**, 1,710), Prospect (71**, 1,974), West Torrens - East (79**, 2,934), Burnside - North-East (79**, 2,760), Campbelltown - East (79**, 3,354), Tea Tree Gully - Central (80**, 2,942), Salisbury - North-East (86**, 2,681), Walkerville (88**, 1,042) and Unley - East (88**, 2,513).

Southern Adelaide

Males living in the Southern region had one per cent more admissions than expected from the State rates, with an SAR of 101 (50,201 admissions). The range of ratios within the region was narrower than in Central Northern (see graph opposite), from ten per cent above average in Marion - North (an SAR of 110**, 4,721 admissions), to ten per cent below average in Onkaparinga - Hills (an SAR of 90**, 1,592 admissions).

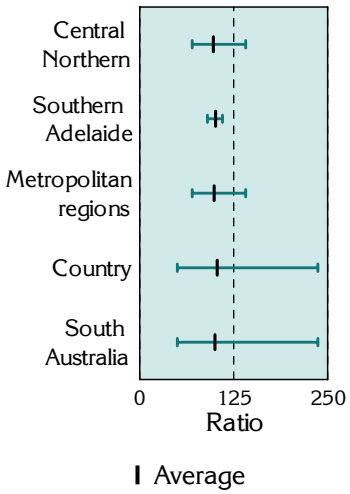
Other SLAs with elevated ratios included Onkaparinga - Woodcroft (109**, 5,101), Onkaparinga - North Coast (109**, 3,105) and Holdfast Bay - South (an SAR of 107**, 2,722).

Relatively large numbers of admissions were recorded for males living in Marion - Central (5,696, an SAR of 101), Onkaparinga - Morphett (3,534, 104*) and Holdfast Bay - North (3,500, 105**)

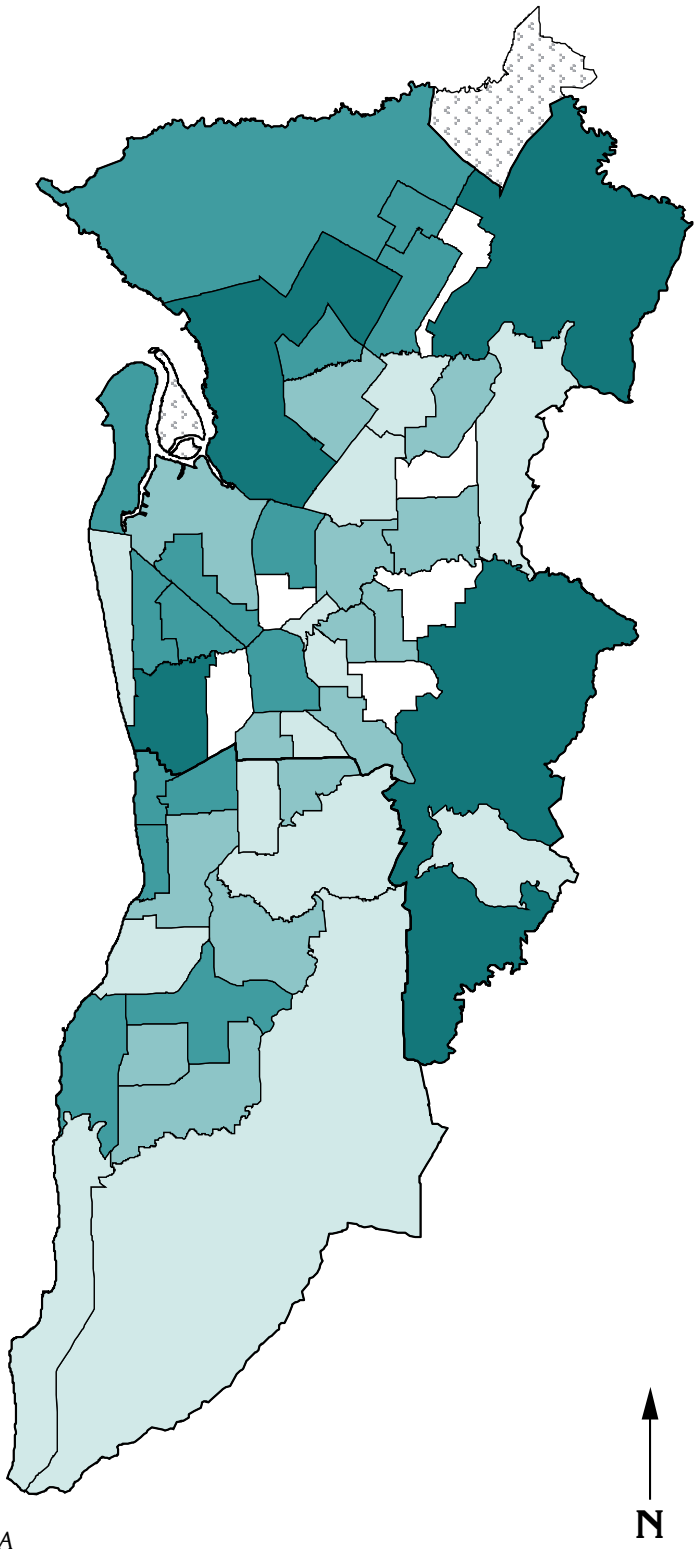
Lower than expected standardised admission ratios were found in Onkaparinga - Hills (with an SAR of 90**, 1,592), Marion - South (92**, 2,445), Onkaparinga - South Coast (92**, 3,291), and Mitcham - West (93**, 3,312) and - Hills (94**, 3,573).

* **indicates statistical significance: see page 24**

Map 7.36
Admissions of males, metropolitan regions, 2003/2004



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Admission Ratio (as an index)*, by SLA

- *115 and above*
- *105 to 114*
- *95 to 104*
- *85 to 94*
- *below 85*
- *data not mapped#*

**Index shows the number of admissions of males in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Admissions of males, 2003/2004

Country South Australia

The standardised admission ratio (SAR) for males in country South Australia was three per cent higher than expected (103**, 69,186 admissions).

The map shows the geographic distribution of elevated ratios to be patchy, with average rates in many SLAs and the highest rates in a number of the towns and in scattered locations, including some areas with relatively large Indigenous populations (Map 7.37). Only **Northern and Far Western** and **Mid North** had ratios much above the State average (Table 7.46 and graph opposite).

Table 7.46: Regional totals, admissions of males, 2003/2004

Region	No.	SAR
Hills Mallee Southern	17,576	95**
Wakefield[1]	16,728	104**
South East	9,069	97**
Northern & Far Western	8,732	121**
Eyre	5,448	102
Mid North	5,931	115**
Riverland	5,702	109**
Country SA	**69,186**	**103****
Central Northern	113,004	98**
Southern	50,201	101
Metropolitan regions	**163,205**	**99****
South Australia	**232,461**	**100**

[1] **Gawler is included in the Wakefield region**

The correlation analysis shows a weak association at the SLA level between high rates of admissions of males and socioeconomic disadvantage (Table 8.2).

The Regions

There were 21% more admissions to hospital of males from **Northern and Far Western** than expected from the State rates (an SAR of 121**, 8,732 admissions). The most highly elevated SARs were in Port Augusta (144**, 2,893), Whyalla (129**, 4,095), Flinders Ranges (126**, 377) and Unincorporated Flinders Ranges (110, 185). Both Unincorporated Far North (53**, 369) and Roxby Downs (80**, 329) had fewer males admitted to hospital than expected.

In **Mid North,** males had 15% more admissions than the State average (an SAR of 115**, 5,931 admissions). There were elevated ratios in the SLAs of Port Pirie Balance (an SAR of 148**, 858 admissions), Peterborough (133**, 468), Orroroo/Carrieton (128**, 220), Barunga West (122**, 632) and Northern Areas (115**, 925). Port Pirie - City had 2,323 admissions of male residents in 2003/04 (an SAR of 107**). Mount Remarkable had the lowest SAR of 91* (483 admissions).

Riverland had an SAR of 109** (5,702 admissions of males). All SLAs in this region had either the expected number of admissions or more. Elevated ratios were mapped in the Berri and Barmera SLAs of - Barmera (an SAR of 120**, 844 admissions), and - Berri (118**, 1,182), and in Renmark Paringa - Paringa (112, 305). Loxton Waikerie - East had an SAR of 100 (1,206 residents).

There were 16,728 admissions to hospital of males from the **Wakefield** region, four per cent above the State average (104**). The highest SARs in the region were in Yorke Peninsula - North (124**, 1,812 admissions), Barossa - Tanunda (119**, 867), Clare and Gilbert Valleys (111**, 1,524) and Copper Coast (110**, 2,237). Large numbers of admissions were recorded for males living in Gawler (2,837, an SAR of 100) and Light (1,511, 91). Mallala had the lowest SAR (88**, 912).

Despite a near-average overall SAR of 102 in **Eyre** (5,448 admissions), three SLAs had very highly elevated ratios: Unincorporated West Coast (237**, 191), Ceduna (151**, 763) and Le Hunte (121**, 268). There were 1,877 admissions of males from Port Lincoln (1,877, 91**). Franklin Harbor had a low ratio of 62** (146 admissions).

Males in **South East** had an SAR of 97** (9,069 admissions). Over one third more admissions than expected were recorded for male residents in Tatiara (135**, 1,473). Large numbers of admissions were recorded for Mount Gambier (3,028, 91**) and Wattle Range - West (1,445, 102). Grant had a low SAR with 40% fewer admissions of males than expected (60**, 720).

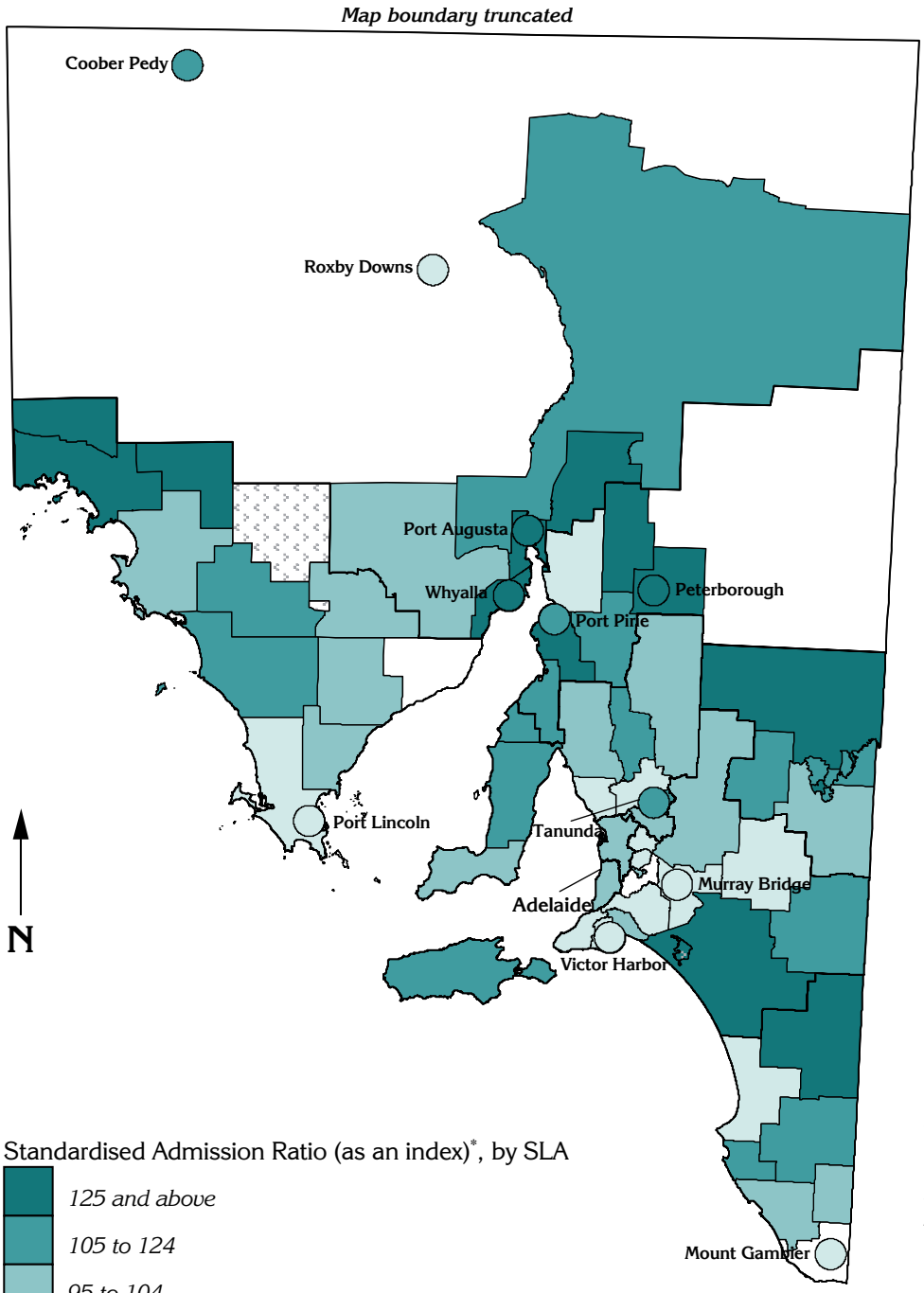
Admissions of males from **Hills Mallee Southern** region were five per cent below the State average (an SAR of 95**, 17,576 admissions). Within the region, highly elevated ratios were mapped in The Coorong (an SAR of 147**, 1,357) and Kangaroo Island (117**, 827). Large numbers of admissions were recorded for Murray Bridge (2,565, 94**), Victor Harbor (2,271, 92**) and Mount Barker - Central (2,070, 95*). A number of SLAs in this region had low ratios, including Mount Barker Balance (an SAR of 62**, 730), Alexandrina - Strathalbyn (84**, 1,157) and Adelaide Hills - North (86**, 825).

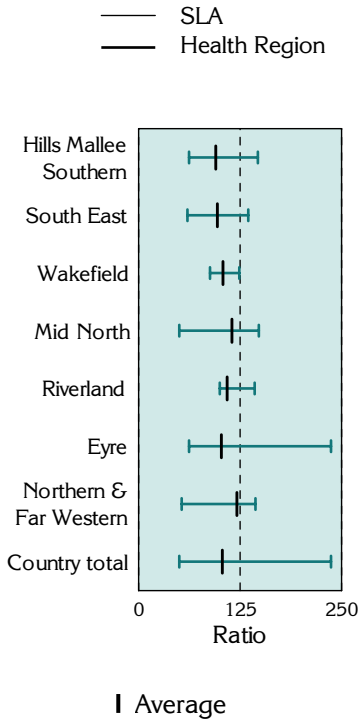
ASGC Remoteness classification

Ratios closely follow the pattern evident for total admissions, with an SAR of 99** in the Major Cities areas; ratios of 95**, 114** and 97 in the middle three classes; and an SAR of 109** in the Very Remote areas.

* **indicates statistical significance: see page 24**

Map 7.37
Admissions of males, South Australia, 2003/2004





Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

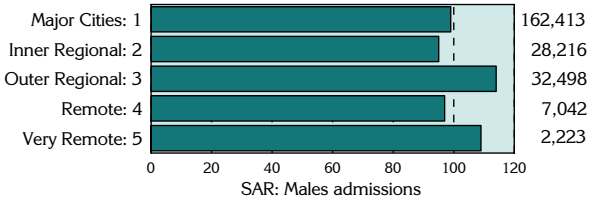
Standardised Admission Ratio (as an index)*, by SLA

- *125 and above*
- *105 to 124*
- *95 to 104*
- *75 to 94*
- *below 75*
- *data not mapped#*

**Index shows the number of admissions of males in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data were not mapped because the SLA has a population of less than 100

ASGC Remoteness classification Admissions



Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Admissions of females, 2003/2004

Patients are usually admitted to hospital either as an emergency or as a booked admission. Emergency admission patients are admitted through the A & E Department. These are seriously injured or ill patients who need immediate treatment. Most patients come into hospital as a booked admission, either as a day patient or an inpatient. A day patient comes to hospital for a test or treatment and returns home the same day. They usually will not stay overnight. An inpatient stays overnight or for a few days at the hospital.

Admission rates for females in Metropolitan Adelaide increased by 30.6% over the eleven years to 2003/2004, compared with a much lower 15.7% for country residents (Table 7.47). As a result, admission rates of females in country South Australia were only 4.9% higher than for females in the city in 2003/2004, compared with a gap of 18.3% in 1992/1993. Again, most of the difference occurred in the earlier half of this eleven-year period.

Table 7.47: Admissions[1] of females

Age-standardised rate per 100,000

Section of State	1992/1993	1998/1999	2003/2004	Per cent change[2]
Metropolitan Adelaide (incl. Gawler)	27,703	34,159	36,177	30.6
Country	32,780	36,197	37,934	15.7
South Australia	29,033	34,633	36,624	26.1

[1]Includes admissions to public acute hospitals, private hospitals and day surgery facilities, including admissions of same day patients, other than for renal dialysis

[2]Per cent change between 1992/1993 and 2003/2004 in the rate of admissions of females

Metropolitan regions

As was the case for males, there was a slightly lower than expected standardised admission ratio (SAR) for females in the metropolitan regions, excluding Gawler (99**, 204,936 admissions) (Table 7.48).

The correlation analysis shows there is a weak association at the SLA level between high rates of admission of females and socioeconomic disadvantage (Table 8.1).

Central Northern Adelaide

There were 142,023 admissions of females in the Central Northern region, two per cent fewer than expected (an SAR of 98**).

Ratios in the region ranged from a highly elevated 83% above the State average, to 30% below. The most highly elevated ratio for the metropolitan regions was in Playford - Hills (an SAR of 183**, 851 admissions), followed by Salisbury Balance (178**, 1,636), Adelaide Hills - Ranges (127**, 2,117), and Playford - Elizabeth (124**, 6,025) and - West Central (116**, 2,306). SLAs with ten per cent more admissions than expected included Charles Sturt - Inner East (110**, 4,765), Port Adelaide Enfield - Inner (110**, 4,428) and - Coast (110**, 5,898), and West Torrens - West (110**, 6,808).

Large numbers of admissions were recorded in the SLAs of Tea Tree Gully - South (6,259 admissions, 101), Salisbury - South-East (6,181, 99), Port Adelaide Enfield - East (5,932, 105**), and Charles Sturt - Coastal (5,744, 91**) and - North-East (5,331, 107**).

A number of SLAs in the region had low SARs with fewer admissions of females than expected from the State rate, including Prospect (70**, 2,555), Playford - East Central (76**, 2,360), West Torrens - East (76**, 3,576), Burnside - North-East (79**, 3,534), Tea Tree Gully - Central (82**, 3,693), Walkerville (83**, 1,236), Campbelltown - East (85**, 4,359), Norwood Payneham St Peters - West (88**, 3,189) and Unley - East (88**, 3,667).

Southern Adelaide

In the Southern region, there were 62,913 admissions of females, just one per cent more than expected from the State rates (SAR of 101*).

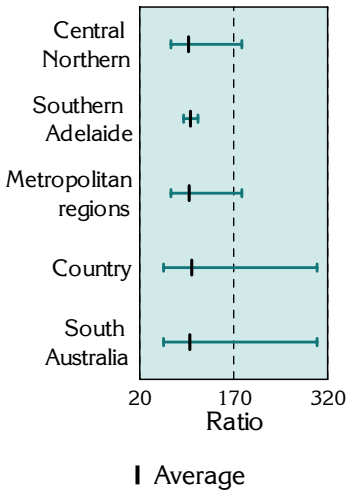
Elevated ratios in this region were mapped in the SLAs of Onkaparinga - North Coast (an SAR of 113**, 3,878 admissions) and - Morphett (112**, 4,862), and Marion - North (111**, 6,292).

Large numbers of admissions were recorded in several SLAs, including Marion - Central (6,945 admissions, 99), Onkaparinga - Woodcroft (5,664, 97*), Mitcham - West (4,720, 102), Holdfast Bay - North (4,567, 101) and Mitcham - Hills (4,406, 98).

Fewer females were admitted to hospital than expected in the SLAs of Onkaparinga - Hills (91**, 1,797 admissions) and Marion - South (90**, 2,975).

* **indicates statistical significance: see page 24**

Map 7.38
Admissions of females, metropolitan regions, 2003/2004

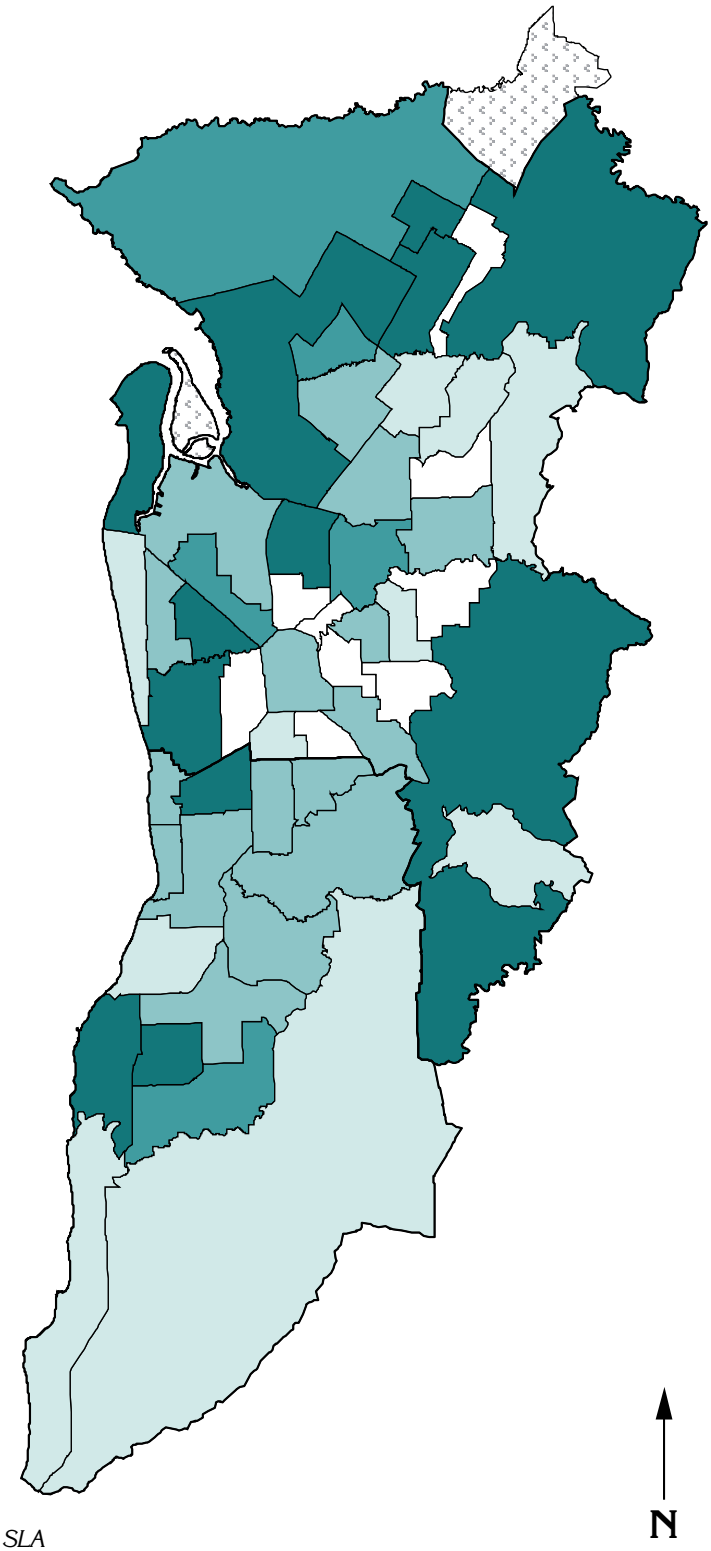


Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

SLA
Health Region

Standardised Admission Ratio (as an index)*, by SLA

- *110 and above*
- *105 to 109*
- *95 to 104*
- *90 to 94*
- *below 90*
- *data not mapped#*



**Index shows the number of admissions of females in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Country South Australia

There was a slightly higher than expected rate of admissions for females in country South Australia (a standardised admission ratio (SAR) of 103**, 77,528 admissions). The map shows a similar geographic distribution of ratios to that for males, although there are more SLAs with elevated ratios (Map 7.39). **Northern and Far Western** and **Mid North** had the most highly elevated ratios (Table 7.48 and graph opposite).

Table 7.48: Regional totals, admissions of females, 2003/2004

Region	No.	SAR
Hills Mallee Southern	19,784	95**
Wakefield[1]	18,069	100
South East	10,336	94**
Northern & Far Western	10,380	129**
Eyre	6,209	106**
Mid North	6,365	111**
Riverland	6,385	109**
Country SA	**77,528**	**103****
Central Northern	142,023	98**
Southern	62,913	101*
Metropolitan regions	**204,936**	**99****
South Australia	**282,524**	**100**

[1]**Gawler is included in the Wakefield region**

The correlation analysis shows a weak association at the SLA level between high rates of admission of females and socioeconomic disadvantage (Table 8.2).

The Regions

There were 29% more admissions of females from **Northern and Far Western** than expected from the State rates (an SAR of 129**, 10,380 admissions). Within the region, there were elevated SARs in Unincorporated Whyalla (153**, 64 admissions), Port Augusta (147**, 3,464), Unincorporated Flinders Ranges (135**, 234), Whyalla (133**, 5,004), Coober Pedy (130**, 424) and Flinders Ranges (115**, 362); and fewer admissions than expected in Unincorporated Far North (62**, 405).

Mid North region had an overall SAR of 111** (6,365 admissions), with one third more admissions than expected from the State rates in Peterborough (an SAR of 133**, 490). Elevated SARs were also mapped in Barunga West (124**, 612), Port Pirie Balance (124**, 765), and Orroroo/Carrieton (121**, 240).

Females in the **Riverland** had nine per cent more admissions than expected (109**, 6,385). Within the region, Unincorporated Riverland had nearly twice the expected number (an SAR of 199, 37 admissions), followed by Berri and Barmera - Barmera (141**, 1,130) and Renmark Paringa – Paringa (116**, 312). Renmark Paringa - Renmark (1,526 admissions, 106*) and Berri and Barmera - Berri (1,302, 108**) both had large numbers of female residents admitted to hospital. The lowest SAR in the region was recorded for Loxton Waikerie - East (95, 1,246 admissions).

The overall admission rate for **Eyre** was six per cent above the State average, an SAR of 106** (6,209 admissions). There was considerable variation within the region, with SARs ranging from 303** in Unincorporated West Coast (238 admissions) to 84* in Franklin Harbor (197 admissions) (see graph opposite). SLAs with high SARs also included Le Hunte (142**, 353), Ceduna (135**, 785), Tumby Bay (114**, 576) and Lower Eyre Peninsula (112**, 738). Cleve (85**, 278) and Streaky Bay (86*, 266) both had fewer admissions than expected.

Wakefield had the expected admission rate based on the population size and structure (an SAR of 100, 18,069 admissions). Wakefield had an elevated SAR of 114** (1,360 admissions). Fewer females were admitted to hospital than expected in the SLAs of Yorke Peninsula - South (87**, 688) and Gawler (89**, 3,103).

There were fewer admissions of females than expected from the State rates in **Hills Mallee Southern** (an SAR of 95**, 19,784 admissions). Highly elevated ratios were mapped in the SLAs of The Coorong (137**, 1,389 admissions), Kangaroo Island (121**, 889) and Southern Mallee (121**, 465).

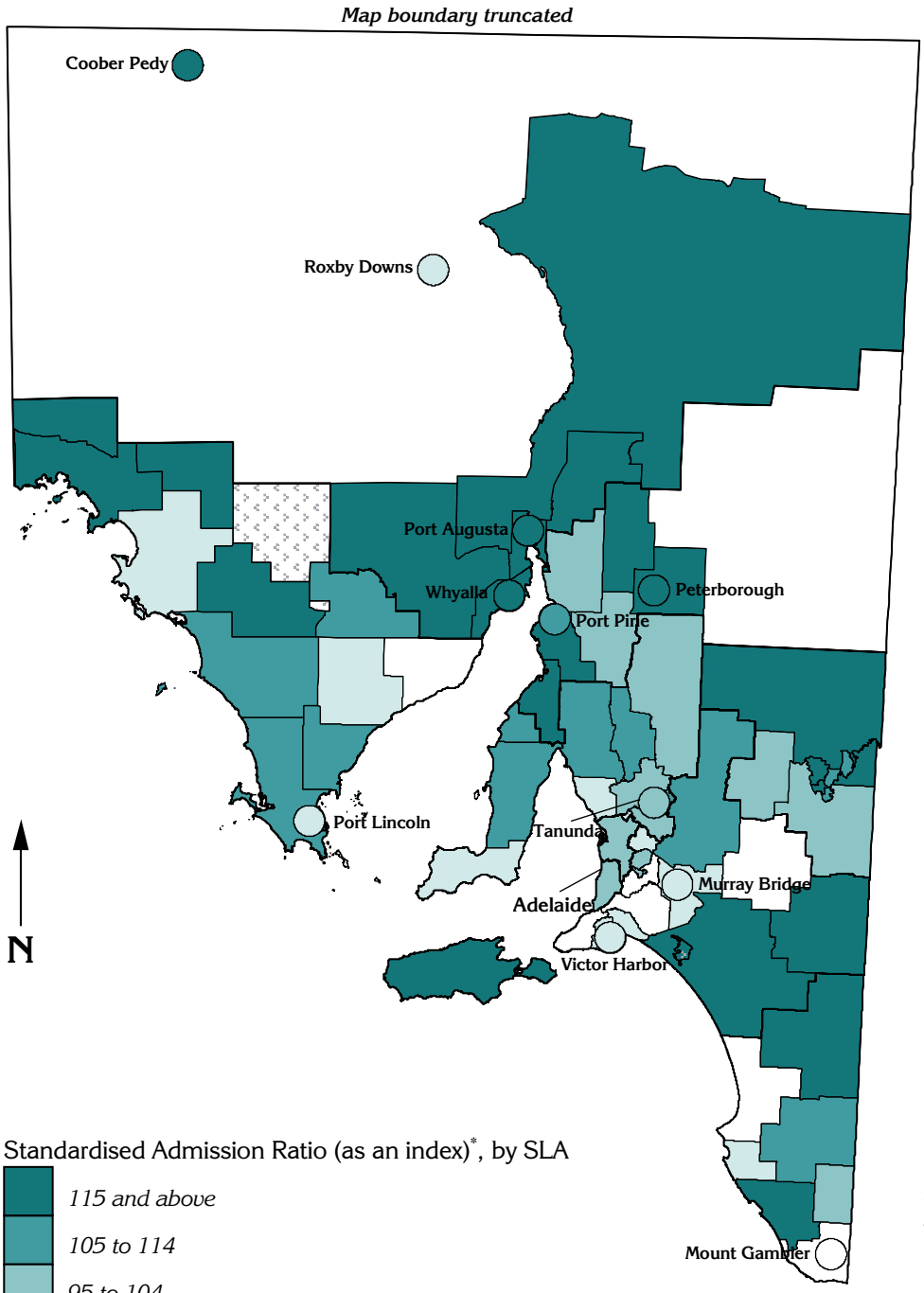
South East had an SAR of 94** (10,336 admissions). There was considerable variation in this region, with highly elevated ratios in the SLAs of Tatiara (122**, 1,398) and Wattle Range - West (120**, 1,926). Naracoorte and Lucindale had a relatively large number of admissions (1,560 admissions, 108**). Low SARs were mapped in Grant (58**, 730), Lacepede (80**, 338), Mount Gambier (84**, 3,590) and Robe (85**, 215).

ASGC remoteness classification

The pattern of admissions by remoteness for females closely follows the pattern evident for total admissions, with an SAR of 99** in the Major Cities class; ratios of 95**, 113** and 101 in the middle three classes; and an SAR of 117** in the Very Remote areas.

* **indicates statistical significance: see page 24**

Map 7.39
Admissions of females, South Australia, 2003/2004



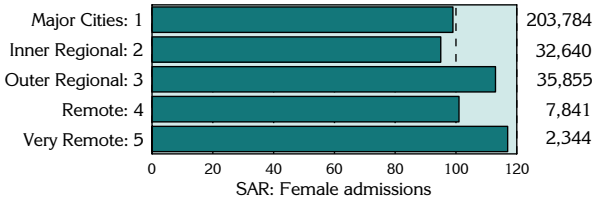
Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Standardised Admission Ratio (as an index)*, by SLA

- *115 and above*
- *105 to 114*
- *95 to 104*
- *85 to 94*
- *below 85*
- *data not mapped#*

*Index shows the number of admissions of females in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped because the SLA has a population of less than 100



Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Admissions for a tonsillectomy, 2003/2004

Tonsillectomy involves the removal of a person's tonsils where, for example, there has been repeated infection of the tonsils over an extended period. There has been a trend of declining admission rates for tonsillectomies for some time. In 1980, there were 472 admissions for a tonsillectomy per 100,000 people (Sax 1983); by 1990 to 1992, the rate was down to 290.5 and by 2003/2004, it was less than half the 1980 level, at 202.7. The rate of admissions for country residents is higher in each period shown, and has declined by a lesser amount (27.8%) than in Metropolitan Adelaide (32.3%) (Table 7.49).

Table 7.49: Admissions[1] for a tonsillectomy

Age-standardised rate per 100,000

Section of State	1990-1992	1995/1996	2003/2004	Per cent change[2]
Metropolitan Adelaide (incl. Gawler)	292.2	229.6	197.9	-32.3
Country	298.6	237.8	215.5	-27.8
South Australia	290.5	231.9	202.7	-30.2

[1]Includes admissions to public acute hospitals, private hospitals and day surgery facilities, including admissions of same day patients

[2]Per cent change between the periods 1990-1992 and 2003/2004 in the rate of admissions for a tonsillectomy

Metropolitan regions

There were 2,145 admissions for a tonsillectomy in 2003/2004, three per cent fewer than expected from the rates for the metropolitan regions, excluding Gawler (a standardised admission ratio (SAR) of 97).

There is no identifiable spatial pattern in standardised admission ratios (Map 7.40); similarly, there is no consistent relationship in the correlation analysis between high rates of admission for a tonsillectomy, and socioeconomic status at the SLA level (Table 8.1).

Central Northern Adelaide

Central Northern Adelaide had 1,551 admissions for a tonsillectomy in 2003/2004, the number expected for its population size and structure (an SAR of 100). Salisbury Balance (with an SAR of 204**, 32 admissions) and Playford - Hills (189*, 14) had highly elevated SARs, with around twice the expected number of admissions for a tonsillectomy. Highly elevated ratios were also calculated for Charles Sturt - Inner East (147**, 58), Tea Tree Gully - North (141**, 93) and Adelaide Hills - Ranges (135, 29). Other elevated ratios of note (although not statistically significant) were in Charles Sturt - Inner West (an SAR of 124, 56) Campbelltown - East (116, 62), Walkerville (115, 14), Playford - West (113, 22) and Port Adelaide Enfield - Coast (110, 61).

Relatively large numbers of admissions (although not statistically significant ratios) were recorded for the SLAs of Salisbury - South-East (73 admissions, an SAR of 97), Tea Tree Gully - South (69, 106), Salisbury - Inner North (69, 105), Tea Tree Gully - Central (61, 106), Port Adelaide Enfield - East (58, 103), Salisbury - Central (58, 92), West Torrens - West (52, 105) and Port Adelaide Enfield - Port (50 admissions, 97).

Norwood Payneham St Peters - West had half the expected number of admissions for a tonsillectomy, with an SAR of 50** (16 admissions). Other SLAs with low ratios included Prospect (with an SAR of 69, 26 admissions), West Torrens - East (73, 32), Playford - East Central (76**, 39), Adelaide (79, 17), Burnside - North-East (81, 31), Unley - West (83, 26), Charles Sturt - Coastal (84, 44), Campbelltown - West (87, 30), Playford - West Central (87, 30), Unley - East (88, 32) and Playford - Elizabeth (89, 52).

Southern Adelaide

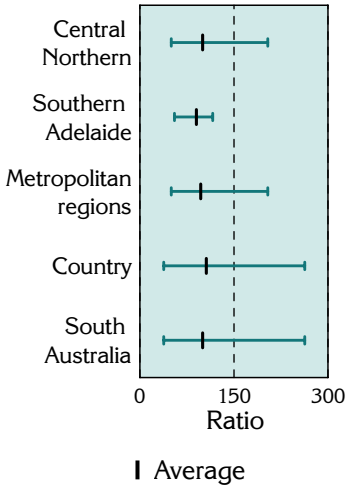
There were ten per cent fewer admissions for a tonsillectomy than expected from the metropolitan rates for Southern Adelaide (an SAR of 90*, 594 admissions). The SLAs of Holdfast Bay - South (an SAR of 116, 26 admissions), Mitcham - North-East (114, 33), Marion - Central (113, 64) and - North (112, 50), and Onkaparinga - Reservoir (109, 61) all had elevated ratios.

Onkaparinga - Woodcroft had 80 admissions for a tonsillectomy, two per cent fewer than expected (an SAR of 98).

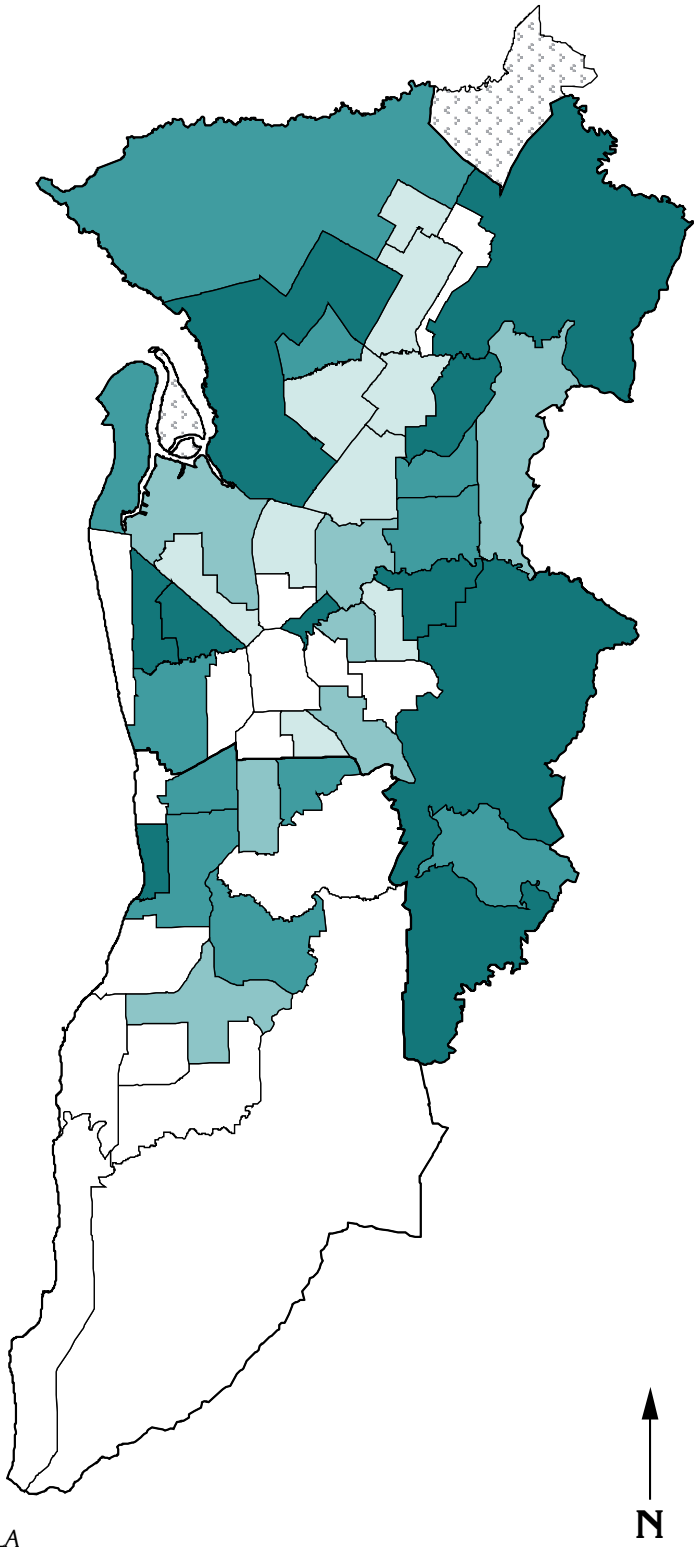
Onkaparinga - Hills had just over half the expected number of admissions (an SAR of 55*, 13 admissions). Low SARs were also recorded in Marion - South (67*, 33); Mitcham - Hills (70*, 32); Onkaparinga - South Coast (73*, 39), - North Coast (82, 29), - Morphett (83, 44) and - Hackham (75, 25); and Holdfast Bay - North (77, 23).

* **indicates statistical significance: see page 24**

Map 7.40
Admissions for a tonsillectomy, metropolitan regions, 2003/2004



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Admission Ratio (as an index)*, by SLA

- *115 and above*
- *105 to 114*
- *95 to 104*
- *85 to 94*
- *below 85*
- *data not mapped#*

**Index shows the number of admissions of people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Country regions

Residents of country South Australia had six per cent more hospital admissions than expected, a standardised admission ratio (SAR) of 106** (950 admissions) (Table 7.50). There was considerable variation across the regions, with the most highly elevated SAR, of 130**, being recorded for **Northern and Far Western** (149 admissions), and the lowest ratio, of 59**, being recorded for **Riverland** (42 admissions) (see graph opposite). Many SLAs had fewer than five admissions and have been excluded from the data (Map 7.41). SLAs with elevated ratios were scattered throughout the State, in particular in the towns.

Table 7.50: Regional totals, admissions for a tonsillectomy, 2003/2004

Region	No.	SAR
Hills Mallee Southern	245	106
Wakefield[1]	237	118**
South East	122	88
Northern & Far Western	149	130**
Eyre	94	124*
Mid North	61	97
Riverland	42	59**
Country SA	**950**	**106****
Central Northern	1,551	100
Southern	594	90*
Metropolitan regions	**2,145**	**97**
South Australia	**3,096**	**100**

[1]**Gawler is included in the Wakefield region**

The correlation analysis shows a weak association at the SLA level between high rates of admission for a tonsillectomy and socioeconomic disadvantage (Table 8.2).

The Regions

The most highly elevated ratio in country South Australia was calculated for **Northern and Far Western**, with 30% more admissions for tonsillectomy than expected (an SAR of 130**, 149 admissions). Whyalla had a very highly elevated SAR, with nearly two thirds more admissions than expected (an SAR of 164**, 79 admissions), followed by Port Augusta (142*, 44) and Coober Pedy (119, five). Both Unincorporated Far North (an SAR of 68, nine admissions) and Roxby Downs (64, seven) had approximately one third fewer admissions than expected.

Eyre had almost one quarter more admissions than expected from the metropolitan rates (an SAR of 124*, 94 admissions). Both Cleve (263*, ten) and Ceduna (233**, 21) had more than double the expected number of admissions. Other elevated ratios were recorded for Streaky Bay (161, seven) and Port Lincoln (111, 36).

In **Wakefield**, 237 people were admitted for a tonsillectomy in 2003/2004 (an SAR of 118**). Yorke Peninsula - South had more than twice the expected number of admissions (212*, 15). Other SLAs with highly elevated ratios included Clare and Gilbert Valleys (154, 25), Barossa - Tanunda (130, eleven), Yorke Peninsula - North (125, 16), Copper Coast (124, 25), Light (122, 31), Wakefield (119, 16) and Gawler (111, 43).

Hills Mallee Southern recorded 245 people being admitted to hospital for a tonsillectomy (an SAR of 106). Murray Bridge (an SAR of 141*, 53), Alexandrina - Coastal (130, 22), Adelaide Hills Balance (124, 23) and The Coorong (123, 15) all had elevated ratios. The lowest ratio in the region was recorded for Adelaide Hills - North (an SAR of 61, nine).

Mid North had three per cent fewer admissions than expected (an SAR of 97, 61 admissions). Elevated, but not statistically significant, ratios were mapped in Peterborough (186, seven) and Mount Remarkable (126, seven). Northern Areas had fewer admissions than expected (an SAR of 83, eight).

There were 12% fewer admissions for a tonsillectomy than expected in the **South East** (an SAR of 88, 122). Although none of the SLAs had highly elevated ratios, Mount Gambier had a large number of admissions (56 admissions, an SAR of 105). Grant had 17% fewer admissions than expected (an SAR of 83, 14 admissions).

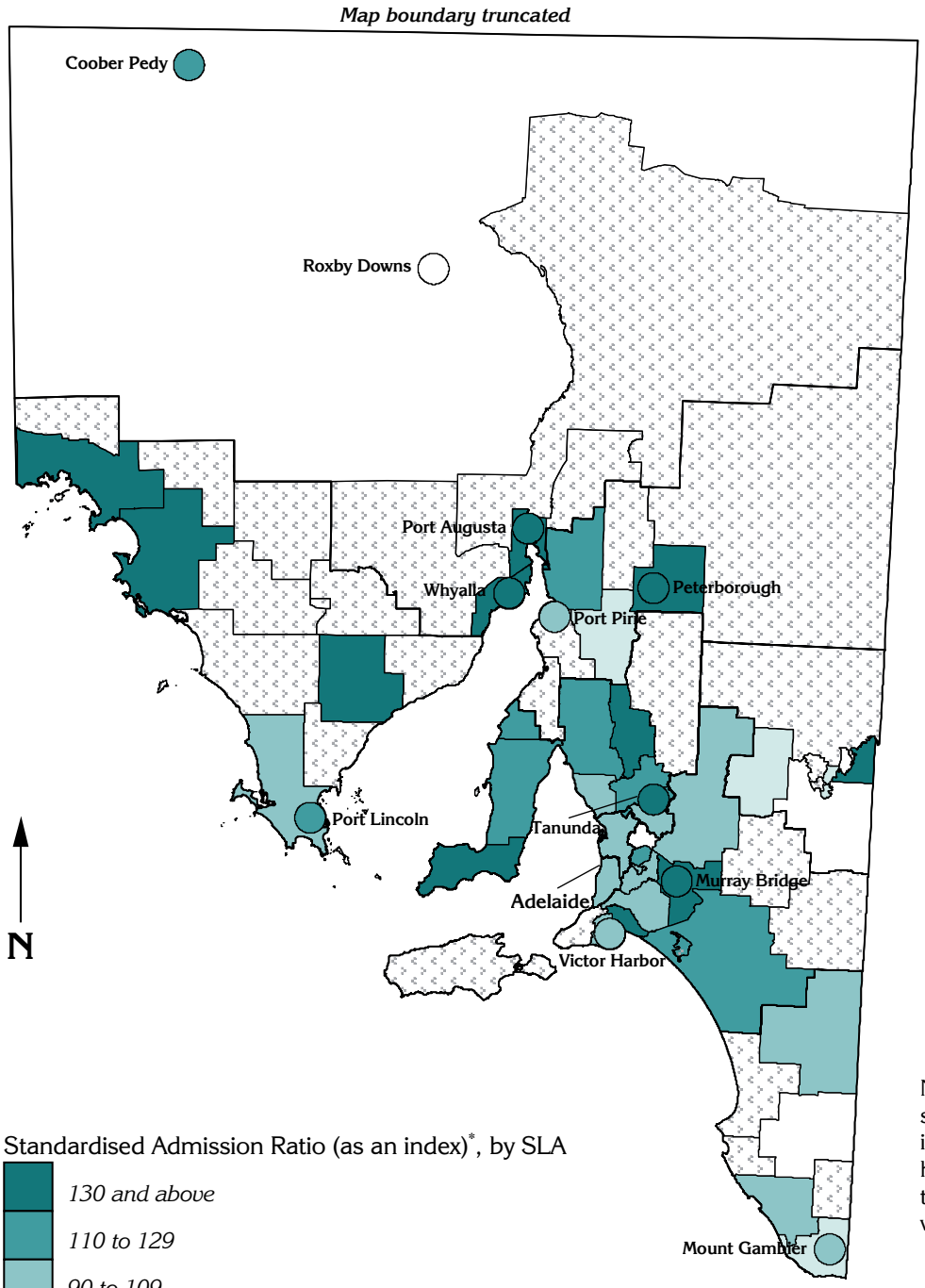
Riverland had nearly half the expected number of admissions (an SAR of 59**, 42). Renmark Paringa - Paringa was the only SLA in the region with more admissions than expected (an SAR of 143, five). Low ratios were recorded in Loxton Waikerie - East (38**, six), Renmark Paringa - Renmark (46*, eight), Berri and Barmera - Berri (78, 12) and Loxton Waikerie - West (80, eight).

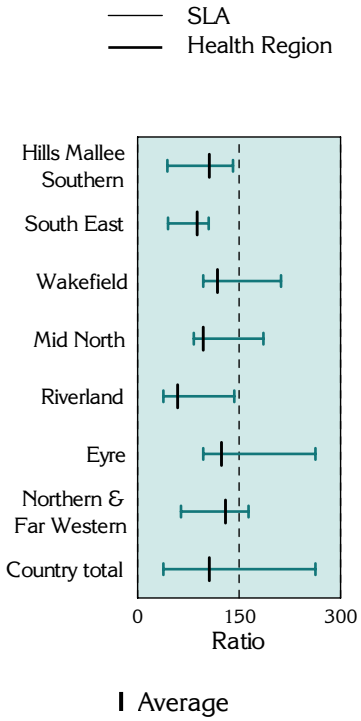
ASGC remoteness classification

There was relatively little variation across four of the classifications of remoteness with Major Cities having the lowest SAR of 98 and Inner Regional having an SAR of 107. The Very Remote areas had the highest SAR, of 118.

* **indicates statistical significance: see page 24**

Map 7.41
Admissions for a tonsillectomy, South Australia, 2003/2004





Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

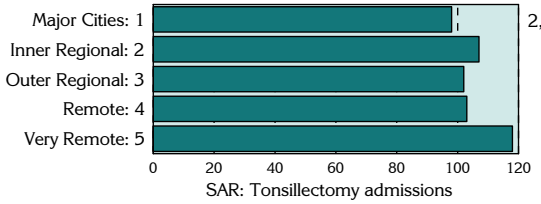
Standardised Admission Ratio (as an index)*, by SLA

- *130 and above*
- *110 to 129*
- *90 to 109*
- *70 to 89*
- *below 70*
- *data not mapped#*

**Index shows the number of admissions of people in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data were not mapped because the SLA has a population of less than 100, or there were fewer than five admissions

ASGC Remoteness classification Admissions



Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Admissions of children aged 0 to 9 years for a myringotomy, 2003/2004

A myringotomy (incision into the eardrum, or tympanic membrane) is usually performed to relieve pressure and allow for drainage of fluid in the middle ear. Ventilation is maintained by putting a small tube (or grommet) in the incision.

Admission rates of children for a myringotomy have declined in both Metropolitan Adelaide and country South Australia (Table 7.51). There was a greater reduction in country South Australia (of 25.2%) than in Metropolitan Adelaide (19.6%), from 1990 to 1992 to 2003/2004: the decline in the rate for South Australia was 19.8%.

Table 7.51: Admissions[1] of children aged 0 to 9 years for a myringotomy

Age-standardised rate per 100,000

Section of State	1990-1992	1995/1996	2003/2004	Per cent change[2]
Metropolitan Adelaide (incl. Gawler)	2,013	2,037	1,619	-19.6
Country	1,752	1,624	1,310	-25.2
South Australia	1,906	1,912	1,528	-19.8

[1]Includes admissions to public acute hospitals, private hospitals and day surgery facilities, including admissions of same day patients

[2]Per cent change between the periods 1990-1992 and 2003/2004 in the rate of admissions for children aged 0 to 9 years for a myringotomy

Metropolitan regions

There were six per cent more admissions of children for a myringotomy than expected from the rates for the metropolitan regions (excluding Gawler), an SAR of 106* (2,093 admissions). A number of SLAs had elevated ratios, particularly in the outer-most north-western, north-eastern and eastern suburbs (Map 7.42).

The correlation analysis shows a very strong correlation between high rates of admission for a myringotomy and admission to a private hospital. There was a weak association between high rates of admission for a myringotomy and socioeconomic advantage at the SLA level (Table 8.1).

Central Northern Adelaide

The number of admissions for a myringotomy of children from Central Northern (1,434) was slightly above the State average, an SAR of 103. Playford - Hills had nearly four times the expected number of admissions with an SAR of 382**, but relatively small numbers, with 27 admissions. Other SLAs with highly elevated ratios included Adelaide Hills - Ranges (an SAR of 202**, 38 admissions), Salisbury Balance (174*, 27), Adelaide Hills - Central (169**, 38), Burnside - South-West (148*, 44), Unley - West (142*, 37), Playford - West (137, 24), Tea Tree Gully - North (136**, 85) and Walkerville (131, 13).

Although not statistically significant, elevated ratios were also recorded in Tea Tree Gully - Hills (127, 28) and - South (116, 66), Prospect (123, 41), Norwood Payneham St Peters - East (116, 28), Port Adelaide Enfield - East (115, 60), West Torrens - West (114, 49), Charles Sturt - Inner West 113, 45) and Burnside - North-East (111, 33).

Relatively large numbers of admissions for a myringotomy were recorded in the SLAs of Salisbury - South-East (69 admissions, an SAR of 97), - Inner North (65, 101) and - Central (61, 106), and Tea Tree Gully - Central (56, 107).

Port Adelaide Enfield - Port had just over half the expected number of admissions for a myringotomy (an SAR of 53**, 26 admissions). Other SLAs with low ratios included Charles Sturt - Coastal (57**, 24), Playford - Elizabeth (68*, 41), Charles Sturt - North-East (72, 35), West Torrens - East (75, 29), Salisbury - North-East (76, 34), Charles Sturt - Inner East (77, 28), Playford - East Central (77, 41) and - West Central (80, 30), Adelaide (85, eight), Port Adelaide Enfield - Coast (86, 44) and Campbelltown - West (89, 28).

Southern Adelaide

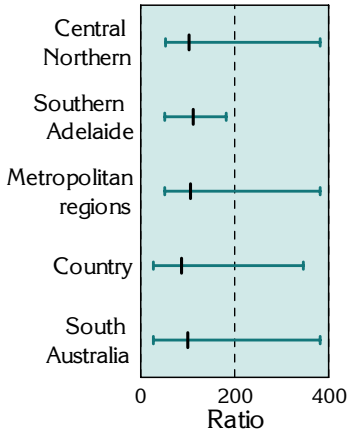
Southern Adelaide had a higher SAR than Central Northern, with 12% more admissions of children for a myringotomy than expected (an SAR of 112**, 659 admissions). Highly elevated ratios were calculated for Onkaparinga - Reservoir (an SAR of 182**, 87 admissions) and - Woodcroft (167**, 130), Holdfast Bay - South (164*, 29) and - North (147*, 33), and Marion - North (129, 53) and - Central (124, 59).

The Mitcham SLAs of - West (43 admissions, an SAR of 108) and - Hills (39 admissions, 99) had relatively large numbers of admissions.

Onkaparinga - North Coast had approximately half the expected number of admissions for a myringotomy (an SAR of 51**, 17), and the Onkaparinga SLAs of - Morphett (62**, 32), - South Coast (75, 38), and - Hackham (87, 27) all had low ratios, as did the SLA of Marion - South (63*, 27).

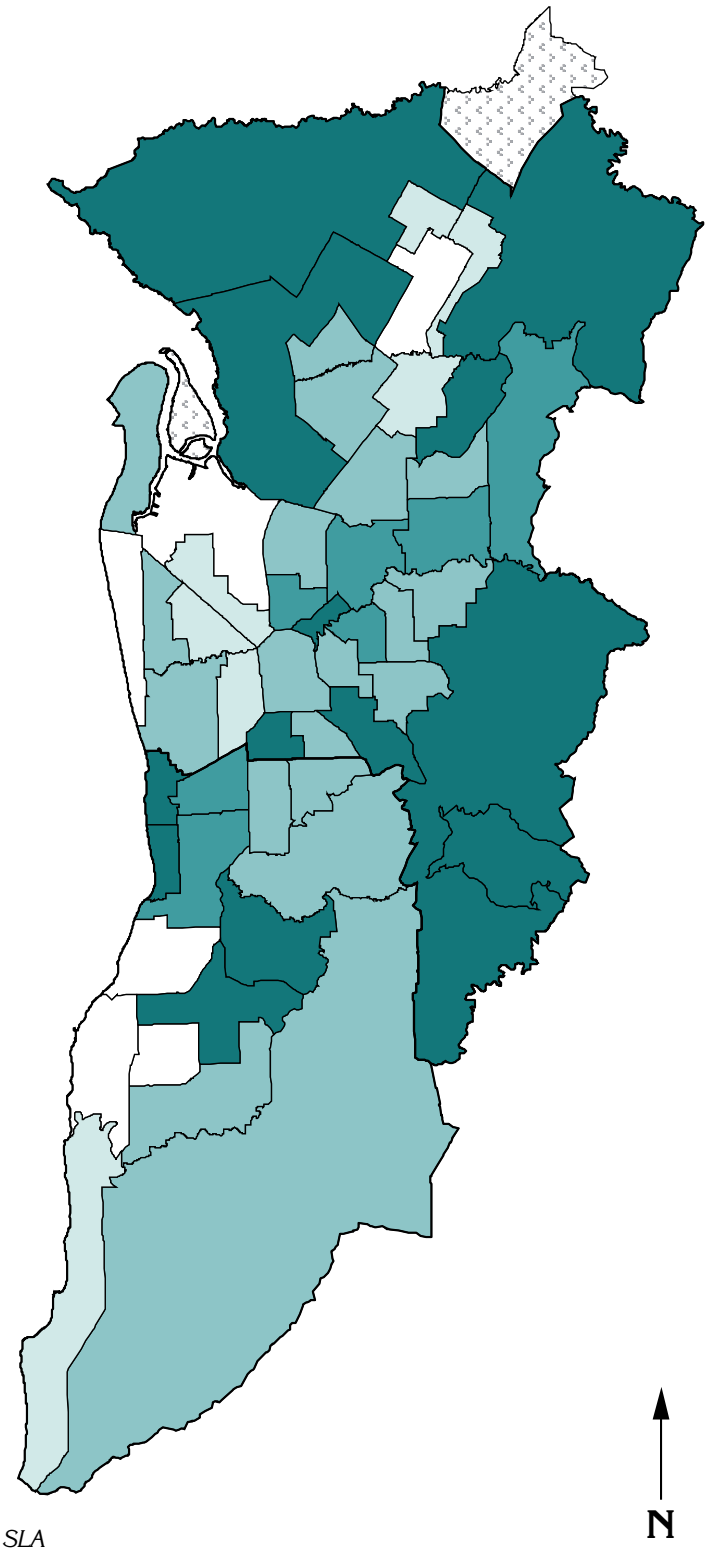
* **indicates statistical significance: see page 24**

Map 7.42
Admissions of children aged 0 to 9 years for a myringotomy, metropolitan regions, 2003/2004



Average

Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Admission Ratio (as an index)*, by SLA

- *130 and above*
- *115 to 129*
- *85 to 114*
- *70 to 84*
- *below 70*
- *data not mapped#*

**Index shows the number of admissions of children in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Admissions of children aged 0 to 9 years for a myringotomy, 2003/2004

Country regions

There were 13% fewer admissions in country regions than expected from the State rates, an SAR of 87** (760 admissions) (Table 7.52). The majority of SLAs in the country had too few admissions to be mapped. There was no distinct pattern of elevated SARs across the SLAs that were mapped (Map 7.43).

Table 7.52: Regional totals, admissions of children aged 0 to 9 years for a myringotomy, 2003/2004

Region	No.	SAR
Hills Mallee Southern	152	68**
Wakefield[1]	175	93
South East	193	140**
Northern & Far Western	61	54**
Eyre	68	89
Mid North	39	62**
Riverland	72	102
Country SA	**760**	**87****
Central Northern	1,434	103
Southern	659	112**
Metropolitan regions	**2,093**	**106***
South Australia	**2,854**	**100**

[1]**Gawler is included in the Wakefield region**

There was no consistent relationship between high rates of admission for a myringotomy and socioeconomic status, at the SLA level (Table 8.2).

The Regions

In the **South East**, there were 40% more admissions for a myringotomy than expected from the State rates, an SAR of 140** (193 admissions). Very highly elevated ratios were calculated for children in the SLAs of Robe (an SAR of 193, six), Mount Gambier (185**, 101) and Tatiara (179**, 31). Grant had a low SAR, with 28% fewer admissions than expected (an SAR of 72, eleven admissions).

The rate of admission in **Riverland** was slightly above average, with an SAR of 102 (72 admissions). Loxton Waikerie - East (an SAR of 162*, 25 admissions) and Berri and Barmera - Barmera (119, ten) both had elevated ratios. Low ratios were recorded for Berri and Barmera - Berri (an SAR of 63, ten) and Loxton Waikerie - West (79, eight).

In **Wakefield**, 175 children were admitted for a myringotomy in 2003/2004 (an SAR of 93). Elevated ratios were mapped in the SLAs of Light (134, 32), Gawler (127, 43) and Mallala (124, 20). A large number of SLAs in this region had low ratios, including Copper Coast (with an SAR of 62, 12 admissions), Barossa - Barossa (63, ten), Yorke Peninsula - North (67, eight), Wakefield (69, nine), Yorke Peninsula - South (71, five) and Clare and Gilbert Valleys (76, 12).

Eyre had eleven per cent fewer admissions for a myringotomy than expected (an SAR of 89, 68 admissions). Unincorporated West Coast (346*, five) and Cleve (209, eight) both had very highly elevated ratios, although with small numbers of admissions. Low SARs were mapped in Port Lincoln (84, 27) and Lower Eyre Peninsula (97, nine).

Hills Mallee Southern had a low SAR of 68**, with 152 admissions for a myringotomy. The highest SAR was just above average and was mapped for Adelaide Hills - North (an SAR of 101, 13). All other SLAs in the region had below average ratios, including Mount Barker Balance (an SAR of 27**, five admissions), The Coorong (49, six), Mid Murray (50, seven), Kangaroo Island (54, five), Murray Bridge (56**, 21), Victor Harbor (66, ten), Alexandrina - Strathalbyn (81, 14) and Mount Barker - Central (86, 34).

Mid North had less than two thirds the expected number of admissions for a myringotomy (an SAR of 62**, 39 admissions). Barunga West had an elevated SAR of 111 (five admissions). Low SARs were mapped in Port Pirie Balance (70, five admissions) and Port Pirie - City (75, 23).

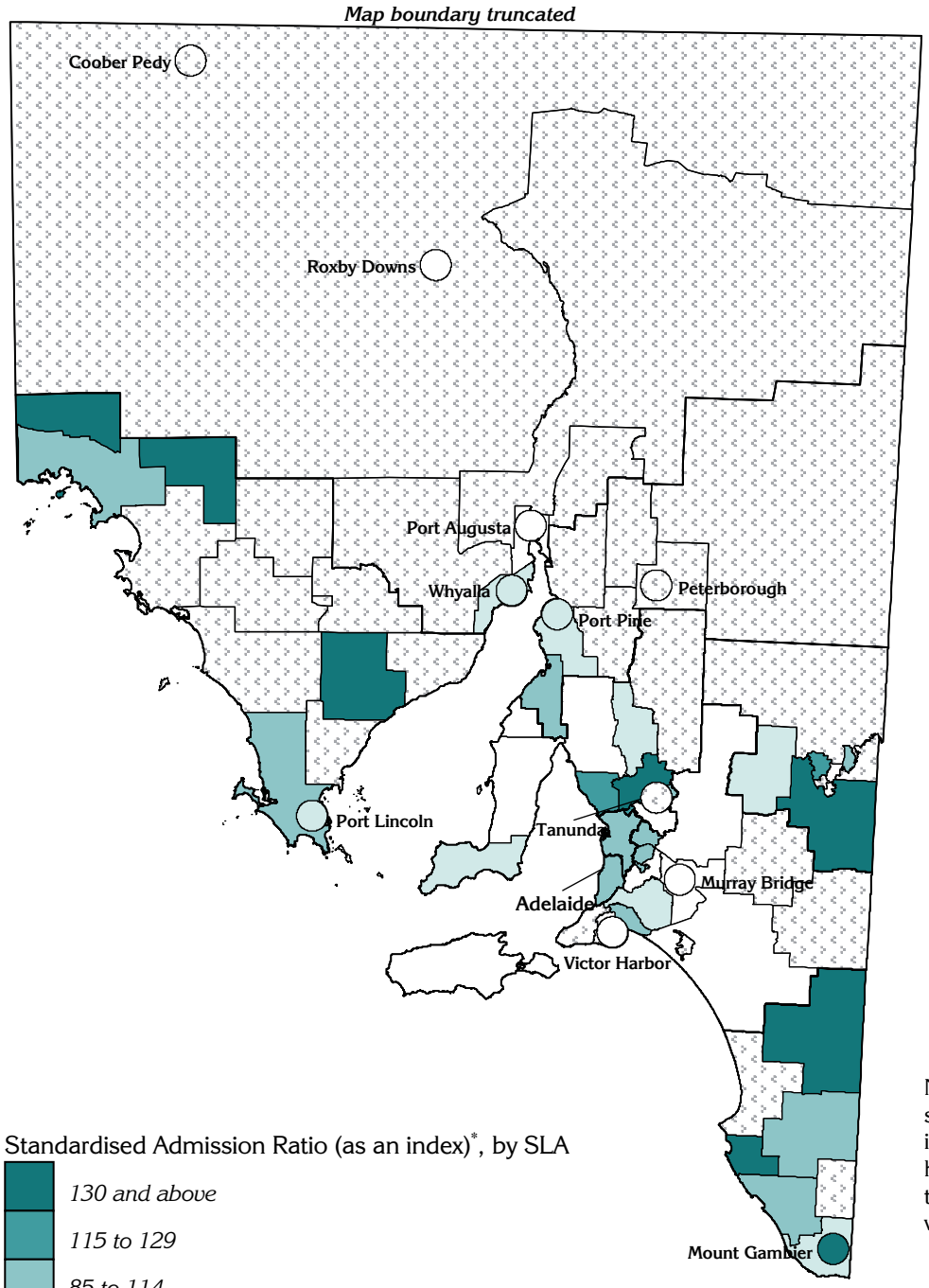
Northern and Far Western had just over half the expected number of admissions (an SAR of 54**, 61 admissions). Low ratios were mapped in Whyalla (an SAR of 72, 34), Port Augusta (46**, 14) and Roxby Downs (39*, five)

ASGC remoteness classification

There was a declining gradient across the remoteness classifications for admissions of children for a myringotomy, with the highest ratio recorded for Major Cities (105*), followed by Inner Regional (103), Outer Regional (80**), Remote (75*) and Very Remote (61*).

* **indicates statistical significance: see page 24**

Map 7.43
Admissions of children aged 0 to 9 years for a myringotomy, South Australia, 2003/2004



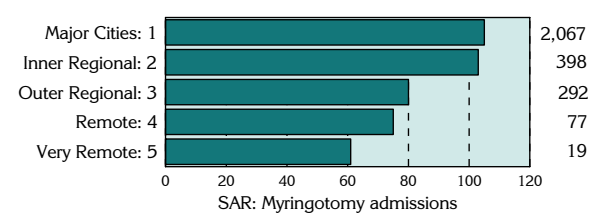
Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Standardised Admission Ratio (as an index)*, by SLA

- *130 and above*
- *115 to 129*
- *85 to 114*
- *70 to 84*
- *below 70*
- *data not mapped#*

**Index shows the number of admissions of children in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data were not mapped because the SLA has a population of less than 100, or there were fewer than five admissions



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Admissions of females aged 15 to 44 years for a Caesarean section, 2003/2004

A Caesarean section is a surgical procedure where an incision (a cut) is made through the abdominal wall and uterus to deliver the baby. A Caesarean section is usually performed when it is safer for the mother or the baby than a vaginal delivery, or a vaginal delivery is not possible. In other cases, a woman may choose to have a Caesarean section rather than deliver her baby vaginally. Thus, some Caesarean sections are planned and some are performed as an emergency. Australia's rate of Caesarean sections is high by international standards; and in South Australia in 2003, 30% of births were by Caesarean section, compared to 17% in 1981 (PC 2006). Caesarean section rates are also higher when mothers are treated as private patients in either public or private hospitals in Australia (Roberts et al. 2000).

As Caesarean sections are generally performed on women aged from 15 to 44 years, this age range has been used in standardising the data. The rates of admission in 2003/2004 for a Caesarean section for females in this age group were similar in Metropolitan Adelaide and country South Australia (Table 7.53).

Table 7.53: Admissions[1] of females aged 15 to 44 years for a Caesarean section, 2003/2004

Section of State	No.[1]	Rate[2]
Metropolitan Adelaide (incl. Gawler)	3,834	30,245
Country	1,333	28,589
South Australia	5,167	29,800

[1]**Includes admissions to public acute hospitals, private hospitals and day surgery facilities, including admissions of same day patients**
[2]**Age-standardised rate per 100,000 births**

Metropolitan regions

The metropolitan regions (excluding Gawler) had a slightly above average standardised admission ratio (SAR) for a Caesarean section, with an SAR of 101 (3,781 admissions).

There were notably more admissions than expected for Caesarean sections in SLAs throughout the Southern region, with low ratios in Central Northern.

The correlation analysis shows a weak association at the SLA level between high rates of admission for a Caesarean section and socioeconomic advantage (Table 8.1).

Central Northern Adelaide

There were fewer admissions for a Caesarean section than expected in Central Northern (an SAR of 97, 2,600 admissions). SLAs with elevated ratios (none of which were statistically significant) included Tea Tree Gully - Central (an SAR of 112, 98 admissions), Salisbury - North-East (111, 77) and Adelaide Hills - Ranges (108, 42).

Relatively large numbers of women admitted for a Caesarean section were recorded for the SLAs of Salisbury - South-East (126 admissions, an SAR of 97), Port Adelaide Enfield - East (122, 100), Tea Tree Gully - South (116, 96), Salisbury - Inner North (105, 105), Salisbury - Central (103, 99) and Tea Tree Gully - North (101, 98).

SLAs with fewer admissions than expected included Port Adelaide Enfield - Port (65**, 58), Walkerville (80, 13), Norwood Payneham St Peters - East (80, 44), Playford - Hills (80, 12), Charles Sturt - North-East (an SAR of 87, 99), Salisbury Balance (88, 42), Playford - West Central (88, 53) and - West (89, 26), and Port Adelaide Enfield - Inner (an SAR of 89, 73).

Southern Adelaide

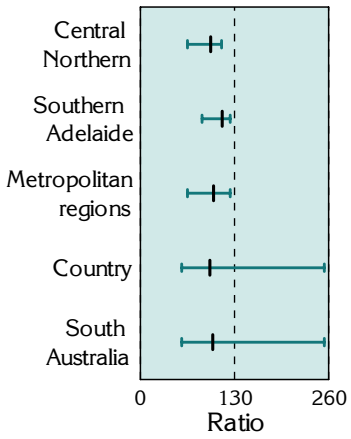
Southern had 13% more admissions for a Caesarean section than expected (an SAR of 113**, 1,181 admissions). A number of SLAs had elevated ratios, including Onkaparinga - Reservoir (an SAR of 124*, 118), - Woodcroft (119*, 141), - Morphett (118, 105), - Hackham (118, 52) and - Hills (122, 39); Holdfast Bay - North (121, 60); Mitcham - Hills (120, 75) and - West (an SAR of 111, 91); and Marion - Central (an SAR of116, 115) and - South (110, 85).

Marion - North had a relatively large number, with 92 admissions in 2003/2004 (an SAR of 105).

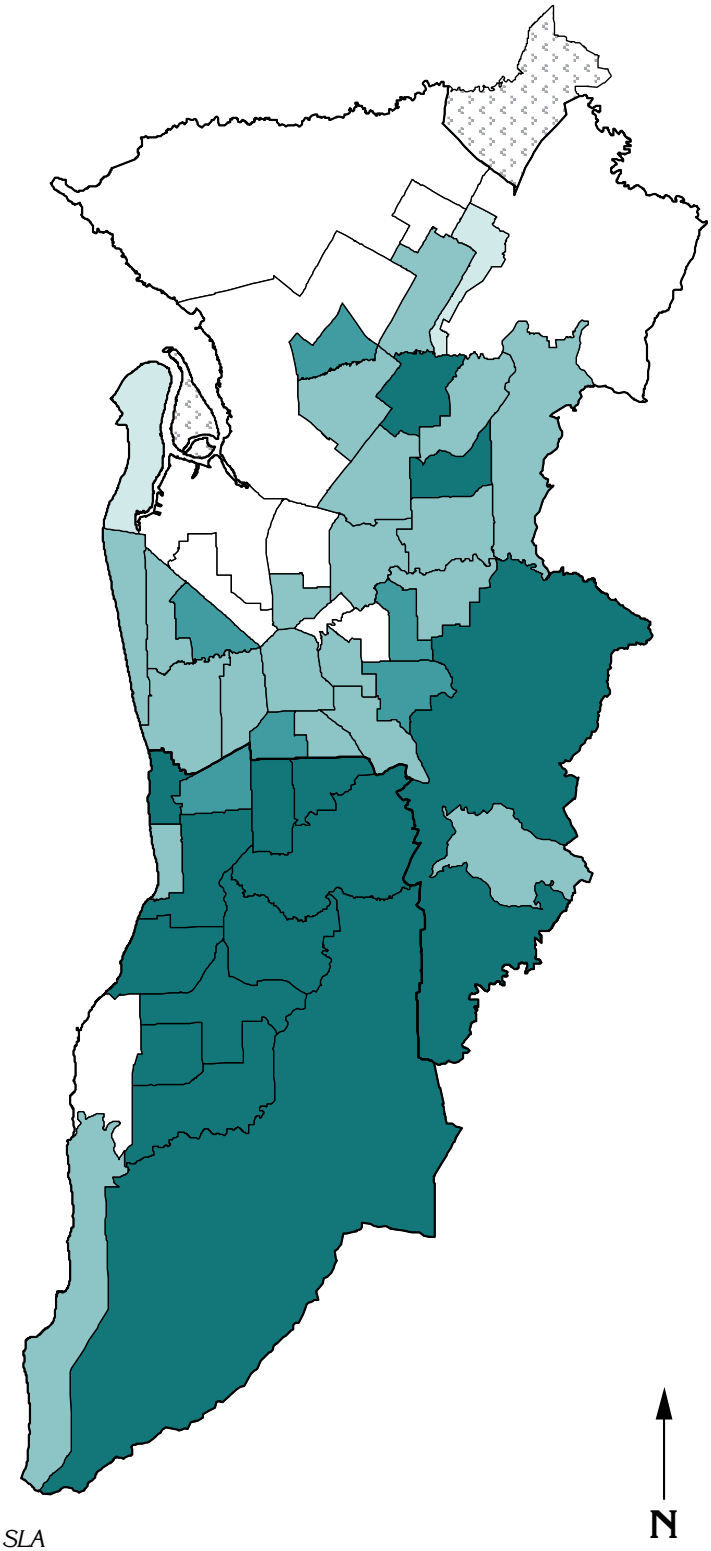
Onkaparinga - North Coast had 15% fewer admissions for a Caesarean section than expected from the State rates, with an SAR of 85 (46 admissions).

* **indicates statistical significance: see page 24**

Map 7.44
Admissions of females aged 15 to 44 years for a Caesarean section, metropolitan regions, 2003/2004



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.



SLA
Health Region

Standardised Admission Ratio (as an index)*, by SLA

- *115 and above*
- *105 to 114*
- *95 to 104*
- *85 to 94*
- *below 85*
- *data not mapped#*

**Index shows the number of admissions of females in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Admissions of females aged 15 to 44 years for a Caesarean section, 2003/2004

Country regions

In 2003/2004, 1,386 women were admitted for a Caesarean section, four per cent fewer than expected from the State rates (an SAR of 96) (Table 7.54). A number of SLAs in the State had too few admissions to be mapped. SLAs with elevated ratios were scattered throughout the State (Map 7.45).

Table 7.54: Regional totals, admissions of females aged 15 to 44 years for a Caesarean section, 2003/2004

Region	No.	SAR
Hills Mallee Southern	317	88*
Wakefield[1]	303	99
South East	207	91
Northern & Far Western	214	109
Eyre	134	105
Mid North	97	99
Riverland	114	91
Country SA	**1,386**	**96**
Central Northern	2,600	97
Southern	1,181	113**
Metropolitan regions	**3,781**	**101**
South Australia	**5,167**	**100**

[1] **Gawler is included in the Wakefield region**

The correlation analysis shows a weak association at the SLA level between high rates of admission for a Caesarean section and socioeconomic disadvantage (Table 8.2).

The Regions

Northern and Far Western had the highest SAR for a Caesarean section in country South Australia, with nine per cent more admissions than expected (an SAR of 109, 214 admissions). Flinders Ranges (145, eleven) and Port Augusta (143**, 88) both had highly elevated SARs. Unincorporated Far North also had an elevated SAR (116, 14). Low SARs were mapped in Coober Pedy (an SAR of 81, six) and Roxby Downs (78, 12).

Eyre had five per cent more admissions for a Caesarean section than expected (an SAR of 105, 134 admissions). Unincorporated West Coast had two and a half times the expected number of admissions (an SAR of 254**, eight admissions). Elevated SARs were also mapped for Tumby Bay (139, ten) and Port Lincoln (115, 66). Low SARs (and small numbers) were recorded for Ceduna (an SAR of 67, eleven), Le Hunte (81, five) and Streaky Bay (82, five).

In **Wakefield**, 303 women were admitted for a Caesarean section in 2003/2004 (an SAR of 99). SLAs with elevated SARs included Mallala (126, 28 admissions), Light (116, 51) and Copper Coast (109, 33). Gawler had a relatively large number of admissions (53 admissions, 101). Barossa - Tanunda (an SAR of 57, eight admissions), Yorke Peninsula - South (72, six), Wakefield (79, 15), Yorke Peninsula - North (87, 14) and Goyder (89, 13) all had fewer admissions than expected.

Mid North also had an SAR of 99 (97 admissions). Barunga West had twice as many admissions as expected (200*, nine). Other elevated ratios were mapped in Peterborough (109, eight), and Mount Remarkable (108, seven). Port Pirie - City recorded 50 admissions for a Caesarean section in 2003/2004 (an SAR of 94).

Riverland had nine per cent fewer admissions than expected with an SAR of 91 (114 admissions). Loxton Waikerie - West had a highly elevated SAR with 41% more admissions than expected (an SAR of 141, 25). SLAs with fewer admissions than expected included Renmark Paringa - Paringa (an SAR of 65, five), Loxton Waikerie - East (75, 18) and Berri and Barmera - Berri (80, 22).

South East also had an SAR of 91 (207 admissions). The highest SAR in this region was seven per cent above the average and was mapped for Lacepede (107, seven admissions). Wattle Range - West had a relatively large number with 30 admissions (an SAR of 93). Both Tatiara (an SAR of 85, 20) and Mount Gambier (an SAR of 85, 87) had 15% fewer admissions than expected from the State rates.

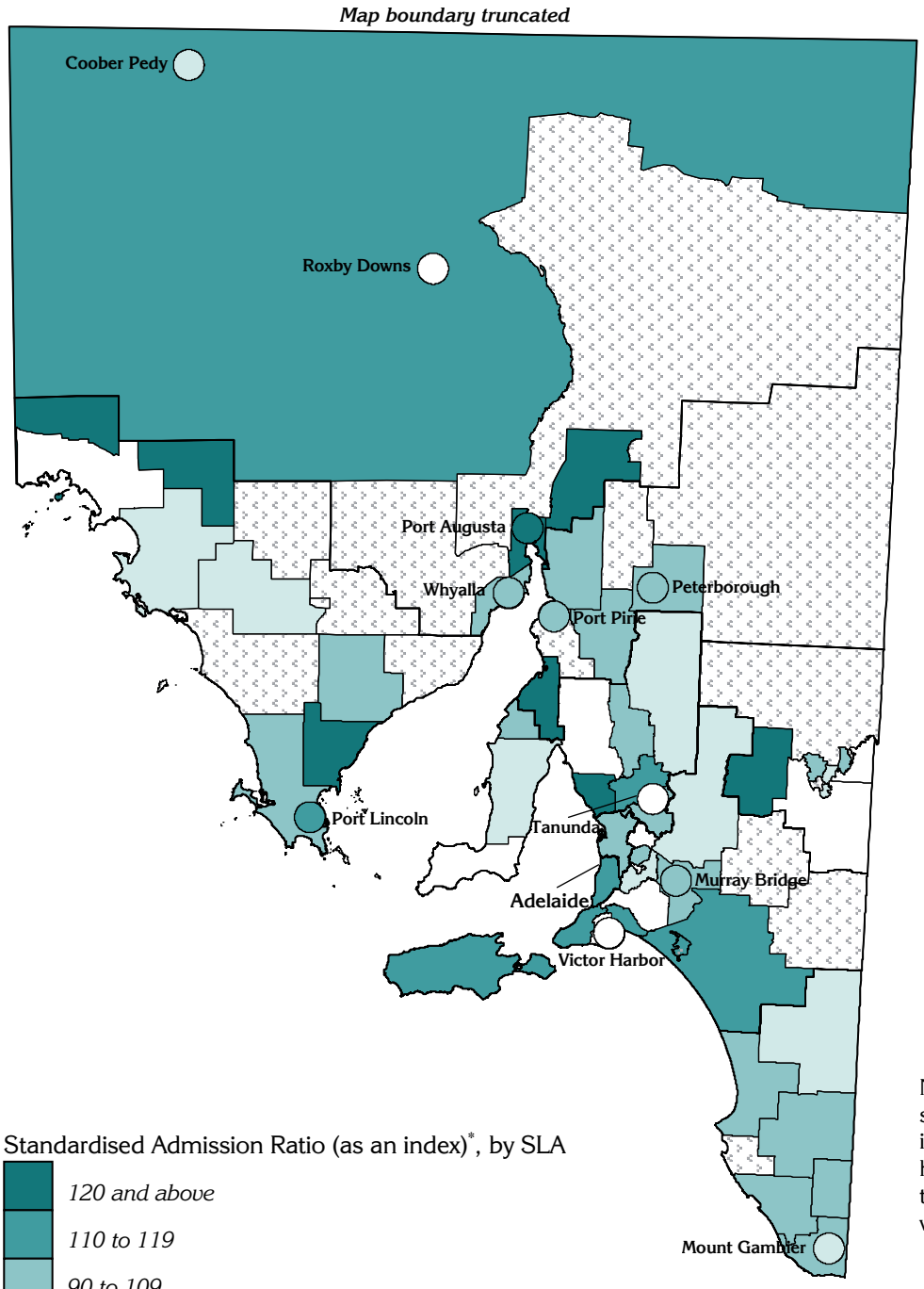
The lowest SAR in the country was recorded for **Hills Mallee Southern** with 12% fewer admissions than expected (an SAR of 88*, 317 admissions). Elevated SARs were mapped in the SLAs of Kangaroo Island (116, 16 admissions), The Coorong (116, 24), Yankalilla (114, ten) and Alexandrina - Coastal (113, 28).

ASGC remoteness classification

Major Cities, Outer Regional and Remote areas had an SAR of 101. The lowest SAR of 92* was recorded for Inner Regional Areas, followed by 98 in Very Remote.

* **indicates statistical significance: see page 24**

Map 7.45
Admissions of females aged 15 to 44 years for a Caesarean section, South Australia, 2003/2004



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

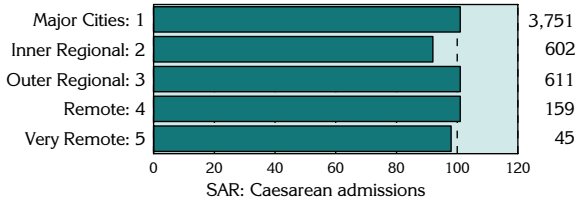
Standardised Admission Ratio (as an index)*, by SLA

- *120 and above*
- *110 to 119*
- *90 to 109*
- *80 to 89*
- *below 80*
- *data not mapped#*

**Index shows the number of admissions of females in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data were not mapped because the SLA has a population of less than 100, or there were fewer than five admissions

ASGC Remoteness classification Admissions



Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Admissions of females aged 30 years and over for a hysterectomy, 2003/2004

A hysterectomy is a surgical procedure to remove a woman's uterus (or womb) and cervix. Hysterectomies may be performed through a vaginal (37%) or abdominal (45%) incision (cut), or using laparoscopic (keyhole) surgery (18%).

The rate of admission for a hysterectomy for females aged 30 years and over has declined by nearly one quarter (22.8%), from 745.4 per 100,000 women in 1990-1992 to 575.7 in 2003/2004 (Table 7.55). The rates in Metropolitan Adelaide were consistently lower than those in the country. There was an increase in the rate of admission for a hysterectomy in country areas, from 777.5 per 100,000 women in 1990-1992, to 846.9 in 1995/1996, followed by a decline to 608.8 in 2003/2004.

Table 7.55: Admissions[1] of females aged 30 years and over for a hysterectomy

Age-standardised rate per 100,000

Section of State	1990-1992	1995/1996	2003/2004	Per cent change[2]
Metropolitan Adelaide (incl. Gawler)	741.7	637.9	563.9	-24.0
Country	777.5	846.9	608.8	-21.7
South Australia	745.4	691.5	575.7	-22.8

[1] Includes admissions to public acute hospitals, private hospitals and day surgery facilities, including admissions of same day patients

[2]Per cent change between the periods 1990-1992 and 2003/2004 in the rate of admissions of females aged 30 years and over for a hysterectomy

Metropolitan regions

In 2003/2004, there were 1,985 admissions of females 30 years and over for a hysterectomy in the metropolitan regions (excluding Gawler), two per cent fewer than expected (a standardised admission ratio (SAR) of 98). SLAs with elevated ratios were concentrated in the north and the outer south; with low ratios in a number of inner SLAs, as well as throughout the east and south-east.

The correlation analysis shows a very strong correlation with admissions of females and a weak association between high rates of admission for a hysterectomy and socioeconomic disadvantage at the SLA level (Table 8.1).

Central Northern Adelaide

The SAR was lower in Central Northern than in Southern, with five per cent fewer admissions than expected (an SAR of 95, 1,337 admissions). Playford - Hills had over half the expected number of admissions for a hysterectomy (an SAR of 220*, 13), Salisbury Balance (182*, 18), Playford - West (152, 23), Salisbury - North-East (140*, 56), Playford - Elizabeth (134*, 56), Tea Tree Gully - Central (129, 65), Salisbury - Inner North (127, 52), Charles Sturt - Inner East (115, 44), Tea Tree Gully - South (111, 69) and Salisbury - South-East (110, 71).

Relatively large numbers of admissions for hysterectomy were recorded for Port Adelaide Enfield - Coast (58 admissions, an SAR of 103), Tea Tree Gully - North (56 admissions, 105), Salisbury - Central (48, 99) and Campbelltown - East (48 admissions, 92).

A large number of SLAs in this region had fewer admissions for a hysterectomy than expected. These included Prospect (51**, 18 admissions), West Torrens - East (57**, 23), Burnside - North-East (60**, 26), Norwood Payneham St Peters - East (61, 18), Playford - East Central (64*, 21), Unley - East (65*, 24), Adelaide Hills - Ranges (71, 15), Charles Sturt - Coastal (72*, 45), Burnside - South-West (73, 31), Walkerville (74, ten), Norwood Payneham St Peters - West (81, 26), Campbelltown - West (85, 30), Charles Sturt - Inner West (85, 39), West Torrens - West (86, 44), Port Adelaide Enfield - East (87, 45) and Adelaide Hills - Central (88, 24).

Southern Adelaide

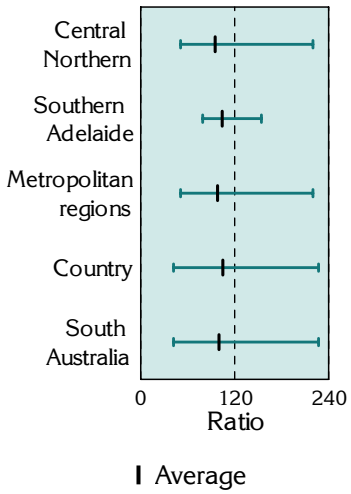
Southern Adelaide recorded four per cent more admissions than expected with an SAR of 104 (648 admissions). The Onkaparinga SLAs of - South Coast (154**, 68), - Morphett (136*, 60) and - North Coast (111, 36) all had more admissions for a hysterectomy than expected.

Large numbers of females aged 30 years and over were admitted for a hysterectomy in the SLAs of Onkaparinga - Woodcroft (63 admissions, an SAR of 96), Marion - Central (61 admissions, 96), Onkaparinga - Reservoir (55, 108) and Mitcham - Hills (49, 103).

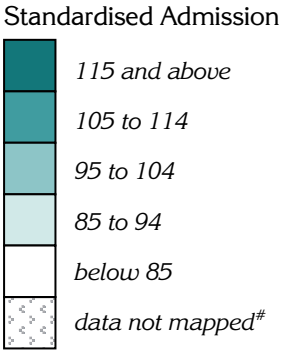
Fewer admissions than expected were recorded in the SLAs of Marion - South (an SAR of 79, 33 admissions) and Mitcham - West (83, 34).

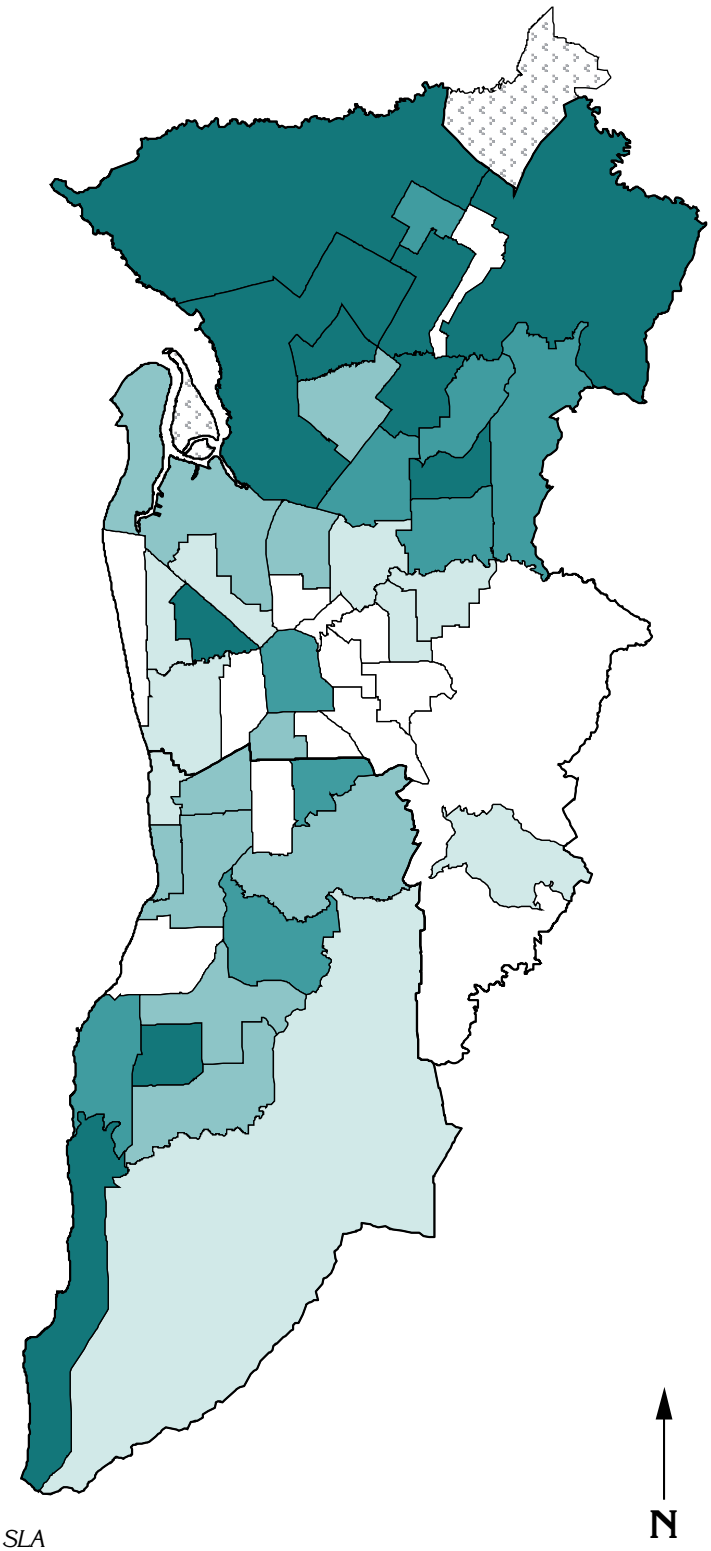
* **indicates statistical significance: see page 24**

Map 7.46
Admissions of females aged 30 years and over for a hysterectomy, metropolitan regions, 2003/2004



Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.





*Index shows the number of admissions of females in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Source: See Data sources, Appendix 1.3 ***Details of map boundaries are in Appendix 1.2***

Admissions of females aged 30 years and over for a hysterectomy, 2003/2004

Country regions

Five per cent more females aged 30 years and over were admitted to hospital for a hysterectomy than expected (an SAR of 105, 810 admissions) (Table 7.56). The majority of regions had elevated ratios, with the **Mid North** recording the highest at 46% more admissions than expected (146**, 82) and the lowest ratio with 30% fewer admissions than expected was recorded for **South East** (70**, 77 admissions).

Table 7.56: Regional totals, admissions of females aged 30 years and over for a hysterectomy, 2003/2004

Region	No.	SAR
Hills Mallee Southern	235	109
Wakefield[1]	220	118*
South East	77	70**
Northern & Far Western	59	73*
Eyre	67	112
Mid North	82	146**
Riverland	70	118
Country SA	**810**	**105**
Central Northern	1,337	95
Southern	648	104
Metropolitan regions	**1,985**	**98**
South Australia	**2,795**	**100**

[1]**Gawler is included in the Wakefield region**

The correlation analysis shows a weak association at the SLA level between high rates of admission for a hysterectomy and socioeconomic disadvantage (Table 8.2).

The Regions

The **Mid North** recorded nearly 50% more admissions for a hysterectomy than expected (an SAR of 146**, 82 admissions). SLAs within this region with elevated ratios included Peterborough (an SAR of 222, eight), Barunga West (202, ten), and Port Pirie - City (162**, 40) and Balance (155, ten). A low SAR with nearly 20% fewer admissions than expected was recorded for Northern Areas (an SAR of 81, seven).

In **Wakefield**, 220 female residents aged 30 and over were admitted for a hysterectomy (an SAR of 118*). Both Wakefield (an SAR of 211**, 25 admissions) and Barossa - Tanunda (200*, 17) had approximately twice the expected number of admissions. Other SLAs with elevated ratios included Yorke Peninsula - North (an SAR of 149, 21), Barossa - Angaston (147, 21), Light (143, 30) and Barossa - Barossa (141, 21).

Riverland had 18% more admissions than expected (an SAR of 118, 70 admissions). Within this region, highly elevated SARs were recorded for Renmark Paringa - Paringa (an SAR of 190, six admissions) and - Renmark (185**, 26), Loxton Waikerie - West (120, ten), Berri and Barmera - Berri (89, eleven) and - Barmera (88, seven), and Loxton Waikerie - East (76, ten).

Eyre had an SAR of 112 (67 admissions). Both Port Lincoln (152*, 37) and Ceduna (149, nine) had elevated ratios. Fewer admissions for a hysterectomy than expected were recorded for Lower Eyre Peninsula (66, five).

In **Hills Mallee Southern**, 235 females aged 30 years and over were admitted for a hysterectomy (an SAR of 109). Elevated ratios were recorded for the SLAs of Southern Mallee (an SAR of 190, seven), The Coorong (190*, 20), Murray Bridge (145*, 44), Yankalilla (140, eleven) and Adelaide Hills - North (122, 16).

Northern and Far Western had one quarter fewer admissions for a hysterectomy than expected (an SAR of 73*, 59 admissions). Many SLAs in this region had too few admissions to be mapped. Of those with sufficient numbers, Unincorporated Flinders Ranges had more than twice the expected number (an SAR of 227, five admissions), and both Whyalla (an SAR of 74, 27) and Port Augusta (an SAR of 80, 19) had fewer admissions than expected.

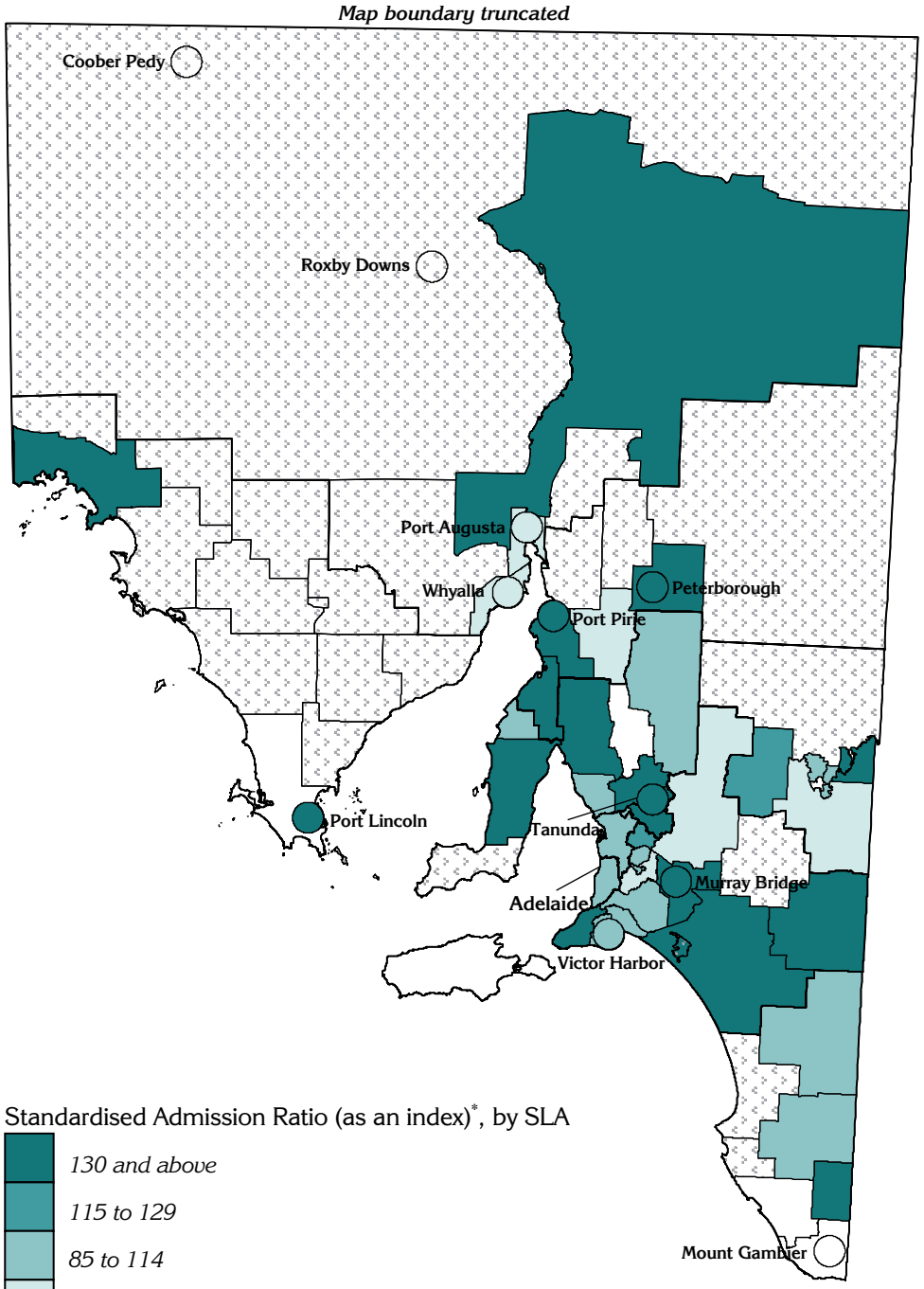
South East had the lowest SAR with 30% fewer admissions than expected (an SAR of 70**, 77 admissions). Wattle Range - East had a highly elevated SAR of 187 (ten admissions). There was considerable variation in the region with the lowest SAR of 42 recorded for Wattle Range - West (42*, seven), followed by Mount Gambier (53**, 22) and Grant (68, ten).

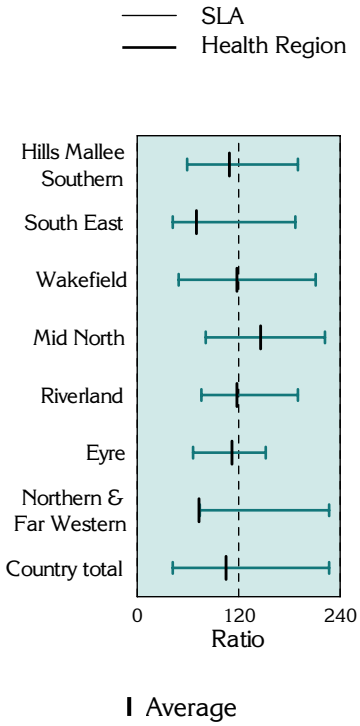
ASGC remoteness classification

The most highly elevated SAR was recorded for Inner Regional areas (114**) and declined to 77 for Very Remote areas. Major Cities had fewer admissions than expected with an SAR of 97.

* **indicates statistical significance: see page 24**

Map 7.47
Admissions of females aged 30 years and over for a hysterectomy, South Australia, 2003/2004





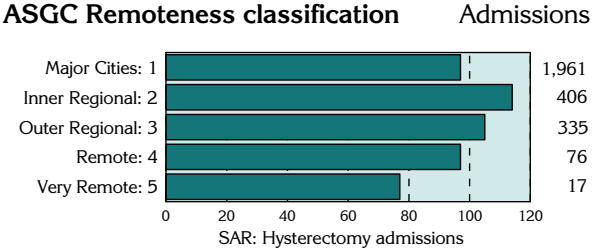
Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Standardised Admission Ratio (as an index)*, by SLA

- *130 and above*
- *115 to 129*
- *85 to 114*
- *70 to 84*
- *below 70*
- *data not mapped#*

**Index shows the number of admissions of females in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals*

#Data were not mapped because the SLA has a population of less than 100, or there were fewer than five admissions



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Hospital booking lists: people waiting for more than six months for elective (non-urgent) surgical procedures, 30 June 2004

Each of the major metropolitan public acute hospitals (see Table 7.22, page 357) maintains a list of people who have been assessed as needing elective (i.e. non-urgent) surgery: these lists are referred to as 'booking lists'. People requiring urgent treatment for life-threatening conditions are not placed on a booking list but are admitted for treatment. A small number of people may be on the booking lists of more than one hospital.

The number of people on a booking list with a waiting period of more than six months decreased from 3,065 in 1992 to 2,560 in 2002, and then rose to 3,519 in 2004, an increase of nine per cent in the age standardised rate in South Australia over this 12-year period (Table 7.57). The larger percentage increase in the rate for country residents reflects, in part, their much smaller numbers on a booking list in earlier years.

Table 7.57: People waiting for elective surgery and on a booking list for more than six months[1]

Age-standardised rate per 100,000

Section of State	1992	2002	2004	Per cent change[2]
Metropolitan Adelaide (incl. Gawler)	256	196	272	6.3
Country	83	76	115	38.6
South Australia	211	168	230	9.0

[1] Includes people on a booking list of a public acute hospital: data based on people on a booking list for 181 days or longer: expressed here as 'for more than six months'

[2]Per cent change between 1992 and 2004 in the rate of people waiting for elective surgery and on a booking list for more than six months

Metropolitan regions

In 2004, 3,023 residents of the metropolitan regions (excluding Gawler) had been on a booking list for more than six months, 19% more than expected from the State rates (a standardised ratio of 119**) (Table 7.58).

The map (Map 7.48) and the correlation analysis show there is a very strong association at the SLA level between being on a booking list for more than six months, and socioeconomic disadvantage (Table 8.1). This is to be expected, as residents of some of the most disadvantaged SLAs also make the greatest use of public hospitals. However, the extent of their over-representation is greater than is indicated by their use of hospitals. For example, Onkaparinga - Morphett has an admission rate to a public hospital 14% above the metropolitan average, yet has almost twice the metropolitan rate of people on a booking list. In the north, people in the Salisbury SLAs of - South-East and - Central were also over-represented on a booking list (two thirds above the metropolitan average), compared with 16% and 15% above-average admission rates, respectively. In Playford - Elizabeth and - West Central, with 56% and 65% more admissions than the State average, there were also well above-average rates of people on a booking list, 67% and 58%, respectively (see Table 7.59 on page 434).

Central Northern Adelaide

There were 2,060 residents of Central Northern who had been on a hospital booking list for more than six months: this was 15% more people than expected from the State rates (a standardised ratio of 115**). Highly elevated ratios were recorded in the outer northern SLAs of Playford - Elizabeth (195**, 114 people), - West Central (184**, 47), and - East Central (140*, 56); Salisbury - South-East (191**, 153), - Central (188**, 113), - Inner North (174**, 86) and Salisbury Balance (131, 17); as well as in Tea Tree Gully - Central (132*, 77). There were also highly elevated ratios in the north-west and western SLAs of Port Adelaide Enfield - Port (168**, 103), - Inner (151**, 72), - East (138**, 97) and - Coast (131*, 88); and in Charles Sturt - North-East (140**, 85).

The lowest ratios were recorded for people in Adelaide Hills - Central (35**, ten), Burnside - North-East (40**, 21), Burnside - South-West (42**, 21), Unley - East (42**, 20), Adelaide Hills - Ranges (50*, eleven), Walkerville (56, ten) and Norwood Payneham St Peters - West (67*, 28).

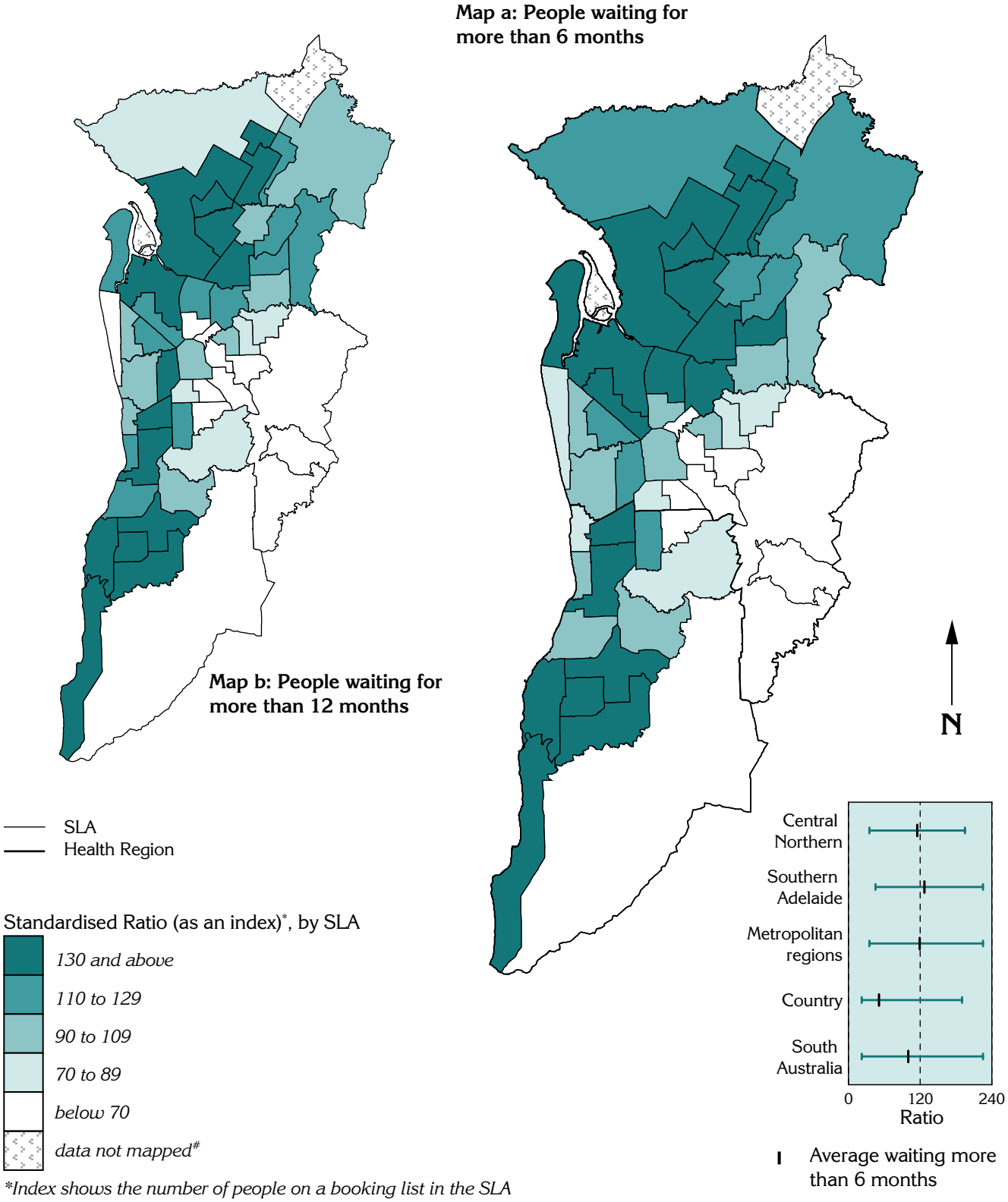
Southern Adelaide

Residents of the Southern region had a more highly elevated ratio (an SR of 127**) than recorded for Central Northern, with the most highly elevated ratio in Metropolitan Adelaide being in Onkaparinga - Morphett (225**, 120). There were also highly elevated ratios in the Onkaparinga SLAs of - Hackham (186**, 55), - South Coast (163**, 87), - North Coast (132*, 56) and - Woodcroft (156**, 116); and in Marion - Central (146**, 122) and - North (138**, 89).

Relatively few people in Mitcham - North-East (45**, 17) and Onkaparinga - Hills (64, 16) had been on a hospital booking list for more than six months.

* **indicates statistical significance: see page 24**

Map 7.48
Hospital booking lists: people waiting for elective (non-urgent) surgical procedures, metropolitan regions, 30 June 2004



*Index shows the number of people on a booking list in the SLA compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data for Torrens Island are mapped with Port Adelaide: Gawler has been mapped in the State map

Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

Hospital booking lists: people waiting for more than six months for elective (non-urgent) surgical procedures, 30 June 2004

Country South Australia

In 2004, there were 49% fewer country people on a hospital booking list for more than six months than expected from the State rates (a standardised ratio of 51**), a total of 496 people (Table 7.58).

Standardised ratios were relatively low and all below 100 in country South Australia (Map 7.49). Due to the relatively small numbers of people on waiting lists, the map overleaf showing the spatial distribution of these individuals has been produced for each health region (which cover larger areas than the SLAs). The data will be discussed in terms of the major towns within these regions and the remaining area in that region (referred to as the 'balance').

Table7.58: Regional totals, People on a booking list for more than six months, at 30 June 2004

Region	No.	SR
Hills Mallee Southern	147	55**
Wakefield[1]	173	74**
South East	33	24**
Northern & Far Western	59	55**
Eyre	34	44**
Mid North	31	42**
Riverland	20	26**
Country SA	**496**	**51****
Central Northern	2,060	115**
Southern	963	127**
Metropolitan regions	**3,023**	**119****
South Australia	**3,519**	**100**

[1]**Gawler is included in the Wakefield region**

Being on a booking list for more than six months is weakly correlated at the SLA level with indicators of socioeconomic disadvantage (Table 8.2).

The Regions

There were 173 people on a booking list for six months or more in **Wakefield**, 26% fewer than expected from the State rates (a standardised ratio of 74**). The majority of these people were located in Wakefield Balance (171 people, 77**), with a further 32 in Gawler (an SR of 74).

In **Hills Mallee Southern**, there were 147 people waiting on a booking list for six months or more (a standardised ratio of 55**). The SLA of Hills Mallee Southern Balance had the highest ratio in the region (59**, 115 people), followed by Victor Harbor (54**, 18) and Murray Bridge (37**, 15).

Only 59 residents of **Northern and Far Western** were recorded as being on a booking list for six months or more (a ratio of 55**). Within the region, the towns of Roxby Downs (a ratio of 89, six people) and Coober Pedy (87, five people) had the highest ratios, although with very small numbers of people on a booking list. Other ratios of note were Port Augusta (74, 22), Northern and Far Western Balance (57, ten people) and Whyalla (33**, 16).

In **Eyre,** there were fewer than half the expected number of people on a waiting list (a standardised ratio of 44**, 34 people). Port Lincoln had a similar ratio of 45** (14 people) and Eyre Balance had a ratio of 44** (20 people).

Mid North had a standardised ratio of 42** (31 people). Port Pirie - City had a ratio of 48** (16 people) and there was a very low ratio of 34** (12 people) in Mid North Balance.

Riverland had a ratio approximately one quarter of that expected from the State rates (26**, 20 people).

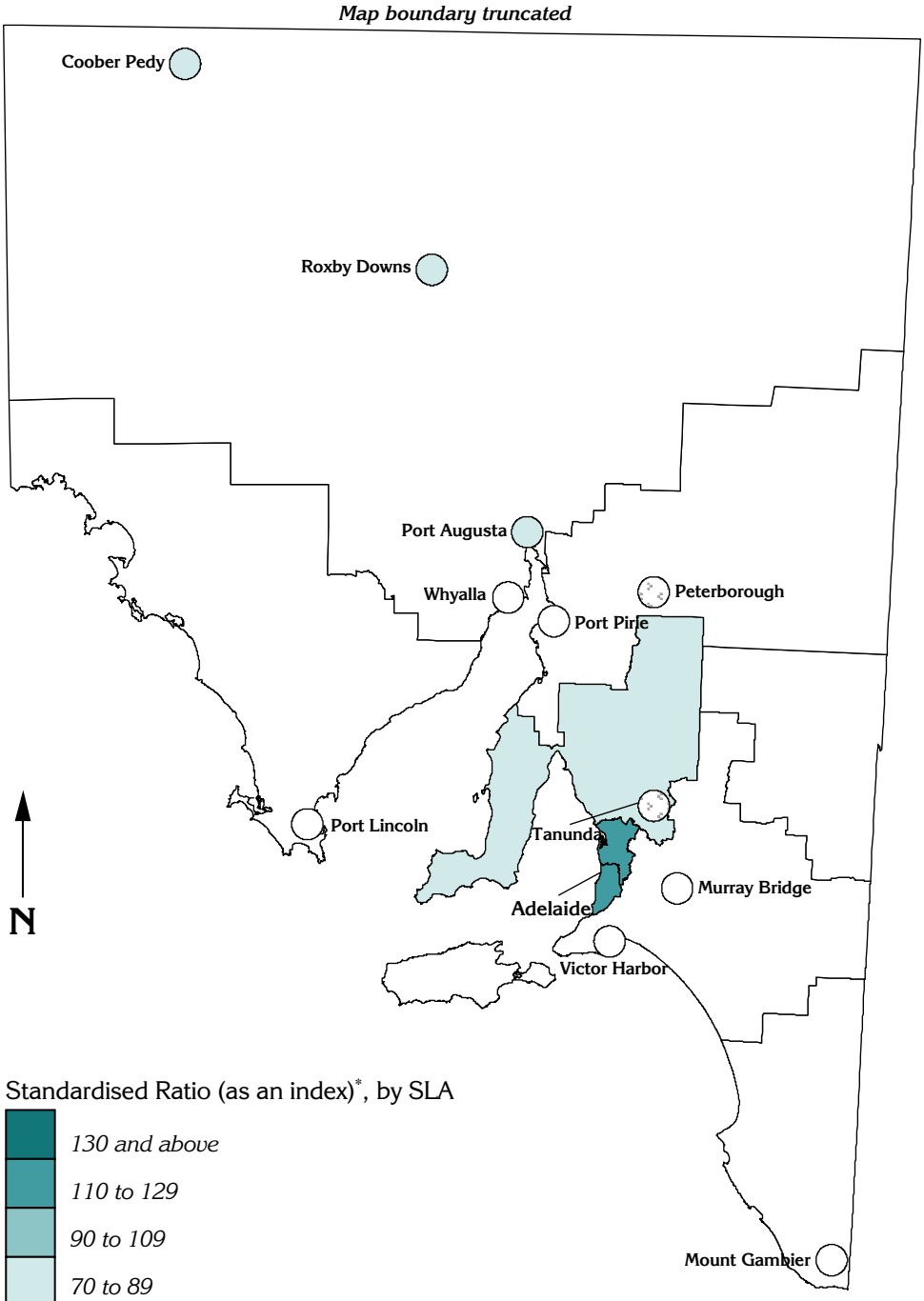
Similarly, **South East** had a very low standardised ratio, of 24**, representing 76% fewer people on a waiting list than expected from the State rates (33 people). Mount Gambier also had a very low ratio of 22** (eleven people) as did South East Balance (24**, 22).

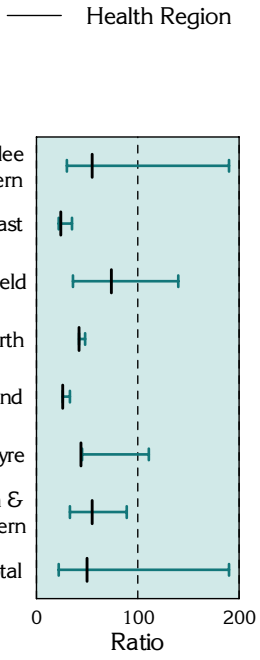
ASGC remoteness classification

There is a marked variation across the State, with the highest ratio of people on a booking list in the Major Cities areas (a ratio of 118**). The ratio then declines for the Inner Regional (57**) and Outer Regional (44**) areas, before increasing in the Remote (61**) and Very Remote (77**) areas.

* **indicates statistical significance: see page 24**

Map 7.49
Hospital booking lists: people waiting for more than six months for elective (non-urgent) surgical procedures, South Australia, 30 June 2004





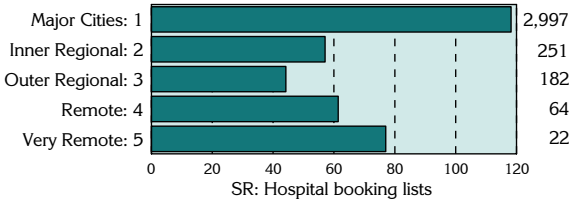
Note: The black vertical lines show the average ratio for this indicator in each region; the horizontal lines show the range of the indicator at the SLA level within the region.

Standardised Ratio (as an index)*, by SLA

- *130 and above*
- *110 to 129*
- *90 to 109*
- *70 to 89*
- *below 70*
- *data not mapped#*

*Index shows the number of people on booking lists for more than six months in the region or town compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

#Data were not mapped because the town had fewer than five people on a booking list



Source: See Data sources, Appendix 1.3

Details of map boundaries are in Appendix 1.2

The hospitals with booking lists are: Flinders Medical Centre, Lyell McEwin Health Service, Modbury Hospital, Royal Adelaide Hospital, Women's and Children's Hospital, and The Queen Elizabeth Hospital. Reference to this table is made on page 430.

Table 7.59: Comparison of booking list and admission rates, selected SLAs, Metropolitan Adelaide, at 30 June 2004

SLA	Ratio of rate[1] (Booking List or Admissions) in SLA to Metropolitan Adelaide average for that category			
	Booking List	Admissions (not just admissions from a booking list)		
		All	to public acute hospitals	to private hospitals
Onkaparinga - Morphett	1.93	1.10	1.14	1.02
Playford - Elizabeth	1.67	1.24	1.56	0.62
Salisbury - South-East	1.63	1.10	1.16	1.00
Salisbury - Central	1.61	1.07	1.15	0.93
Onkaparinga - Hackham	1.60	0.99	1.16	0.67
Playford - West Central	1.58	1.29	1.65	0.56
Salisbury - Inner North	1.49	1.00	1.15	0.67
Port Adelaide Enfield - Port	1.44	1.11	1.38	0.60
Onkaparinga - South Coast	1.40	0.98	1.08	0.81
Onkaparinga - Woodcroft	1.34	0.87	0.84	0.92
Port Adelaide Enfield - Inner	1.29	1.13	1.21	0.99
Marion - Central	1.25	1.02	0.92	1.20
Playford - East Central	1.20	0.86	0.87	0.84
Charles Sturt - North-East	1.20	0.97	1.09	0.74
Port Adelaide Enfield - East	1.18	0.93	0.97	0.85
Marion - North	1.18	1.01	0.92	1.16
Onkaparinga - North Coast	1.13	1.16	1.36	0.79
Tea Tree Gully - Central	1.13	0.92	0.86	1.05
Port Adelaide Enfield - Coast	1.13	1.13	1.15	1.10
Salisbury Balance	1.13	0.98	0.95	1.05
West Torrens - East	1.08	0.75	0.72	0.81
Playford - Hills	1.07	0.84	0.77	0.96
Tea Tree Gully - North	1.06	0.97	0.84	1.25
Salisbury - North-East	1.02	1.00	0.94	1.11

[1] **'Ratio of rate' is the ratio of the age standardised rate per 100,000 of people on a booking list to the age standardised rate per 100,000 admissions**