

Central Northern Adelaide Health Service

A Social Health Atlas

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Government of South Australia

Central Northern Adelaide
Health Service

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FOREWORD

It is with great pleasure that we are able to present our first Social Health Atlas for the Central Northern Adelaide Health Service.

The purpose of this Social Health Atlas is firstly, to provide the basis for the region to understand and determine priorities for our regional health planning and secondly, for our key partners in other government or non-government agencies to utilise the data to inform their planning processes.

As we all can appreciate, health is a complex environment and there are many factors that determine and/or influence the health status of our population. These can include, but are not limited to, individual lifestyle factors, social and community networks, living and working conditions and accessibility to health services.

As a Region, we have significant challenges given the diversity and size of our population, and the combination of responsibility for improving the health and wellbeing of our designated population and supporting the provision of state-wide services to the broader South Australian community.

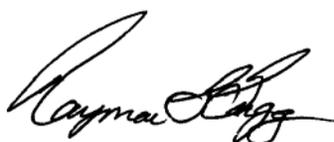
This Social Health Atlas provides a comprehensive collection of information for the Central Northern Adelaide Health Service and associated state-wide services, which has been collated from a range of difference data sources, either managed locally or available from other agencies.

Every attempt has been made to ensure that the data provided is reflective of the most current information; however it is acknowledged that, in some instances, the data is the best that is available.

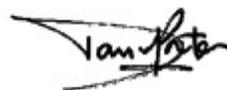
The information within this Social Health Atlas will be used widely during consultation processes with our key partners and our communities, in order to ensure that the strategies developed will make a difference to the health and wellbeing of our population.

We would like to take this opportunity to acknowledge the significant contribution of staff at the Public Health Information Development Unit, The University of Adelaide who worked with us in order to make this publication possible.

We commend this report to you and hope that collectively we can move forward together in improving the health and wellbeing of our population.



Raymond G Grigg
Chairman, Board of Directors



Dr David Panter
Chief Executive Officer

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EXECUTIVE SUMMARY

The Central Northern Adelaide Health Service (CNAHS) is the largest of the three regional health services in the Adelaide metropolitan area. The regions were created as part of the SA Government's reform agenda following the release of the Generational Health Review (April 2003) and the Government's response, *First Steps Forward* (June 2003). The main platform for the reform was an enhanced focus on governance processes and the development of fully integrated health services across the 'continuum of care'.

The purpose of the CNAHS Social Health Atlas is to provide a document for the region to use with our key partners in determining our priorities for future investment. The Atlas includes our vision, purpose, guiding principles, strategic priorities and objectives and will assist us in our decision making processes.

Our regional planning will be undertaken in line with the South Australian Government's State Strategic Plan (2004), the Department of Health's Strategic Directions (2004-2006) and, from a regional perspective, our commitment to:

- Developing primary health care
- Modernising mental health
- Improving the health of Aboriginal and Torres Strait Islander people and communities, and
- Consolidation and development of hospital services

The information is presented in a form which will allow individual organisations to focus on particular communities. In addition to this hardcopy version, the Atlas is also available in an interactive form on the PHIDU website (<http://www.publichealth.gov.au>), with online mapping facilities and access to the supporting background data.

Some of the key characteristics of the CNAHS Region are:

- The Region incorporates 38 Statistical Local Areas;
- Our estimated resident population is 774,701 which represents 50.7 per cent of the State's total population;
- Population projections are indicating that, whilst as a State our population will increase by 3.4 per cent (or 51,577 people) by 2020, over half of that growth will be in our region (29,328 people);
- The proportion of Aboriginal and Torres Strait Islander people is estimated to be 1.2 per cent (9,388 people);
- The proportion of people from Culturally And Linguistically Diverse (CALD) backgrounds is estimated to be 13.9 per cent (102,767 people);
- The Region contains areas of both the highest and lowest scores for the Socio-Economic Index for Areas (SEIFA) which indicates the diversity of the region;
- The proportion of low income families represents 23.1 percent of our population, but this includes not only families in poverty, but also many older persons who are asset rich, but income poor;
- The Region contains some of the best-served (central city, eastern suburbs) as well as the least well-served areas (north-western and north) with respect to availability of general practitioners, specialist and allied health practitioners;
- The Region provides services across a continuum of care: from primary health care to acute and specialist hospital and state-wide services; and
- The Region employs approximately 10,700 staff and has an operating budget of almost a billion dollars.

Overview

The health and wellbeing of the South Australian population is generally high when compared to the populations of many overseas countries. Examples include our life expectancy and overall infant mortality rates. However, these statistics hide substantial differences in the health and wellbeing of specific groups within the population.

The CNAHS region contains just over half of the State's population and therefore has a similar socioeconomic profile to the State as whole. However, significant socioeconomic variations in health and wellbeing also exist across its areas and within its communities. Some of these, as identified in this atlas for the CNAHS region, are summarised in Table 1 below.

Table 1: Selected indicators of socioeconomic inequalities in health in the CNAHS region

Indicator	Socioeconomic pattern evident?	Estimated extent of health inequality
Low birthweight babies	Yes – increasing prevalence with increasing disadvantage	Those in the most disadvantaged quintile (fifth of the population) were 50% more likely to have a baby born with a low birthweight than those in the most advantaged quintile (first).
Self-reported health	Yes – increased reporting of fair or poor health with increasing disadvantage	Those in the most disadvantaged quintile were 44% more likely to assess their own health as fair or poor compared to those in the most advantaged quintile.
Risk factors:		
High psychological distress	Yes – increasing prevalence with increasing disadvantage	Those in the most disadvantaged quintile were more than twice as likely to have very high psychological distress levels as those in the most advantaged quintile.
Obesity in male adults	Yes – increasing prevalence with increasing disadvantage	Males in the most disadvantaged quintile were 59% more likely to be obese than males in the most advantaged quintile.
Obesity in female adults	Yes – increasing prevalence with increasing disadvantage	Females in the most disadvantaged quintile were 36% more likely to be obese than women in the most advantaged quintile.
Current smoker	Yes – increasing prevalence with increasing disadvantage	Those in the most disadvantaged quintile were 28% more likely to be a current smoker than those in the most advantaged quintile.
Physical inactivity	Yes – increasing prevalence with increasing disadvantage	Those in the most disadvantaged quintile were 35% more likely to be physically inactive than those in the most advantaged quintile.
Disease or disorder:		
Diabetes type 2	Yes – increasing prevalence with increasing disadvantage	Those in the most disadvantaged quintile were 45% more likely to have diabetes type 2 compared to those in the most advantaged quintile.
Mental and behavioural disorders	Yes – increasing prevalence with increasing disadvantage	Those in the most disadvantaged quintile were 33% more likely to have a mental and behavioural disorder than those in the most advantaged quintile.
Arthritis	Yes – increasing prevalence with increasing disadvantage	Those in the most disadvantaged quintile were 17% more likely to have arthritis than those in the most advantaged quintile.
Lung cancer	Yes – increasing incidence with increasing disadvantage	The incidence of lung cancer was 61% higher in the most disadvantaged quintile compared to the most advantaged.

Indicator	Socioeconomic pattern evident?	Estimated extent of health inequality
<i>Disease or disorder: (continued)</i>		
Premature death of males	Yes – increasing likelihood with increasing disadvantage	Males in the most disadvantaged quintile were nearly twice as likely to die prematurely compared to those in the most advantaged quintile.
Premature death of females	Yes – increasing likelihood with increasing disadvantage	Females in the most disadvantaged quintile were 51% more likely to die prematurely compared to those in the most advantaged quintile.
Avoidable mortality	Yes – increasing likelihood with increasing disadvantage	Those in the most disadvantaged quintile were two thirds more likely to die of avoidable causes before 75 years of age than those in the most advantaged quintile.
<i>Service use:</i>		
Community health service clients	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were nearly 12 times more likely to use these services than those in the most advantaged quintile.
Community mental health service clients	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were 2.4 times more likely to use these services than those in the most advantaged quintile.
CAMHS services	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were 2.75 times more likely to use these services than those in the most advantaged quintile.
Department for Families and Communities services clients	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were 5.7 times more likely to use these services than those in the most advantaged.
Domiciliary care services	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were two and half times more likely to require domiciliary care than those in the most advantaged quintile.
District nursing (RDNS) services	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were 49% more likely to be an RDNS client compared to the most advantaged quintile.
GP services	Yes – increasing use with increasing disadvantage	For males and for females, there were 40% more services by GPs in the most disadvantaged areas than in the most advantaged areas.
A & E attendance	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were over two and a half times as likely to attend A & E as those in the most advantaged.
Outpatient department attendances	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were 2.3 times as likely to attend A & E as those in the most advantaged quintile.
Specialist medical consultations in outpatient departments	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were 2.4 times as likely to attend for consultations with specialist medical practitioners in outpatient departments as those in the most advantaged quintile.
Admissions to public acute hospitals	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were 2.3 times as likely to be admitted to public acute hospitals as those in the most advantaged quintile.

Indicator	Socioeconomic pattern evident?	Estimated extent of health inequality
Admissions for a hysterectomy	Yes – increasing service use with increasing disadvantage	Those in the most disadvantaged quintile were over one third more likely to be admitted for a hysterectomy as those in the most advantaged quintile.
On a hospital waiting list for more than six months	Yes – increasing likelihood of waiting with increasing disadvantage	Those in the most disadvantaged quintile were three times more likely to be on a waiting list than those in the most advantaged.

The patterns of health inequality that are evident here are also present in other regions of South Australia and in the other States and Territories. While there is still more to be learned about the nature of health inequality and its close relationship to social inequality, we need to invest now in finding effective interventions to ameliorate its long term impact on health and wellbeing.

As the Social Health Atlas demonstrates patterns of health and wellbeing across the CNAHS region as a whole and area by area, it can help decision-makers to make better informed judgements about trends in inequalities in health and to develop more appropriate policies to improve them. Initiatives to reduce health inequalities also need to address different 'layers of influence', from strengthening individuals and communities to improving access to essential services and facilities, and encouraging macroeconomic and policy change that improves health and addresses health inequalities.

Therefore, the information in the Social Health Atlas can be used for a range of purposes. At the local level, for example:

- local partnerships between different stakeholders can identify patterns of health and wellbeing in the geographical areas of most interest to them, and explore how their findings compare with the picture elsewhere in the CNAHS region;
- intersectoral or multi-agency partnerships can use the findings to help inform their needs assessments of different populations and areas; and
- neighbourhood and community groups can draw on the findings to identify outstanding needs and build a case for improved services.

At a regional level, health service and other agencies will be able to draw on the Social Health Atlas in order to:

- identify trends across the region;
- track emerging issues that cross regional or sub-regional boundaries or affect particular populations; and
- identify trends over time.

Central to effective approaches is a focus on communities: the ways in which the places where people live or work can hinder or contribute to good health. Many resources which people need to lead healthy lives are less available, or of poorer quality in areas inhabited by people whose personal or household resources are also more constrained. For example, facilities for physical recreation may be fewest in areas where public and private transport is scarce, people are least likely to have their own facilities and where the local environment is not conducive to walking, cycling or jogging. We need to build active relationships with members of disadvantaged groups who have poorer health to assist in making decisions about priority services and interventions. To this end, the CNAHS is committed to closing the gap between the most advantaged sections of the region and the least advantaged as highlighted by many of the indicators identified throughout the atlas.

In summary, it is clear from the information provided that we have a diverse region with a range of challenges we need to meet, if we want to gain the confidence of our communities that we are making a difference to their health and wellbeing.

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INTRODUCTION

The Central Northern Adelaide Health Service (CNAHS) is the largest of the three regional health services in the Adelaide metropolitan area. The regions were created as part of the SA Government's reform agenda following the release of the Generational Health Review (April 2003) and the Government's response through *First Steps Forward* (June 2003). The main platform for the reform was an enhanced focus on governance processes and the development of fully integrated health services across the 'continuum of care'.

BACKGROUND

The CNAHS Board, in line with its role and responsibilities, has developed a Vision, Statement of Purpose and Guiding Principles in order to provide the overall strategic direction for the health service. They are:

<p>Vision</p> <p>We will have the best health outcomes in Australia</p>	
<p>Statement of Purpose</p> <p>With our stakeholders, CNAHS will lead and deliver a comprehensive health system which significantly improves health and wellbeing in our communities</p>	
<p style="text-align: center;">Guiding Principles</p> <p>Trust – We will be open, honest, consistent and clear in all our actions and communications</p> <p>Social Justice – We will work towards equitable health delivery and outcomes</p> <p>Reconciliation – We will continue to build improved relationships between indigenous and non-indigenous communities</p> <p>Stakeholder Engagement – We will genuinely work together as a team</p> <p>Alliances – We will actively encourage joint ventures and partnerships towards the achievement of our common goals</p> <p>Safety – We will minimise financial, environmental and clinical risk</p> <p>Quality and Innovation – We will embrace new and innovative ways of achieving and maintaining the highest standards of excellence supported by research and training</p> <p>Accountability and Responsibility – We will actively support the acceptance of responsibility and accountability at all levels of the organisation</p>	<p style="text-align: center;">Strategic Priorities</p> <p>The Board, in line with the South Australian Government's Strategic Plan (2004), the Department of Health's Strategic Directions (2004-2006) and our vision, have identified the following key strategic priorities:</p> <p style="text-align: center;">Developing Primary Health Care</p> <p style="text-align: center;">Mental Health Modernisation</p> <p style="text-align: center;">Improving the Health of Aboriginal and Torres Strait Islander People and Communities</p> <p style="text-align: center;">Consolidation and Development of Hospital Services</p> <p>These strategic priorities will be underpinned through the consideration of:</p> <p style="text-align: center;">Workforce Development and Management</p> <p style="text-align: center;">Quality and Safety</p> <p style="text-align: center;">Development of Shared Services</p>

OUR ORGANISATION

In building our new organisation, the Region has been mindful of the opportunities created by developing our services so that we can do things in a different way. The Region is striving to have our communities and our people as the focus and to design our services to meet their needs. A new structure has been developed which will focus on a service and geographic orientation, rather than the previously independent organisational arrangements.

Four Service Directorates and four Support Directorates have been established:

Acute Services Directorate Royal Adelaide Hospital (RAH) Hampstead Rehabilitation Centre St Margaret's Rehabilitation Hospital The Queen Elizabeth Hospital (TQEH) Lyell McEwin Hospital (LMH) Modbury Hospital	Primary Health Care Directorate Primary Health Care Services (PHC) Western Central Eastern North/North Eastern Prison Health Services BreastScreen SA (Statewide Service)
Mental Health Directorate Early Intervention and Acute Services Rehabilitation and Recovery Services Statewide Specialist Services	South Australian Dental Service (SADS) (Statewide Service) School Dental Service Community Dental Service Adelaide Dental Hospital
Aboriginal and Torres Strait Islander Health Directorate	Service Development Directorate
Finance and Information and Communication Technology Directorate	Human Resource and Organisational Development Directorate

Our Key Partners for the CNAHS

There are many organisations with which the CNAHS liaises and works in relation to health service developments for the CNAHS community. They are:

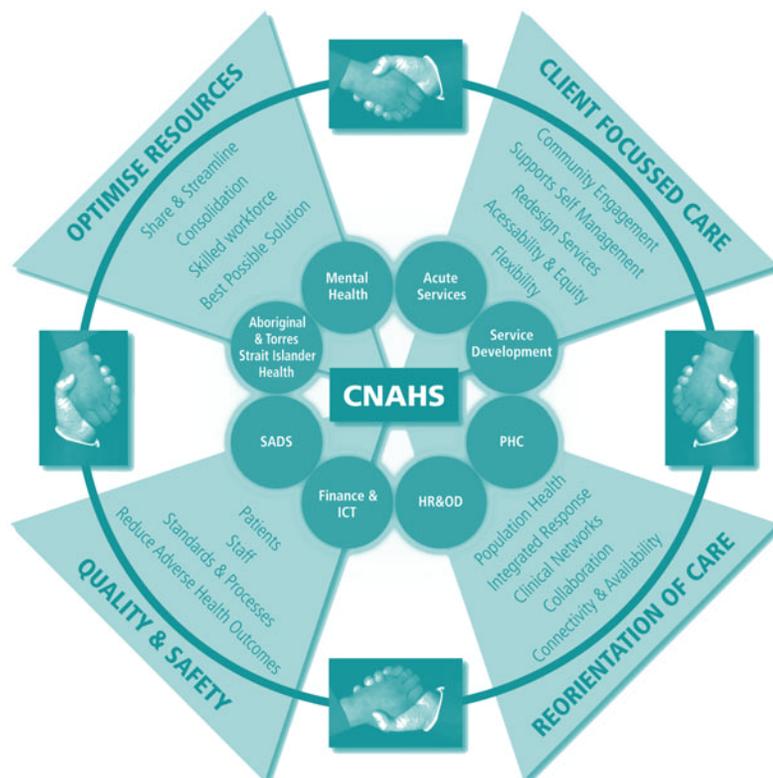
- Our Communities
- Department of Health
- Southern Adelaide Health Service
- Children, Youth and Women's Health Service
- Divisions of General Practice associated with the CNAHS community including:
 - Adelaide Central and Eastern Division of General Practice
 - Adelaide Northern Division of General Practice
 - Adelaide North East Division of General Practice
 - Adelaide Western Division of General Practice and
 - Part of the Adelaide hills Division of General Practice
- Metropolitan Domiciliary Care (MDC)
- Royal District Nursing Services (RDNS)
- 14 Local Government Areas
- Non-government service providers
- Aged care sector providers
- Aboriginal Controlled Organisations

STRATEGIC OBJECTIVES

In order to operationalise the CNAHS Board's Vision, Statement of Purpose, Guiding Principles and Strategic Priorities, the Executive has developed four key foundations that will underpin our day to day planning, implementation and evaluation of our programs. They are 'client focussed care', 'quality and safety', 'reorientation of care' and 'optimising resources'.

Client Focussed Care

- Increase community awareness and participation in determining required health services of the CNAHS including Aboriginal and Torres Strait Islander people, people from culturally and linguistically diverse backgrounds and people with mental health problems.
- Re-design services within the CNAHS to meet the current and future health needs and priorities of the local population.
- Ensure accessibility and equity of health care services in a timely and effective manner.
- Increase flexibility of services to support new and changing models of care.
- Create an environment to support self management, early intervention/ prevention and chronic disease management within the CNAHS population.



Quality and Safety

- Create and maintain an environment that delivers high quality care and ensures the safety of patients, consumers and staff through effective systems and services within the CNAHS.
- Ensure compliance with Accreditation and other associated health quality and safety standards.
- Provide a safe and secure environment for patients, consumers and staff.
- Establish and implement processes that support the reduction of adverse health outcomes.
- Ensure patients and consumers are informed of their rights and responsibilities in relation to decisions about their care.

Reorientation of Care

- Create a single system response to the health needs of the population within the CNAHS that aligns across the continuum of care including health promotion, illness prevention, and primary health care and acute services.
- Develop integrated clinical and service networks within the CNAHS and across the health system.
- Ensure greater collaboration between service providers and service receivers to facilitate the continuum of care across the public, private and non-government sectors.
- Improve the connectivity and reliability of key systems.
- Ensure availability of systems that provide accurate information in a timely manner that enables clinicians and other service providers to make appropriate decisions.

Optimise Resources

- Optimise the use of available resources within the CNAHS to achieve desired health care outcomes.
- Ensure best possible outcomes within the agreed CNAHS operating budget.
- Consolidate existing facilities, space and services to increase efficiency.
- Share and streamline resources to minimise service overlaps and duplication.
- Ensure a skilled and capable workforce that is flexible and responsive to the health needs of the community served by the CNAHS.

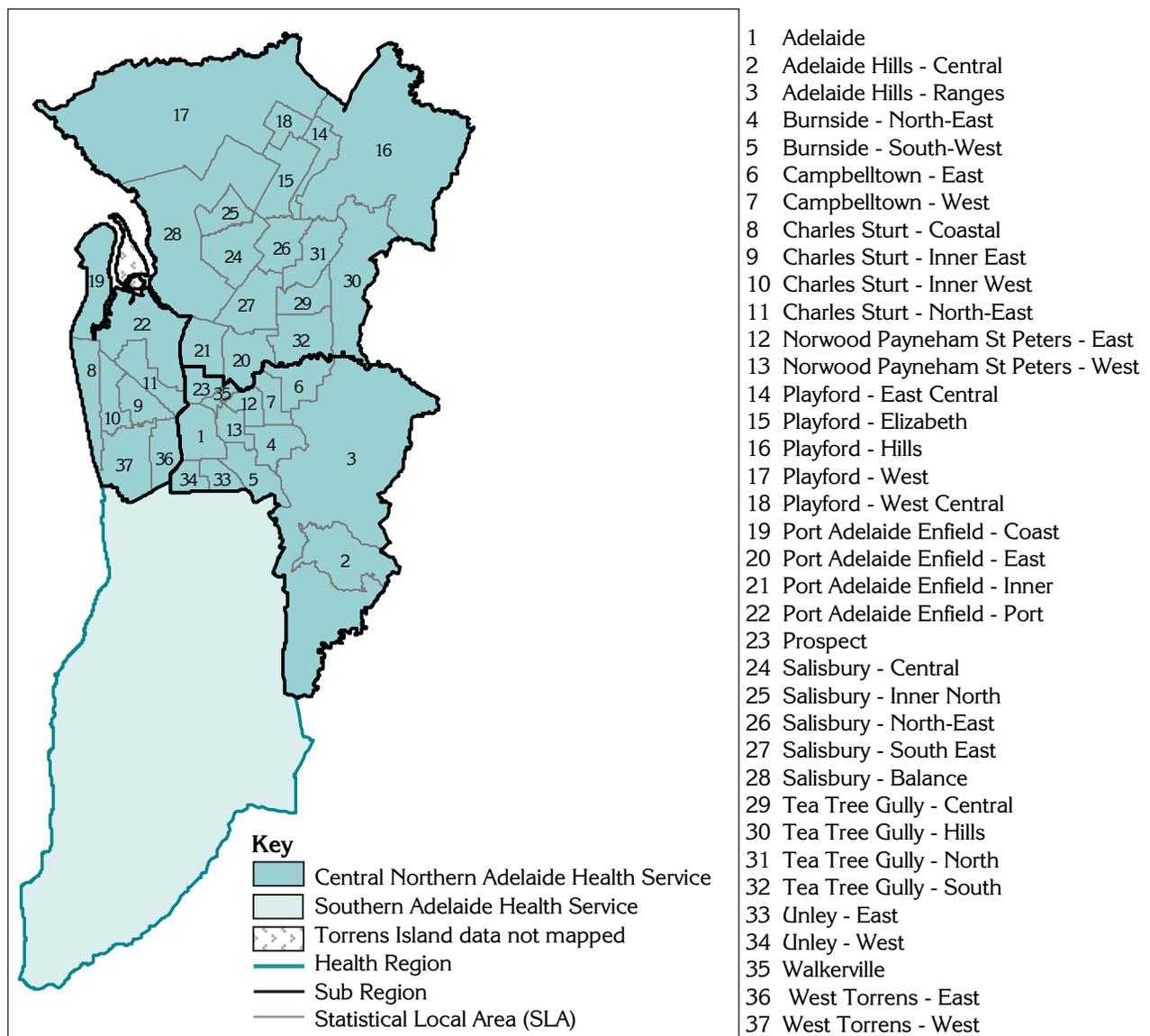
A SNAPSHOT OF THE REGION

The CNAHS region is the largest metropolitan health region, including 38 Statistical Local Areas (SLAs) as shown in the map below (Map 1). Given the size of our region, we have developed three sub regions for the purposes of planning and determining service relationships through consultation with our key partners.

These sub regions have been identified as:

1. **Central East** – incorporates Adelaide, Adelaide Hills (Central and Ranges), Burnside (North-East and South-West), Campbelltown (East and West), Norwood Payneham St Peters (East and West), Prospect, Unley (East and West) and Walkerville.
2. **Western** – incorporates Charles Sturt (Coastal, Inner East, Inner West, North-East), Port Adelaide Enfield (Coast and Port) and West Torrens (East and West).
3. **Northern** – incorporates Playford (East Central, Elizabeth, Hills, West and West Central), Port Adelaide Enfield (East and Inner), Salisbury (Central, Inner North, North-East, South-East and Balance), and Tea Tree Gully (Central, Hills, North and South).

Map 1: Map of the Central Northern Adelaide Health Service areas



Population Characteristics

The CNAHS region comprised 774,701 people at 30 June 2004 – some 50.7 per cent of the State's total population. Its population grew at a slower rate than the State as a whole between 1996 and 2001 (0.48 per cent compared with 0.50 per cent), and between 2001 and 2004, its annual growth rate (0.49 per cent) remained below the level of the total State (0.51 per cent).

Since the region has more than half of the State's population, its age structure is strongly similar to that of the State as a whole. However, there is an over-representation in the young adult ages (15 to 24 years) – a cohort in which South Australia as a whole is deficient compared with Australia as a whole. Both the 0 to 4 and 5 to 14 year age groups were under-represented in the area, compared with South Australia as a whole, but the decline in the 0 to 4 year age group was lower, and the increase in the 5 to 14 year age group was greater in the region than in the State as a whole.

The 15 to 24 year youth category is one of the most crucial from the perspective of the State's economic and social development. Between 1991 and 2001, the number of persons in South Australia aged between 15 and 24 years declined by around 18,930 or nine per cent. However, fully 74 per cent of this decline was accounted for by the CNAHS region, which saw a loss of approximately 14,000 in this age category between 1991 and 2001. Nevertheless, the group were still slightly over-represented at the 2001 population census. The loss in these ages is partly a function of lower fertility cohorts moving into this age group, but especially of the sustained net migration loss of this age group, which South Australia experienced in the 1990s.

The experience for the 65 years and older age group is in stark contrast to the younger ages, with a marked growth of 17.5 per cent between 1991 and 2001 in the region, but this was not as substantial as the growth in the State as a whole (21.3 per cent). Nevertheless, the proportion aged over 65 years (14.7 per cent) is the same as for the State as a whole.

It is important to underline that the CNAHS region is large and heterogeneous, and the whole of region trends discussed here are the average between sub regions with much higher or lower values. For example, the region contains some of the State's largest growing populations (e.g. Salisbury LGA was the largest growth area in Adelaide in 2003/04, increasing by 2,100 persons) as well as areas experiencing population declines (e.g. Tea Tree Gully LGA's population decreased by 170 persons).

Socioeconomic Profile

In no area is this intra regional diversity more evident than in socioeconomic status. The Index of Relative Socio-Economic Disadvantage (IRSD, described on page 19) score for the region is only slightly lower than for the State as a whole and the metropolitan regions, but the CNAHS region contains the areas of both highest and lowest scores in the metropolitan regions. A similar proportion of families are in the low income category (23.1 per cent) to the State as a whole (23.8 per cent), and the proportion has increased substantially since 1991 when 17.7 per cent of families in the region had low incomes (compared with 19 per cent in the State as a whole). It is important to note that low income families in this region not only include families in poverty, but also many older persons and older couples who are asset rich, but income poor.

It is interesting that while the State's population grew by only 7.5 per cent between 1991 and 2001, the number of households grew by 14.6 per cent. However, the bulk of extra growth was in single person households and the number of families increased by only 6.1 per cent. In the CNAHS region, the increase in the number of families was even smaller – 5 per cent. There is a slightly higher proportion of families made up of single parent families in the CNAHS region (11.5 per cent) than is the case in the State as a whole (11 per cent). This reflects the inclusion of some of Adelaide's poorest areas (such as the Parks and some northern suburbs) in the region. This is exemplified by the fact that 20.4 per cent of families with one or more children in the region had no parent employed, compared with 18.7 per cent in the State as a whole.

Labour force

The proportion of the labour force who are unskilled or semi-skilled workers was 17.4 per cent compared with 18.9 per cent in the State as a whole. However, there are wide differences between the different parts of the area in the occupational structure, with the proportion of unskilled and semi-skilled workers being much lower in the eastern and central suburbs than in the northern and western suburbs. In the region, the proportion of the labour force that was unemployed fell from 12.4 per cent in 1991, to 6.9 per cent in 2001, reflecting the improvement in the labour market situation over the decade. This compares to a fall from 11.6 per cent to 6.8 per cent in the State as a whole.

Female labour force participation decreased in the region from 69.4 per cent in 1991 to 65.8 per cent in 2001. In the State as a whole, it fell from 69.5 per cent to 66.3 per cent. Educational participation levels have on the other hand increased from 75.7 per cent to 80.1 per cent, compared with 76.6 per cent to 80.1 per cent in the State as a whole.

Cultural diversity

One of the distinguishing features of the region is that it is more diverse than the State and the Adelaide metropolitan regions as a whole. Some 1.2 per cent of the population is Indigenous (up from 0.8 per cent in 1991). While this is lower than in the State as a whole (1.6 per cent), it is higher than the proportion across the entire metropolitan regions (one per cent). There were 102,767 people born in a non-English speaking country (i.e. those from CALD backgrounds) in Central Northern in 2001, reflecting the downturn in immigration to the State over the last decade. The number of people from CALD backgrounds in the region in 2001 who had arrived in Australia over the previous four years declined by more than a third from 16,042 to 10,535. Nevertheless, 74.5 per cent of this group in the State lived in this region in 2001. This is reflected in the fact that three per cent of the region's adults have a poor proficiency in English, compared with 1.8 per cent in the State as a whole, and 2.3 per cent in the Adelaide Metropolitan Area.

Housing

Another characteristic of the region is that a higher proportion of the housing stock is public, South Australian Housing Trust (SAHT) housing – 8.7 per cent compared with 7.7 per cent in the State as a whole and 8 per cent in the metropolitan regions. However, this masks the fact that the region contains some of the major concentrations of SAHT housing in the Adelaide metropolitan regions. The reduced availability of state housing is reflected in the fact that the number of SAHT dwellings in the region declined from 31,745 in 1991 to 25,848 in 2001. The large number of poor households and households comprised of elderly persons also accounts for the region having 11.6 per cent of all households without a motor vehicle, compared with 9.9 per cent in the State as a whole. The proportion using the Internet at home in the last week (26.7 per cent) was slightly above the State average (25.6 per cent).

Challenges and trends

While the region is diverse, the various parts of it will face different challenges over the next decade or so, which will impinge on the need for health and related services in the region. These include the following:

- The trajectory that the region's population takes over the next two decades will be strongly influenced by the extent to which South Australia is successful in its population policy efforts to increase population growth. If the State's population were to continue to increase at current rates or at somewhat higher rates, the increase would be disproportionately absorbed in the CNAHS region, particularly in the northern SLAs of Playford and Salisbury. These SLAs will continue to be the fastest growing in the Adelaide Statistical Division since they still have substantial parcels of land, which have yet to be put under housing.
- The inner and middle-eastern, western and northern suburbs and central Adelaide are part of the region, and these areas will experience greater population growth than in the recent past due to increased infill, urban consolidation and gentrification.
- There will be an increasing contrast between the eastern and inner areas, which will continue to be higher income, older areas with their young adult populations having small numbers of children. The outer areas will continue to have lower incomes, larger families and a greater incidence of poverty.
- The Parks region, despite substantial efforts to change it, remains a substantial concentration of socioeconomic disadvantage and presents a significant challenge to planners.
- The region's share of South Australia's older population will increase, and the numbers in the more dependent elderly ages over 75 will increase even faster than that of the total population, so this will create considerable pressure on health services.
- The region will continue to be the most multiculturally diverse within South Australia. This diversity will increase with the increasing numbers of refugee-humanitarian settlers from the Horn of Africa (Sudan, Ethiopia, and Eritrea) who are now dominating Australia's refugee intake and are settling in disproportionately large numbers in Adelaide – most in the CNAHS region. The region's share of the State's Indigenous population is also likely to increase.
- While there is variation within the region, it is certain that there will be a disproportionate concentration in some parts of the region of groups experiencing multiple disadvantages – socioeconomic, physical or mental disability, low levels of skill and training, and exclusion from the workforce and other areas of society.

The trends anticipated above have a number of implications for health services in the region, which will need to be addressed:

- The region contains some of the best-served (central city, eastern suburbs) as well as least well-served parts of Adelaide, with respect to availability of general practitioners. The latter applies to much of the north-western and northern suburbs.
- This difference is also evident across the entire array of specialised medical services and for allied health practitioners.
- There is, on the other hand in parts of the CNAHS region, a greater concentration of many of the risk factors for poor physical and mental health such as concentrations of people with low socioeconomic status, significant groups of excluded persons, concentrations of unemployed persons, single parent families, disabled persons, people with low levels of education, refugees and others from non-English speaking households.
- There are in the north and parts of the northwest concentrations of culturally distinct groups such as Aboriginal and Torres Strait Islander people, Vietnamese people and recently arrived African refugees, who have distinct health needs.
- A further characteristic of the region is that there are areas of low rates of private health insurance taken up, which is also likely to place pressure on the region's public health facilities.

This section introduces the key influences on our health and wellbeing, identifies the importance of socioeconomic and related factors on health, and describes some of the key patterns that are illustrated in the range of data and maps in the first Social Health Atlas for the Central Northern Adelaide Health Service (CNAHS). It also highlights the substantial differences in health, or ‘health inequalities’, that are evident across the regional population, within different population sub-groups, and at a sub-regional level.

The Social Health Atlas also provides data about the current health and wellbeing of our population against State indicators for people of all ages, and illustrates some important factors that are associated with their health and wellbeing. It will also be useful to other State government sectors in the region (such as education, housing, justice, welfare, environment and planning), local government, non-government and other agencies, and those in the community who are interested in health, and the socioeconomic and other factors that influence it.

Defining ‘Health and Wellbeing’

The South Australian Government’s health reform program recognises the need to define ‘health’ in a way that better reflects its positive dimensions, rather than just ‘the state of not being ill’¹. We need to describe health in terms of broader wellbeing, ‘an everyday resource – the capacity to adapt to, respond to, or control life’s challenges and changes’². However, good health is not only personal ‘quality of life’. There is evidence that investing in the health of communities as a whole also brings substantial benefits for society and the economy, while ill health can be a heavy financial burden. Thus, good health is also an essential element for social cohesion, economic growth and sustainable development³.

Above all, health is also a fundamental human right, and a basic need that no one should be unnecessarily denied. It is the expectation of every citizen that they will be accorded the “right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control” (United Nations 1948).

What Determines Our Health and Wellbeing?

It is now recognised that a broad range of factors determine our health, both at an individual level and at a population level⁴. Those that have the most important effects are known as ‘the determinants of health and wellbeing’. These include personal characteristics, such as the genes that we inherit from our parents, and aspects of our own beliefs, behaviours and coping abilities. Other significant influences operate within our families, neighbourhoods, communities, culture or kinship groups, and society as a whole.

These factors do not exist in isolation from each other, but function as an interactive web⁵. Many determinants overlap, and more remains to be learned about specific factors and the ways in which they influence our health, at different times in our lives.

Figure 1 illustrates the key health determinants as ‘layers of influence’, starting with individual factors and extending to aspects of the wider community⁶. While health services can make a direct contribution to the health and wellbeing of a population, Figure 1 shows that many of the key factors that determine our health and wellbeing are also found in non-health sectors such as education,

housing, employment, and the environment. Recently, it has been suggested that an outer layer incorporating global environmental changes might also be added to the diagram ⁷.

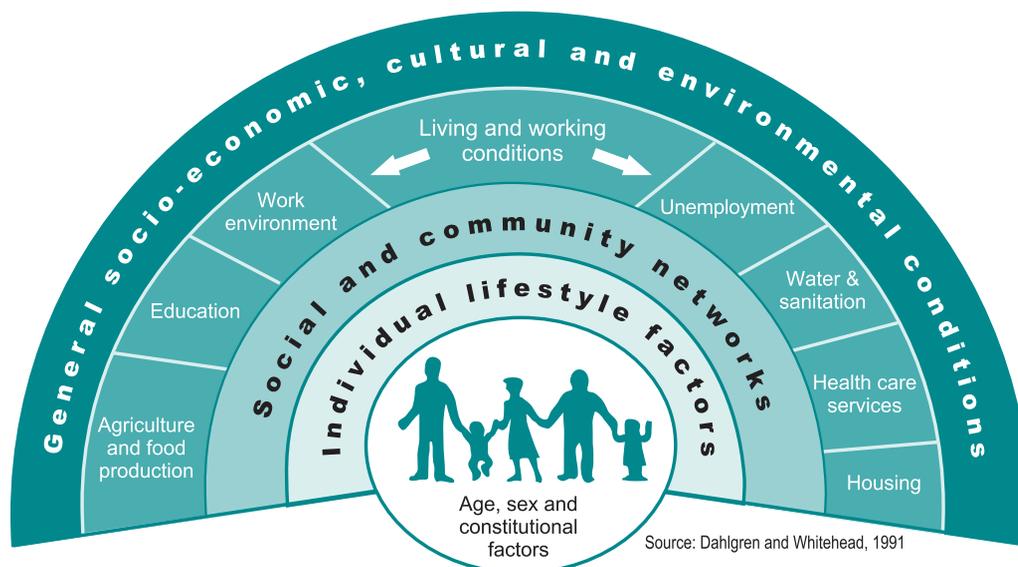
The key influences or ‘determinants’ of our health are:

- biology and genetic endowment;
- healthy growth and development in childhood;
- personal health practices and coping skills;
- social support networks;
- health services;
- gender and sexuality;
- culture, spirituality and kinship;
- income and social position;
- education;
- employment and working conditions; and
- the wider physical and social environments in which we live ⁵.

The model links influences from various levels – including society-wide factors (e.g., physical, environmental, socioeconomic), middle-level factors (e.g., health care and other services) and individual and small-group factors (e.g., tobacco use), to explain the origins of health and wellbeing ⁸.

Thus, health is the result of multiple determinants that operate together within genetic, biological, behavioural, social, cultural and economic and ecologic contexts, and which have differing influences at various points in our lives ⁹. The life pathways that result are the product of cumulative risk and protective factors and other influences in our social environments. A single risk factor (being obese or having experienced family violence) may contribute to a number of problems, just as one protective factor (good nutrition or having a supportive family) may help to defend against other problems ¹⁰. Environmental risks and protective factors can occur independently, or may cluster together in socially patterned ways ¹¹.

Figure 1: The Key Determinants of Health and Wellbeing



Social and economic factors are among the most important individual-level determinants, and one’s overall health and wellbeing tend to improve at each step up the economic and social hierarchy. This is known as ‘the social gradient’. Furthermore, this gradient exists for a wide range of other outcomes – from mental health and coping behaviours, to literacy and mathematical achievement ¹². These effects may persist throughout the lifespan, from birth, through adulthood and into old age, and possibly to the next generation ^{13, 14}.

Other models of health determinants are also useful. In 1986, the Ottawa Charter for Health Promotion recognised that the fundamental conditions for health and wellbeing were peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity. More

recently, the World Health Organization updated “*The Solid Facts*”, which identified the following areas as important social determinants where action can be taken through public policy to improve health: the social gradient; stress; early life; social exclusion; work and unemployment; social support; addiction; food; and transport ¹⁵.

Together, all these models identify the significant roles played by public policy, history and culture, aspects of our environment, access to high quality services, community and social support, behaviours and skills, as well as biological factors, in determining our health and wellbeing. Societies that enable all citizens to play a full and useful role in the community’s social, economic and cultural life will be healthier than those where people face insecurity, exclusion and deprivation ¹⁵.

Understanding ‘Population Health’

Health can be described at many different levels: the personal health of an individual, the health of an area or local community, or the overall health of a group of people or a population who share a characteristic - for example, the health of young children, or the health of Aboriginal and Torres Strait Islander people. The direction of the health reform in South Australia has a greater focus on ‘population health’, in addition to the more traditional focus on individual health care.

The Department of Health has chosen to use a definition of population health based on the Health Canada definition ¹⁶, which views population health as a plan of action, as well as a means of understanding health determinants:

Population health aims to improve the health of the entire population and to reduce health inequalities among population groups by addressing and acting upon a broad range of factors and conditions that influence health.

For Aboriginal and Torres Strait Islander peoples in South Australia, an extension of the definition of wellbeing proposed by the National Aboriginal Health Strategy (NAHS) Working Party in 1989 is also pertinent ¹⁷:

Not just the physical wellbeing of the individual but the social, emotional and cultural wellbeing of the whole community. This is the whole-of-life view and it also includes the cyclical concept of life-death-life.

This definition clearly indicates that achieving health and wellbeing is an attribute of communities, as well as of the individuals within a community; and it identifies cultural wellbeing, along with physical, social and emotional wellbeing, as equally important ¹⁸. The aim of a population health approach should be ‘that Aboriginal and Torres Strait Islander people enjoy a healthy life equal to that of the general population, that is enshrined by a strong living culture, dignity and justice [#]. This recognises the importance of achieving improvements to Aboriginal and Torres Strait Islander health and acknowledges the particular health issues facing many Indigenous communities.

In determining the factors that underpin the health and wellbeing of South Australians, both individual and population-level influences are important. However, a population-based approach considers the interconnectedness of all health determinants and mediating factors, and their complex interactions upon the health of the community. Therefore, ‘taking a population approach’ means establishing strong links across many different sectors and working together to take action to contribute to the community’s health overall. The Social Health Atlas provides a picture of population-level health outcomes and socioeconomic influences, and where those efforts might be directed.

[#] As defined in the Strategic Framework for Aboriginal and Torres Strait Islander Health (NATSIHC).

Health and Other Inequalities

The level of health and wellbeing of the South Australian population is high when compared to the populations of many overseas countries. Examples include our long life expectancy and overall low infant mortality rates.

However, these summary statistics hide substantial differences in the health and wellbeing of particular groups within our population. For example, compared with other South Australians, Aboriginal and Torres Strait Islander people are disadvantaged across a broad range of social and economic domains, including education, health, employment, income and housing. This is the result of many underlying causes, including the intergenerational effects of forced separations from family and culture, and the lasting impacts of colonisation and racial discrimination. This has placed them at greater risk of poorer life outcomes; and there has been substantial evidence for decades, that the health of Aboriginal and Torres Strait Islander people is significantly worse than that of the non-Indigenous population ¹⁹.

These differences are described as ‘inequalities’. There are many forms of inequality – age, sex, ethnicity and race, social and economic position, disability, geographical area, remoteness, and so on. Some dimensions of inequality, such as age, are unavoidable and unable to be altered. Other inequalities occur as a result of differences in access to education, material resources, safe working conditions, effective services, living conditions in childhood, and so on ²⁰.

We can identify three levels of inequality in health:

- inequality in access to health care (for example, some refugees have no access to primary health care ²¹;
- inequality of health outcomes (for example, there are around 18 years’ difference in average life expectancy at birth between Aboriginal and non-Aboriginal people ²²; and
- inequality in other modifiable factors that determine our health (for example, in education, employment or housing).

Such inequalities result because of differences that are unfair, such as unequal access to health services, nutritious food, adequate housing, or safe transport ^{20, 24}. These inequalities are important from both social justice and economic perspectives - not only can they be considered unfair and preventable, but they also have high direct and indirect costs on the health system ²³. Research suggests that, while the community accepts a degree of inequality in wealth across the population, there is far less tolerance of inequalities in health ^{25, 26}.

As discussed earlier, health inequalities generally refer, not to variations between individuals, but to differences between social groups ²⁷. In the Social Health Atlas, health inequalities describe the disparities in health associated with people’s different and unequal positions in society; thus, the concept links the health of individuals to the structures of social and economic inequality that shape their lives ²⁸.

The Impact of Socioeconomic Inequalities on Health

Throughout the Social Health Atlas, there is evidence of the powerful influence of social and economic factors on the health of communities, and the health inequalities that are present. The term, ‘socioeconomic status’ encompasses these factors, and helps to illustrate their effects on health and wellbeing across the population. Thus, the words ‘health inequalities’ are generally used as an abbreviation for ‘socioeconomic inequalities in health’, whether measured at an individual or at an area level. Health inequalities that relate to other structures of inequality – like gender or ethnicity – are usually labelled as gender inequalities in health, ethnic inequalities in health and so forth ²⁸.

Economic inequality is apparent in the uneven distribution of wealth in society. It is seen in the unequal distribution of the ability to purchase ‘goods’ such as housing, education, recreation, health care and other opportunities, and the choice to do so ²⁹. Social inequality is the expression of the

lack of access to these opportunities and represents a degree of exclusion of people from full and equal participation in what we believe is worthwhile, valued and socially desirable²⁹. Thus, economic and social inequalities are interwoven, and their combined impact results in limited opportunities and life chances for many who are affected by them⁹. This is particularly the case for many Aboriginal and Torres Strait Islander people.

For disadvantaged groups within the population, the impact of social inequality limits their ability to influence change, and makes them more vulnerable to poor health and wellbeing. Some of these include young Aboriginal people; people who have disabilities; those for whom English is not their first language; young people who are or have been in the care of the state; and refugees from a range of ethnic and cultural backgrounds.

Socioeconomic disadvantage takes many forms. Defining disadvantage only in terms of poverty or low income minimises the importance of access to appropriate services, safe environments, and the quality of housing or level of education that is available³⁰. A complete definition should encompass many of the serious environmental, structural and social issues faced by individuals, their families and their communities such as under- and unemployment, homelessness or housing instability, discrimination and racism, unsupported lone parenthood, educational under-achievement, admission into state care, violence and abuse, and mental health problems³¹.

Indigenous Disadvantage and Health Inequality

There are over 25,500 Aboriginal and Torres Strait Islander people living in South Australia, in a total population of just over 1.5 million South Australians³⁴; and approximately 9,500 of these people live within the CNAHS region⁴². The Indigenous population is growing rapidly when compared with the non-Indigenous population³⁵. At 30 June 2001, the Indigenous population of South Australia had a median age of 20.8 years, compared to the non-Indigenous population with a median age of 37.8 years³⁶. Thus, the Indigenous population has a much younger age profile than the rest of the population - the result of a higher birth rate and earlier age at death.

In South Australia, inequalities exist for Aboriginal and Torres Strait Islander people at all ages and in all settings, and are the cumulative result of events experienced throughout a lifetime^{36, 37}. Compared with other Australians, Aboriginal and Torres Strait Islander people are disadvantaged with regard to a broad range of socioeconomic indicators, including education, employment, income and housing, and are therefore at greater risk of ill health and poorer outcomes³⁴. These disparities are also interdependent, and have resulted in life-long disadvantage, inequity and discrimination.

The effects of social inequality and dispossession have been profound. The legacy of colonisation produced rapid and pervasive social and cultural change. The impact of this resulted in complex effects on health and wellbeing, some of which have been cumulative over generations^{38, 39}. The resulting trauma, loss and disempowerment have contributed further to the erosion of culture and community, and undermined the holistic nature of Indigenous health and wellbeing as previously defined. Aboriginal and non-Aboriginal practitioners and scholars have long identified social inequality, racism and oppression as the key issues in Indigenous health and wellbeing^{40, 41}.

In acknowledging the debilitating impact of disadvantage, the significant efforts of many Aboriginal communities, families and individuals in working towards improved social, economic and cultural wellbeing within this environment should be recognised and highlighted. As outlined in the South Australian Aboriginal Health Partnership's *Aboriginal Health – Everybody's Business*⁴²:

The strength and resilience of a people continuing to maintain and increase their place within an historically hostile, denigrating and imposed culture, is given little public value or recognition and is easily obscured by pervasive pictures of substance misuse, poor social and emotional wellbeing, third world health status and generational poverty and unemployment.

The impact of these social, economic and health issues affect the physical, spiritual, cultural and emotional advancement and growth of all Aboriginal people.

The recognition of the extent of disadvantage experienced by the Aboriginal and Torres Strait Islander population has framed a number of other new approaches in South Australia. *Doing it right* is the South Australian Government's policy framework for action: the Government's commitment to Aboriginal and Torres Strait Islander families and communities in South Australia³⁵.

Within this framework, the following goals are outlined:

- "That Aboriginal South Australians will have the same choices as other South Australians and the same opportunities to share in the social and economic advantages of living in our state.
- That all South Australians will continue to be enriched by Indigenous culture and values, with respect by the wider community based on a new understanding and mutual esteem.
- That engagement and partnership with Aboriginal communities will be the platform for sustained improvement in the well being of Aboriginal families."

In line with this direction, improving the health of Aboriginal and Torres Strait Islander people is a major focus of the South Australian Government's health reform agenda, and an important strategic priority for the CNAHS. Readers are referred to the South Australian Aboriginal Health Partnership's *Aboriginal Health – Everybody's Business*, which is a regional resource package for cross sector strategic planning for Aboriginal and Torres Strait Islander people in the State. It is available on the Department of Health's website at <http://www.health.sa.gov.au/Default.aspx?tabid=58>.

Limitations in the Coverage of the Social Health Atlas

This Atlas contains a range of available data for people of all ages living in the CNAHS region. The information has been collated from across sectors and from a variety of sources. However, there are some significant gaps. These may reflect a lack of data, the inability to access data that has been collected or a lack of available data at a small area level. This has resulted in a less than complete picture of the health and wellbeing of people in the CNAHS region.

Particular deficiencies emphasise the paucity of information about health services that are provided in South Australia. For example, there are data pertaining to acute hospital admissions and the reasons for those admissions but only for the total number of admissions, not for individuals. This means that one person with severe asthma may have had multiple hospital admissions, and is therefore counted more than once. A similar situation arises for data on consultations with general practitioners, which are also based on occasions of service, not on data for individuals. There are also no data for specialist medical practitioner consultations that are provided within publicly funded hospitals.

Furthermore, there are limited available data about the extent or nature of the services established to serve the needs of particular population groups, for example, children and young people with a disability, refugees or Aboriginal and Torres Strait Islander people. Furthermore, at a state level, the access and usage of services by a range of disadvantaged people cannot be analysed. These deficiencies have significant implications for the planning, monitoring, resourcing and evaluation of health services for people in South Australia over the longer term.

With respect to non-health services, there are also areas where data are unavailable for analysis. Examples include childcare and services for people with disabilities, including the nature of the services provided. However, the atlas documents considerable information about the demography and socioeconomic position of people, various aspects of their health status, their use of a range of services and their area of residence.

The indicators presented in the atlas are those for which reliable data are available, in particular data that can be mapped to show variations by area, across the CNAHS region. In some cases, data are not available to show trends over time, or variations between population groups, for some aspects of the social, economic and environmental factors that we wish to show. In others, the data are not ideal but are the best available. Table 2 indicates data that would have been useful for a range of factors that impact on health and wellbeing, but for which, there are no reliable small area datasets that describe these factors.

Table 2: Examples of potential indicators, for which suitable local area data were not available

Topic	Potential indicators and their relevance
Physical environment	Air quality; levels of noise, dust (including from industry)
Refugees	Language competency; emotional and health issues
Social support, social networks	Ability to borrow money in a crisis; levels of trust among individuals or within specific neighbourhoods
Interpersonal violence	Levels of domestic and other forms of violence; impact on quality of life
Levels of adult literacy	Reading/writing levels: ability to read instructions, labels
Disability	Levels of different forms of disability; impact on quality of life
Financial stress	Levels of personal and household debt
Homelessness	Personal characteristics; duration of homelessness; health problems
Housing quality	Availability of electricity, running water; insulation in houses
Work environment	Sickness absence from work; sense of control over work; extent of effort-reward balance or imbalance; job security

The Burden of Chronic Diseases and their Risk Factors

As in other developed countries, Australia is now facing an increasing social and economic burden because of the impact of chronic diseases (for example, heart disease, stroke and diabetes) and their associated biomedical risk factors (such as obesity and overweight, high blood pressure, tobacco smoking, and physical inactivity)⁴³. In South Australia, these diseases and conditions contribute very substantially to the burden of premature death and early loss of life, and of morbidity and disability⁴⁴.

- As life expectancy rises, the chance of living long enough to suffer from age-related chronic diseases and disability also increases⁴⁵.
- It is estimated that at least 450,000 people over the age of 20 years in SA have at least one preventable chronic disease, and the burden is growing⁴⁴.
- For many Aboriginal communities, there are higher levels of chronic disease, which occur earlier in life⁴⁴.
- More than one third of hospital case mix expenditure in SA for 2002-03 (an amount of \$300 million or 36 per cent of the total) can be attributed to four groups of chronic diseases: cardiovascular health, diabetes, arthritis and musculoskeletal conditions, and asthma/chronic pulmonary disease⁴⁴.

As a group, chronic diseases tend to have common risk factors and determinants, and are seldom cured completely⁴⁶. Individual and population level influences interact to determine the degree of disease burden and illness, and unhealthy risks and behaviours may be passed on through families, communities, and populations following demographic gradients⁴⁷. At different stages in life, common risk factors include poor intra-uterine conditions; educational disadvantage; inadequate living environments that fail to promote healthy lifestyles; poor diet and lack of exercise; alcohol misuse and tobacco smoking⁴⁸.

Risk factors are also increasingly more prevalent in areas of low socioeconomic status and in communities characterised by low levels of educational attainment; high levels of unemployment; substantial levels of stress, discrimination, interpersonal violence and exclusion; and poverty. There is a higher prevalence of such factors in the Indigenous population (as a result of the effects of colonisation and dispossession), and among other socioeconomically disadvantaged people^{48, 49}.

A disproportionate chronic disease burden is experienced by socioeconomically disadvantaged groups within the population⁴⁴. The prevalence of chronic disease varies across the socioeconomic gradient for a number of specific diseases, and for important disease risk factors. It is likely that age-adjusted morbidity rates may decrease over the next ten years for cardiovascular diseases and injuries, but increase for cancer, diabetes mellitus, dementia and mental health disorders⁴³.

injuries, but increase for cancer, diabetes mellitus, dementia and mental health disorders⁴³. Therefore, any move to address the impact of chronic disease, at population level, needs to take into account the socioeconomic inequalities⁵⁰.

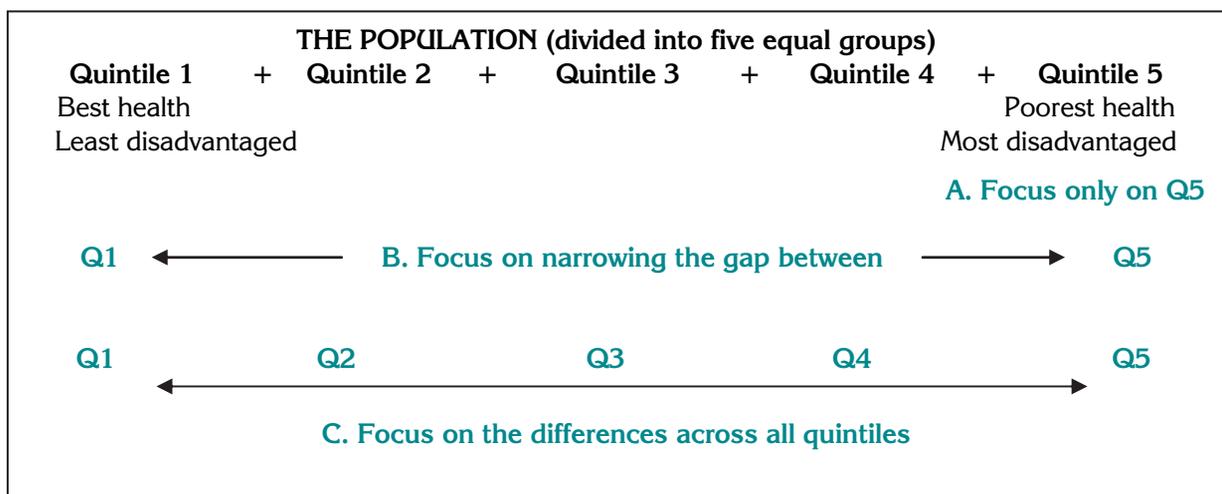
Approaches to try to limit risky health practices or to modify lifestyle factors that impinge negatively on individual health have been effective mainly for those who have a high level of education, a degree of control over their lives and a reasonable income. However, not surprisingly, these strategies have been far less successful for those population groups who are already socioeconomically disadvantaged. This has meant that the difference in the health of the groups may have widened, leading to greater inequality and inequity, not less⁵¹.

Addressing Health Inequality

Throughout the Social Health Atlas, there is substantial evidence of the powerful influence of social and economic factors on the health of South Australians, depicted by the geographic patterns of health inequalities and the socioeconomic gradients in health. The challenging policy objective is how best to address them. First of all, however, there are a number of different approaches to thinking about health inequalities and what each means in terms of possible policy solutions (Figure 2).

Figure 2: Thinking about health inequality and possible policy approaches

(Adapted from Graham 2004)



Strategies for addressing health inequalities can be described in the following ways⁵²:

- Some view the impact of social disadvantage on the health of the poorest groups in the population, such as Aboriginal and Torres Strait Islander people, as the priority policy goal (Focus A).
- Others identify the gap between the health of those at the outer ends of the socioeconomic hierarchy (those with the poorest health and those with best health), and see the narrowing of the gap between the two as the goal^{53, 54} (Focus B).
- The socioeconomic gradient in health that runs across the whole population can also be the focus, rather than looking solely at social disadvantage, or the health gap (Focus C).

The last approach widens the frame of health inequality in three ways⁵². Firstly, it looks for the causes of health inequality in the systematic differences in life chances and opportunities, living standards and lifestyles that are associated with people's unequal positions right across the socioeconomic hierarchy, and for the pathways through which they influence health⁵⁵. Secondly, as a result, addressing health inequalities becomes a population-wide goal that includes every citizen. Thirdly, 'reducing health gradients' provides a comprehensive policy goal: one that encompasses

remedying disadvantages and narrowing health gaps within the broader goal of equalising health chances across all the socioeconomic groups⁵².

We must be careful about the impact of any policy intervention to improve the community's wellbeing, to ensure that health inequalities are not inadvertently increased. Some programs, by their very success, can widen the gap between groups in the population; for example, they may be more attractive to those who are already healthier, or not as effective for certain groups with poorer health, less education or who are disadvantaged in other ways⁵⁶. Thus, different approaches and mixes of policies and programs must be mounted to address health inequalities. These may include more precise targeting, but also greater attention to community-based dimensions of 'interdependence' between individual behaviours, key determinants, and community and institutional resources.

Improving the health of poor groups and improving their position relative to other groups are necessary elements in a strategy to reduce the socioeconomic gradient. However, neither is sufficient on its own. To reduce the socioeconomic gradient, health in other socioeconomic groups also needs to improve at a faster rate than in the highest socioeconomic group. Thus, policies to remedy health disadvantages, to close health gaps and to reduce health gradients need to be pursued together, and not at the expense of each other⁵².

Protecting and improving overall levels of health in the South Australian population is no longer a sufficient justification for investment in health; this investment must also yield a more equal distribution of health between socioeconomic groups¹. The inequalities in health that are reflected in the Social Health Atlas are, for the most part, avoidable and inequitable. In any given society, those in the best health set a standard which all should be able to enjoy. If this is so, it is those in the poorest groups who face the most profound denial of their health as a fundamental human right⁵².

As outlined earlier, there is now substantial evidence that wellbeing is the result of complex interactions of the social, biological and ecological environments in which people live⁵⁷. If these environments are supportive, they can provide a foundation for the development of competence and skills that underpin learning, behaviour and health throughout life. However, a lack of enabling social and environmental conditions results in poorer life outcomes for people^{53, 58}.

This situation, however, is not inevitable. There is a growing body of knowledge that can provide direction for developing policies to reduce inequities in modern societies. The socioeconomic environment is a powerful and potentially modifiable factor, and public policy is a key instrument to improve this environment, particularly in areas such as housing, taxation and social security, work environments, urban design, pollution control, educational achievement, and early childhood development⁸. So, health services, such as the CNAHS, should work with those from other sectors in order to bring about the improvements in health that are necessary for their communities.

A focus on the environmental context of life in no way implies that other factors such as genetics, lifestyles or use of services do not figure in determining health and wellbeing; rather, it highlights a greater understanding in recent years of the hidden social factors that underpin differences in the likelihood of having a healthy and fulfilling life⁵⁹. Health inequalities, an ageing population and changing patterns of disease present challenges that will require new responses from the health care system, its workforce and its ways of delivering services. However, to achieve good health for every segment of the population, we should also address the behavioural, social and environmental factors that determine health, and make a real shift from a narrow focus on illness, to a broader focus on health and wellbeing.

DATA PRESENTATION

The indicators presented are those to be included in the third edition of the Social Atlas of South Australia, which has been recently provided to the Department of Health for review, prior to release.

The majority of the indicators presented relate to the years around the 2001 Census, in part reflecting the time needed to put together such a large set of indicators. Where later data exist, those produced in this atlas for earlier years are likely to reflect a geographic pattern that remains current in 2005.

Each of the selected indicators is presented over two pages. Following a brief description of the purpose of the indicator, the text describes the geographic variation in the characteristic in the map; a graph shows how the characteristic varies by socioeconomic status; and a table provides the numbers and percentages on which the analysis is based. The table also includes comparative figures for the sub-regions within the CNAHS, for Southern Adelaide Health Service, and for the total of the metropolitan regions and the State.

Areas

The Central Northern Region covers the central, western, eastern and northern suburbs of the Adelaide Statistical Division incorporating the Local Government Areas (LGAs) of Adelaide, Prospect, Walkerville, Burnside, Campbelltown, Charles Sturt, Norwood-Payneham-St Peters, Playford, Port Adelaide-Enfield, Salisbury, Tea Tree Gully, Unley, West Torrens and Adelaide Hills.

These 14 LGAs are divided, by the Australian Bureau of Statistics) into 37 Statistical Local Areas (SLAs) for the collection and publication of data. The names of the SLAs are shown in a key map at the end of this atlas.

The SLAs have been grouped into three sub-regions, developed by the region to aid strategic planning work. The sub-regions are Northern, Western and Eastern, and are shown on the maps by a thicker line, overlaid on the SLA boundaries.

These are shown in Map 1 on page 5 and in the fold out Key Map at the end of the report.

Reference is made to the 'metropolitan regions', covering the Central Northern Adelaide Health Service and the Southern Adelaide Health Service: reference is also made on occasion to Metropolitan Adelaide, which comprises these two regions and Gawler.

Socioeconomic Groupings of Areas: Quintiles

In addition to mapping the geographic distribution of the population, the SLAs in the CNAHS region have been aggregated into five groups of similar socioeconomic status: throughout the report, these groups are called quintiles. Each of the five quintiles is made up of SLAs of similar socioeconomic status: a more detailed description is provided in the box (opposite page). Each indicator has been calculated for the quintiles and is presented in a graph and a table in the report. In this way, comparisons can be made between the populations living in areas of different socioeconomic status.

The sub-regional totals for each variable are also shown with the totals for the quintiles, as are the total for the CNAHS, Southern, the metropolitan regional and South Australian totals.

Construction of the socioeconomic groupings of areas: the quintiles

The five groups have been constructed using the Australian Bureau of Statistics (ABS) Index of Relative Socio-Economic Disadvantage (IRSD) as the measure of each the socioeconomic status of each SLA. The SLAs in the region were ranked in order of their IRSD score, then five groups were formed, each with around 20% of the region's population. The first quintile comprises SLAs with the highest IRSD scores (most advantaged areas) and the last quintile comprises areas with the lowest IRSD scores (most disadvantaged areas).

The IRSD is one of four Socio-Economic Indexes for Areas (SEIFA) produced by the ABS following the 2001 Census using data variables collected in the Census.

DATA DEFINITIONS

Definitions of the Census data mapped are in the Appendix.

Definitions of the other indicators are on the PHIDU web site, together with the data on which this report is based (www.publichealth.gov.au).

Standardised Ratios

Where the comparisons between areas for an indicator are likely to be affected by variations in the age profile of the area, the data have been age-standardised. This effectively means any differences in age-standardised rates between areas are reflecting the influence of factors other than age. In this atlas, the age-standardised data are presented as an index, with the South Australia or the metropolitan regions¹ as 100; an index of 110 in an area means the standardised ratio is 10% higher (for an area of its population size and structure) in the area than expected from the State rates. An index of 85 means the standardised ratio is 15% lower (for an area of its population size and structure) in the area than expected from the State rates.

Where a ratio for an area varies significantly from the State rate, the degree of statistical significance is indicated by asterisks. A single asterisk indicates that the ratio is statistically significant at the 5% confidence level, that is, that the likelihood of the observed ratio being due to chance or random error is 5%. A double asterisk indicates that the observed ratio is statistically significant at the 1% confidence level.

Rate Ratio

The graph of the socioeconomic groupings of areas in the CNAHS includes a 'rate ratio', which shows the differential between the average percentage or standardised ratio for that indicator (eg. low income families) in the most disadvantaged areas (Quintile 5) and the most advantaged areas (Quintile 1). The statistical significance of rate ratios is shown with an asterisk(s), as described above.

DATA SOURCES

A summary table describing the data sources is in the Appendix.

More details of the sources are on the PHIDU web site, together with the data on which this report is based (www.publichealth.gov.au).

¹ Data were standardised to the metropolitan regions where data were not available for the State as a whole (eg. domiciliary care and community health services and the estimates of chronic diseases)

STATISTICAL OVERVIEW

Current and Projected Population

The population in the CNAHS region is expected to grow only marginally over the years from 2005 to 2020; however, this low overall growth hides substantial variations in growth at older ages. For example, over the five years from 2005 to 2010, the population is projected to grow by just 1.5% or 0.3% per annum (Table 3). Growth rates in the next two five-year periods are lower, at 1.2% and 1.0%. The overall growth of 1.5% in the five years to 2010 is comprised of small declines at ages below 45 years (and, for females, at ages 75 to 84 years) and growth in the 65 to 74 years and 85 years and over age groups (in the latter group the growth is substantial). Notably, the growth in the population of older males is above that for females, with the number of males at a lower level than for females. The low level of growth to 2010 in the 75 to 84 year age group in the proportion of population who are males, and the small decline for females, reflect low birth rates in the 1930s and loss of life in the Second War World.

As the cohorts age, growth is more pronounced from 2010 to 2015, for both males and females, in the 65 to 74 and 75 to 84 year age groups, but lower in the 85 years and over age group. In the five years to 2020, the strongest growth for males is projected to be at 75 to 84 years, whereas for females it is in the 65 to 74 year age group. By 2020, growth at the oldest ages is projected to have slowed considerably in comparison with the earlier periods.

Table 3: Projected Resident Population in CNAHS, selected years, 2005 to 2020

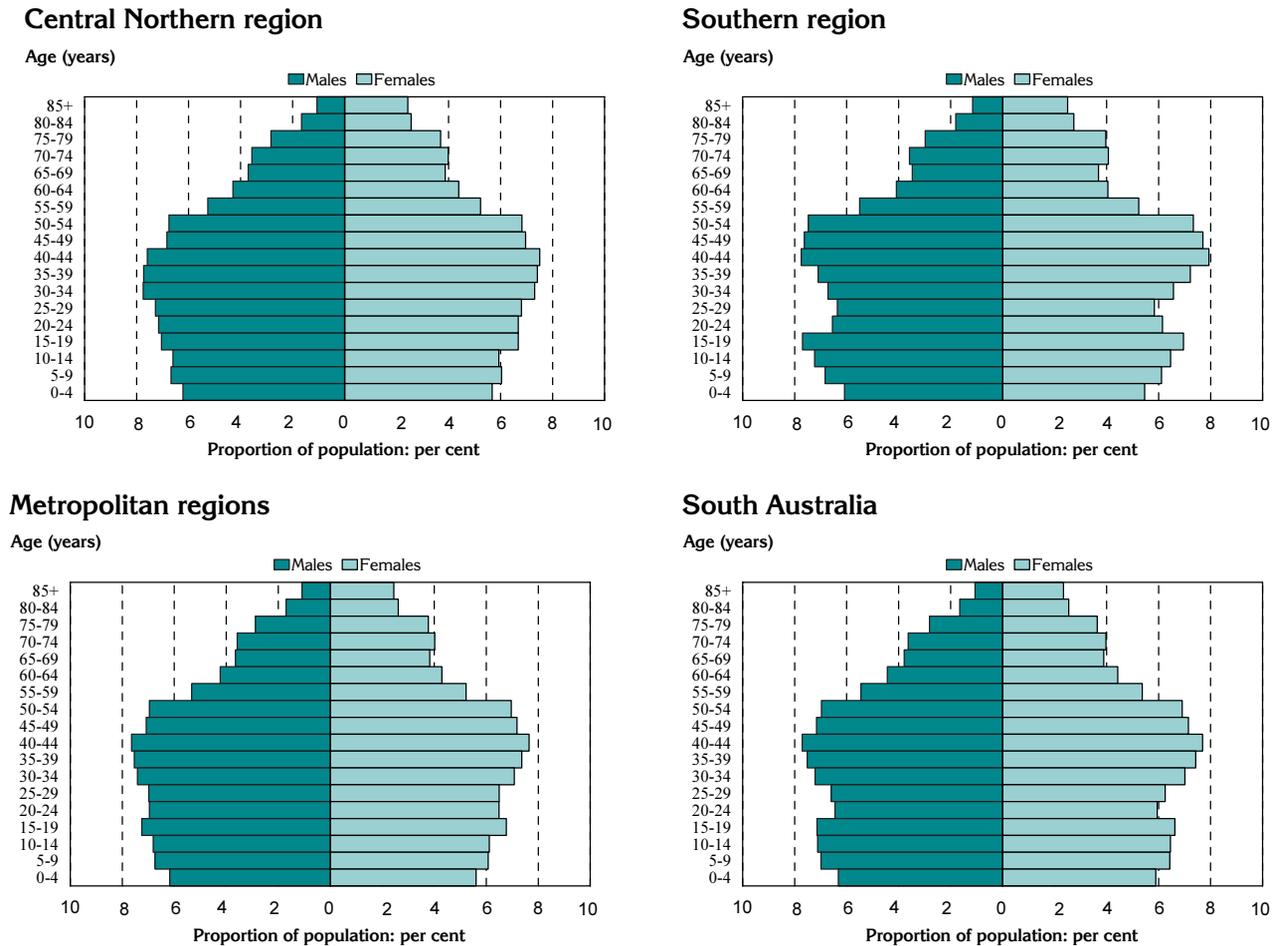
Sex and age	2005		2010		2015		2020	
	Number	Number	Change	Number	Change	Number	Change	
Males								
0-24	124,716	120,486	-3.4	115,749	-3.9	110,923	-4.2	
25-44	112,492	110,131	-2.1	108,870	-1.1	108,154	-0.7	
45-64	93,618	101,048	7.9	102,416	1.4	103,297	0.9	
65-74	27,473	31,015	12.9	37,823	22.0	42,622	12.7	
75-84	18,792	19,164	2.0	20,543	7.2	24,049	17.1	
85+	4,676	6,355	35.9	7,937	24.9	8,722	9.9	
Total	381,767	388,199	1.7	393,338	1.3	397,767	1.1	
Females								
0-24	119,869	115,120	-4.0	110,326	-4.2	105,471	-4.4	
25-44	109,954	107,707	-2.0	106,213	-1.4	104,916	-1.2	
45-64	98,426	105,868	7.6	106,220	0.3	106,040	-0.2	
65-74	30,803	34,030	10.5	41,572	22.2	47,571	14.4	
75-84	25,602	24,861	-2.9	25,702	3.4	28,985	12.8	
85+	10,458	13,029	24.6	14,832	13.8	15,457	4.2	
Total	395,112	400,615	1.4	404,865	1.1	408,440	0.9	
Persons								
0-24	244,585	235,606	-3.7	226,075	-4.0	216,394	-4.3	
25-44	222,446	217,838	-2.1	215,083	-1.3	213,070	-0.9	
45-64	192,044	206,916	7.7	208,636	0.8	209,337	0.3	
65-74	58,276	65,045	11.6	79,395	22.1	90,193	13.6	
75-84	44,394	44,025	-0.8	46,245	5.0	53,034	14.7	
85+	15,134	19,384	28.1	22,769	17.5	24,179	6.2	
Total	776,879	788,814	1.5	798,203	1.2	806,207	1.0	

Source: Compiled from ABS Population Projections 2005 to 2050 (unpublished)

Age and Sex

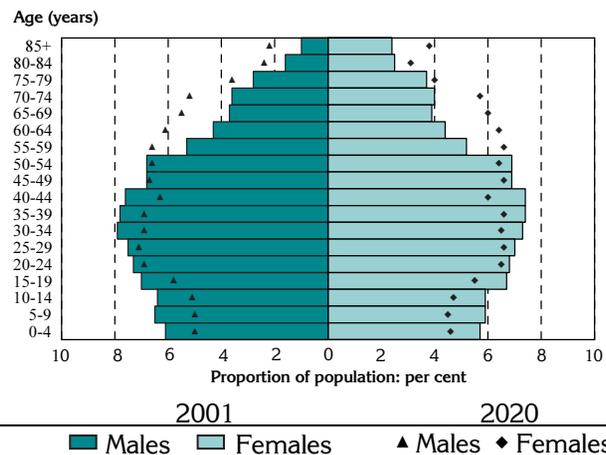
The age profile of males and females in the CNAHS region (Figure 3) is notably different from that in the Southern region, from the 5 to 9 year age group through to the 35 to 39 year age group. The main differences for males are the lower proportions at ages 5 to 19 years in CNAHS, and the higher proportions through to 39 years of age. For females, the differences are most marked in the age groups 10 to 14 and 15 to 19 years (lower), and from 20 to 34 years of age (higher). For females, there are also smaller differences at older ages.

Figure 3: Age and sex profiles, metropolitan regions and South Australia, 2001



Source: Compiled from ABS Estimated Resident Population, 2001

Figure 4: Current and projected age/ sex profiles, CNAHS, 2001 and 2020



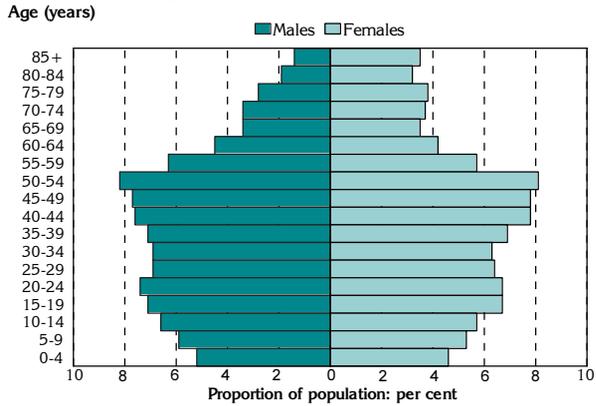
Source: Compiled from ABS Estimated Resident Population 2001 and ABS Population Projections 2005 to 2050 (unpublished)

The projected population for the CNAHS region (Figure 4, above) clearly shows the substantial change in population structure expected over the next 20 years. By 2020 the projections show smaller population shares at younger ages and larger population shares at older ages, with a clear turnaround from the 55 to 59 year age group.

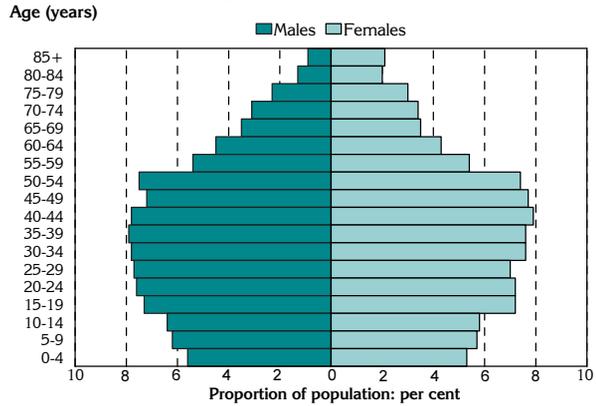
When examined by socioeconomic groupings of areas, the age profiles of males and females in the CNAHS region (Figure 5) also differ notably. The most advantaged areas (Quintile 1) have the highest proportions of their population at older ages (and in particular the oldest ages) and the lowest proportions at younger ages. The population in the most disadvantaged areas is younger, with higher numbers at the youngest ages (reflecting a higher total fertility rate), but with smaller proportions of teenagers and young adults, likely to be a reflection of higher death rates at these ages.

Figure 5: Age and sex profiles, socioeconomic groupings of areas, CNAHS, 2001

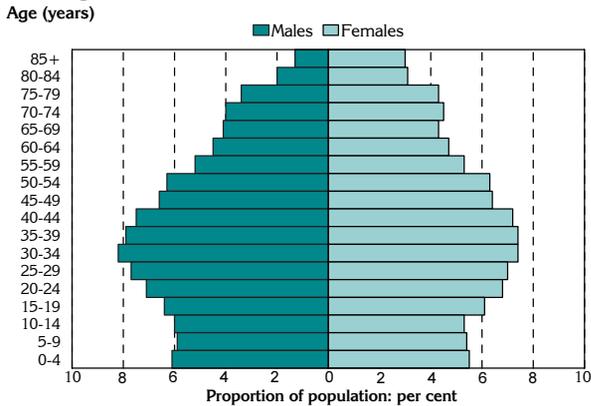
Most advantaged areas: Quintile 1



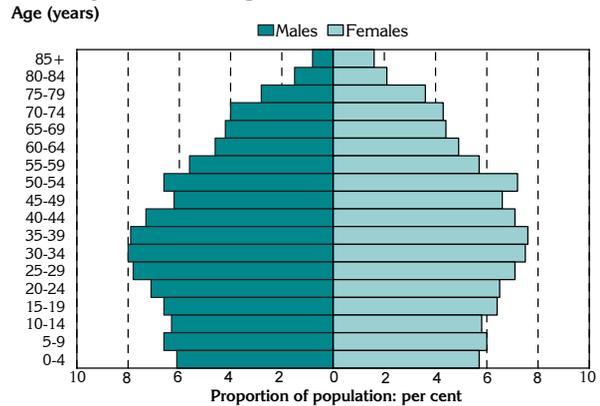
Relatively advantaged areas: Quintile 2



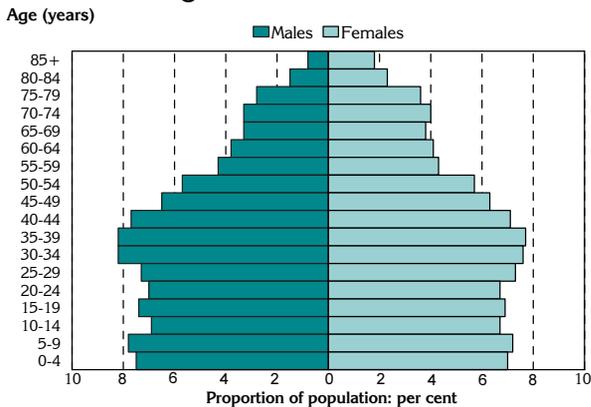
Mid-range areas: Quintile 3



Relatively disadvantaged areas: Quintile 4



Most disadvantaged areas: Quintile 5



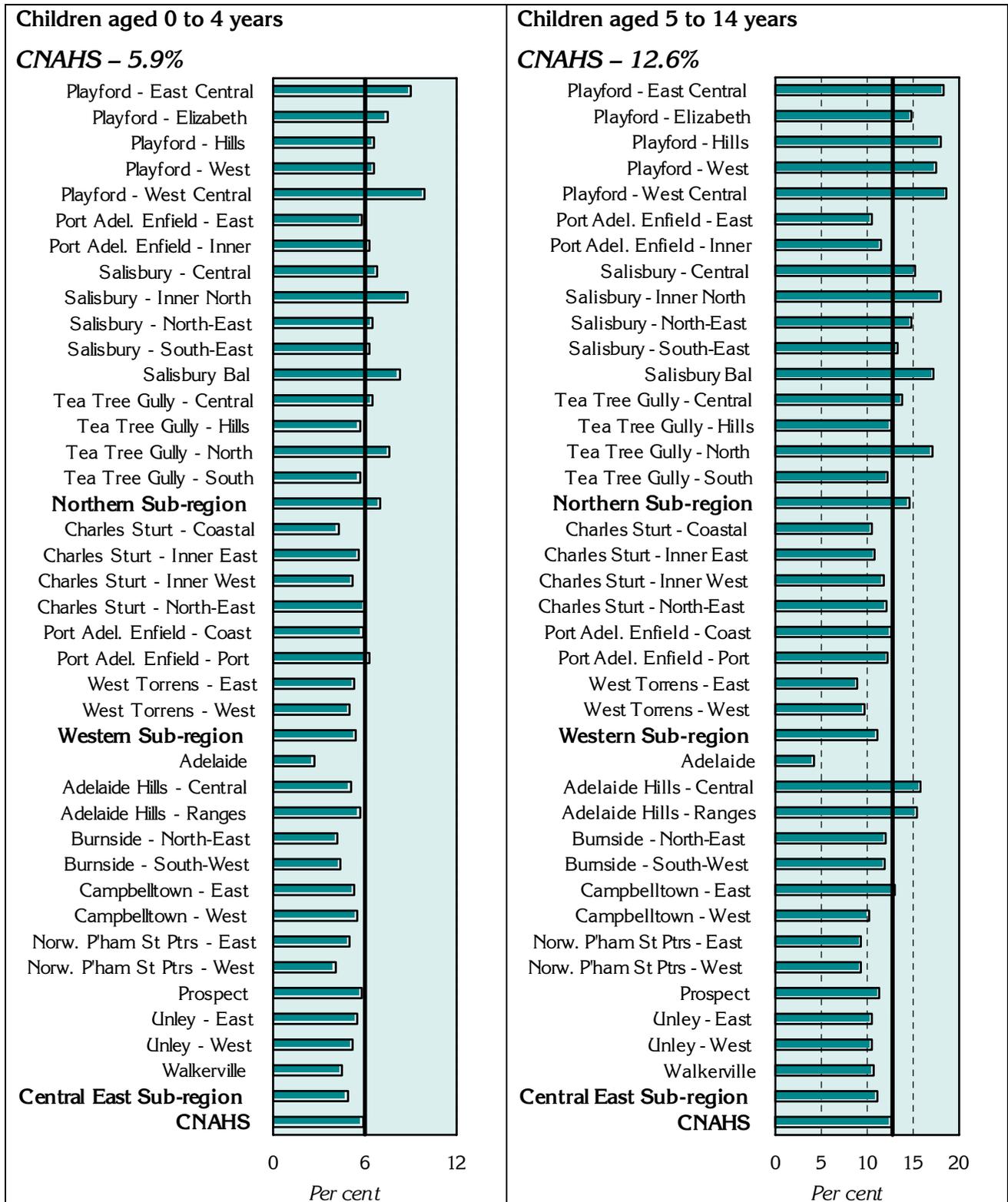
Source: Compiled from ABS Estimated Resident population, 2001

PROFILE OF NEIGHBOURHOOD AREAS, BY INDICATOR

The following charts (Figure 6) show the proportion, rate or ratio for each of the indicators for each SLA in CNAHS. Refer to the next section for more detailed information on each indicator.

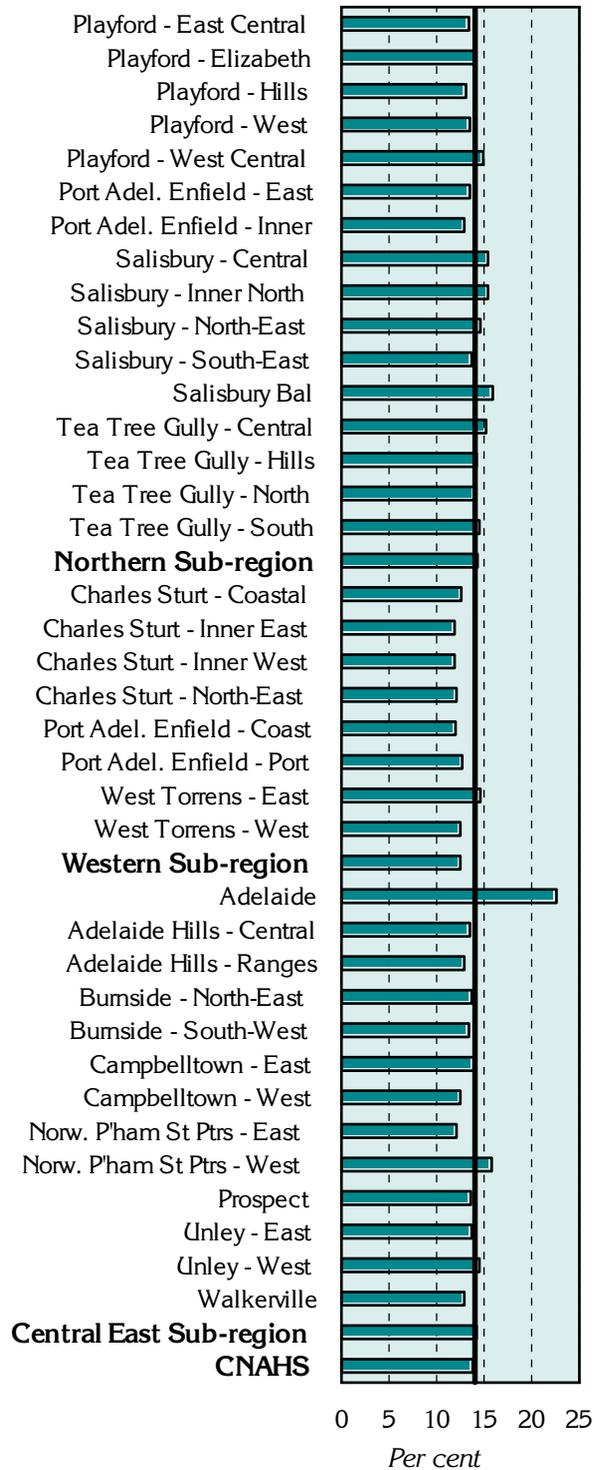
Figure 6: Profile of neighbourhood areas, by indicator, CNAHS, 2001

Demography and socioeconomic status



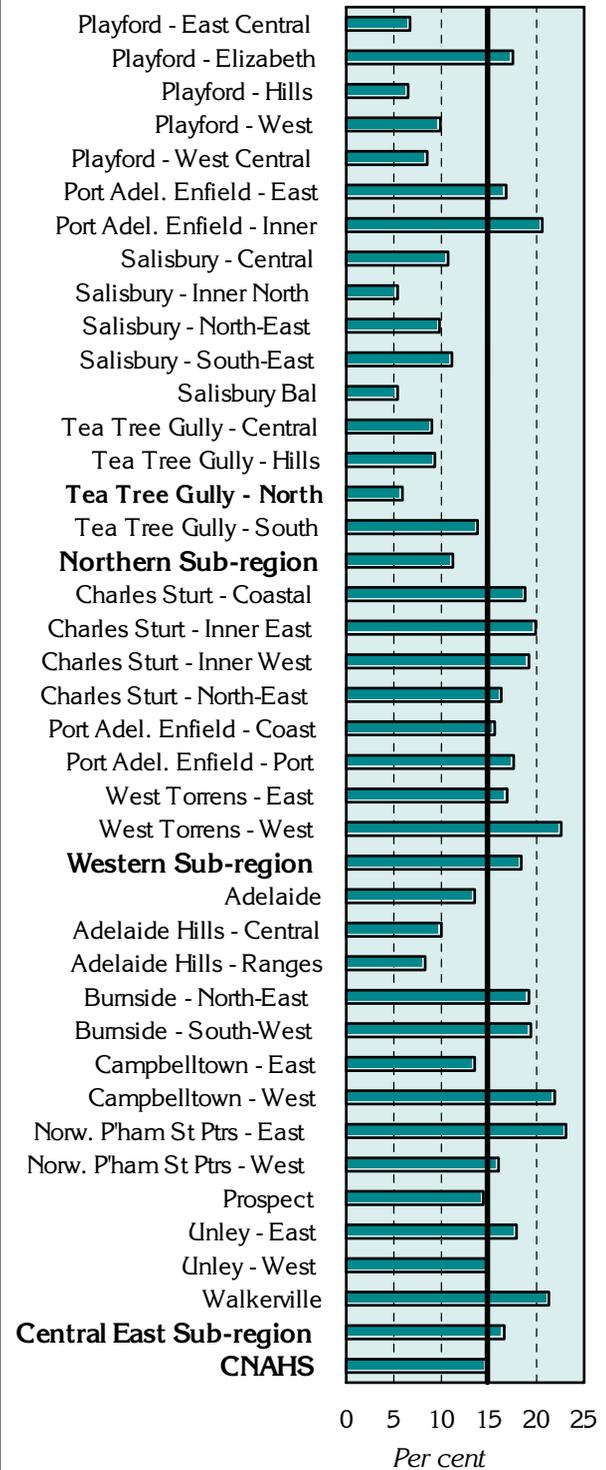
Young people aged 15 to 24 years

CNAHS – 13.8%



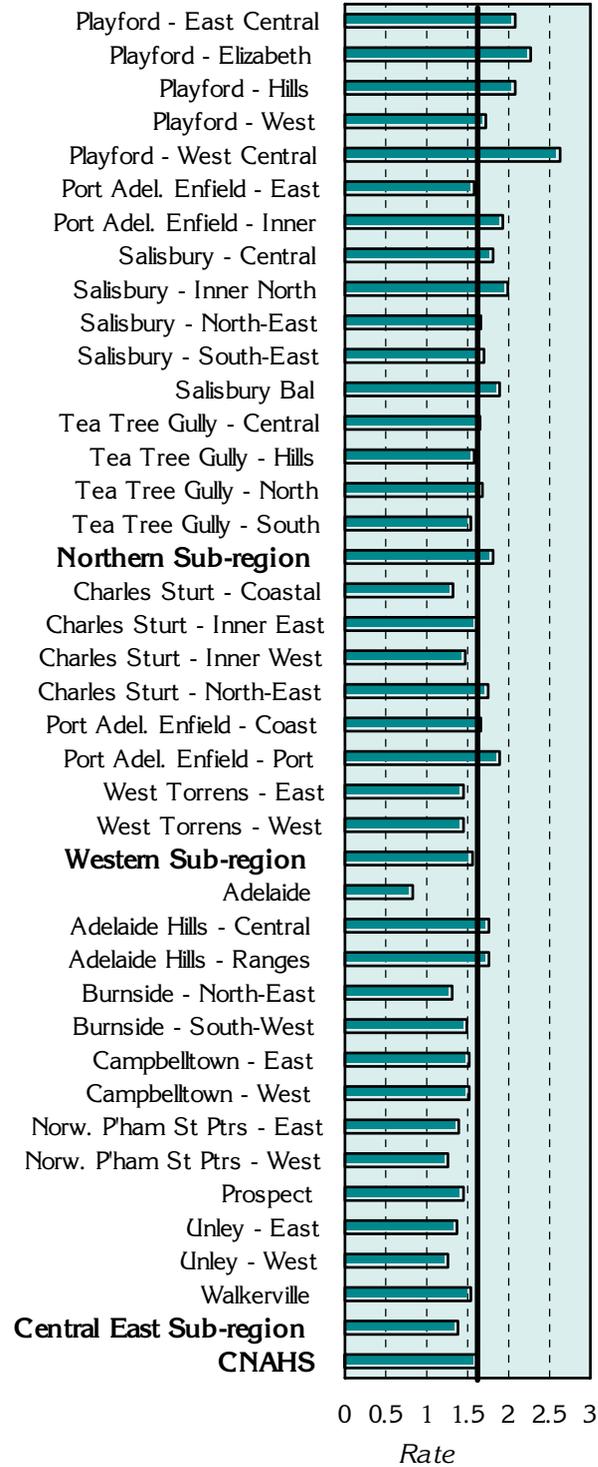
People aged 65 years and over

CNAHS – 14.7%



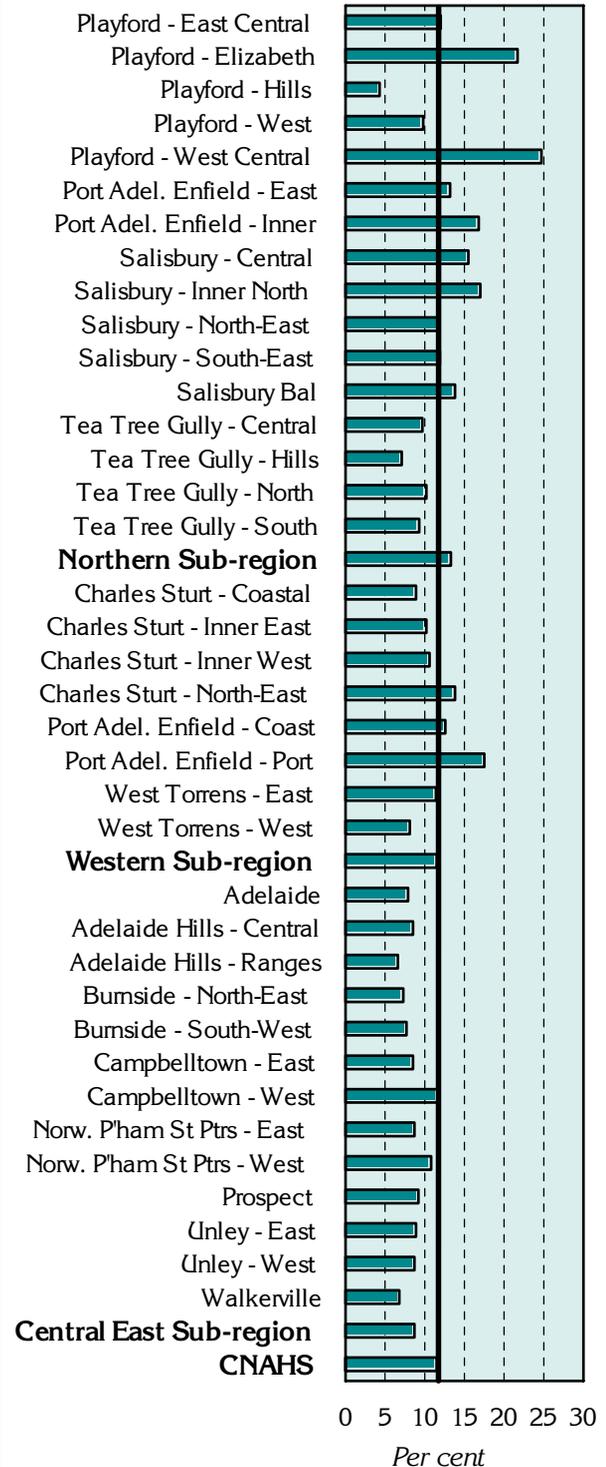
Total Fertility Rate

CNAHS – 1.61



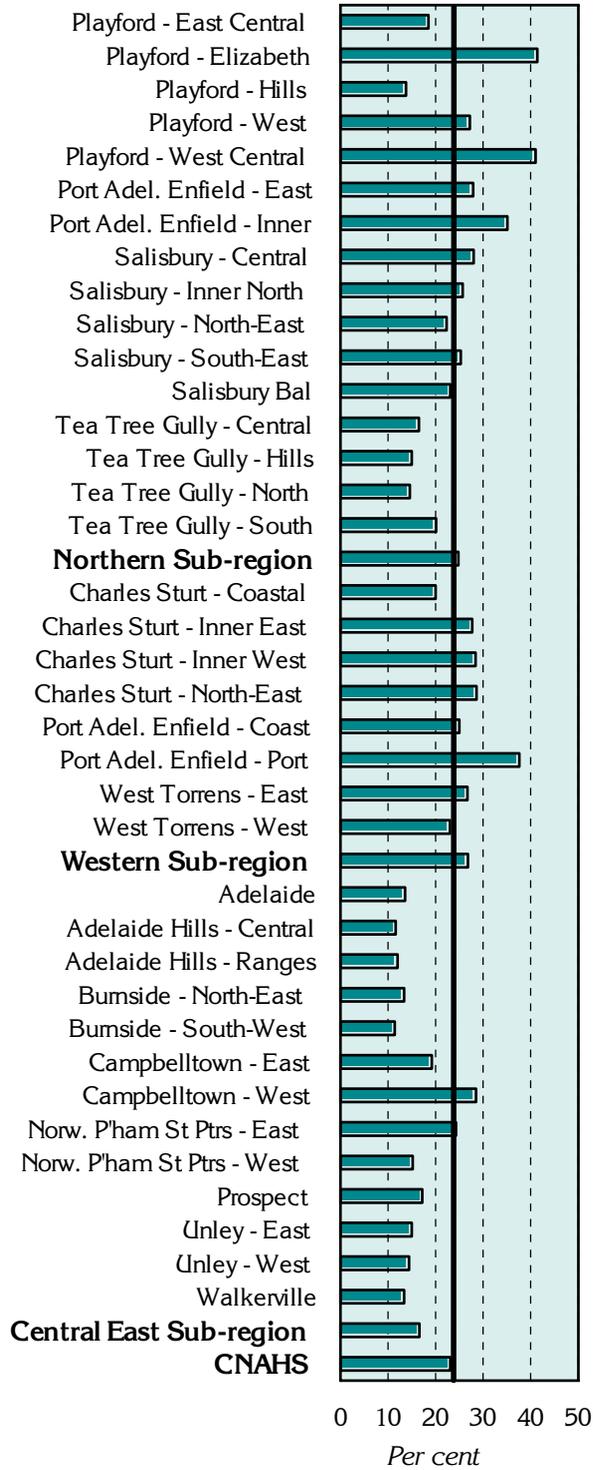
Single parent families

CNAHS – 11.5%



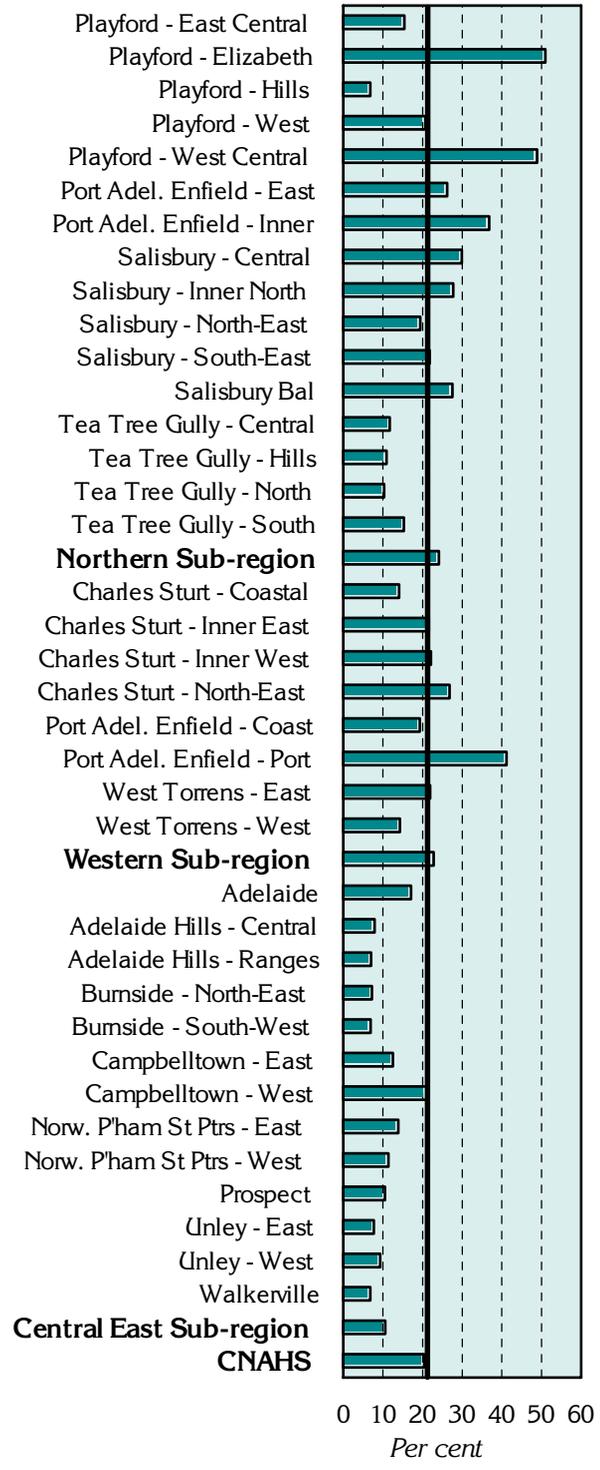
Low income families

CNAHS – 23.1%



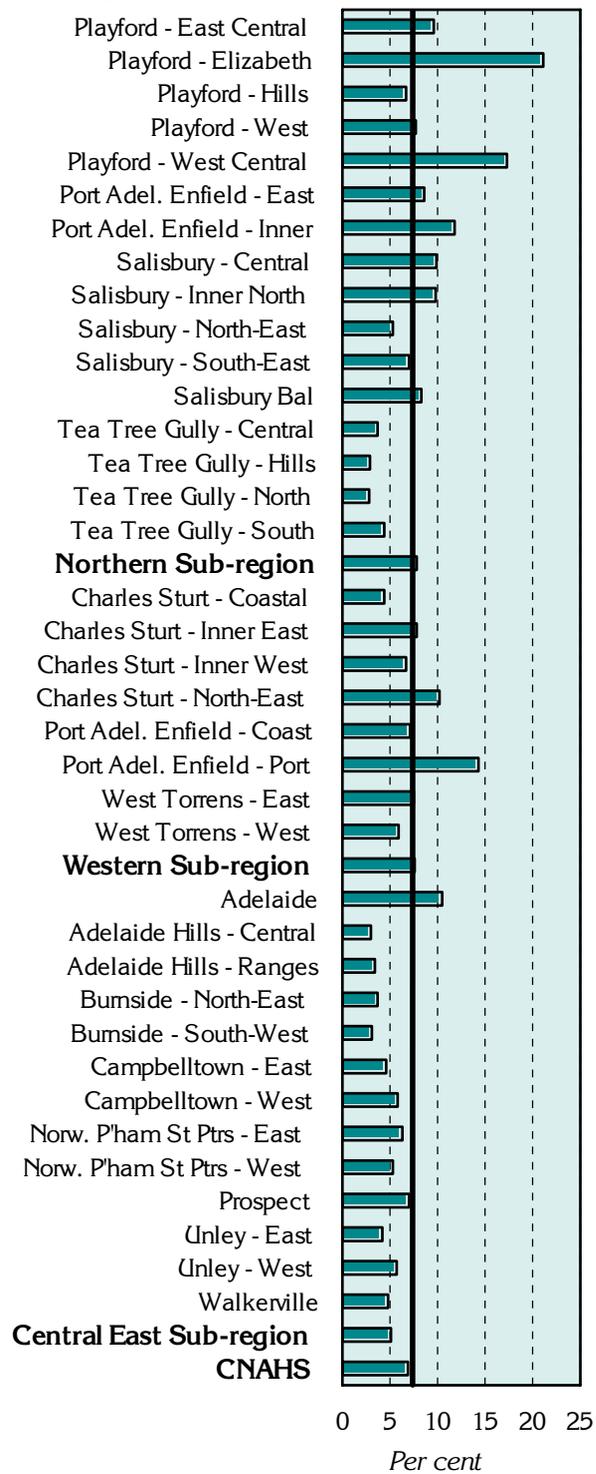
Jobless families

CNAHS – 20.4%



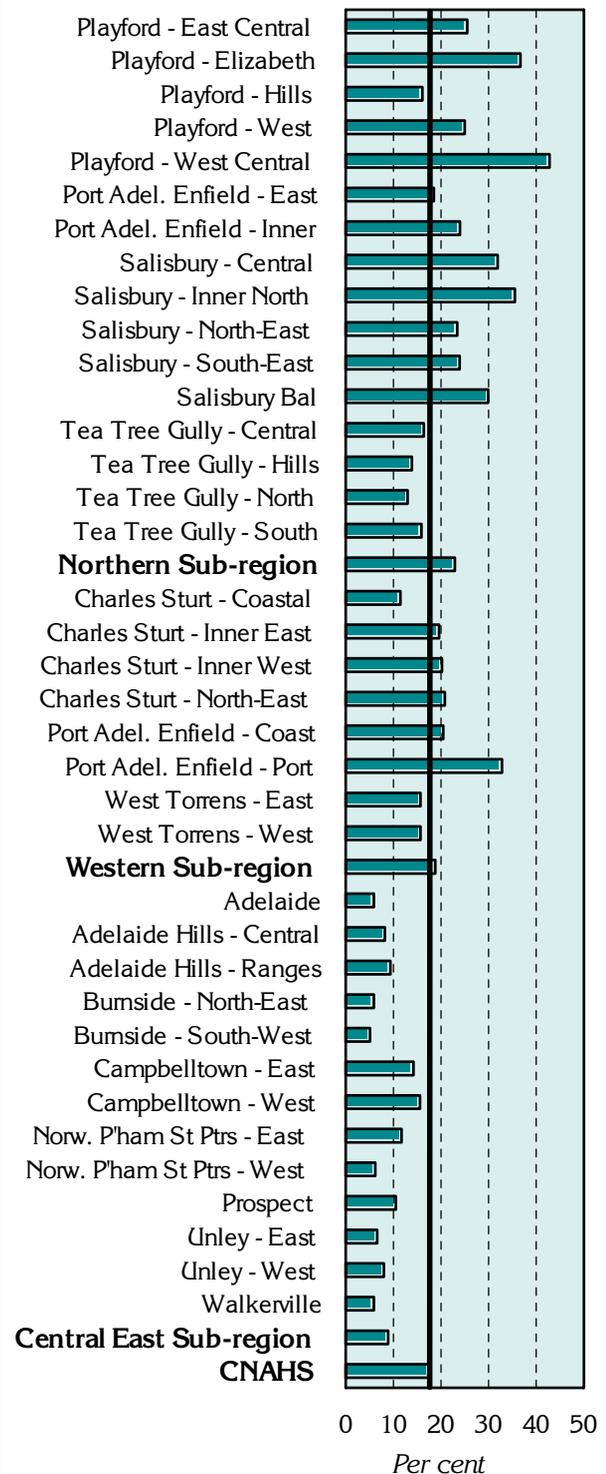
Unemployment

CNAHS – 6.9%



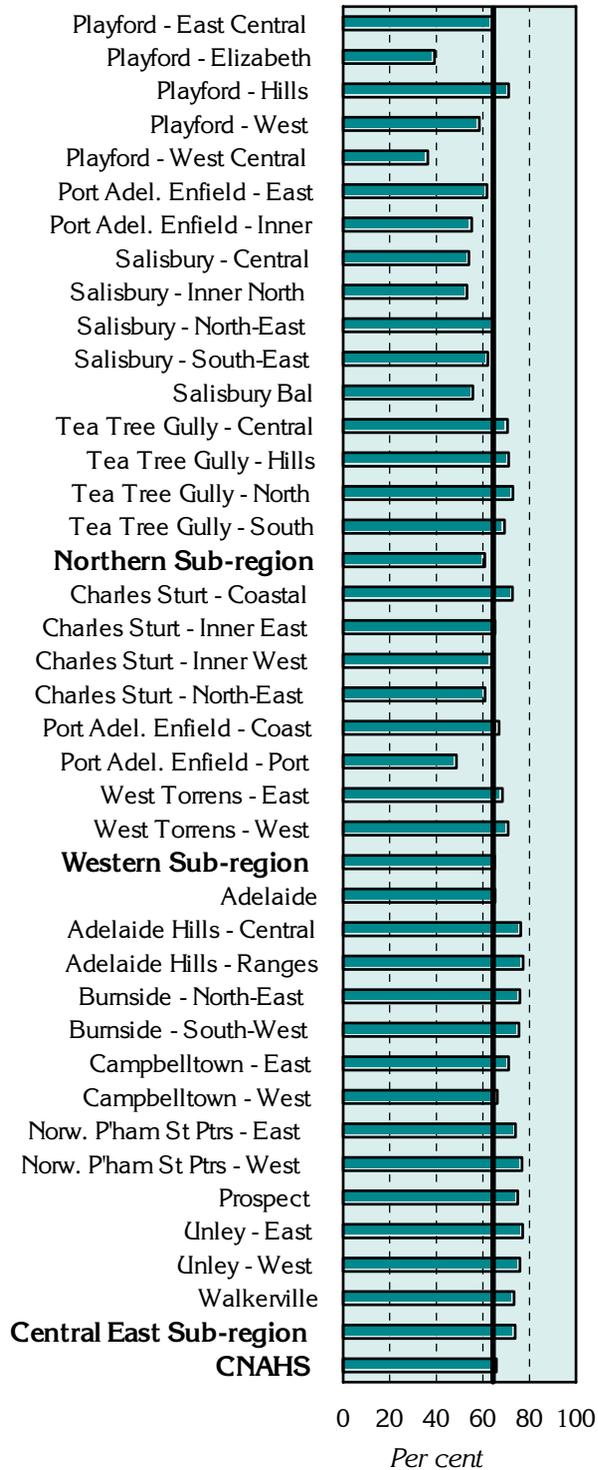
Unskilled and semi-skilled workers

CNAHS – 17.4%



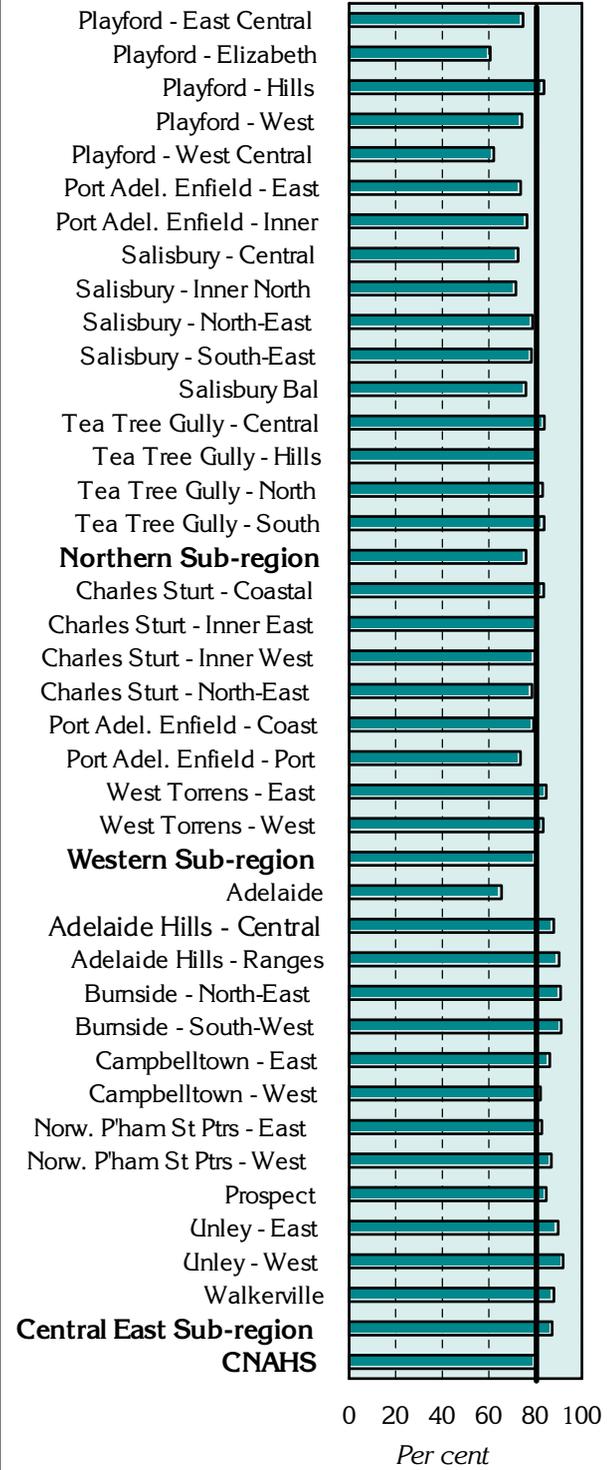
Female labour force participation

CNAHS – 65.8%



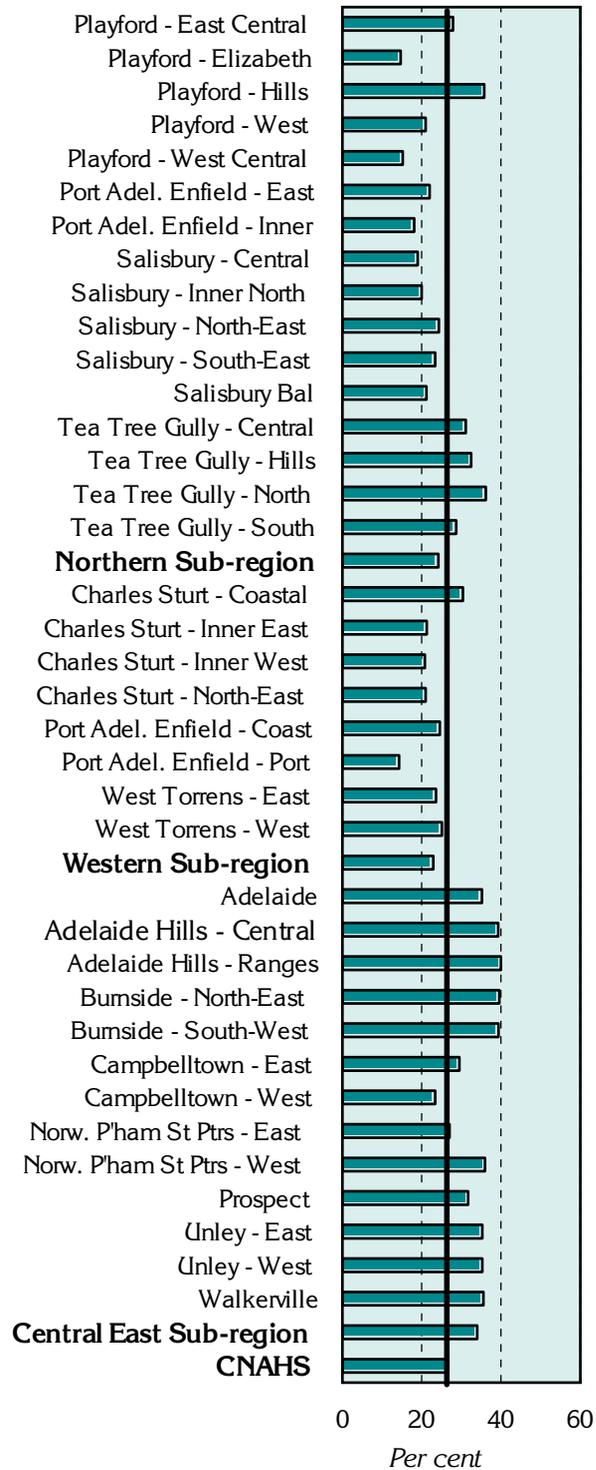
Secondary education participation at age 16 years

CNAHS – 80.1%



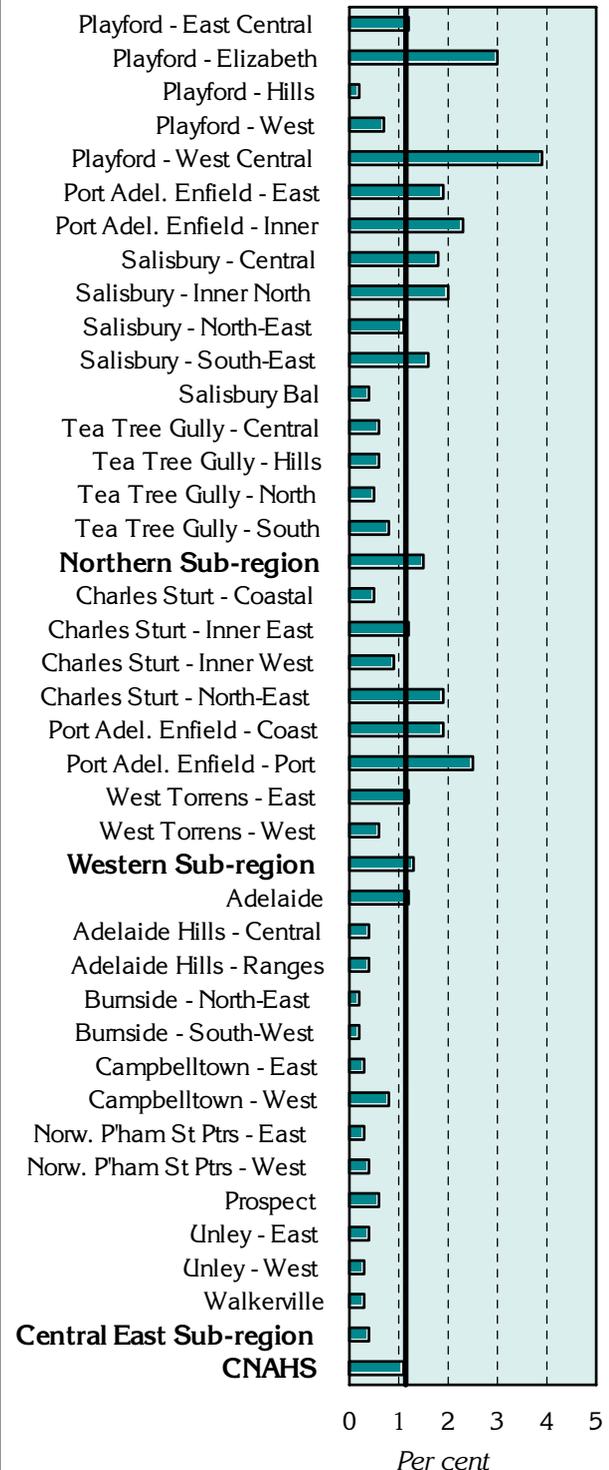
Use of the Internet at home

CNAHS – 26.7%



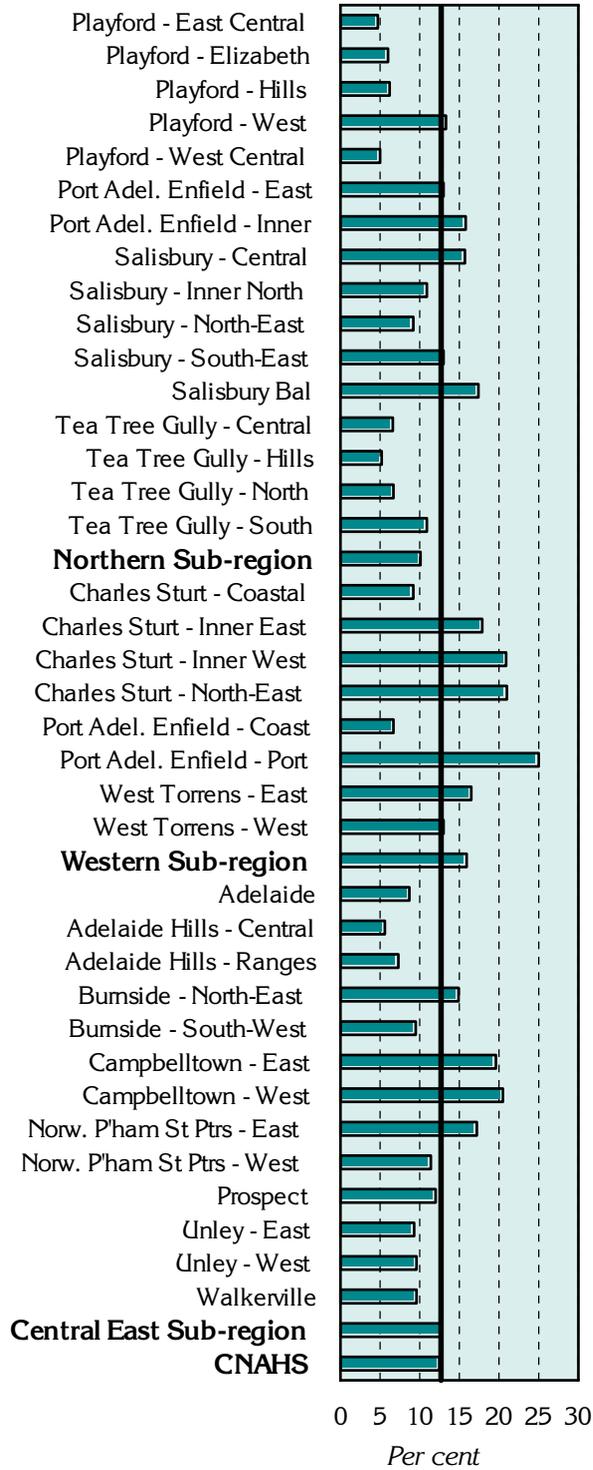
Aboriginal and Torres Strait Islander people

CNAHS – 1.1%



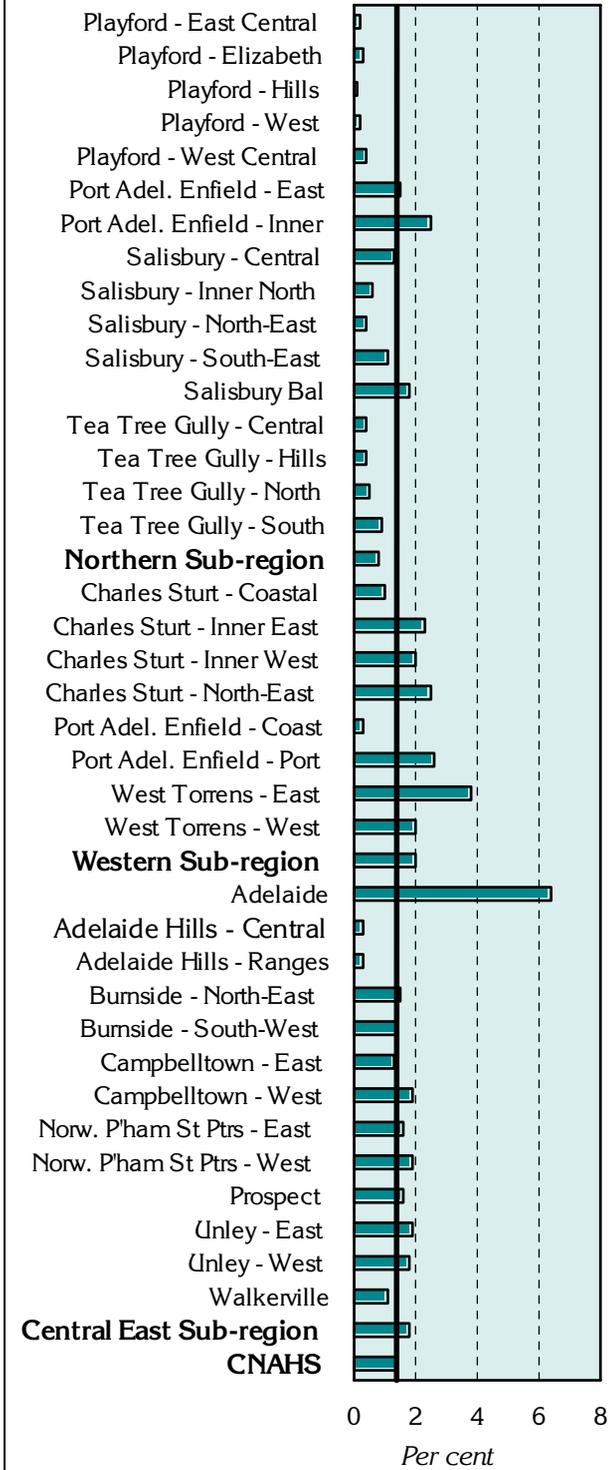
Overseas born: resident for five years or more

CNAHS – 12.5%



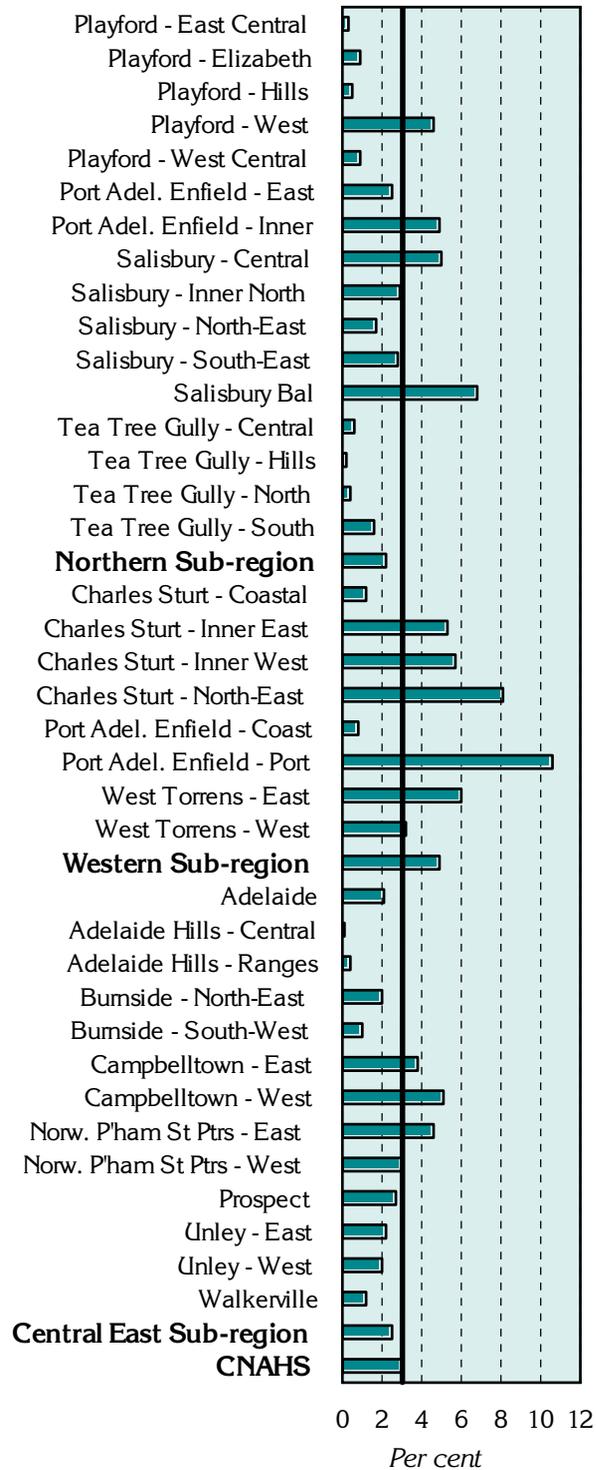
Overseas born: resident for less than five years

CNAHS – 1.4%



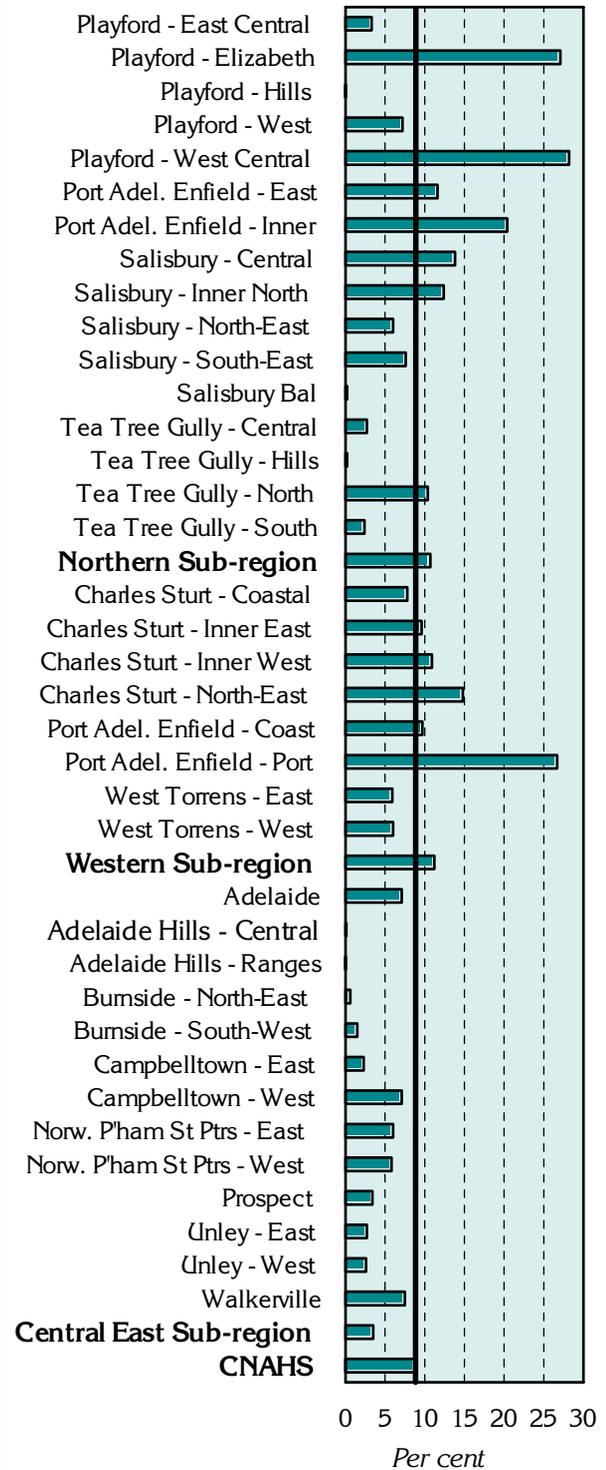
Overseas born: poor proficiency in English

CNAHS – 3.0%



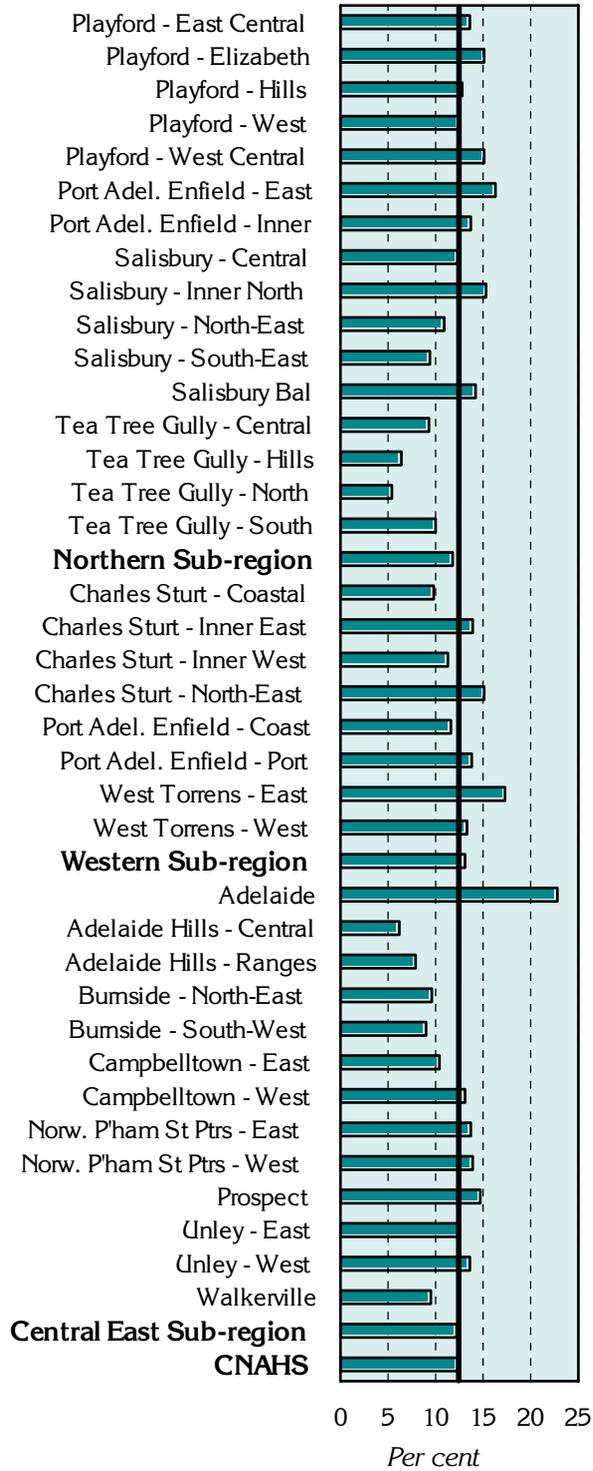
Public rental dwellings (SAHT)

CNAHS – 8.7%



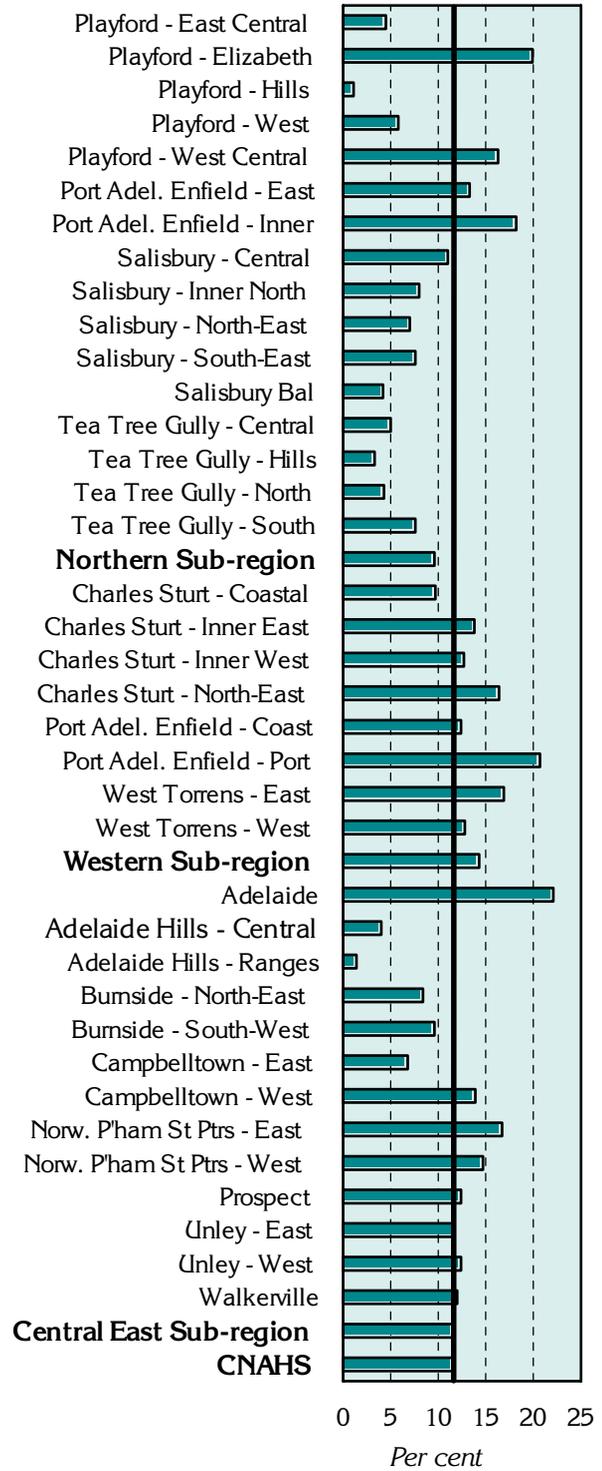
Rent assistance

CNAHS – 12.3%



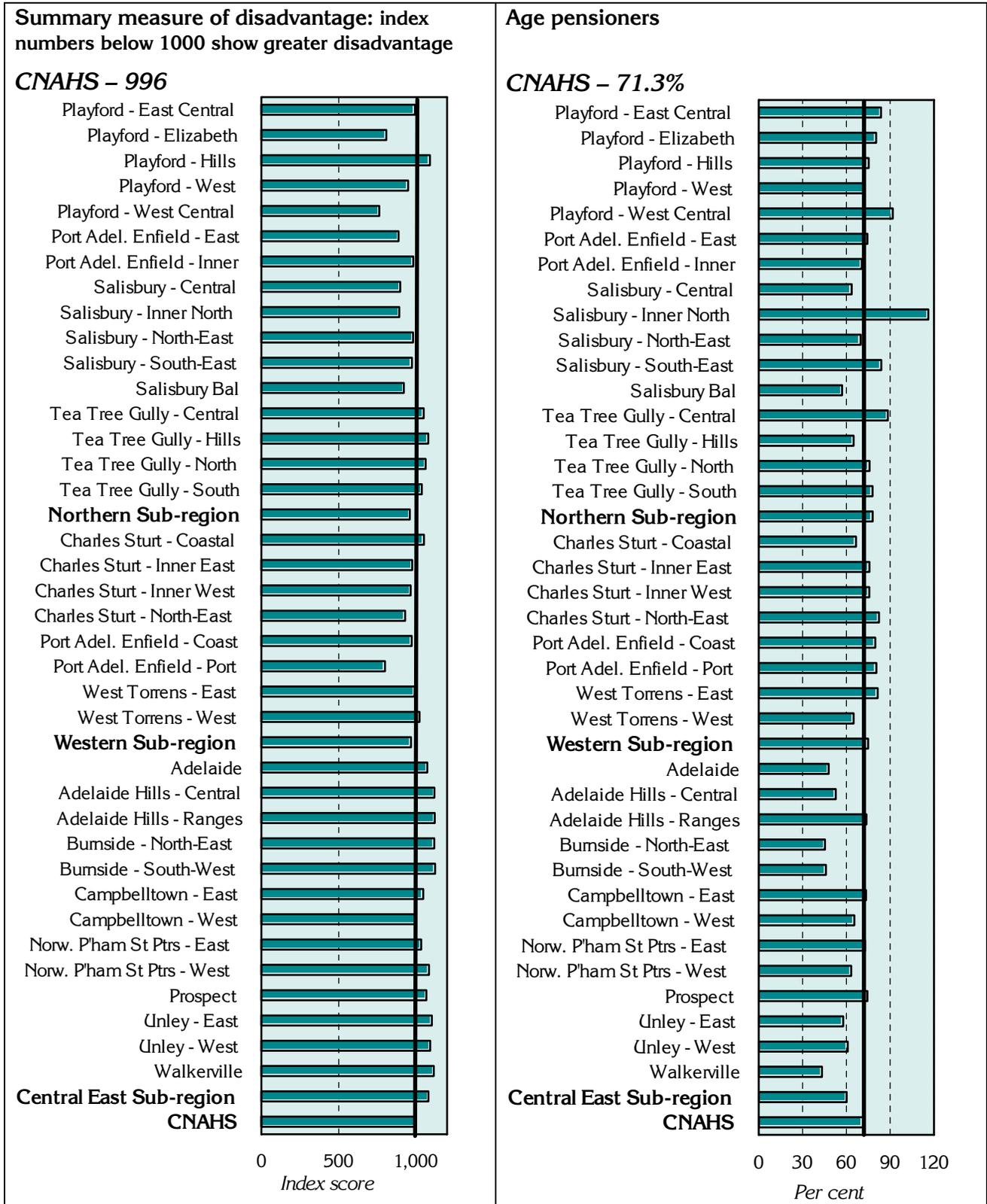
Dwellings without a motor vehicle

CNAHS – 11.6%



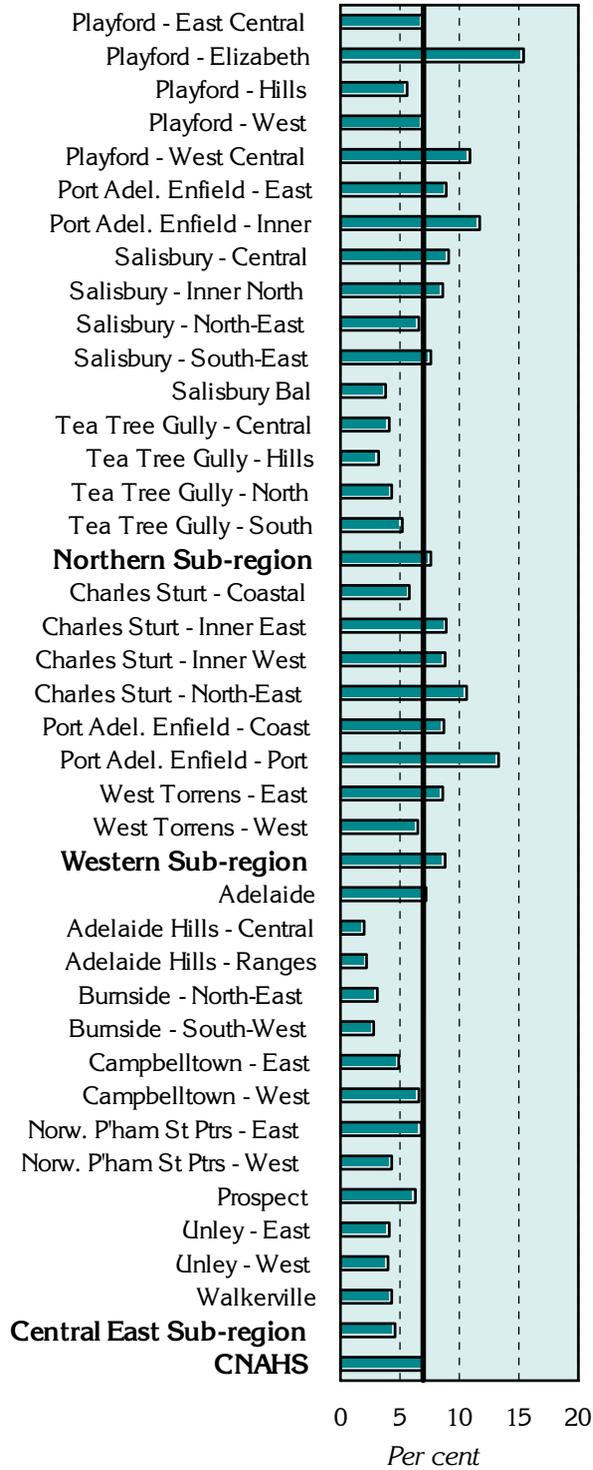
The summary measure of disadvantage shown here is the Index of Relative Socio-Economic Disadvantage – it is based on a score of 1000 for South Australia. The lower the index numbers the greater the disadvantage of the area, relative to South Australia as a whole.

Income support



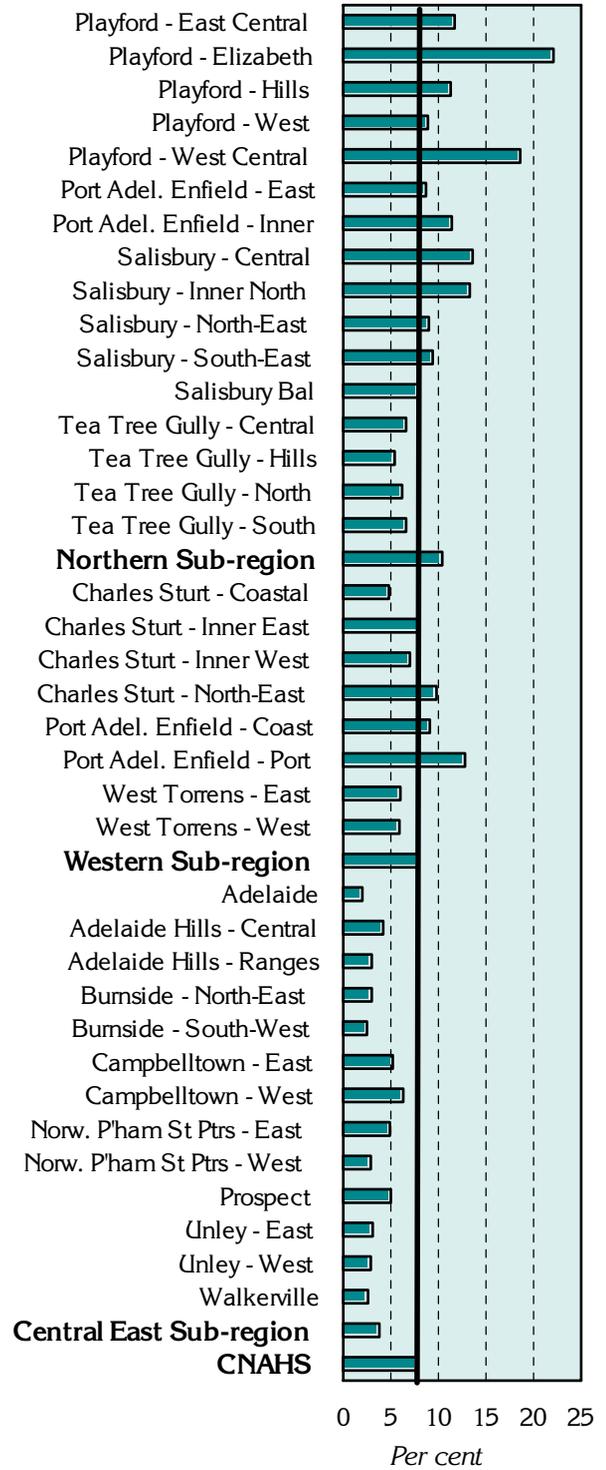
Disability support pensioners

CNAHS – 7.0%



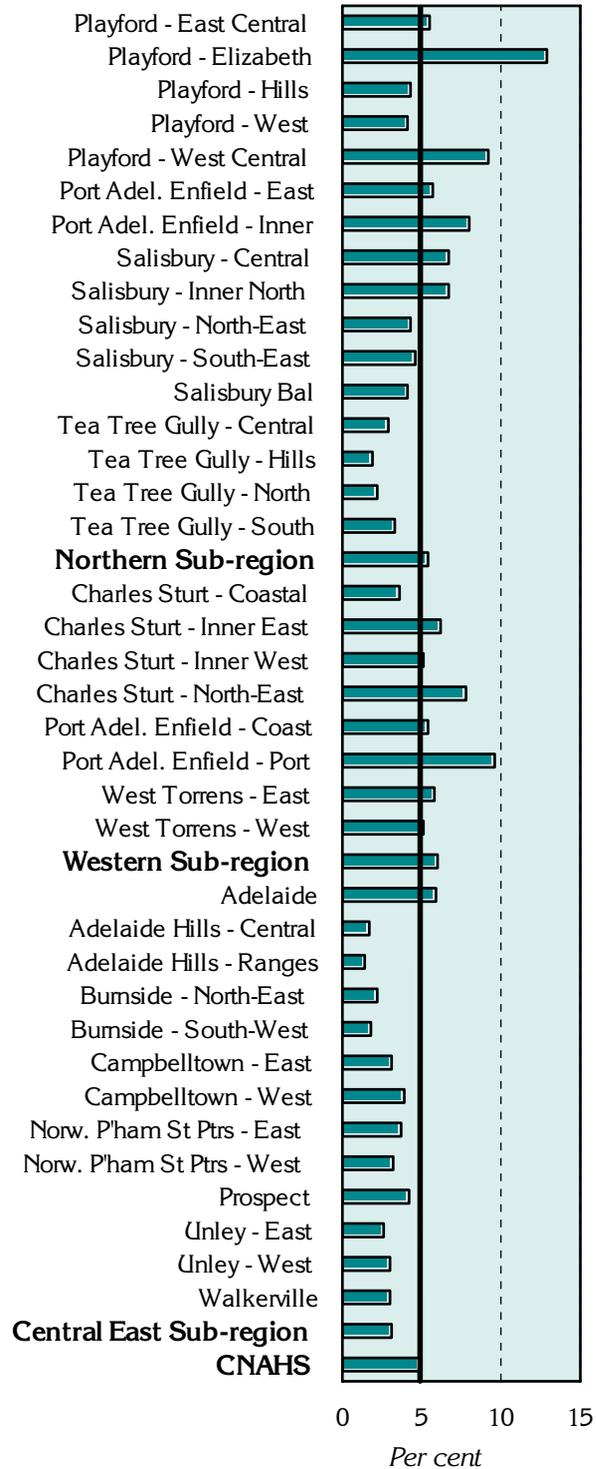
Female sole parent pensioners

CNAHS – 7.8%



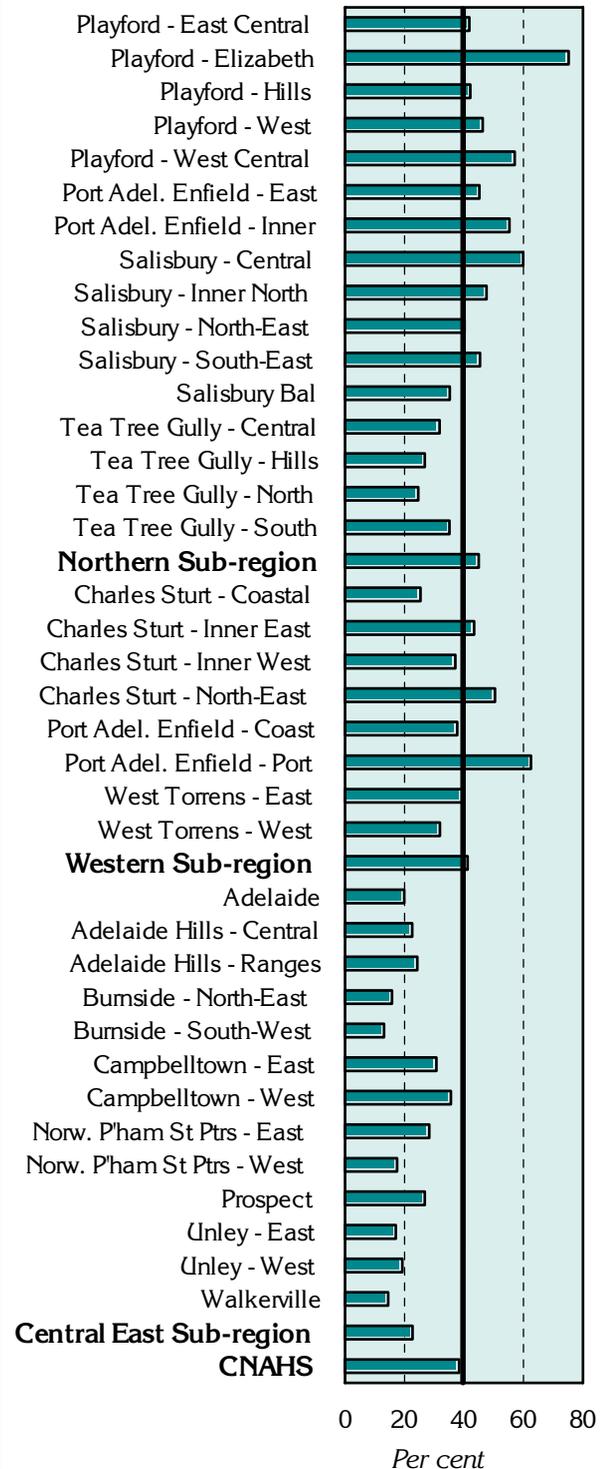
People receiving an unemployment benefit

CNAHS – 4.9%



Children in welfare-dependent and other low income families

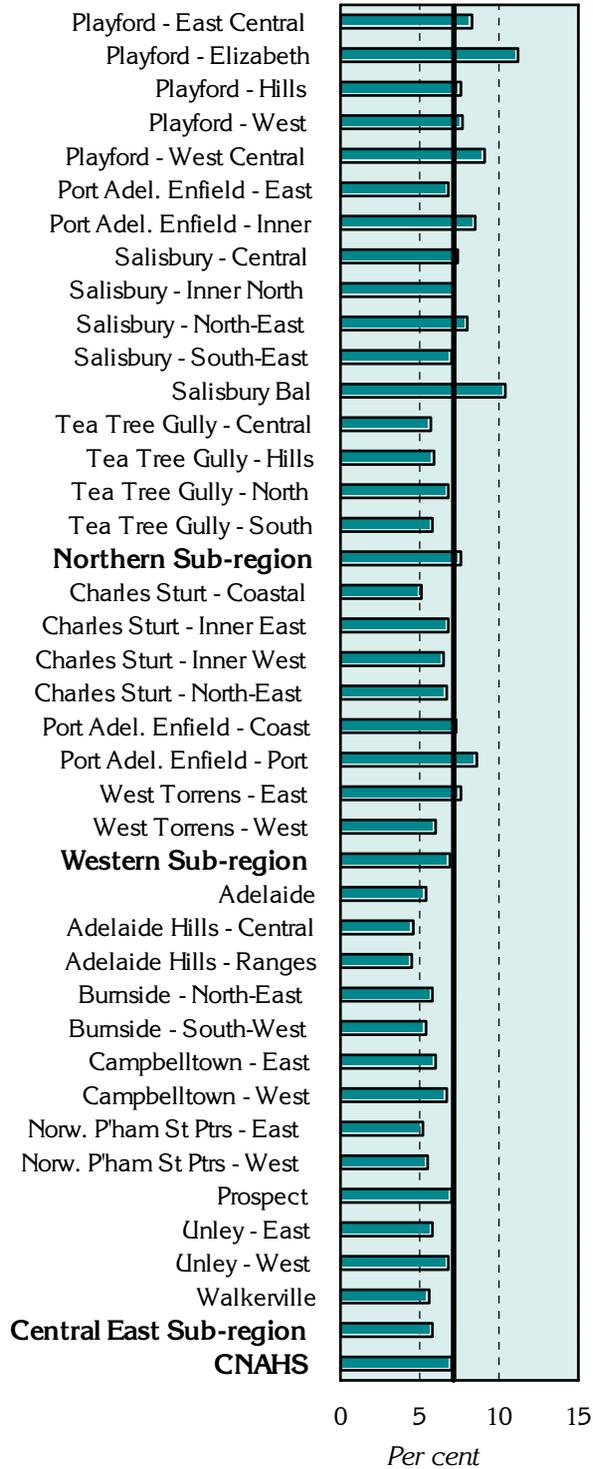
CNAHS – 38.4%



Health status and risk factors

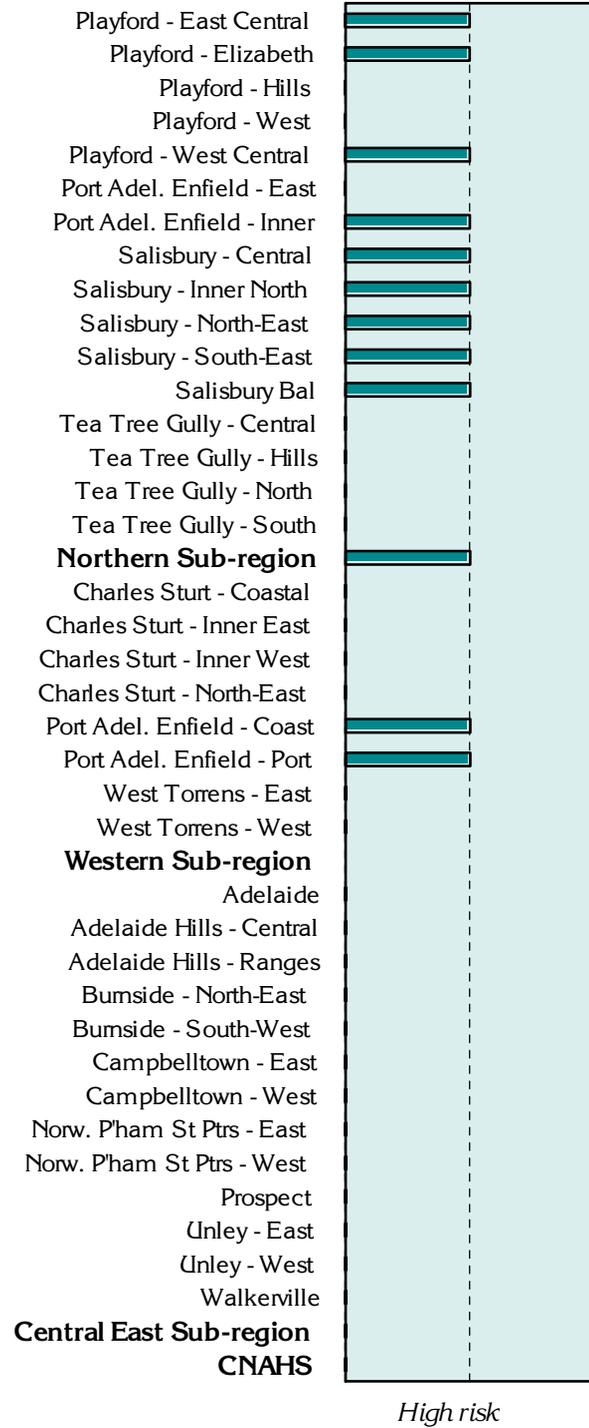
Low birthweight babies

CNAHS – 7.0%



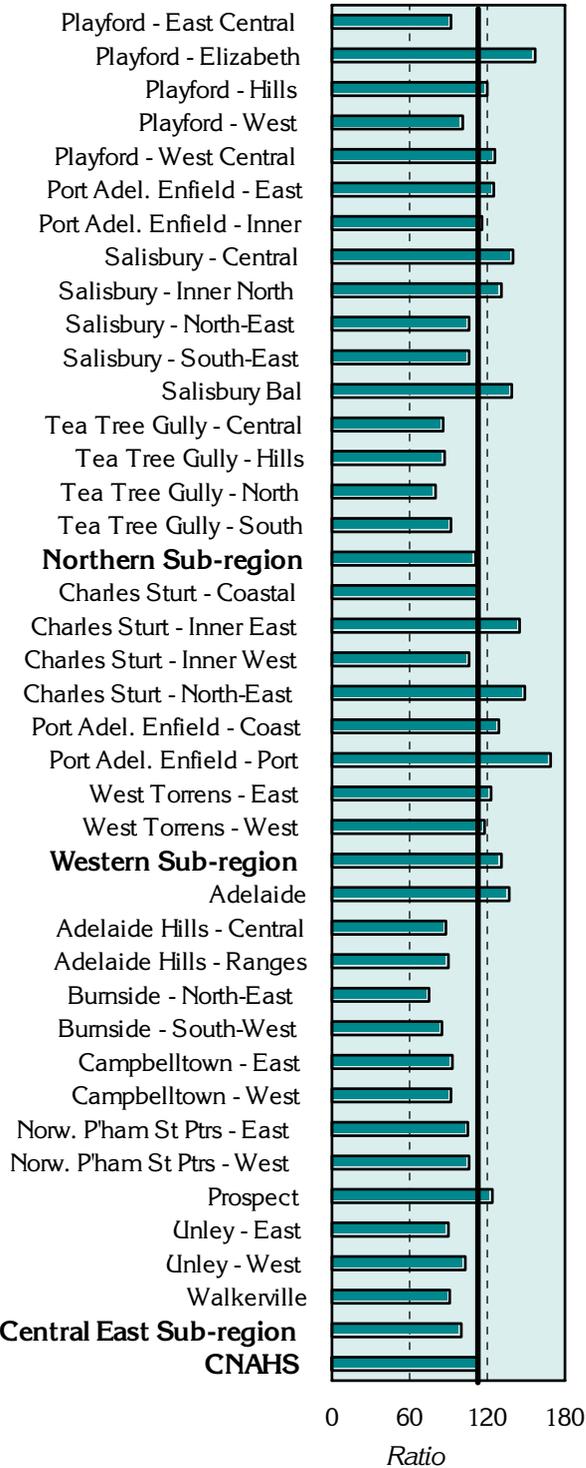
Pregnancy outcomes: high risk of poor perinatal outcome

CNAHS – Not high risk



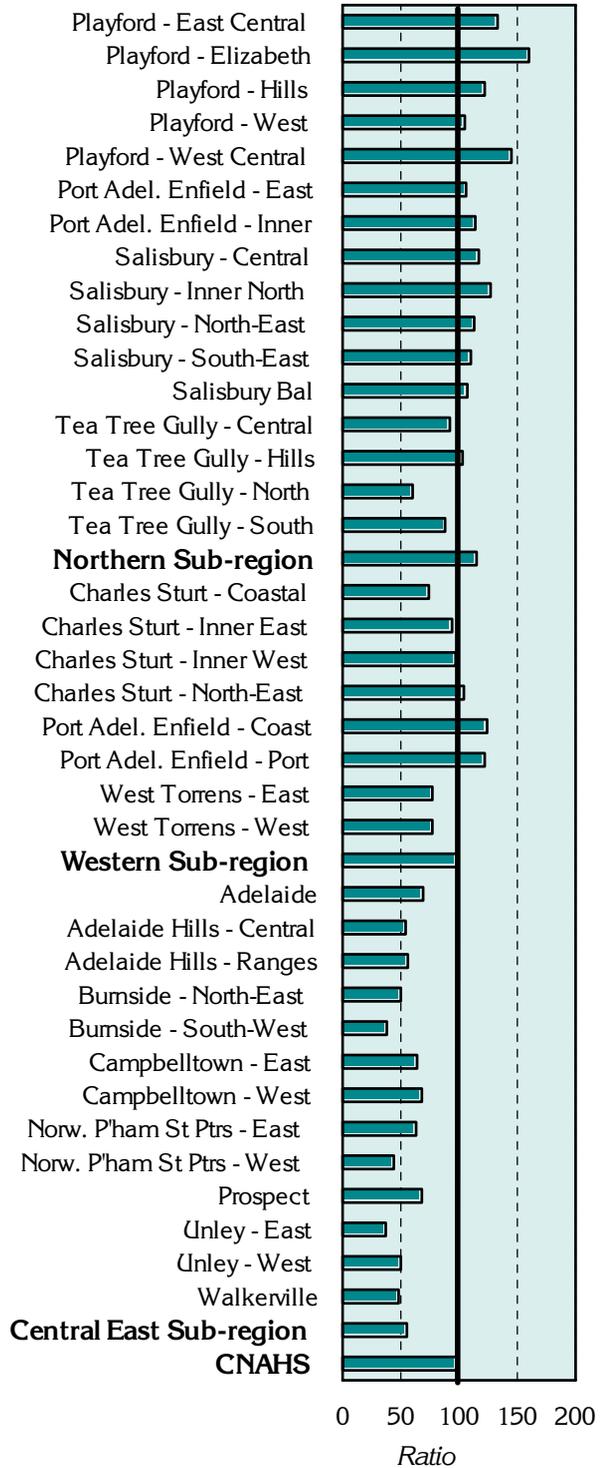
Termination of pregnancy

CNAHS – 113 (SR)



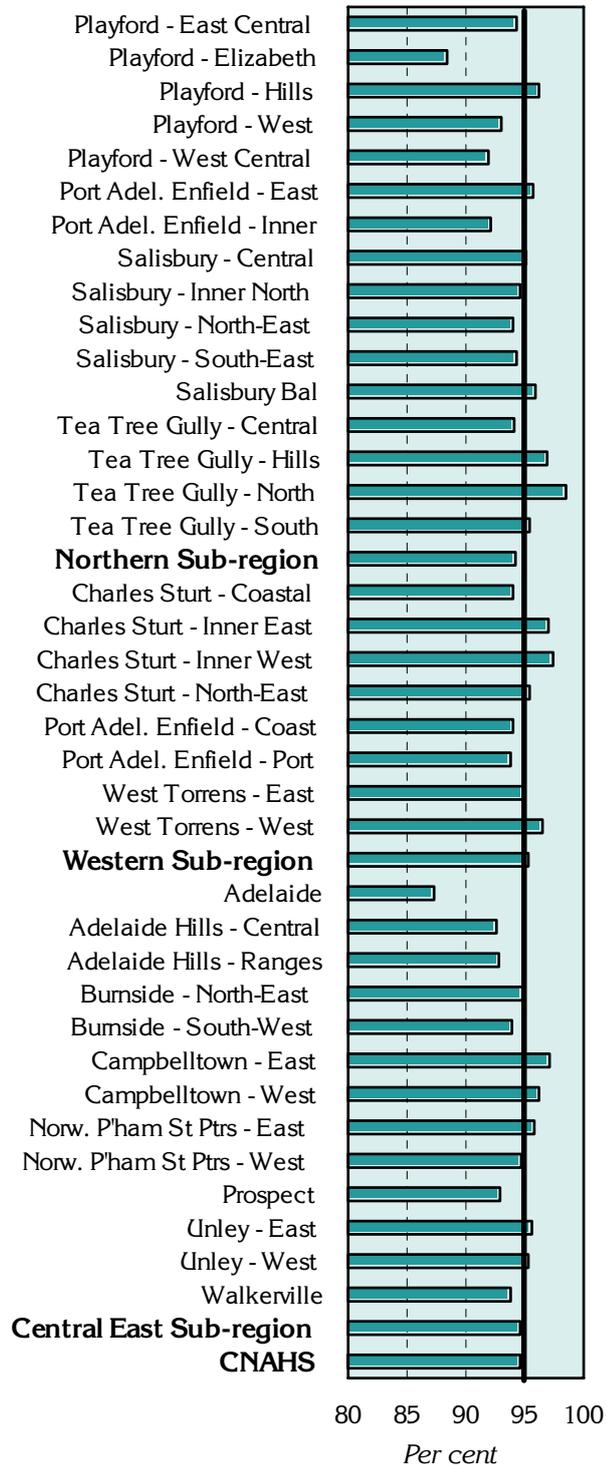
Women smoking during pregnancy

CNAHS – 98 (SR)



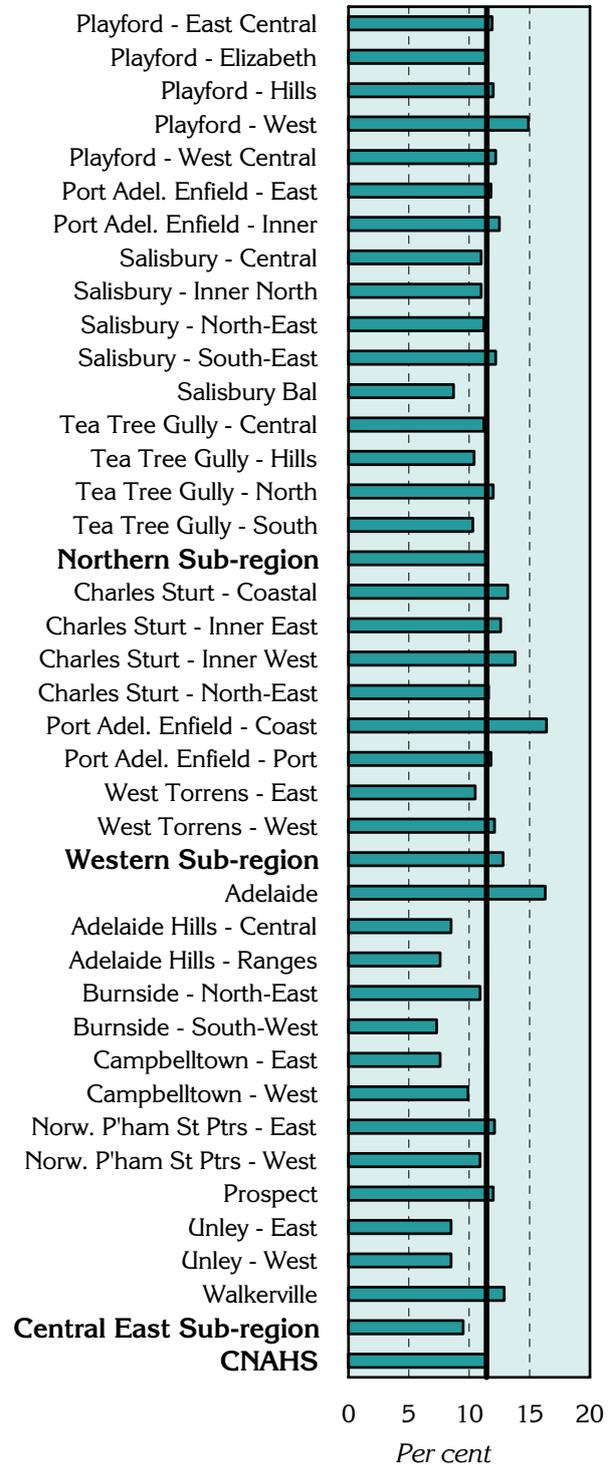
Immunisation status at one year

CNAHS – 94.6%



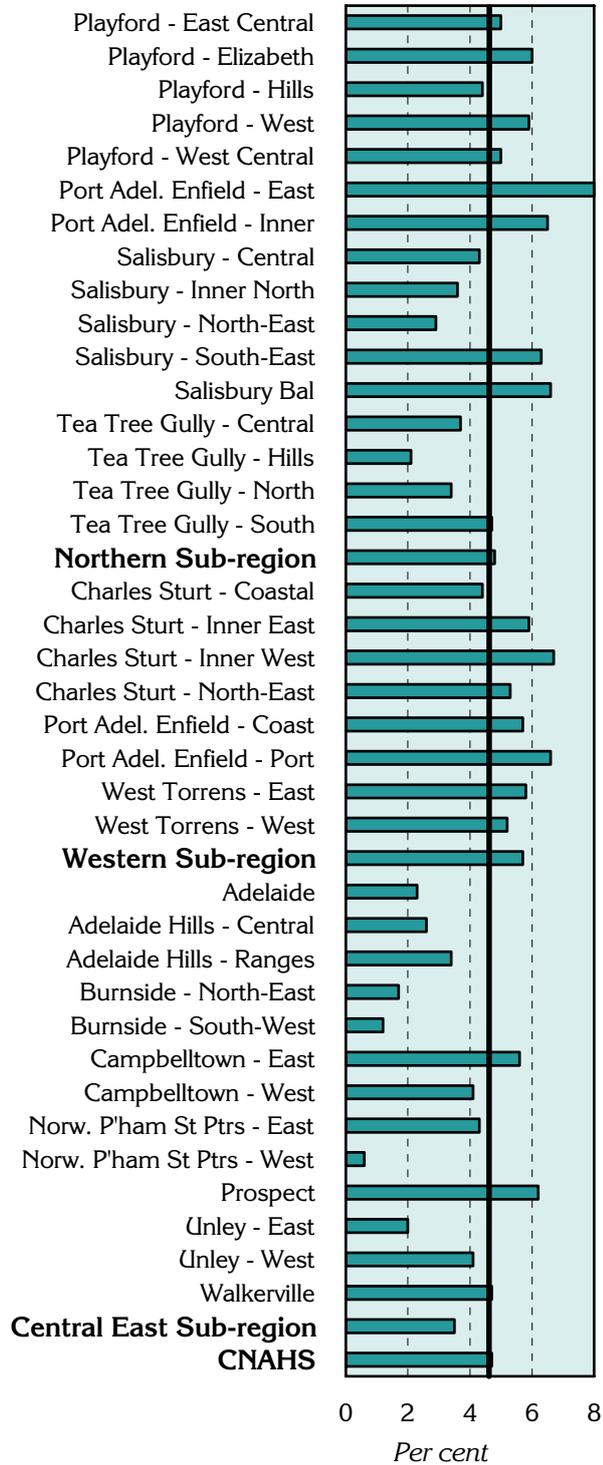
Overweight (not obese) four year old boys

CNAHS – 11.4%



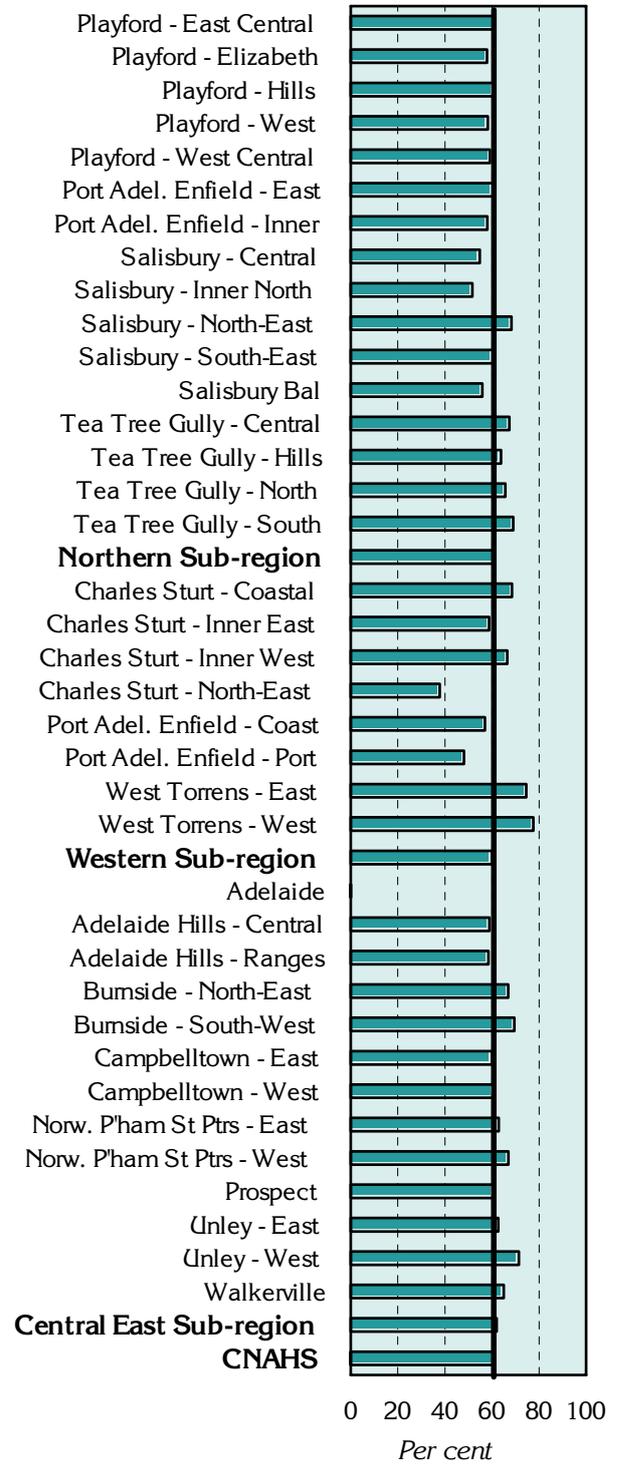
Obese four year old boys

CNAHS – 4.7%



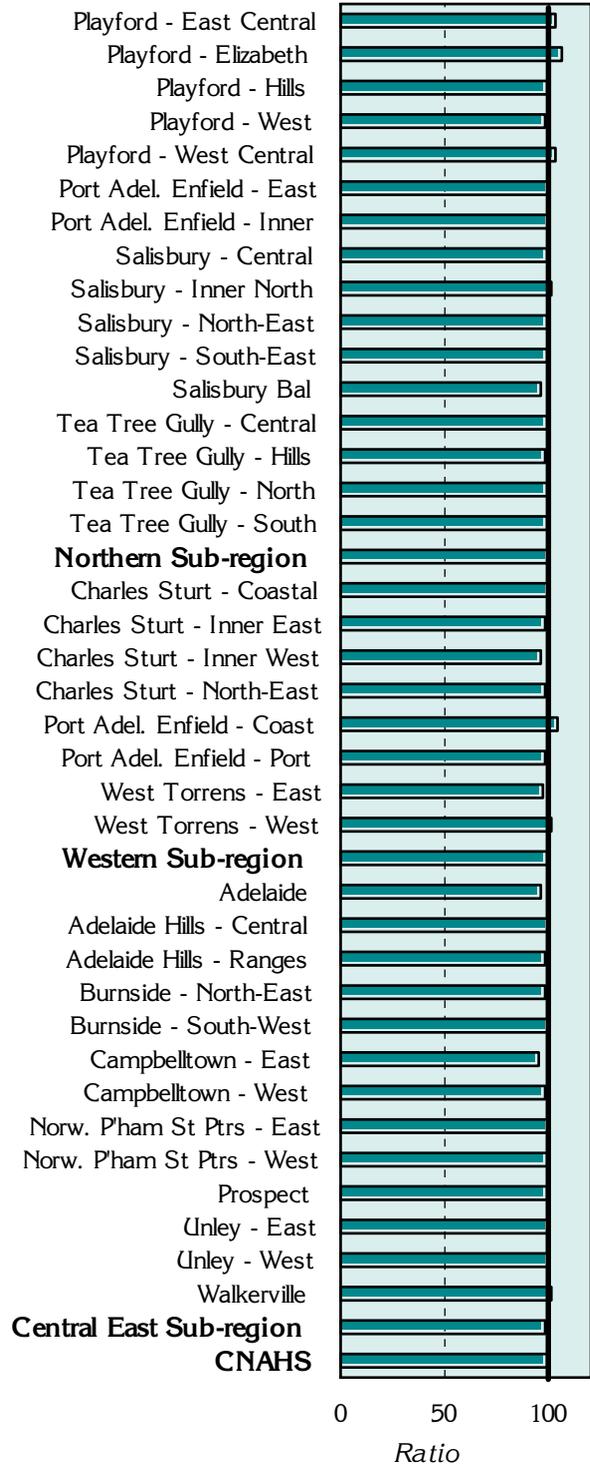
Twelve year olds with no decayed, missing or filled teeth

CNAHS – 60.9%



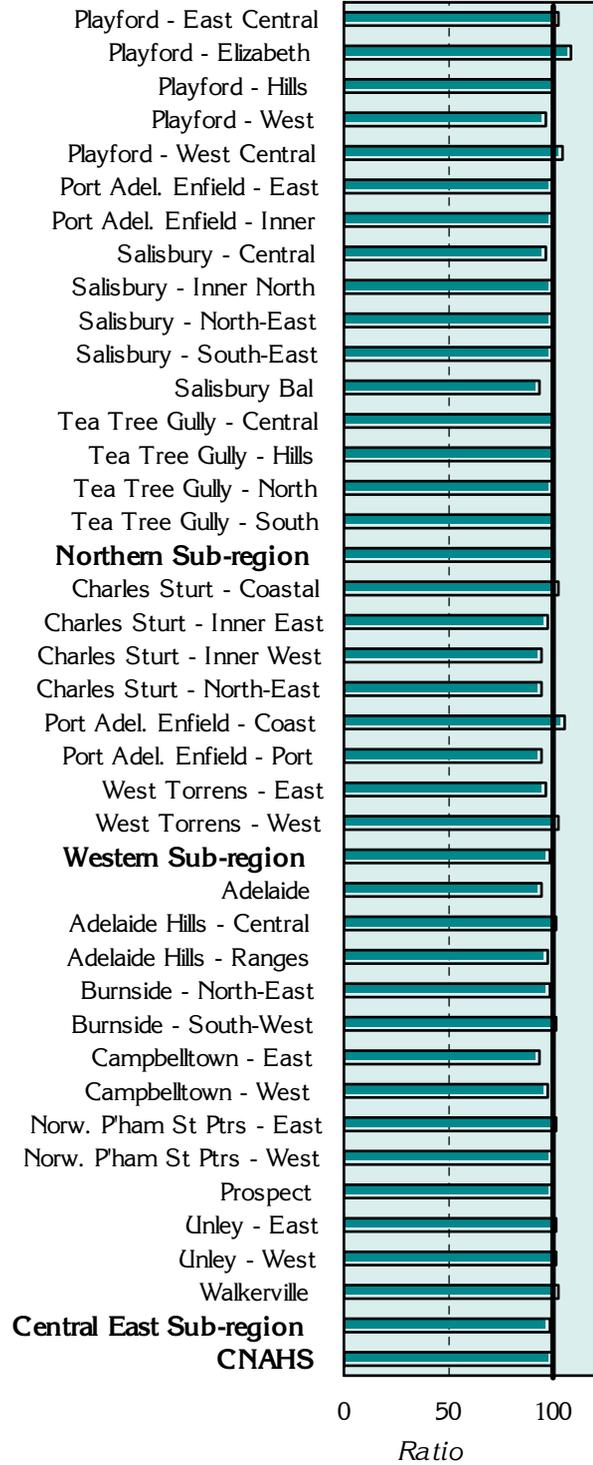
Estimated prevalence of respiratory system diseases

CNAHS – 99 (SR)



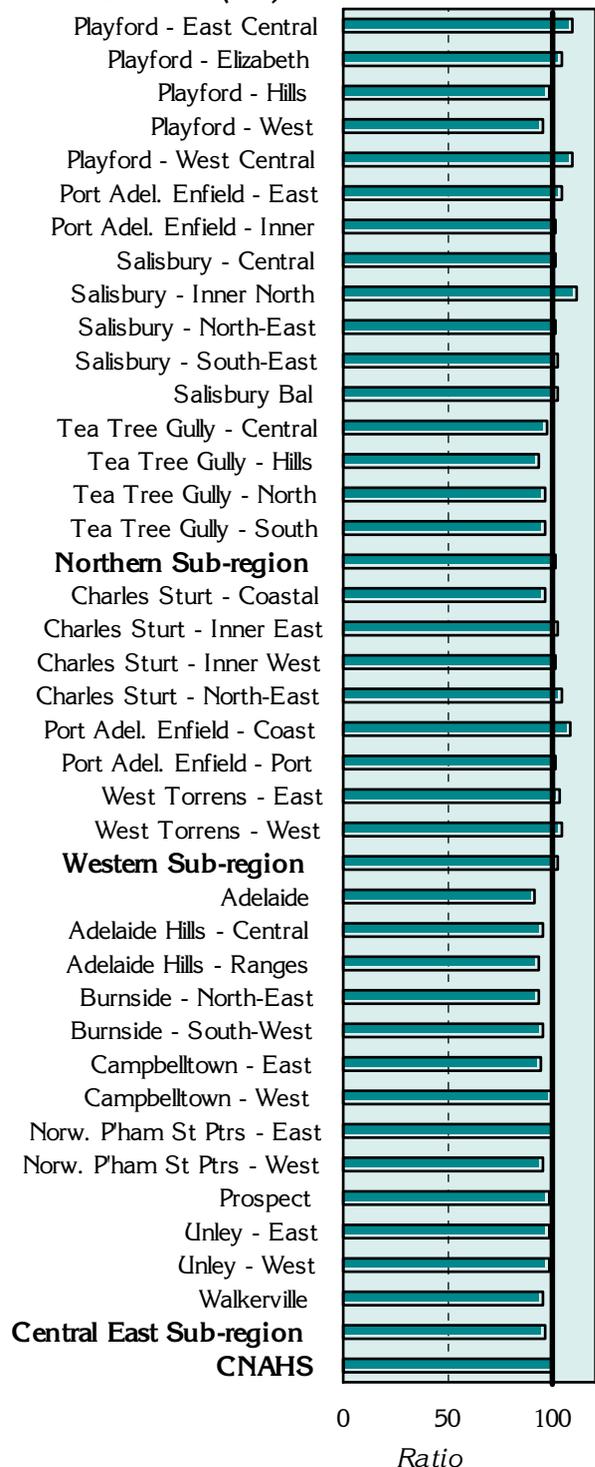
Estimated prevalence of asthma

CNAHS – 99 (SR)



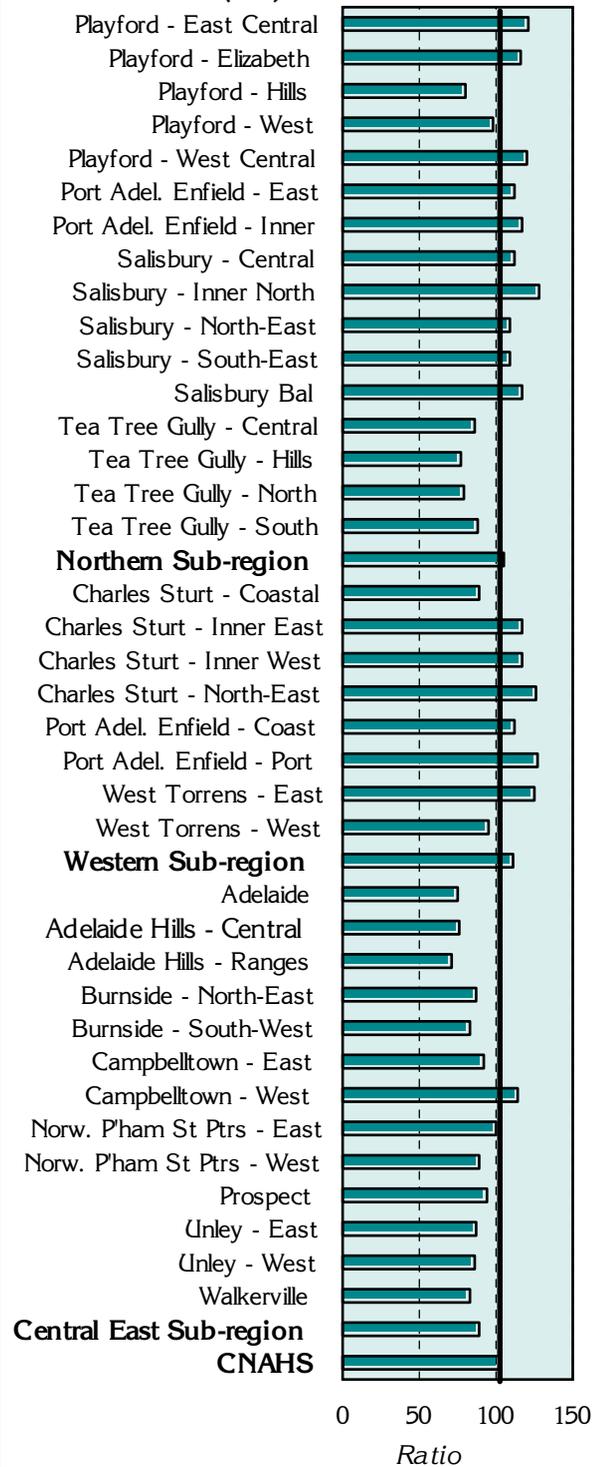
Estimated prevalence of circulatory system diseases

CNAHS – 100 (SR)



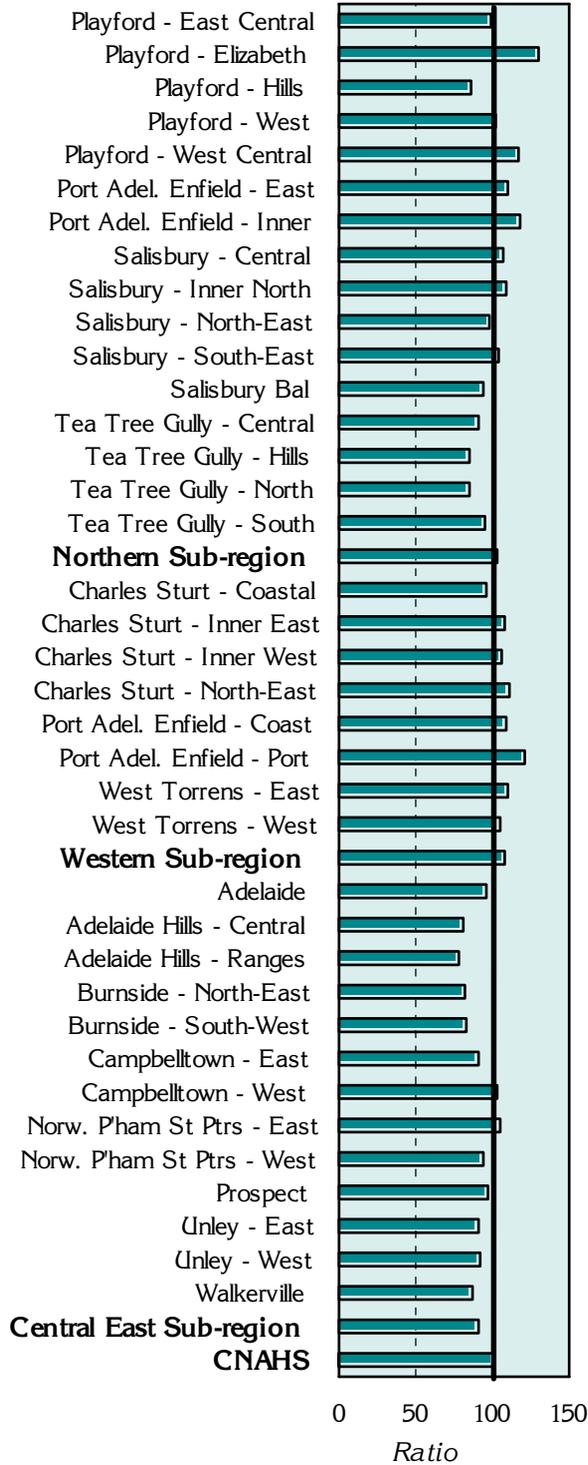
Estimated prevalence of diabetes type 2

CNAHS – 102 (SR)



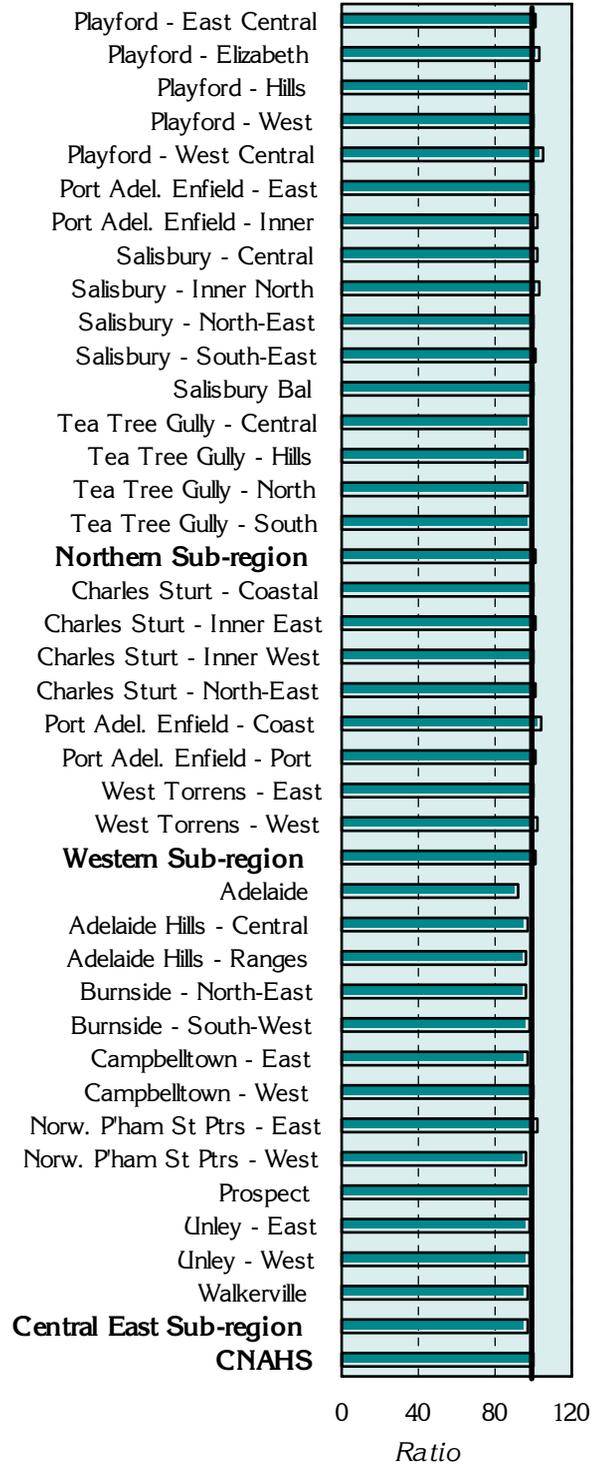
Estimated prevalence of mental and behavioural disorders

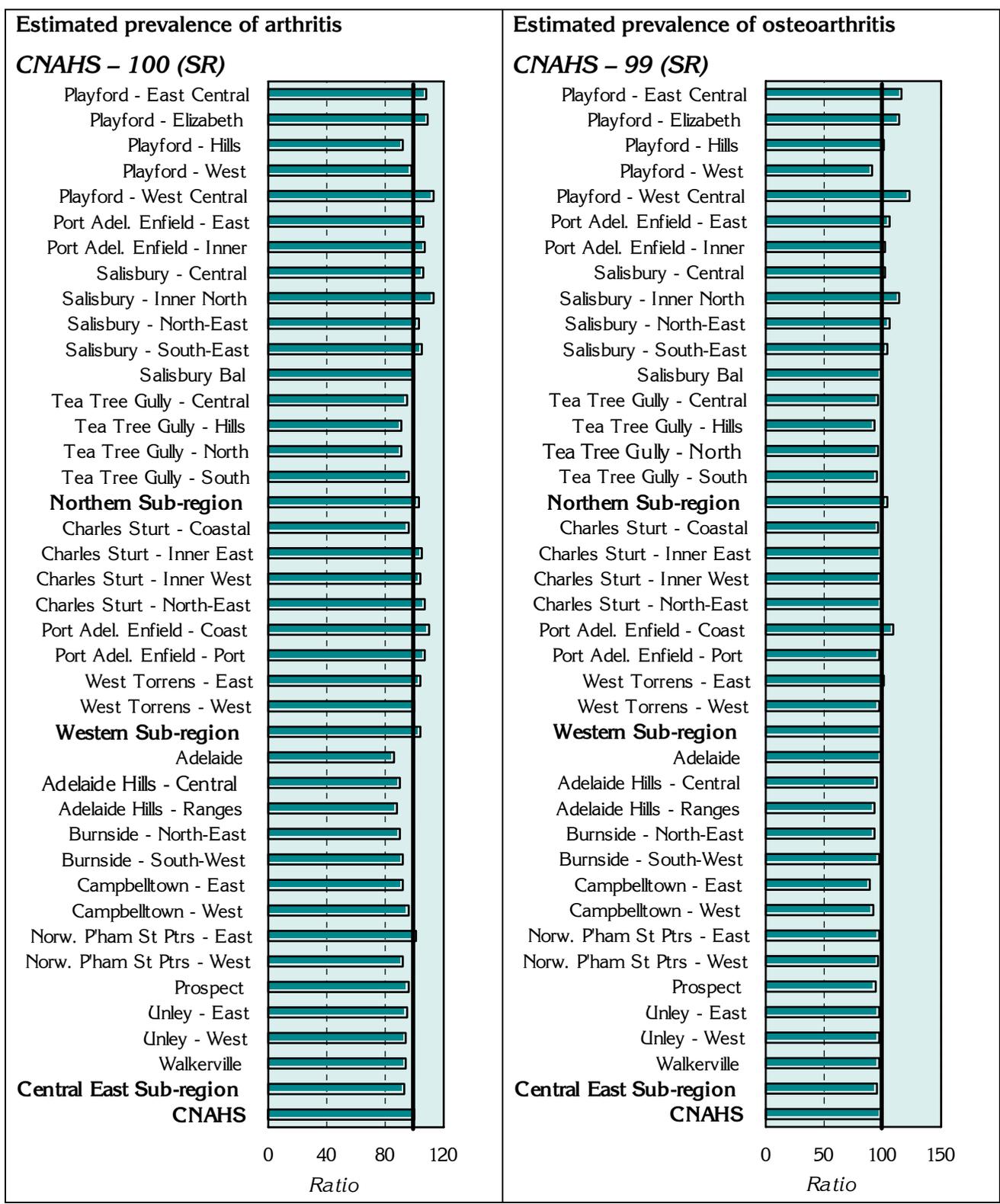
CNAHS – 101 (SR)



Estimated prevalence of musculoskeletal system diseases

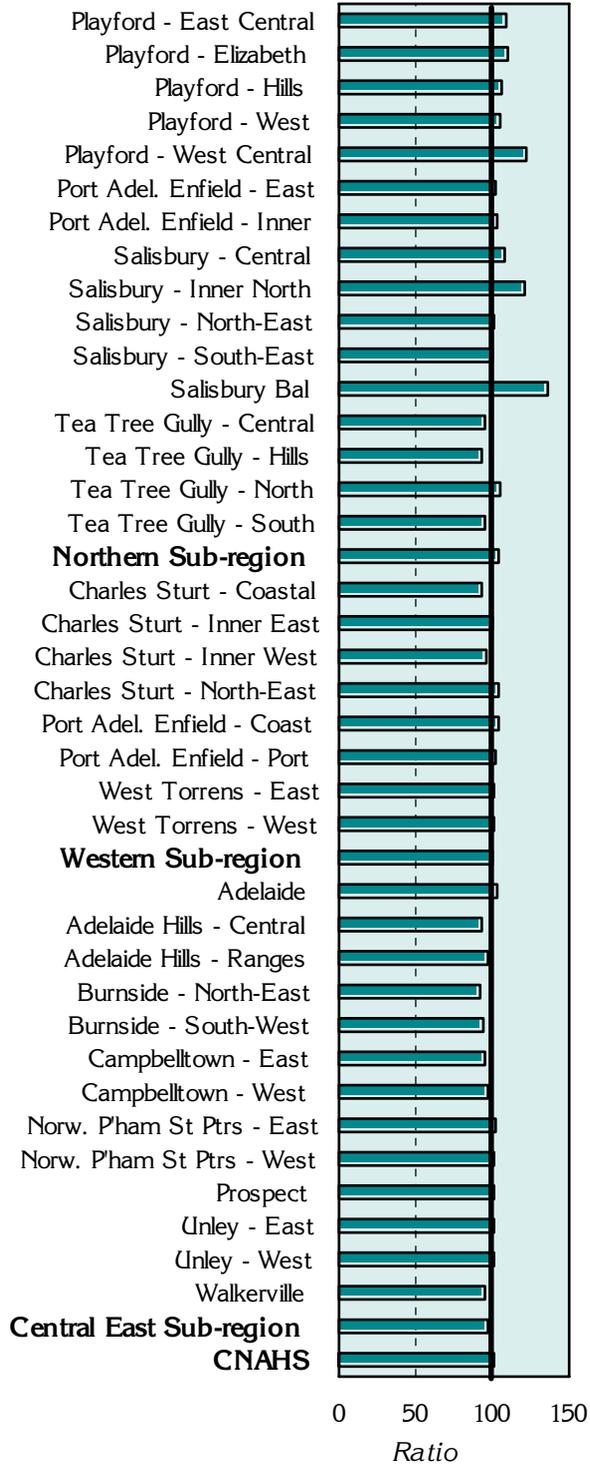
CNAHS – 100 (SR)





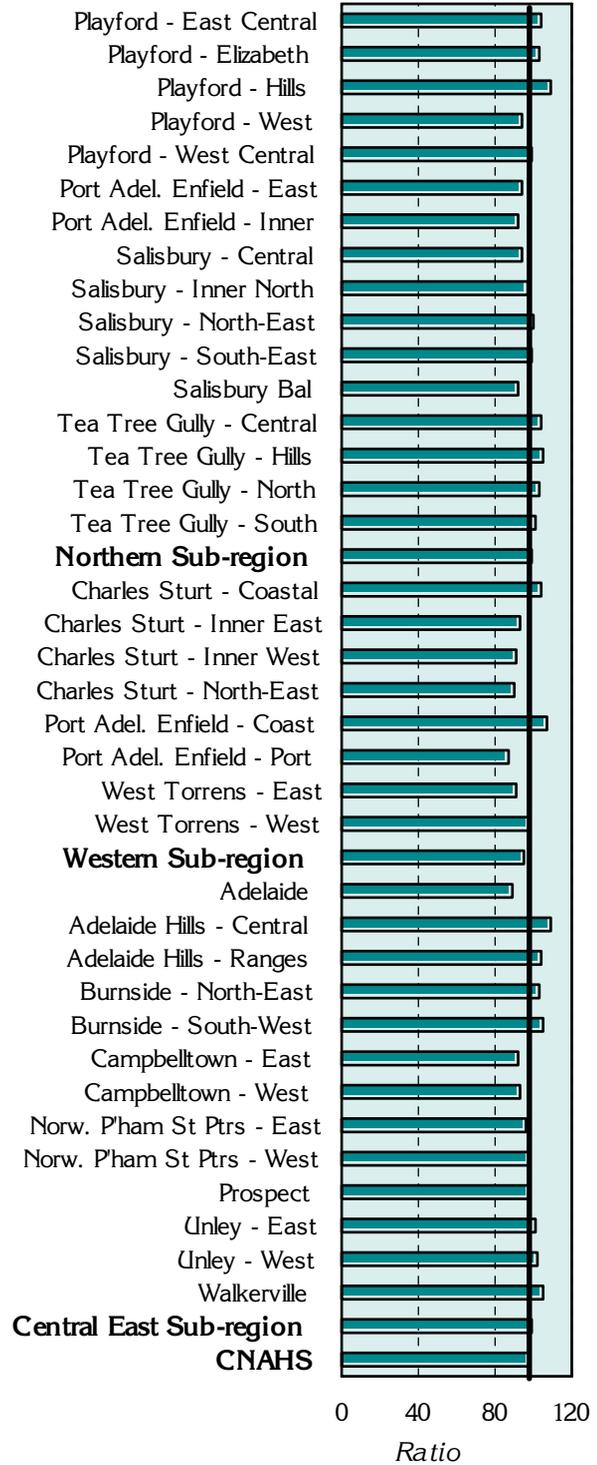
Estimated prevalence of female osteoporosis

CNAHS – 101 (SR)



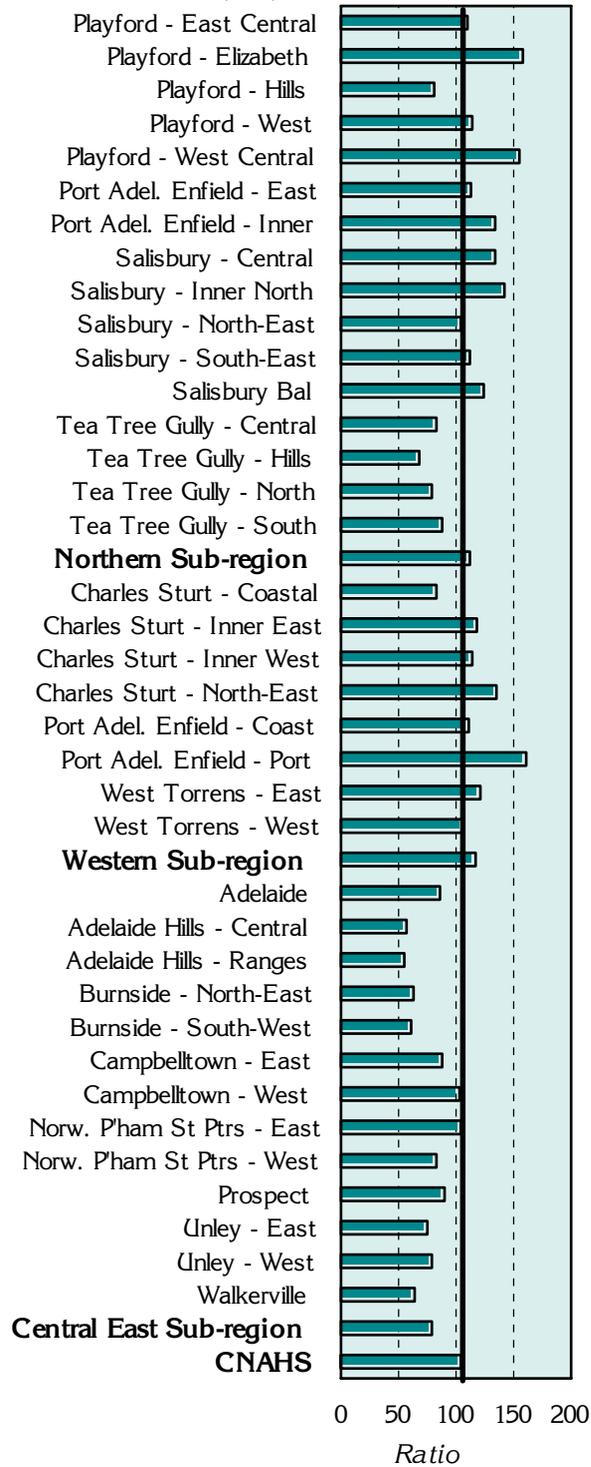
Estimated prevalence of injury

CNAHS – 98 (SR)



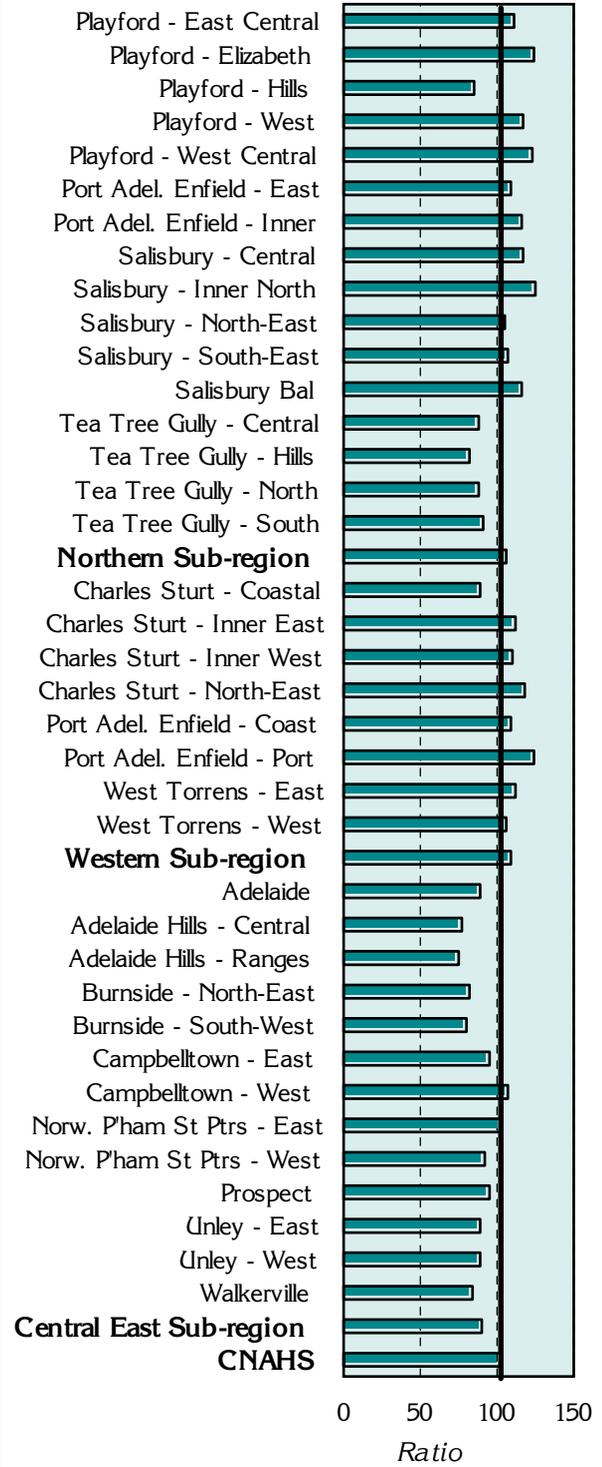
Estimated prevalence of very high levels of psychological distress

CNAHS – 104 (SR)



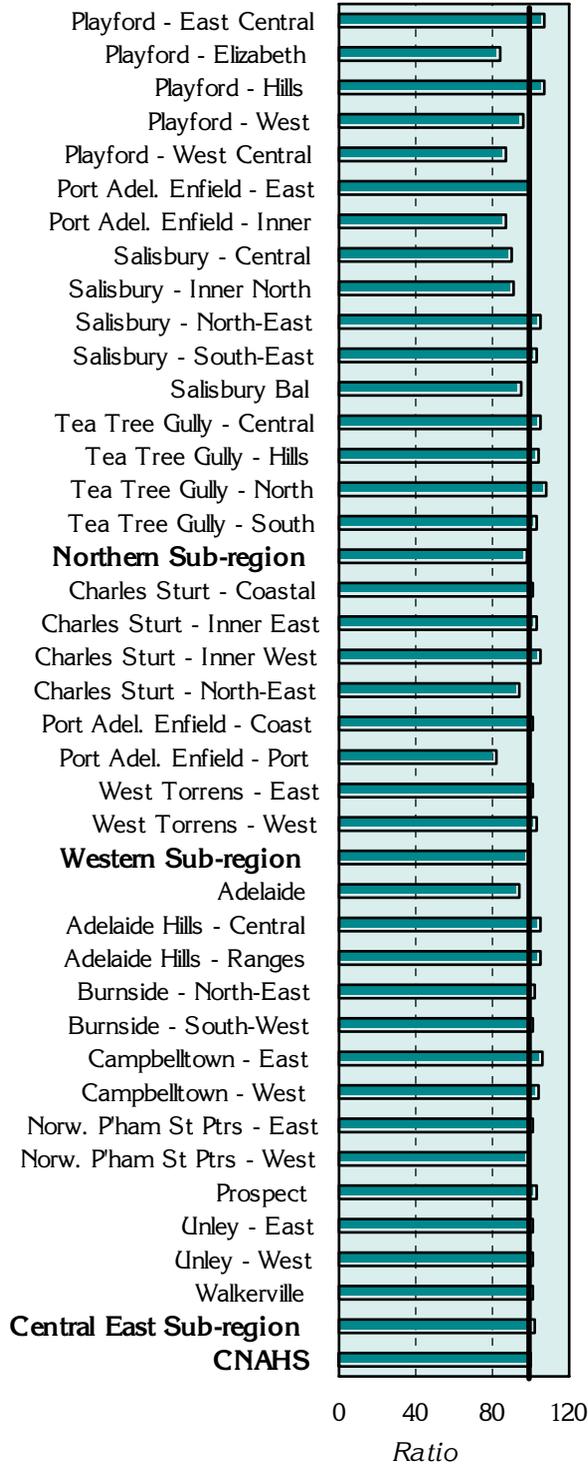
Estimated prevalence of fair or poor health

CNAHS – 102 (SR)



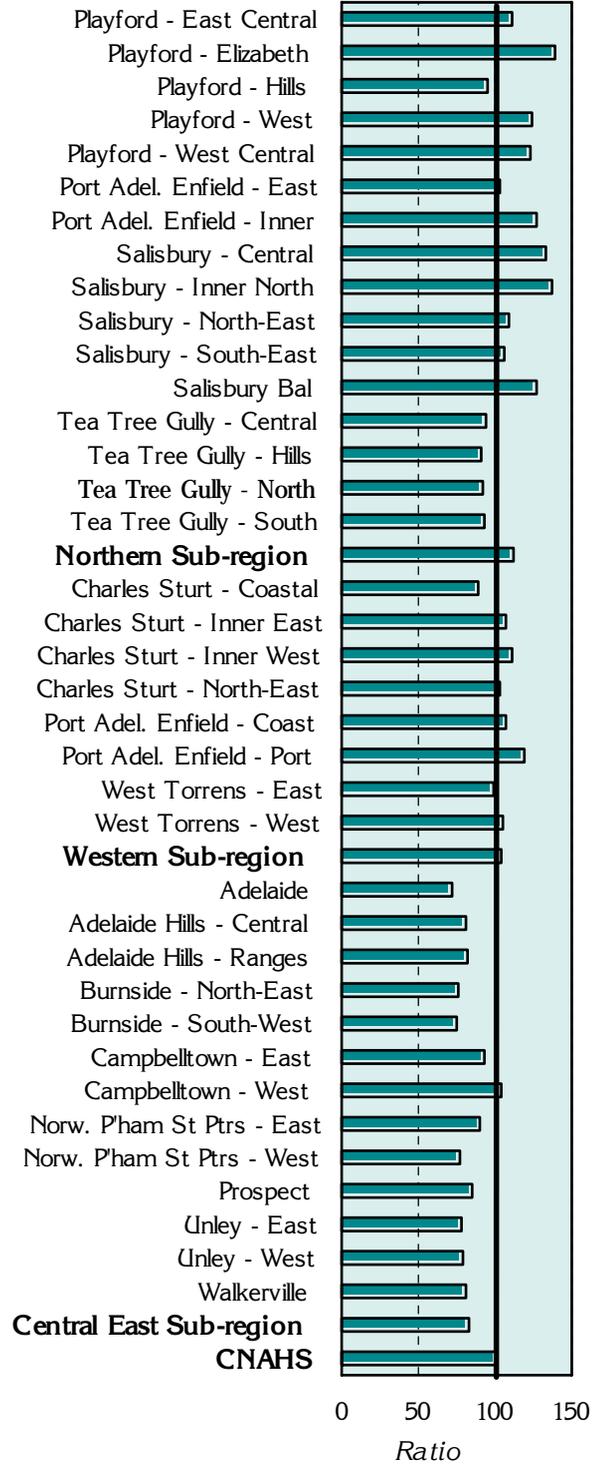
Estimated prevalence of overweight (not obese) males

CNAHS – 100 (SR)



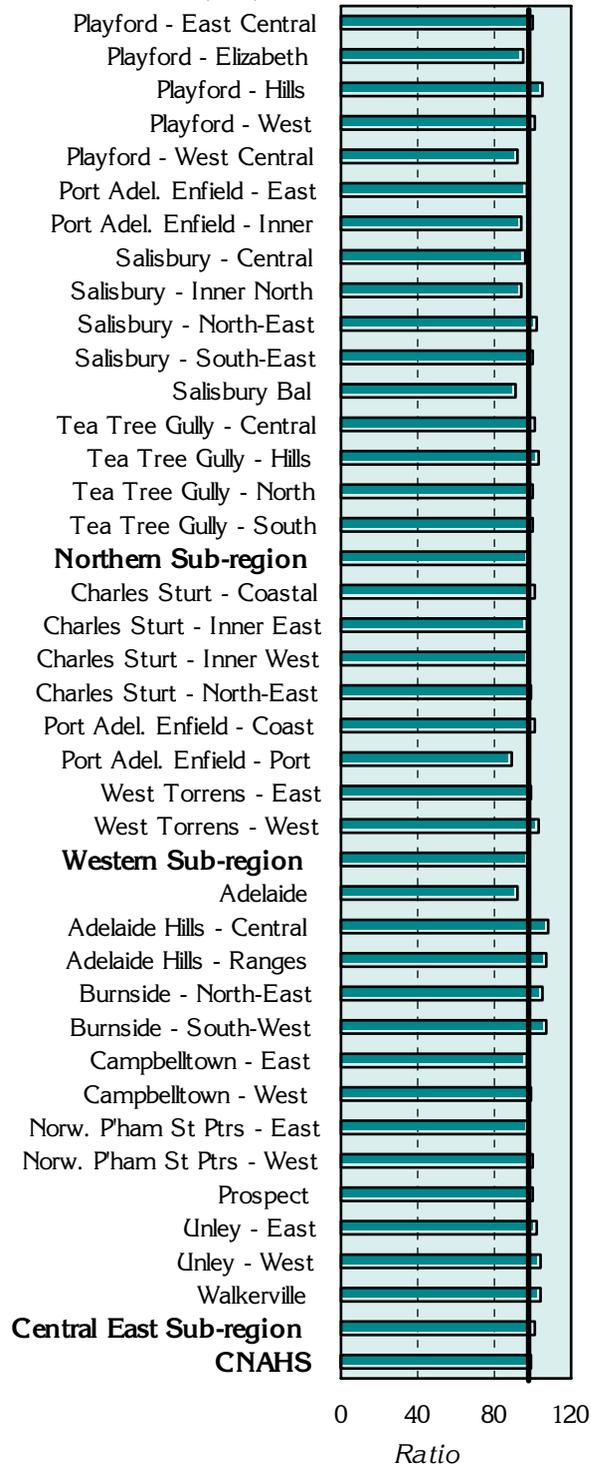
Estimated prevalence of obese males

CNAHS – 101 (SR)



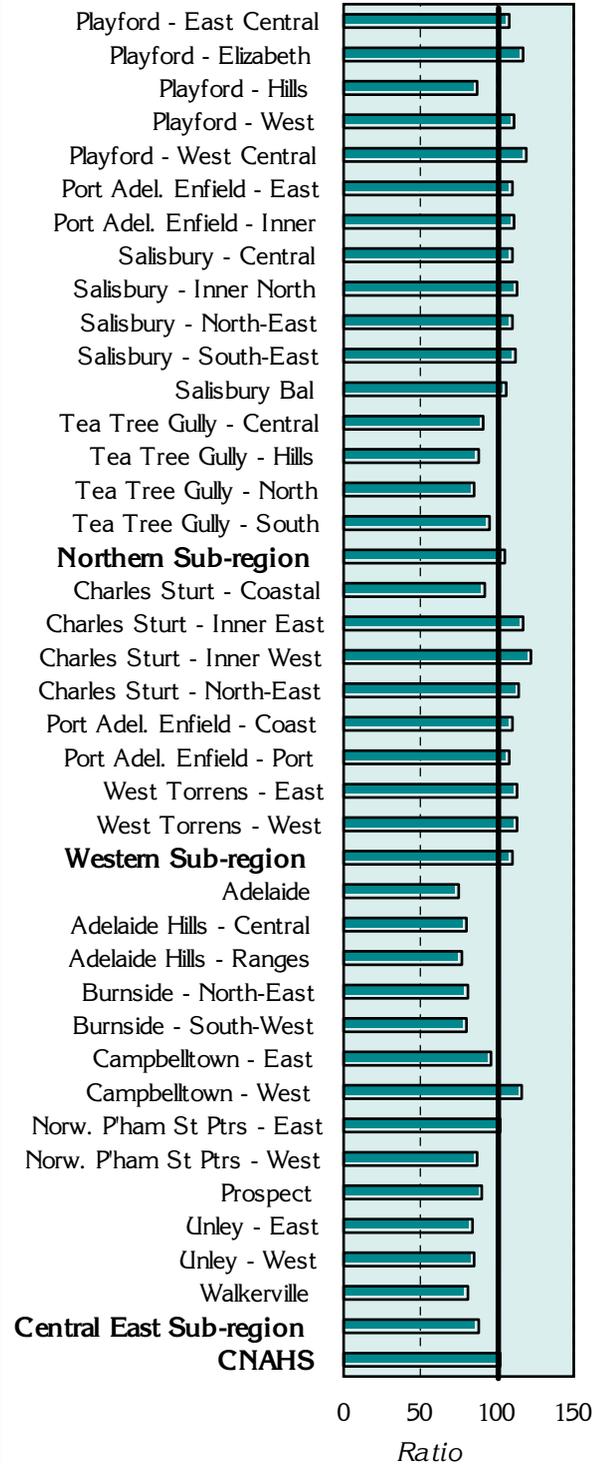
Estimated prevalence of overweight (not obese) females

CNAHS – 99 (SR)



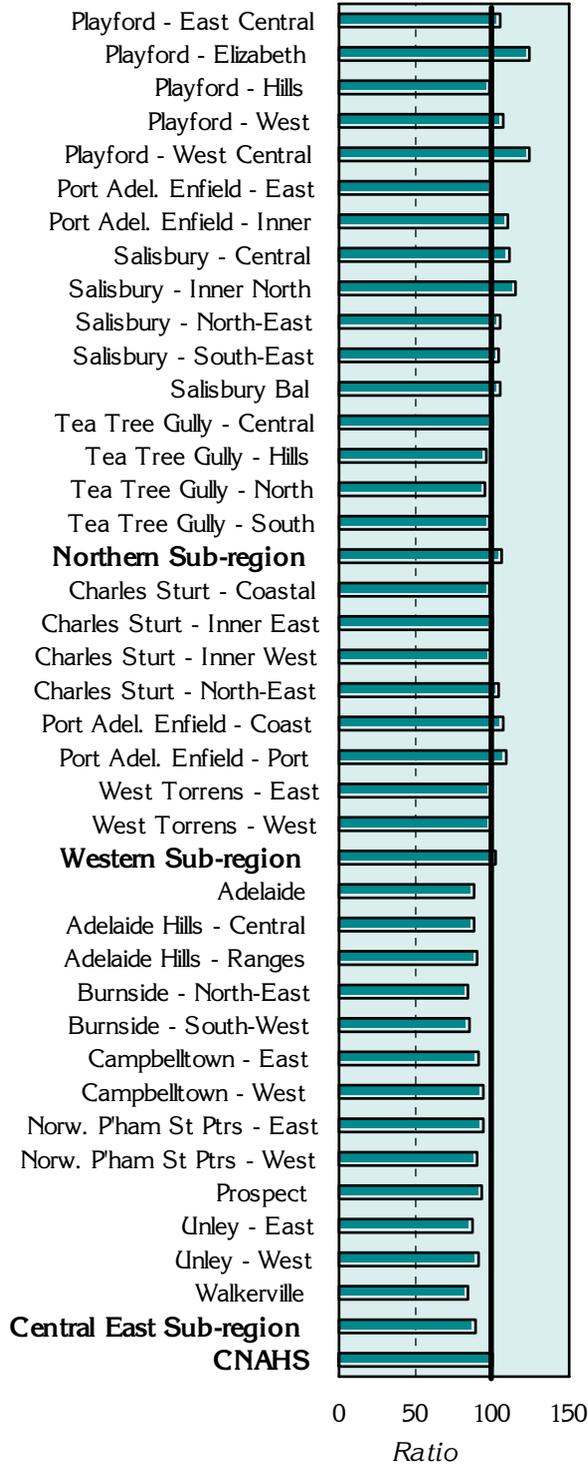
Estimated prevalence of obese females

CNAHS – 102 (SR)



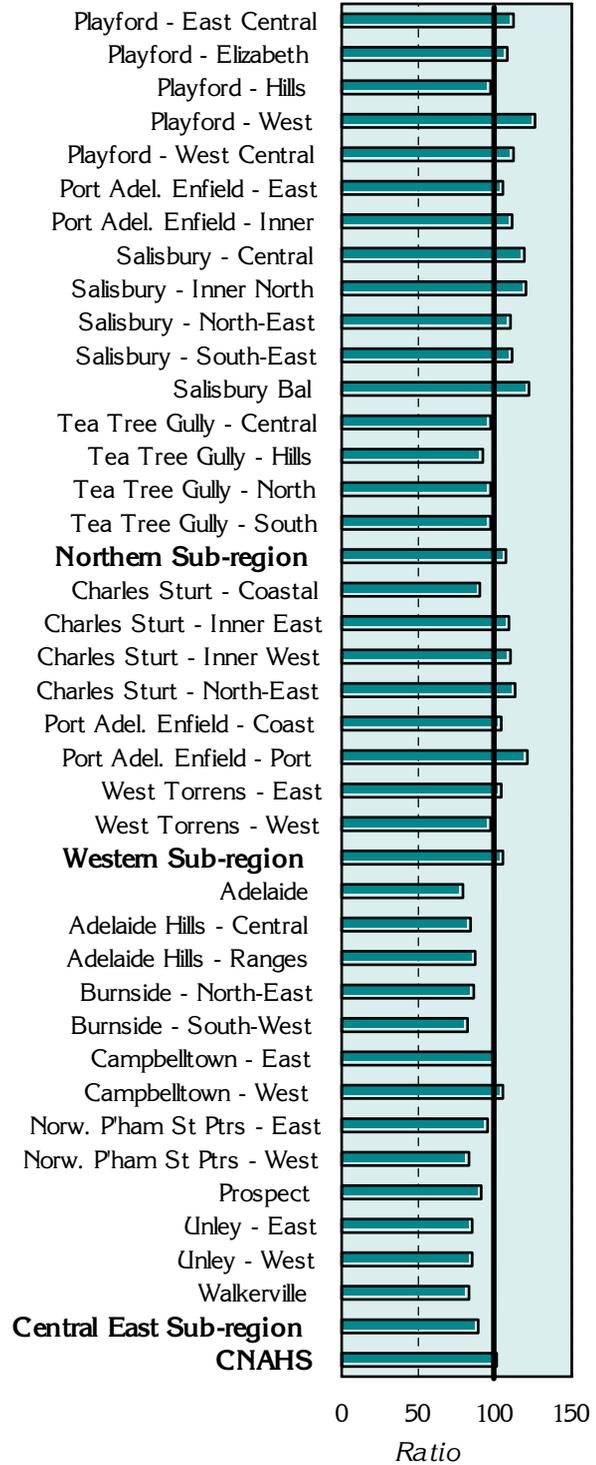
Estimated prevalence of smoking

CNAHS – 100 (SR)



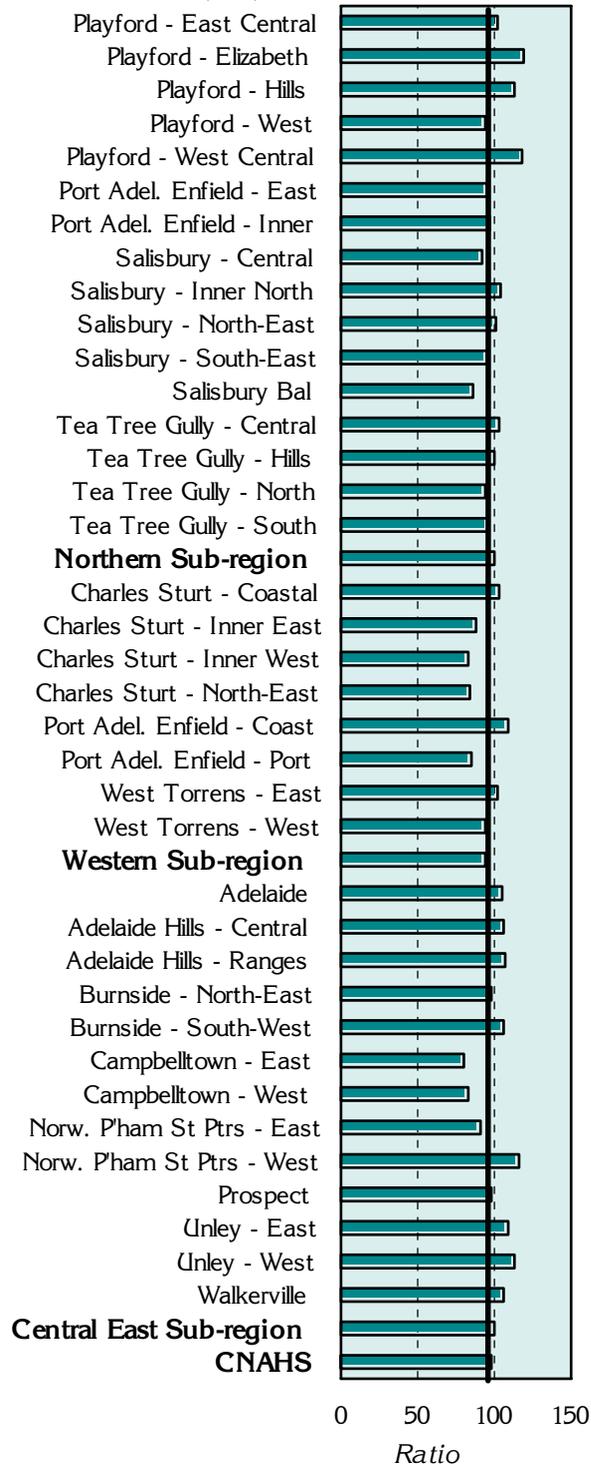
Estimated prevalence of physical inactivity

CNAHS – 101 (SR)



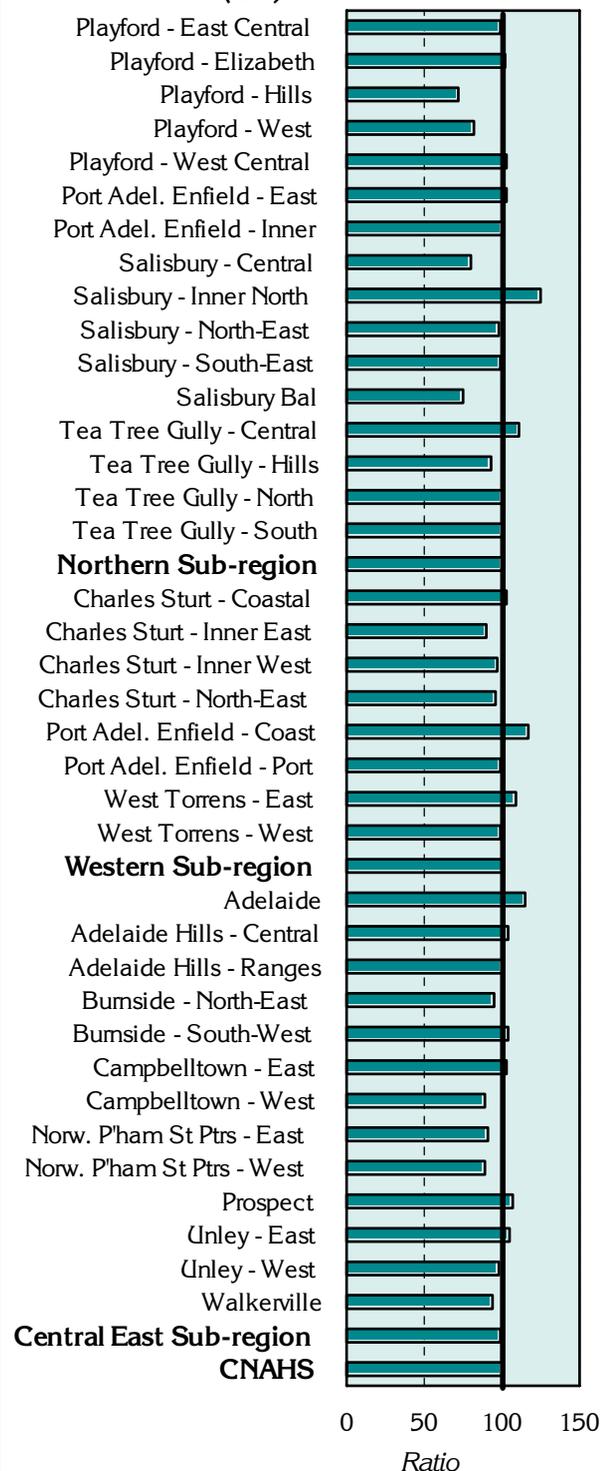
Estimated prevalence of high health risk due to alcohol consumption

CNAHS – 98 (SR)



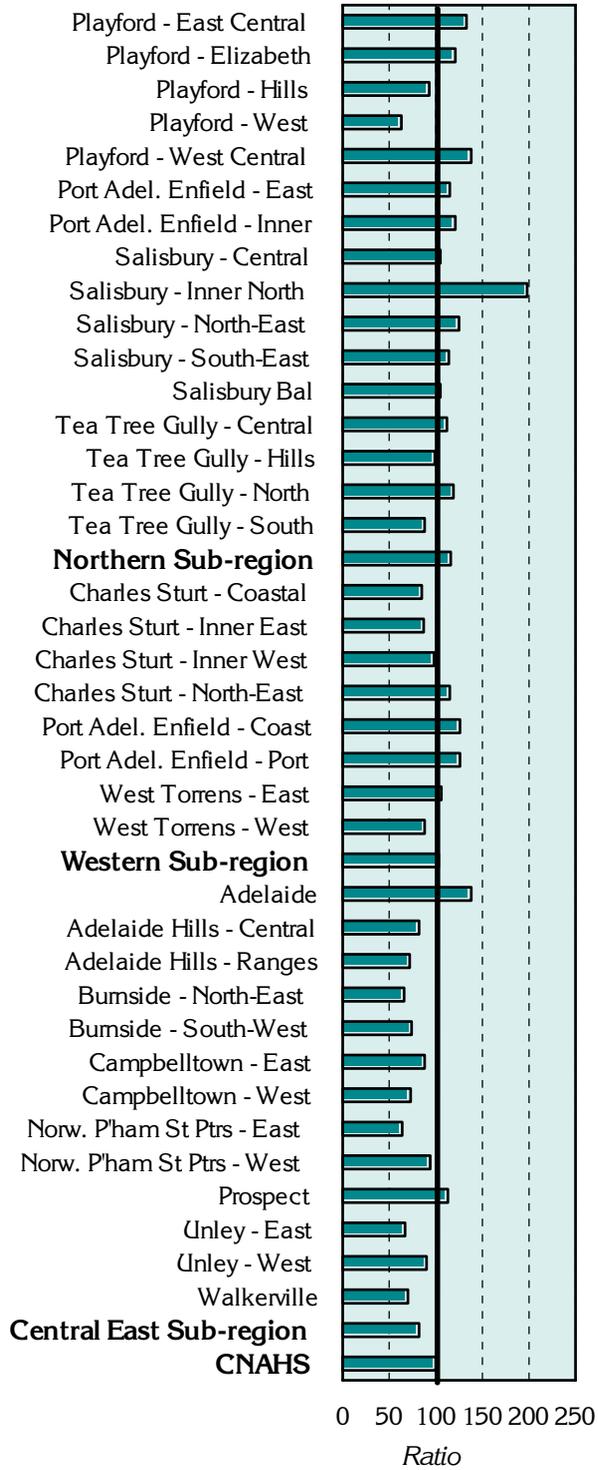
Cancer incidence: all cancers

CNAHS – 100 (SR)



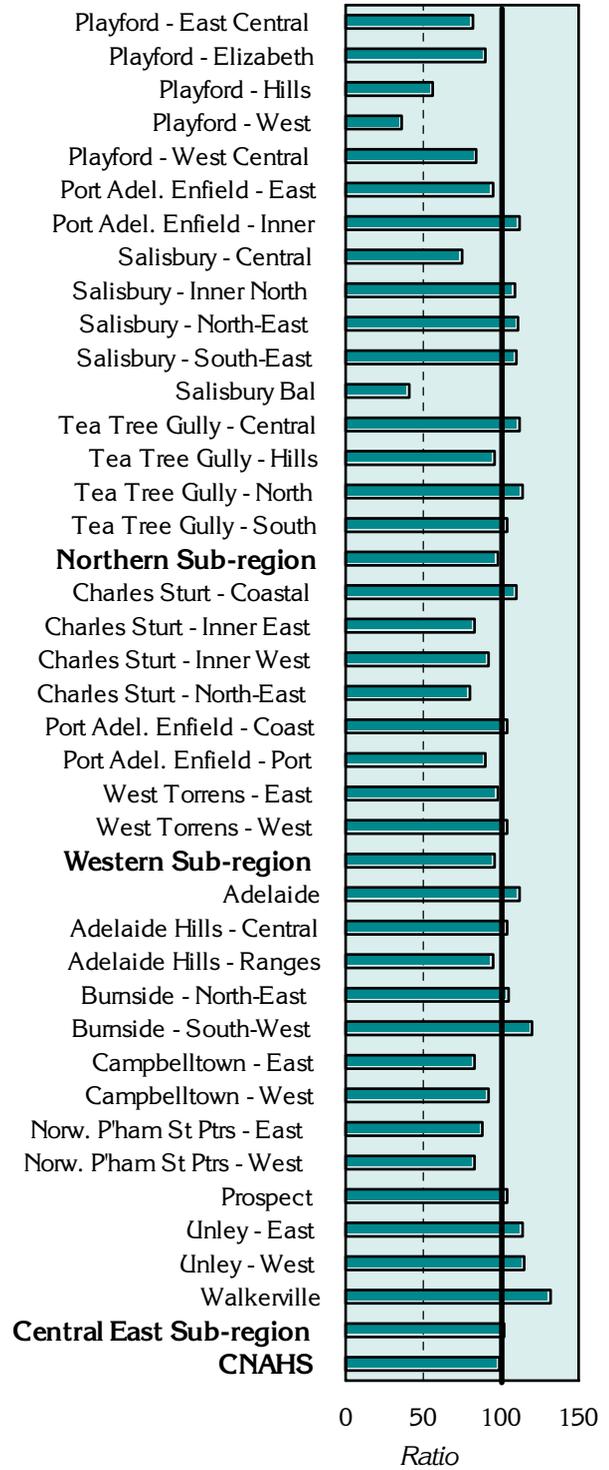
Cancer incidence: lung cancer

CNAHS – 100 (SR)



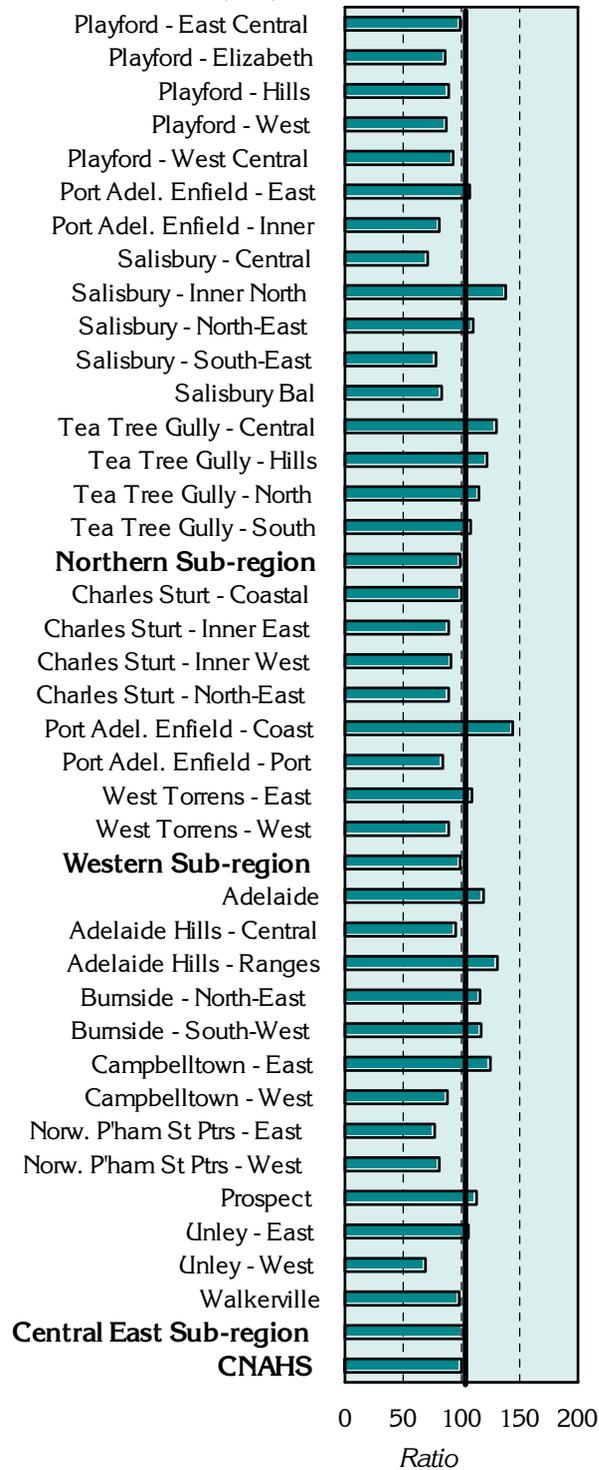
Cancer incidence: female breast cancer

CNAHS – 99 (SR)



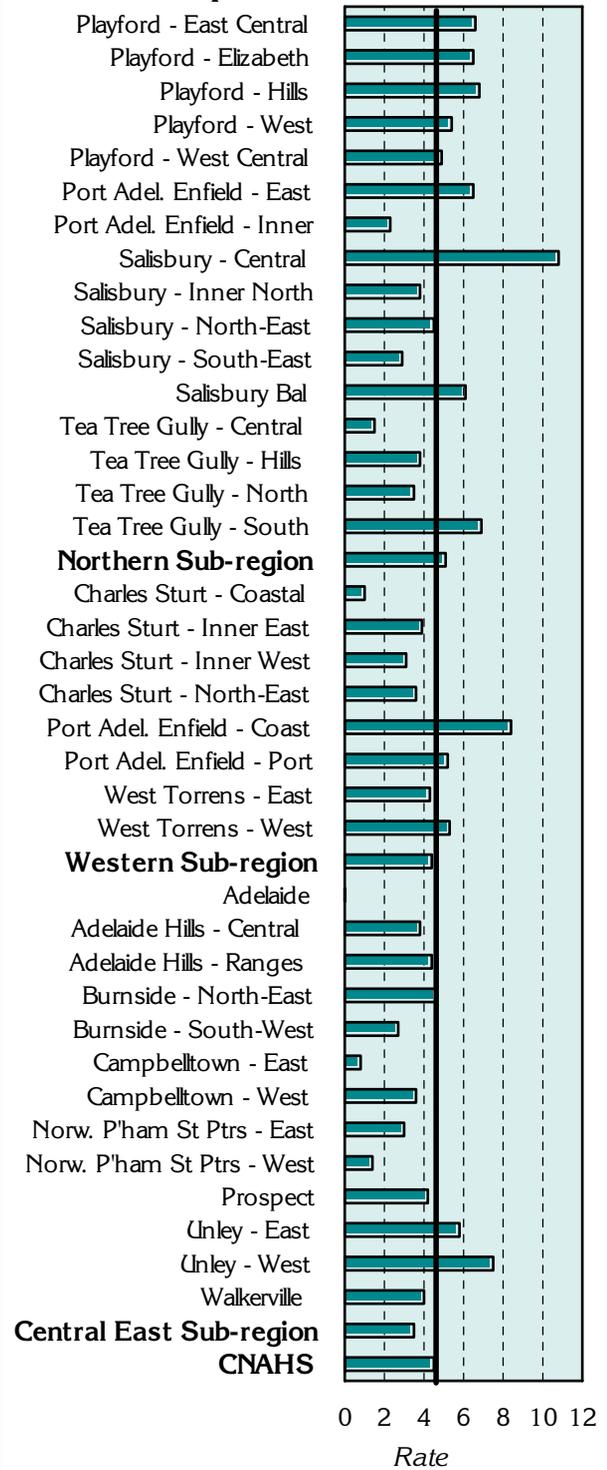
Cancer incidence: prostate cancer

CNAHS – 100 (SR)



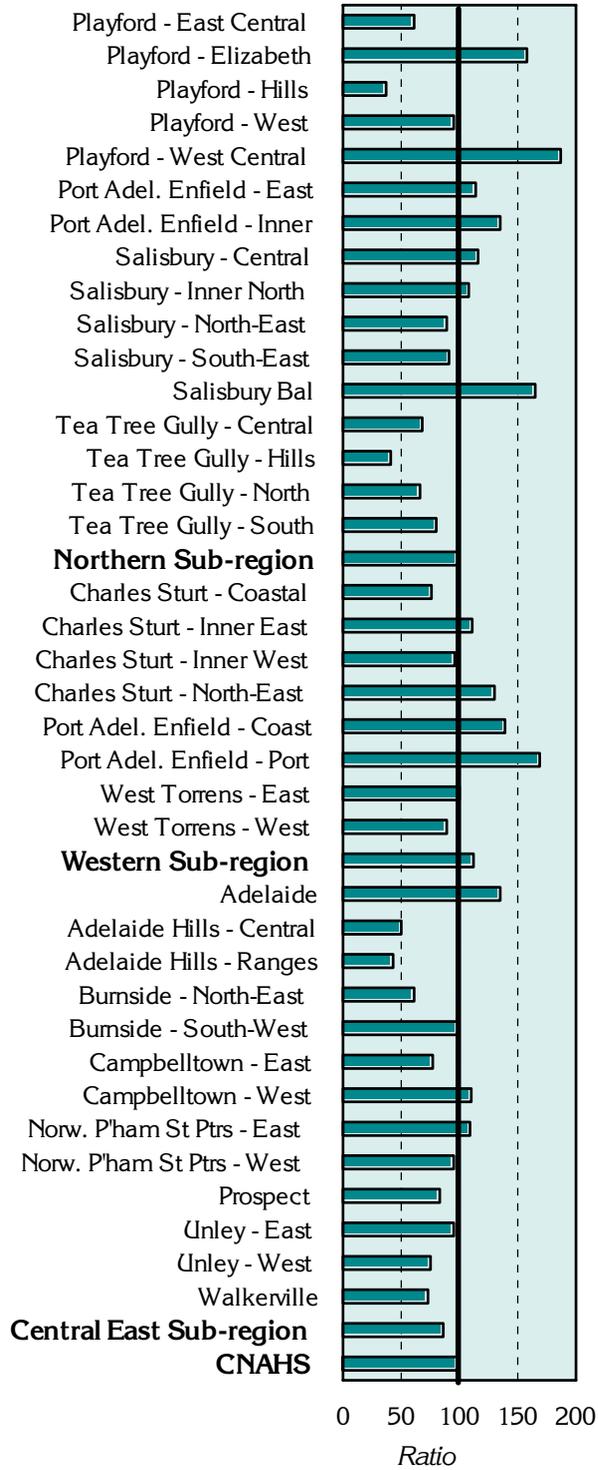
Premature mortality: infant deaths

CNAHS – 4.5 per 1,000 live births



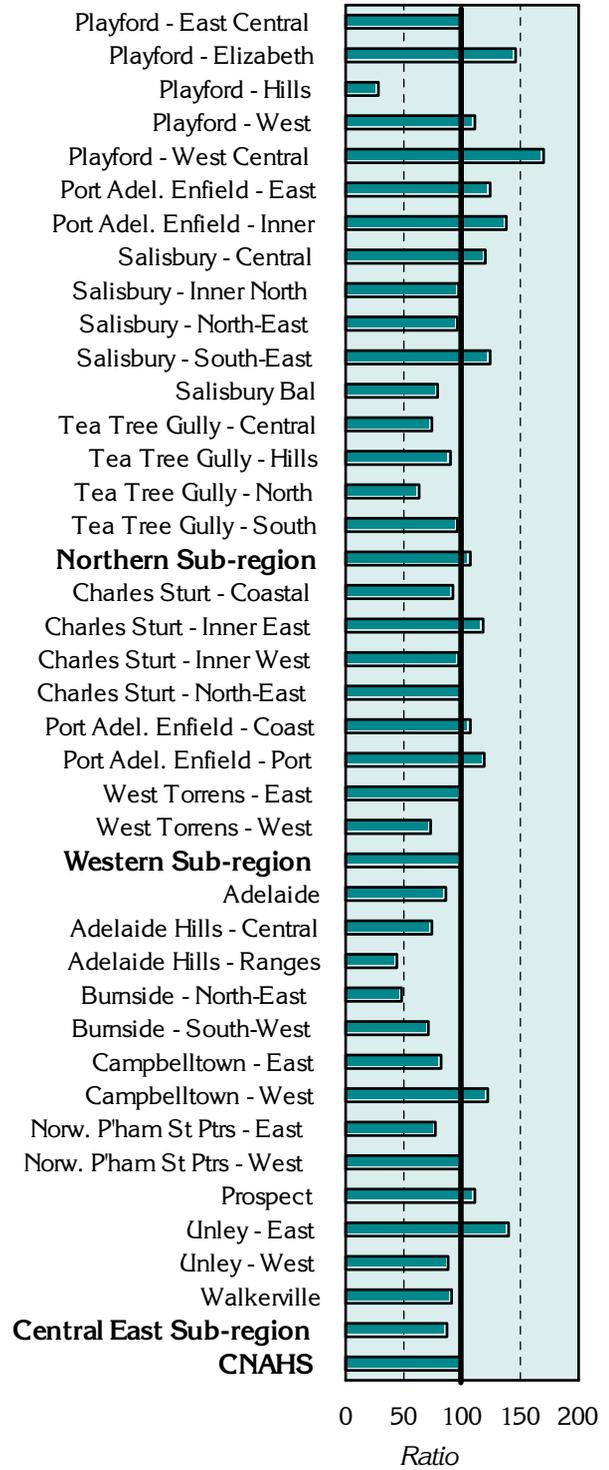
Premature death: males

CNAHS – 98 (SR)

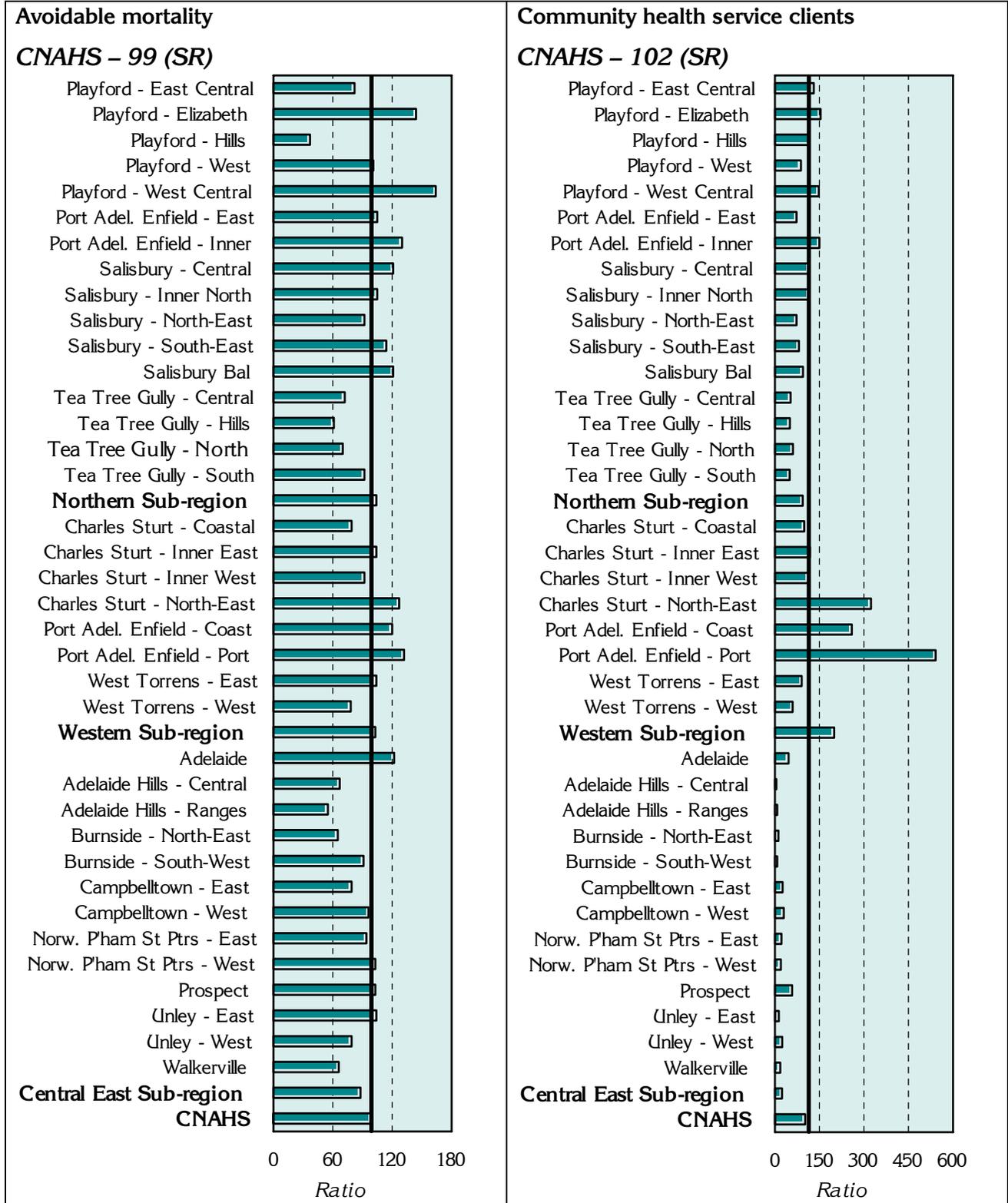


Premature death: females

CNAHS – 99 (SR)



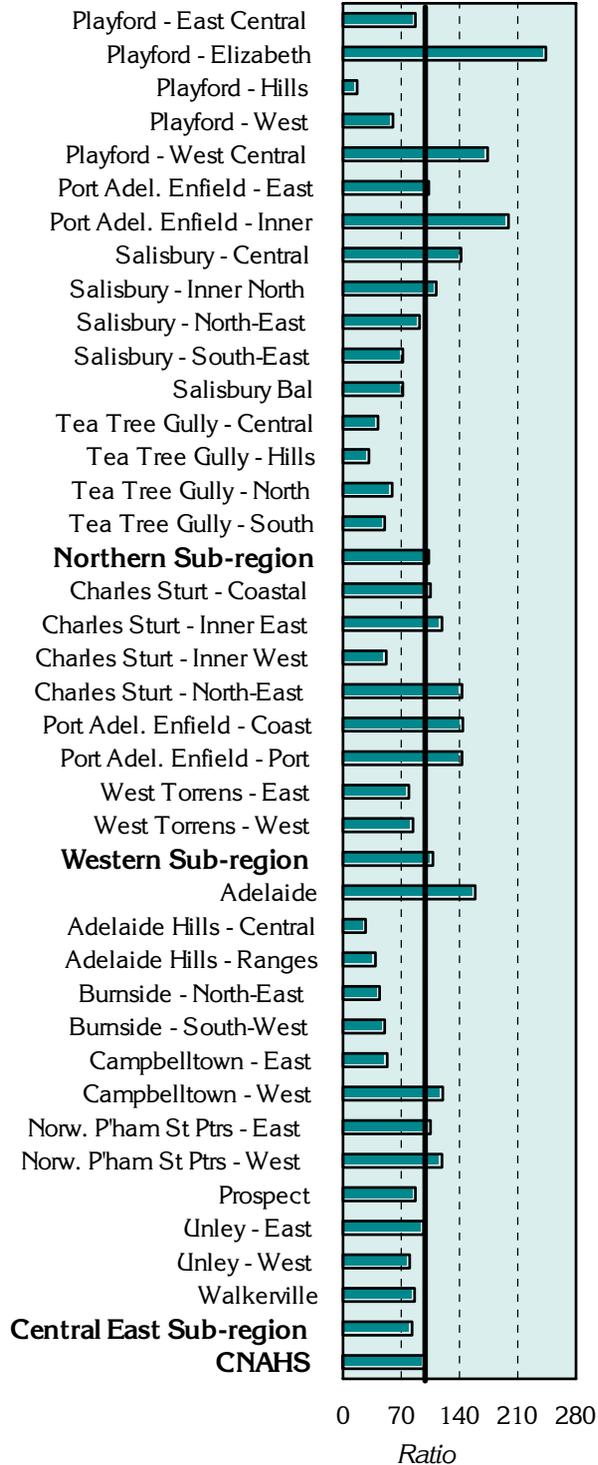
Service use



Service use

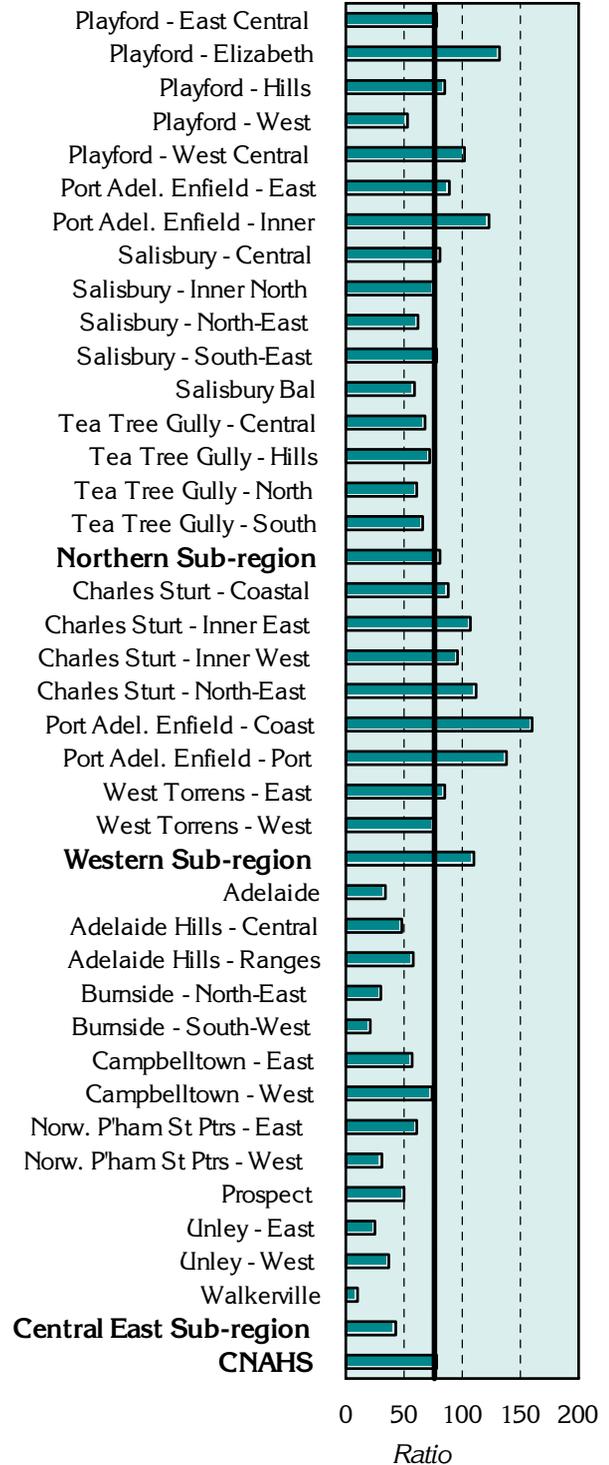
Community mental health service clients

CNAHS – 98 (SR)



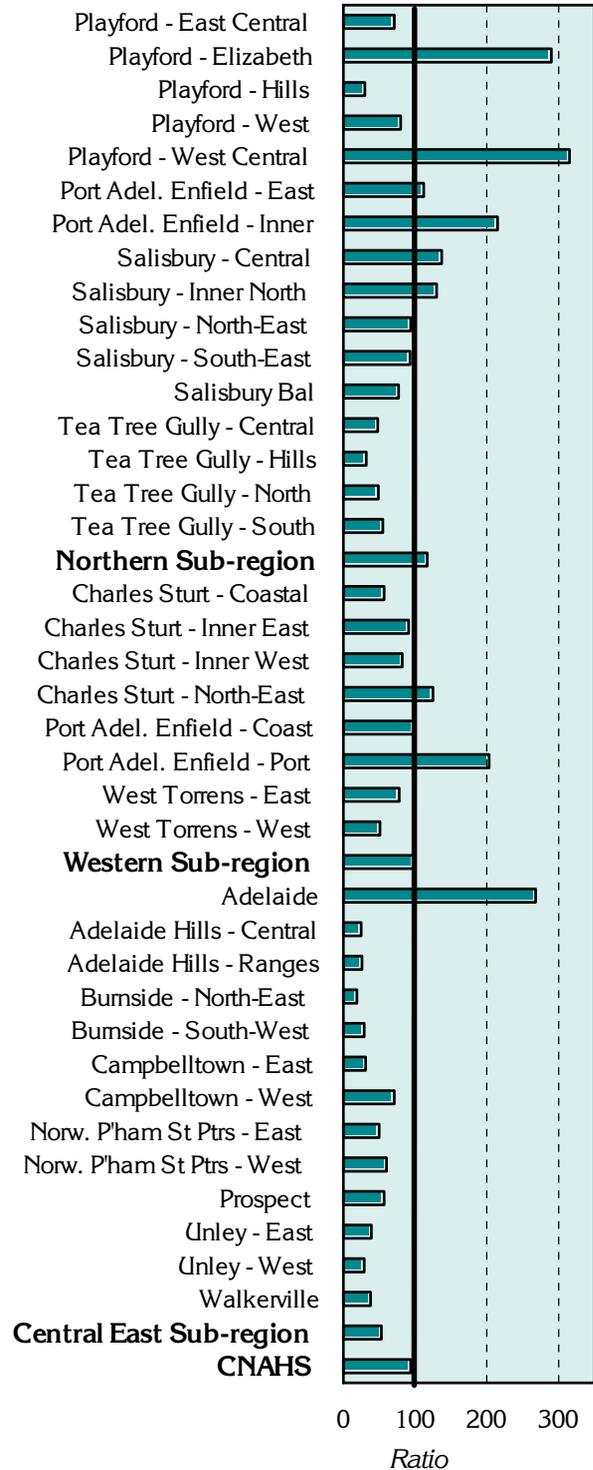
Child and Adolescent Mental Health Service clients

CNAHS – 78 (SR)



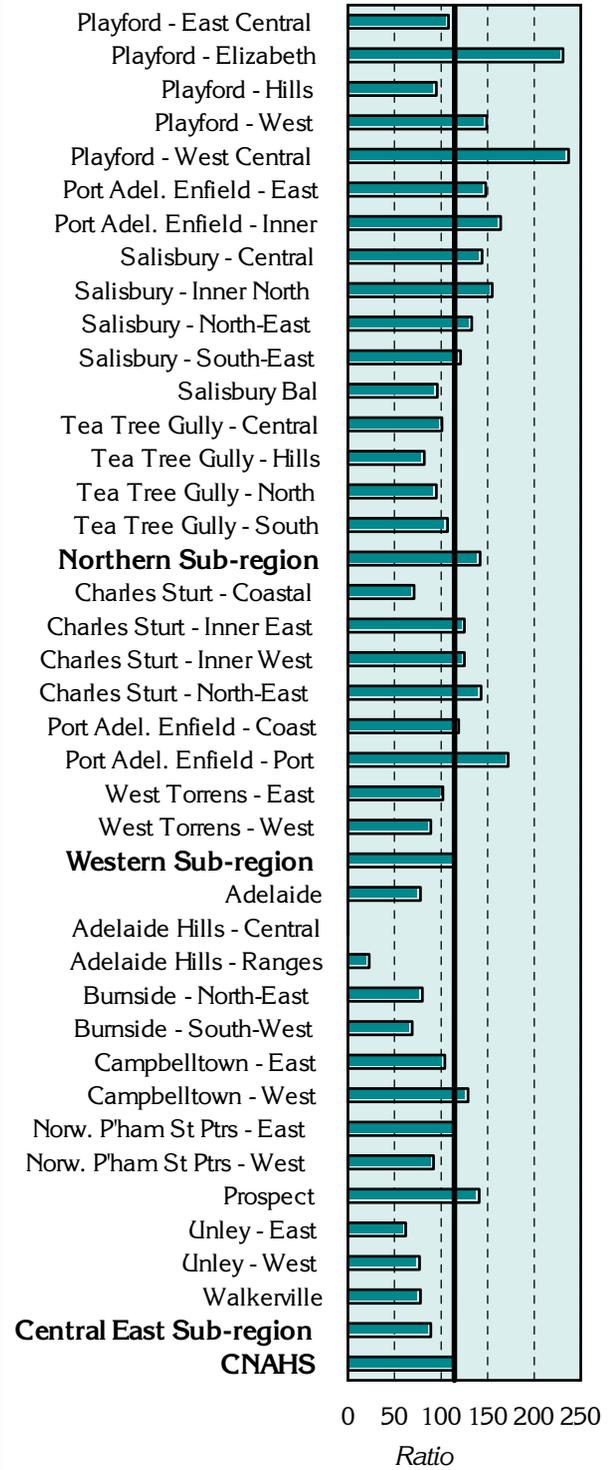
Dept. for Families and Communities' clients

CNAHS – 94 (SR)



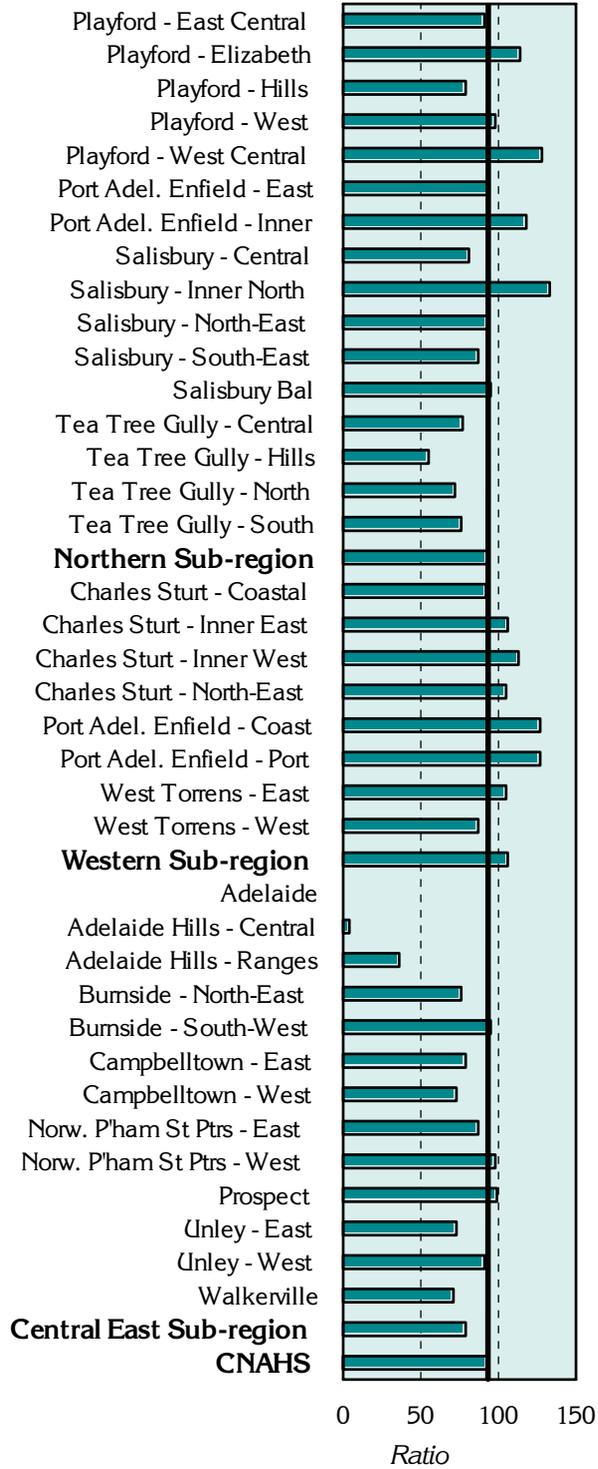
Domiciliary care clients

CNAHS – 115 (SR)



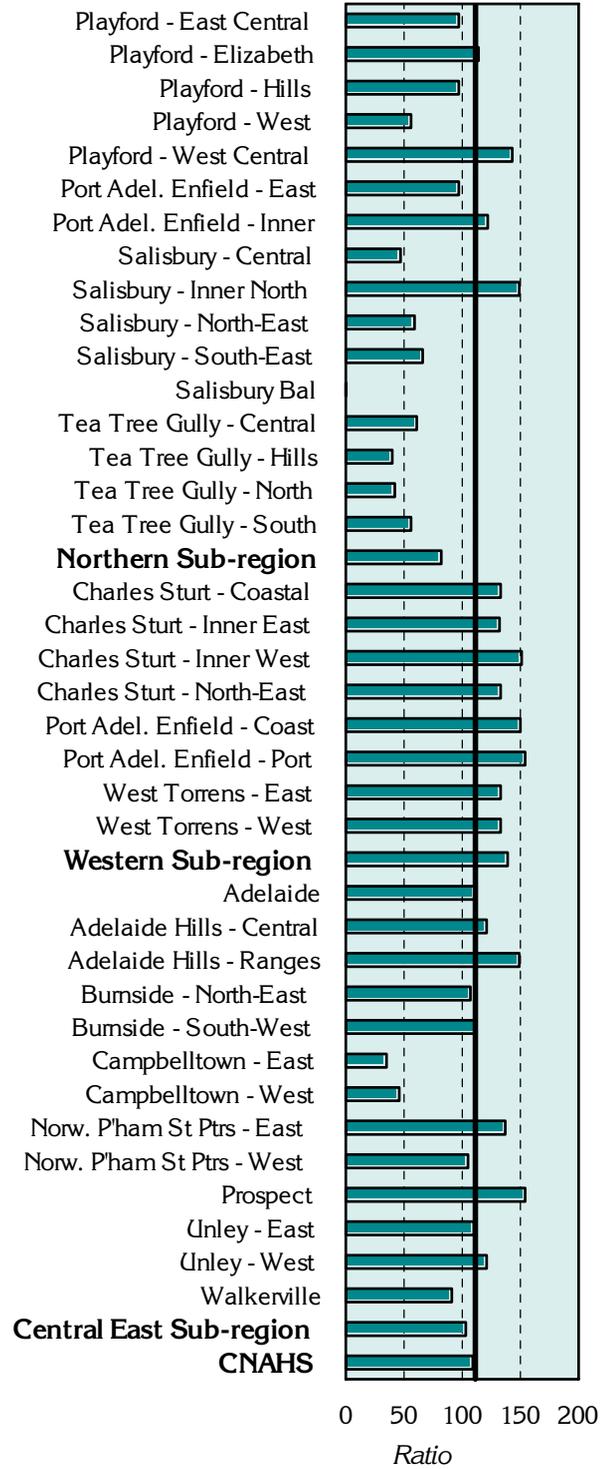
Home nursing (RDNS) clients

CNAHS – 93 (SR)



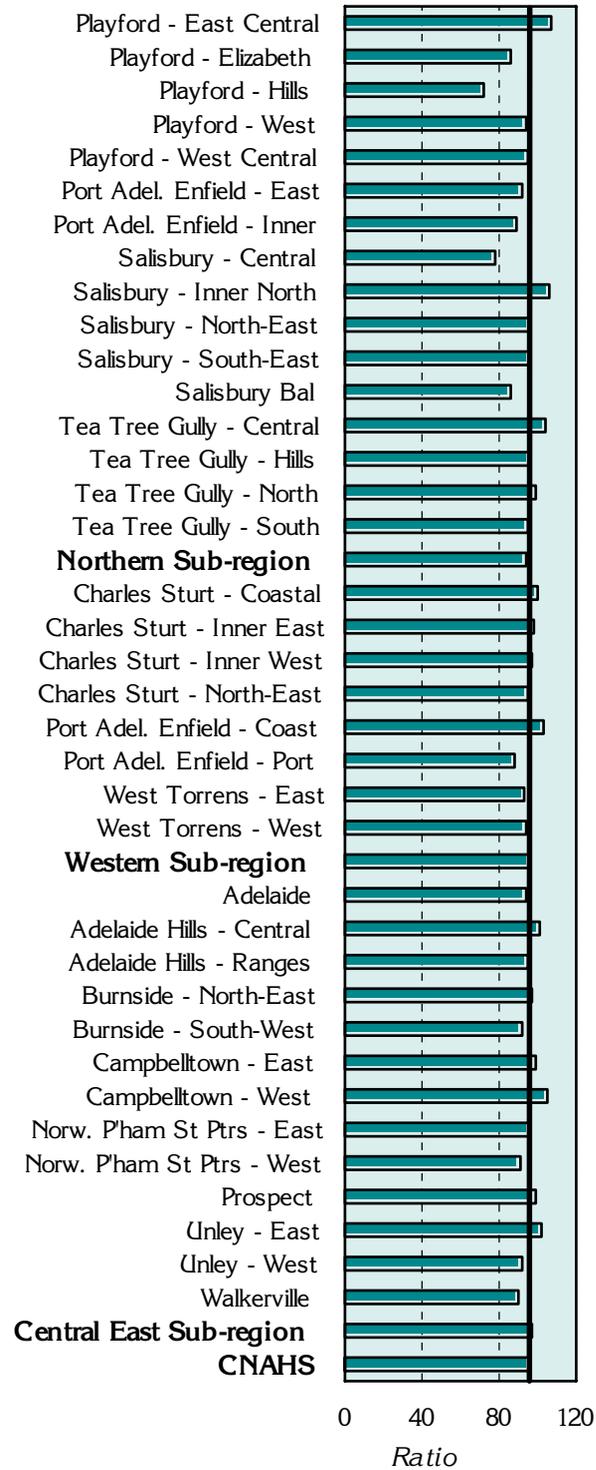
Home delivered meals (Meals on Wheels) clients

CNAHS – 109 (SR)



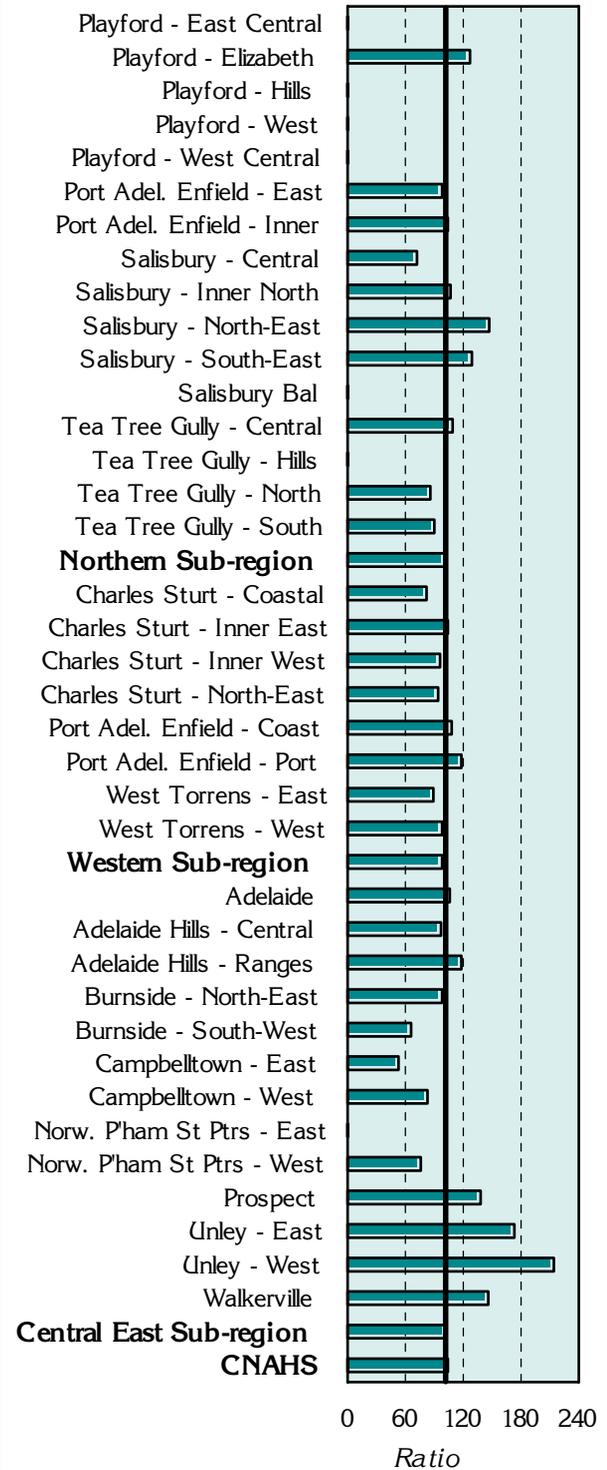
Breast screening participation

CNAHS – 96 (SR)



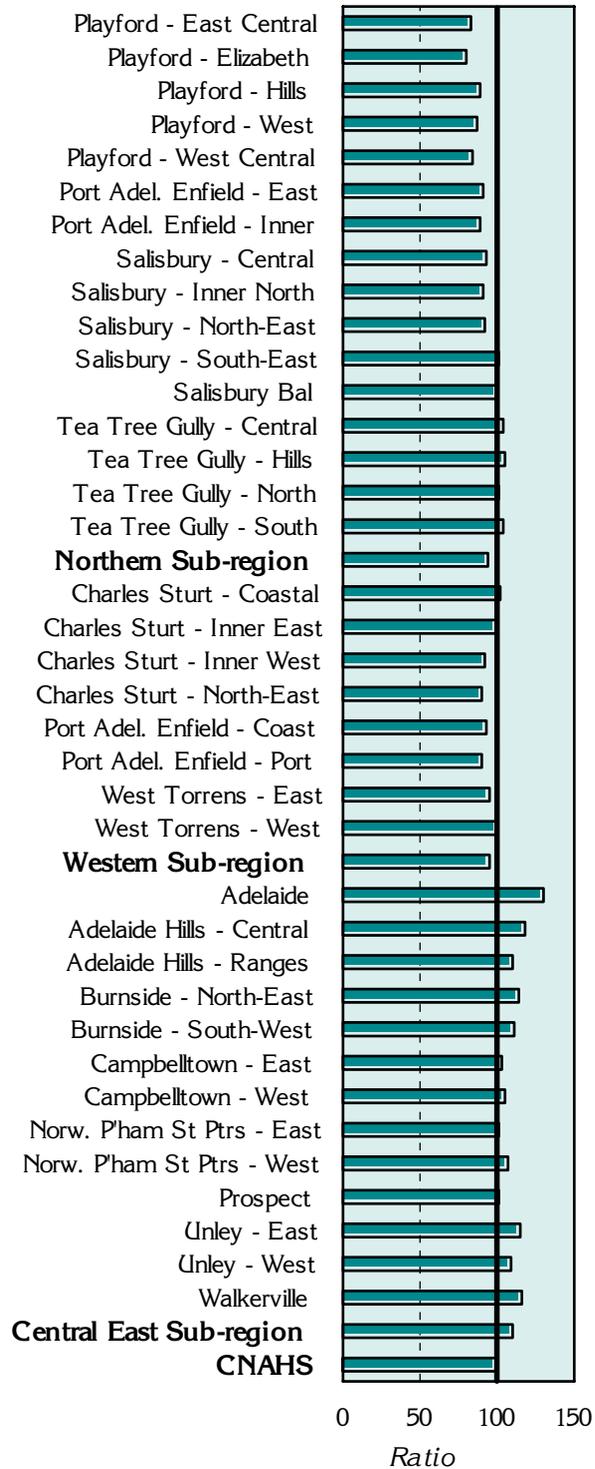
Breast screening outcomes: cancer

CNAHS – 104 (SR)



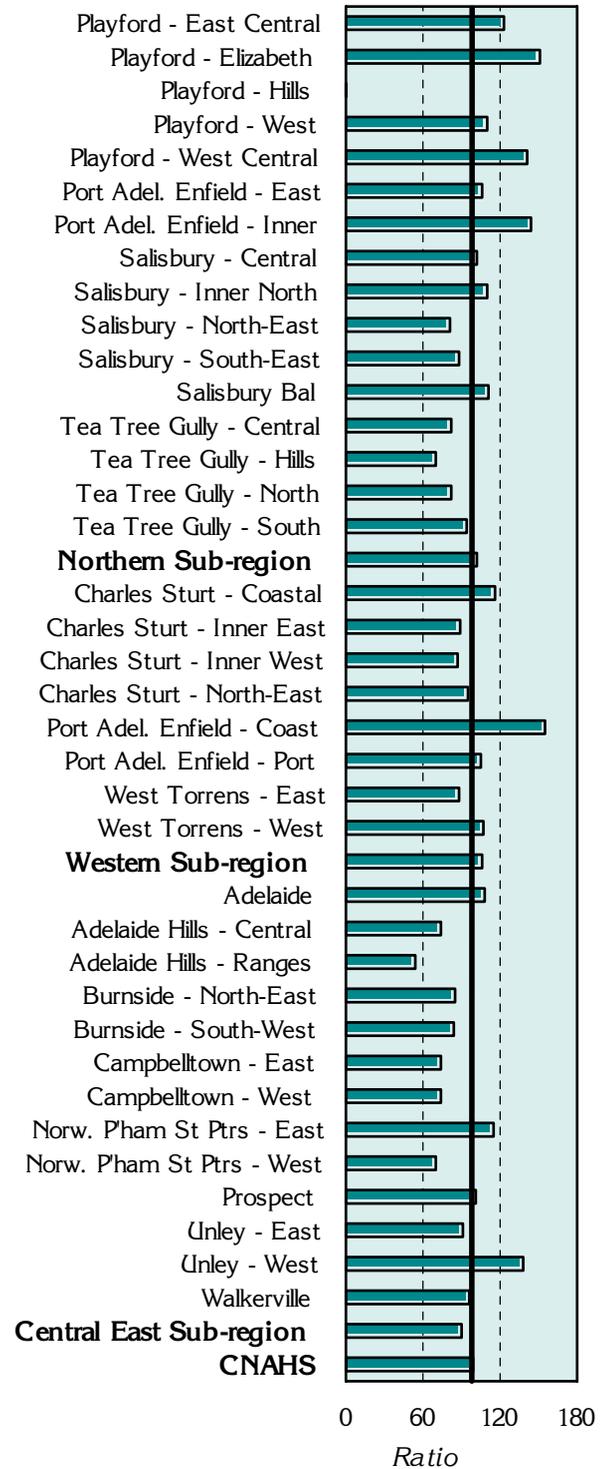
Cervical screening participation

CNAHS – 99 (SR)



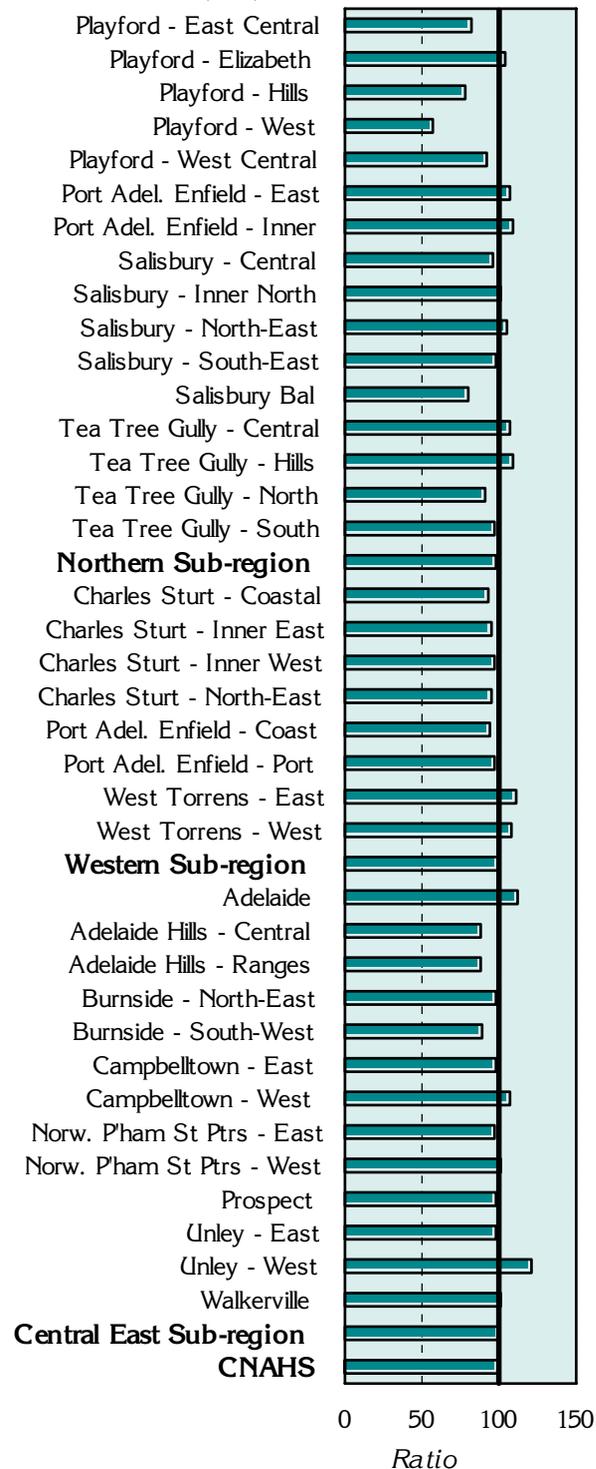
Cervical screening outcome: high grade abnormality

CNAHS – 99 (SR)



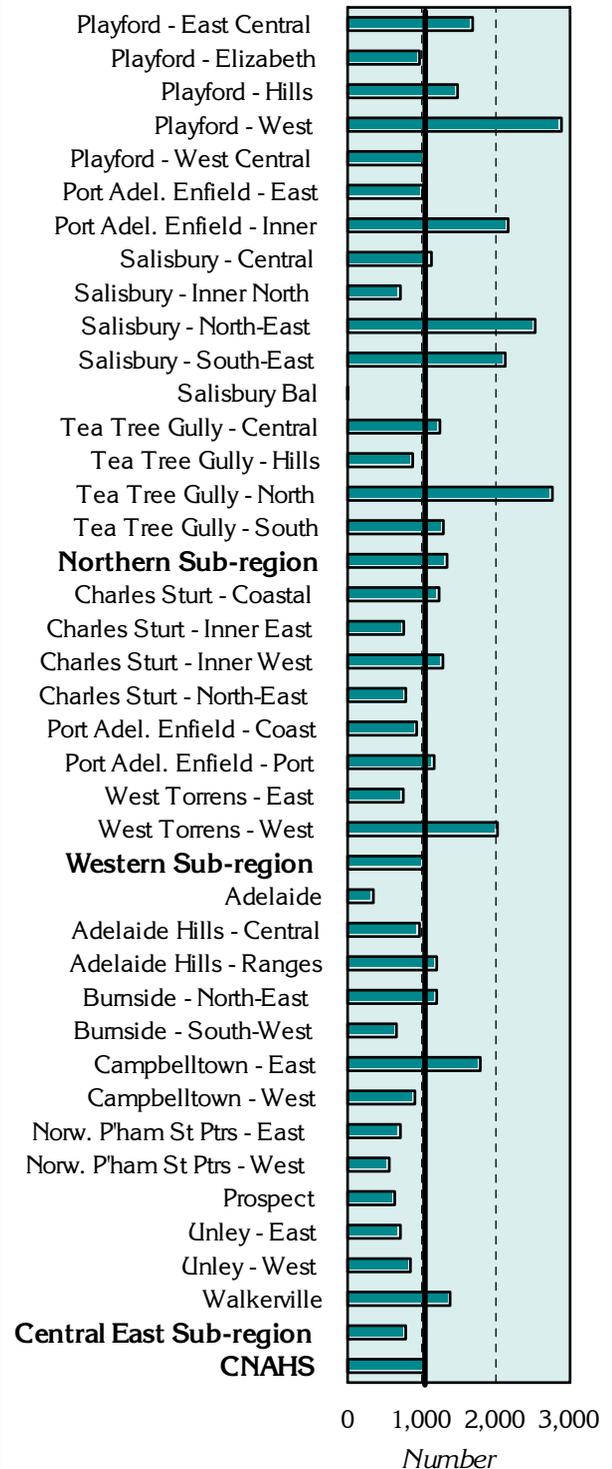
Cervical screening outcome: low grade abnormality

CNAHS – 99 (SR)



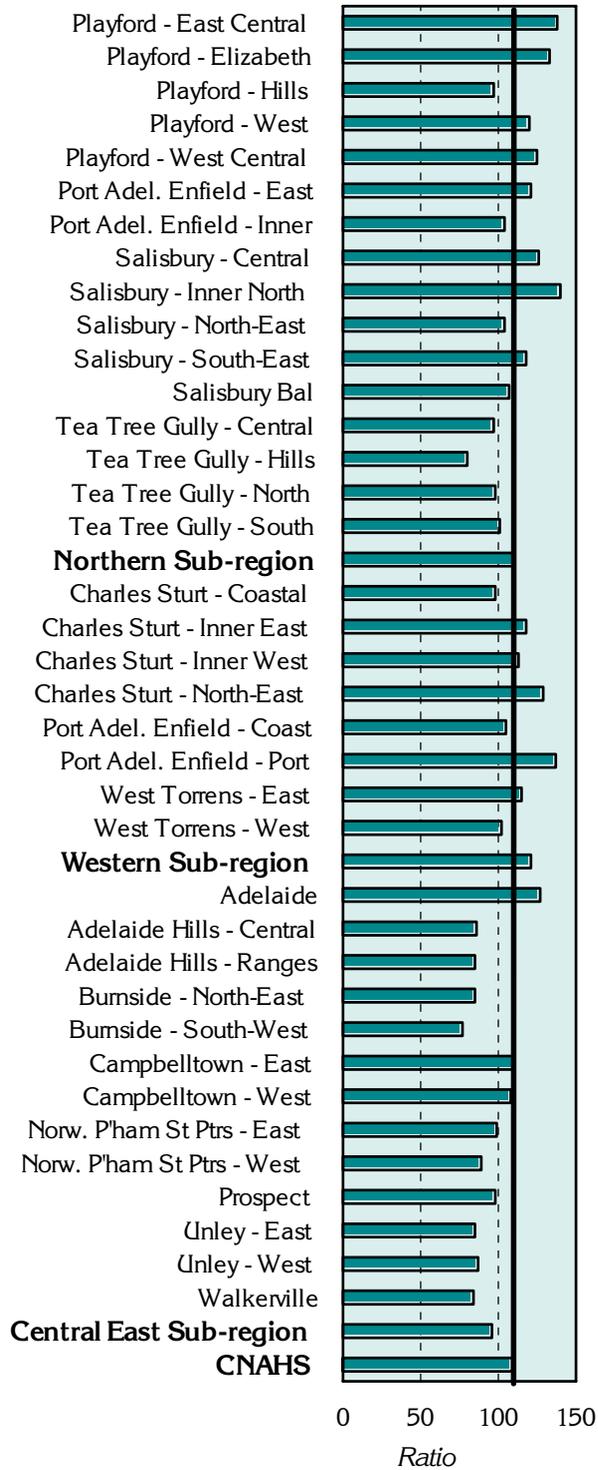
Population per GP

CNAHS – 1,039



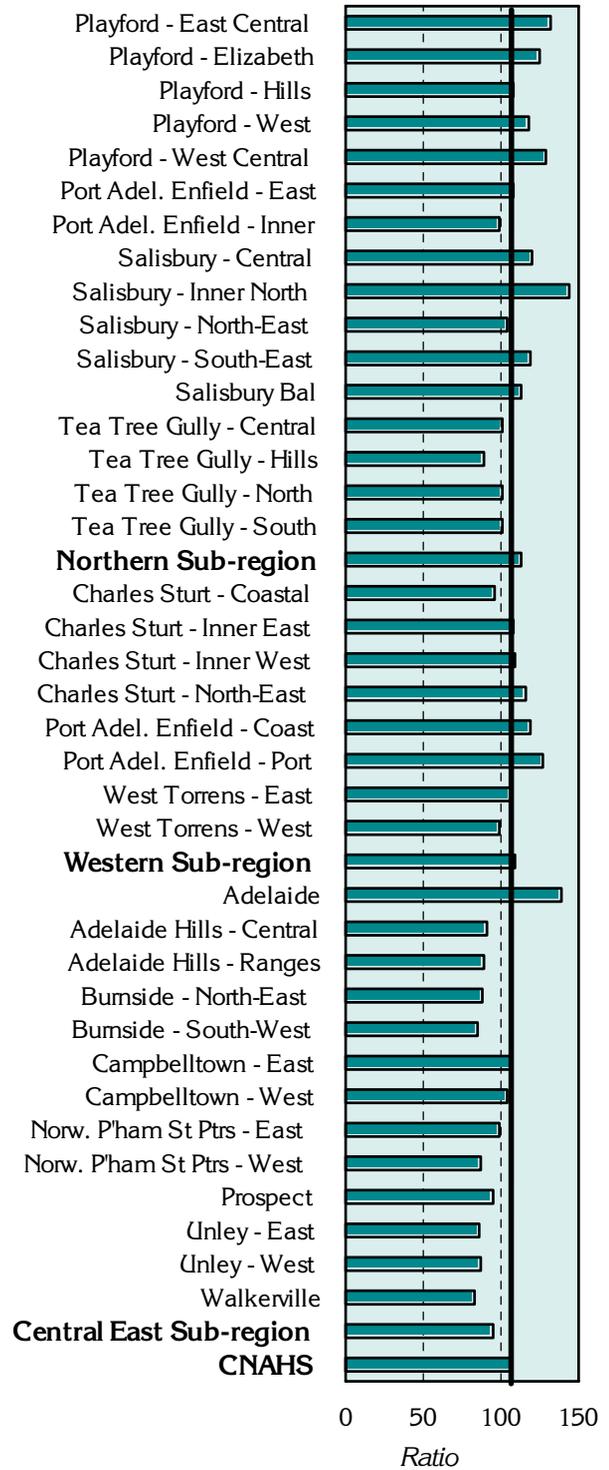
GP services to males

CNAHS – 109 (SR)



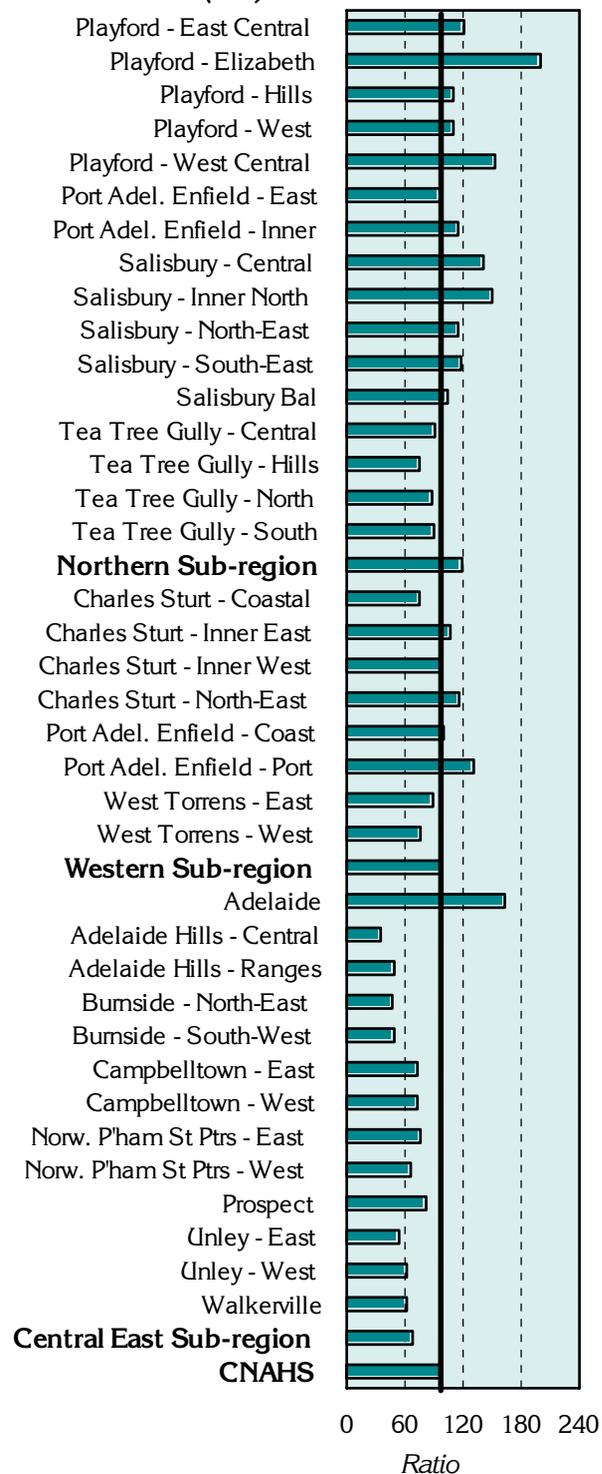
GP services to females

CNAHS – 107 (SR)



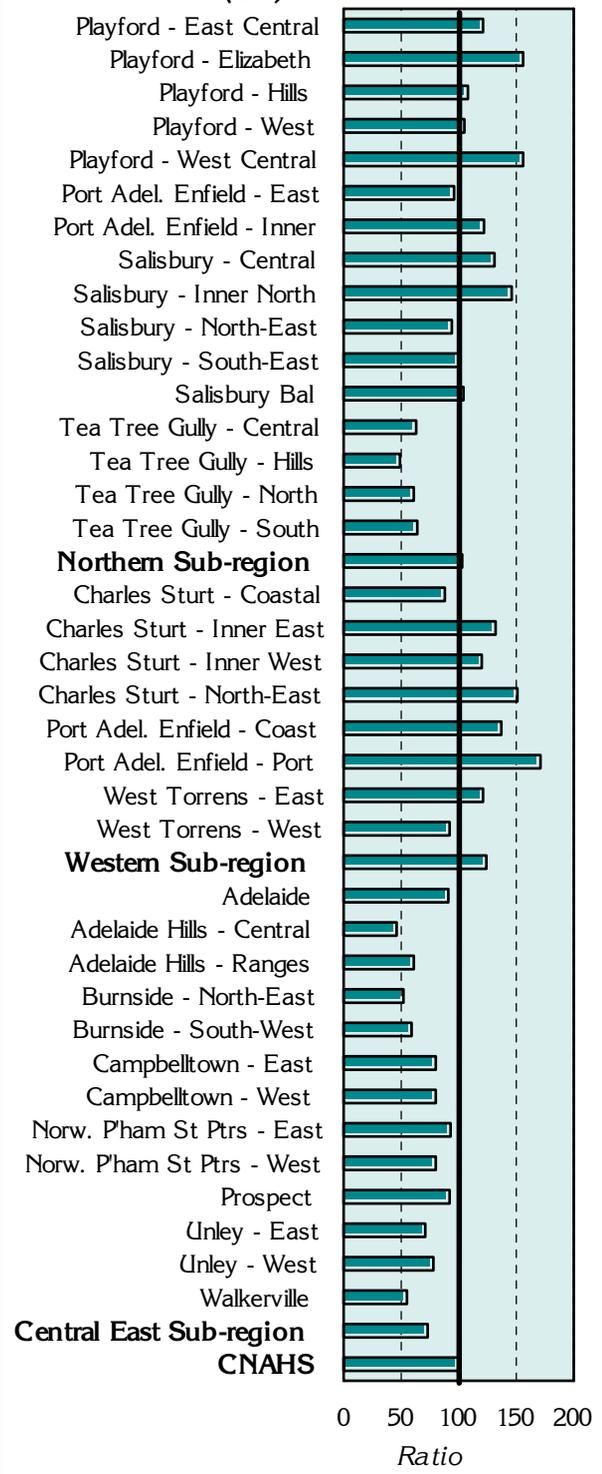
Accident and Emergency department attendances

CNAHS – 98 (SR)



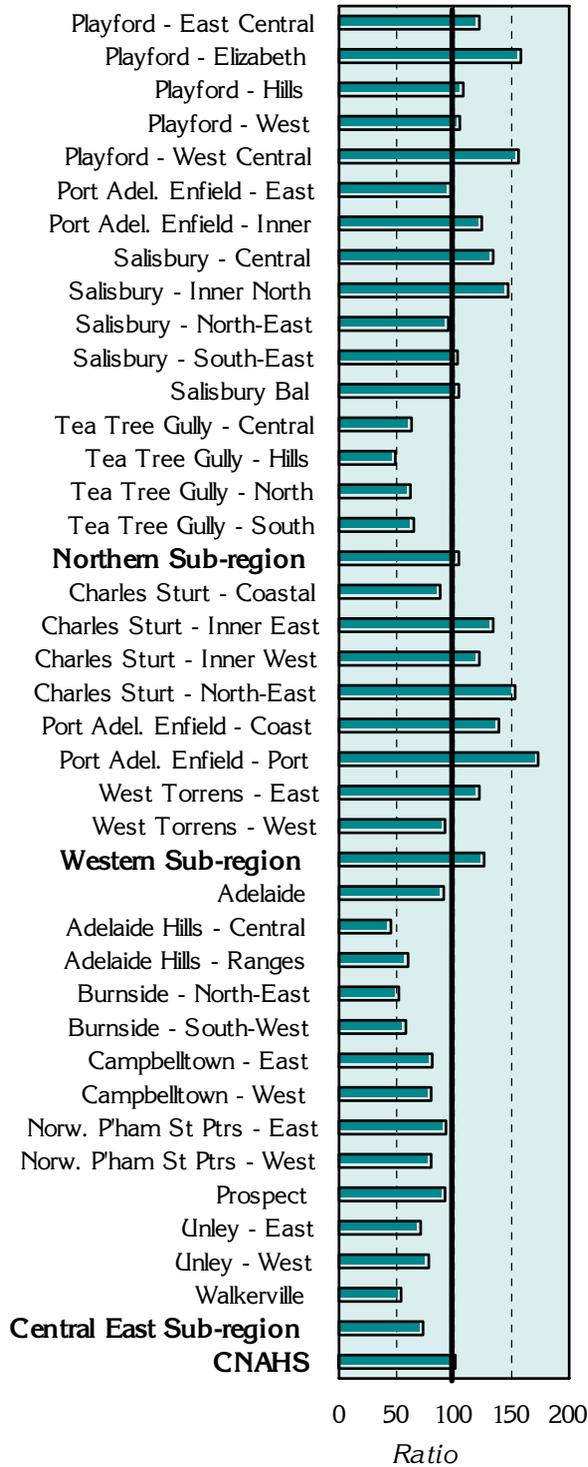
Outpatient department attendances

CNAHS – 100 (SR)



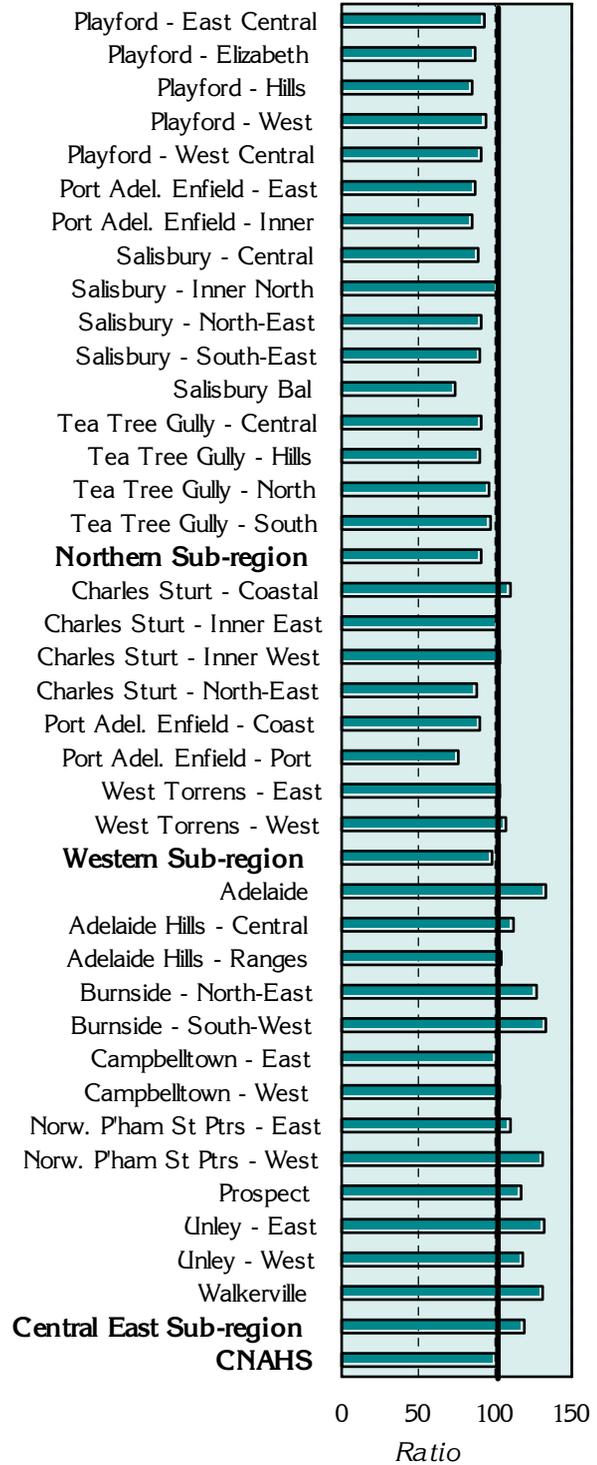
Specialist medical practitioner consultations in outpatient departments

CNAHS – 101 (SR)



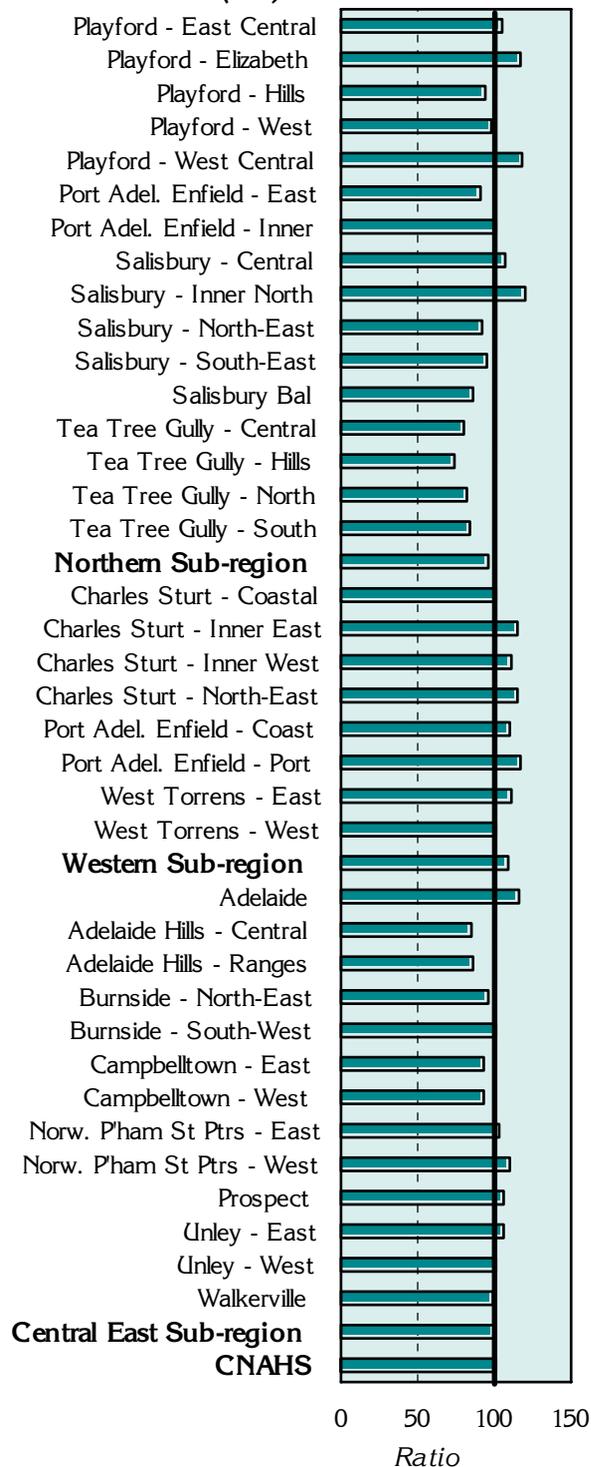
Specialist medical practitioner consultations under Medicare

CNAHS – 101 (SR)



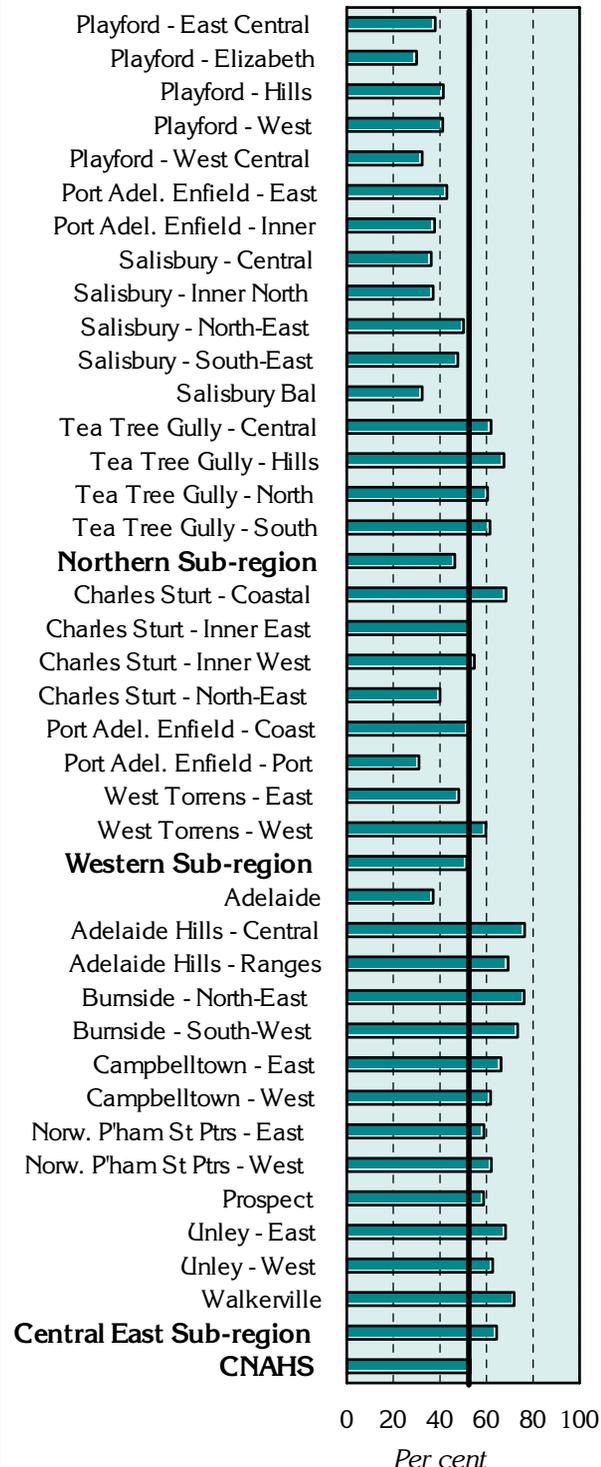
Total specialist medical practitioner consultations (in outpatient departments and under Medicare)

CNAHS – 101 (SR)



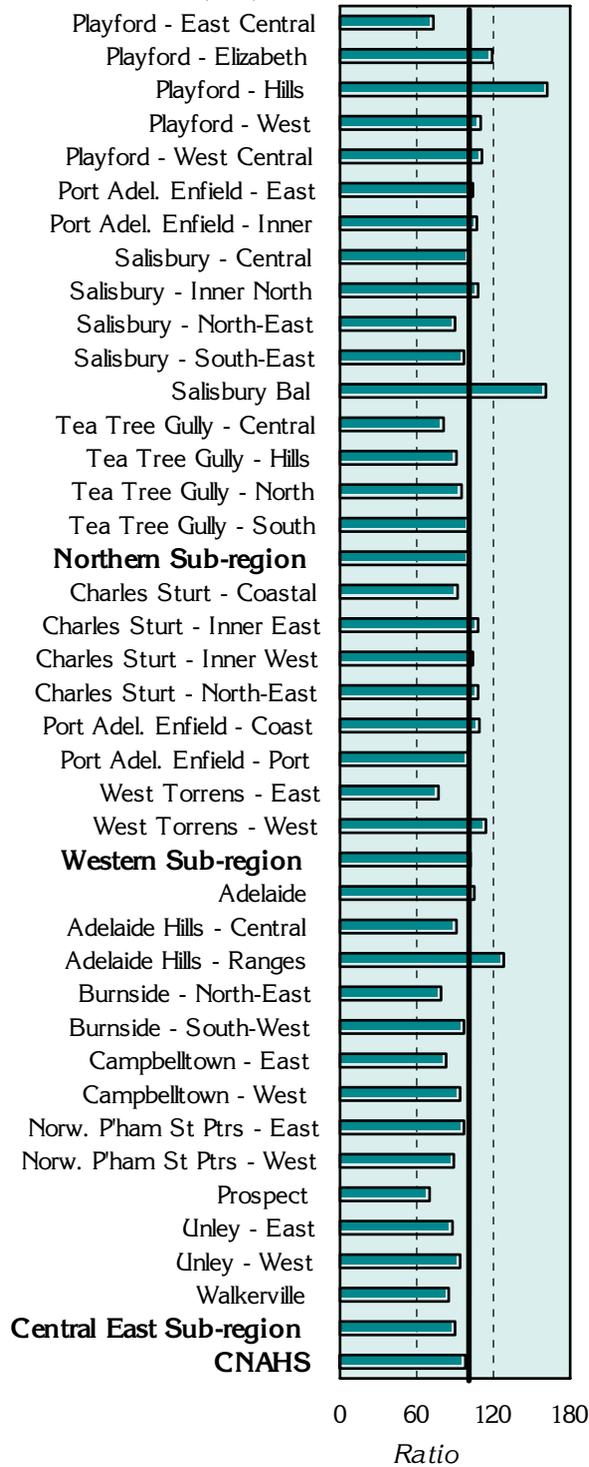
Private health insurance: hospital cover

CNAHS – 53.1%



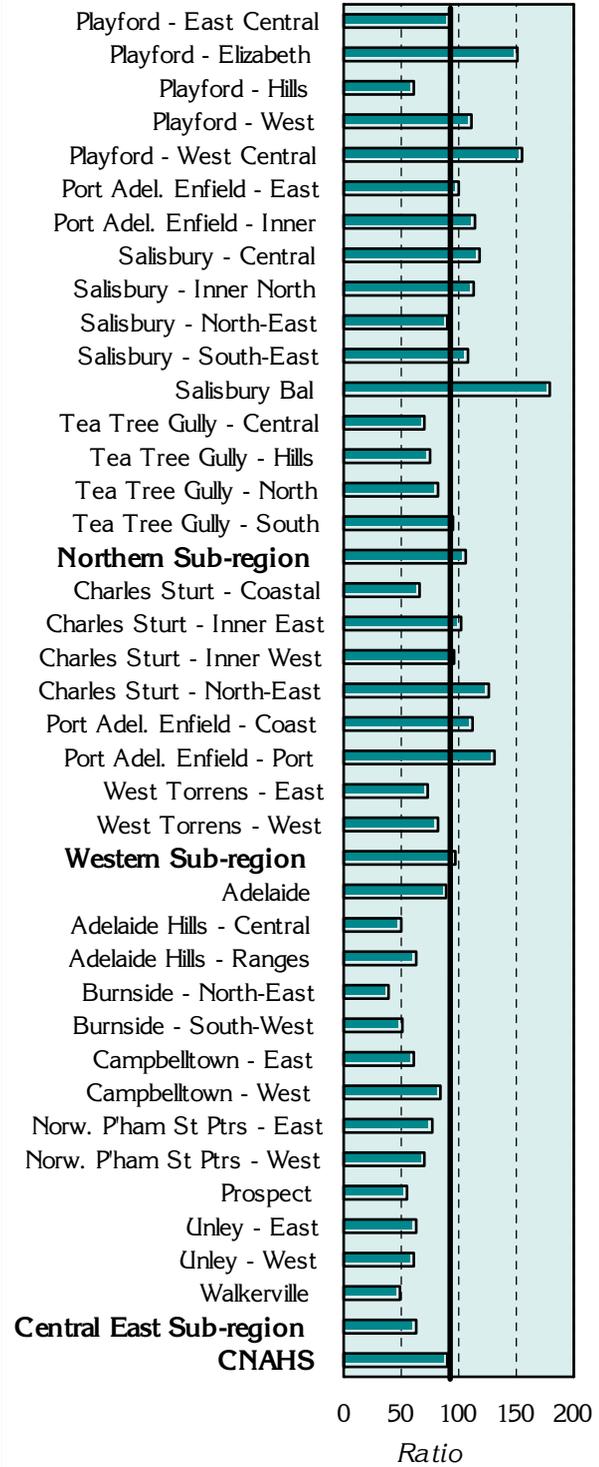
Admissions to public acute and private hospitals

CNAHS – 98 (SR)



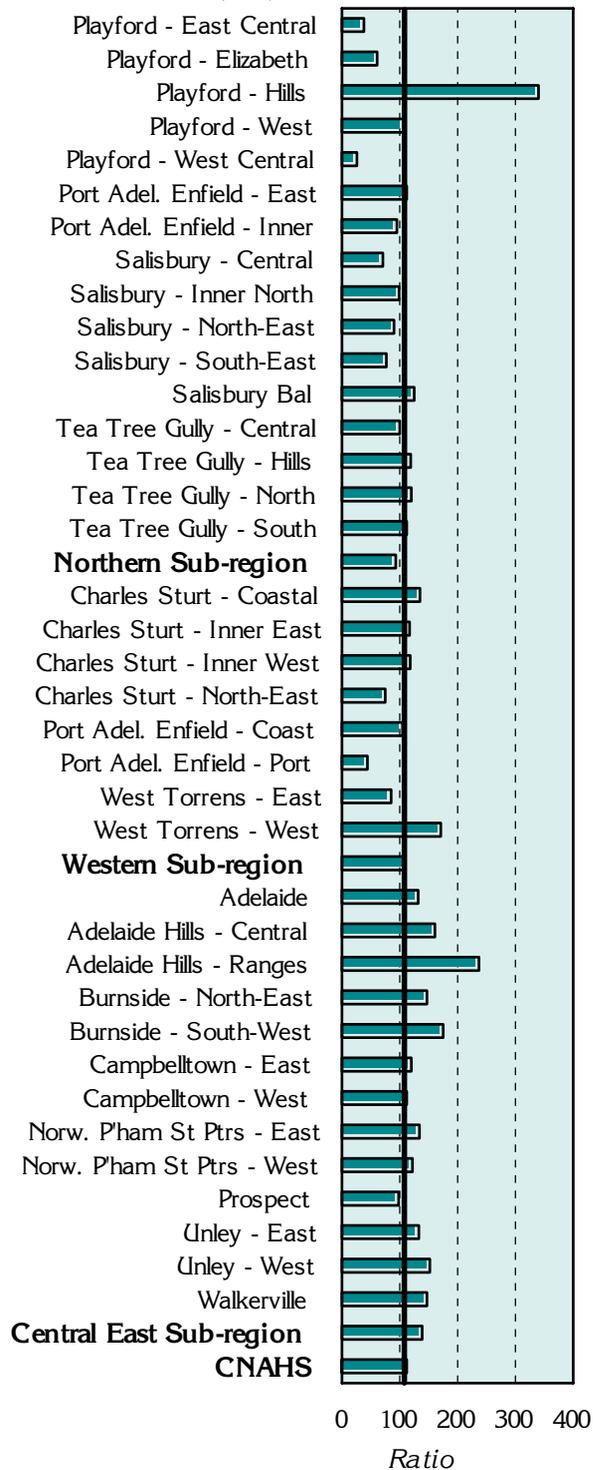
Admissions to public acute hospitals

CNAHS – 90 (SR)



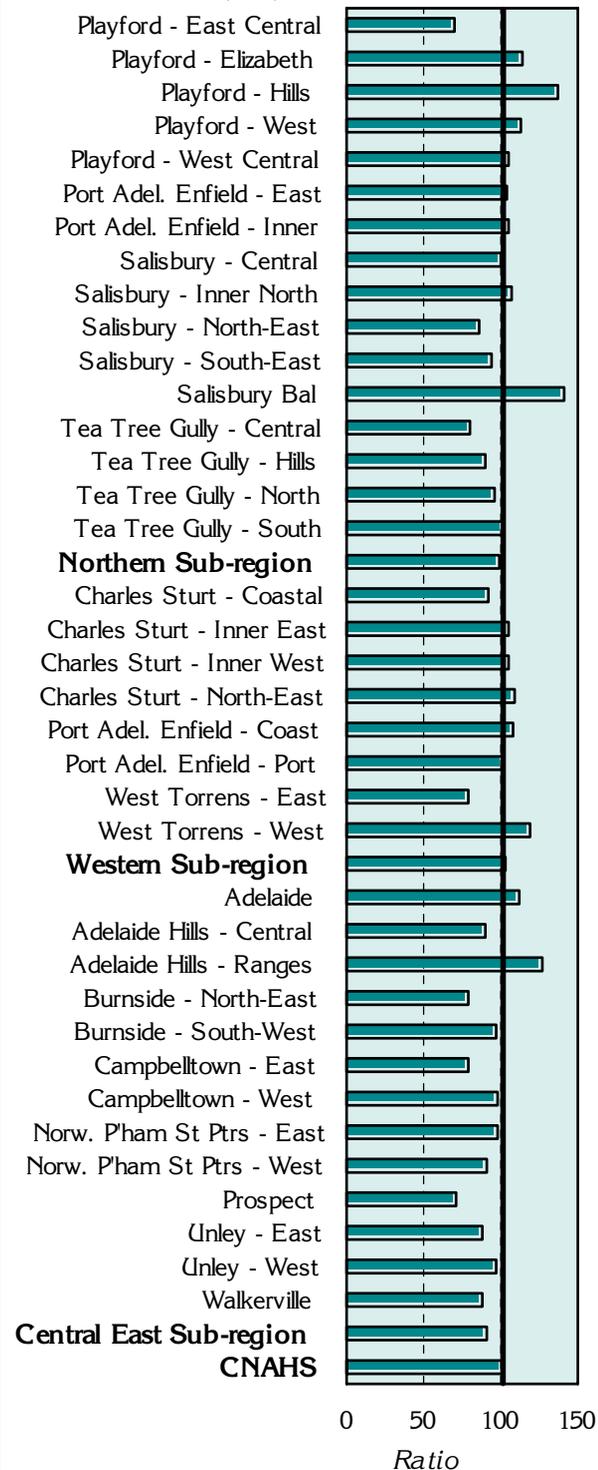
Admissions to private hospitals

CNAHS – 112 (SR)



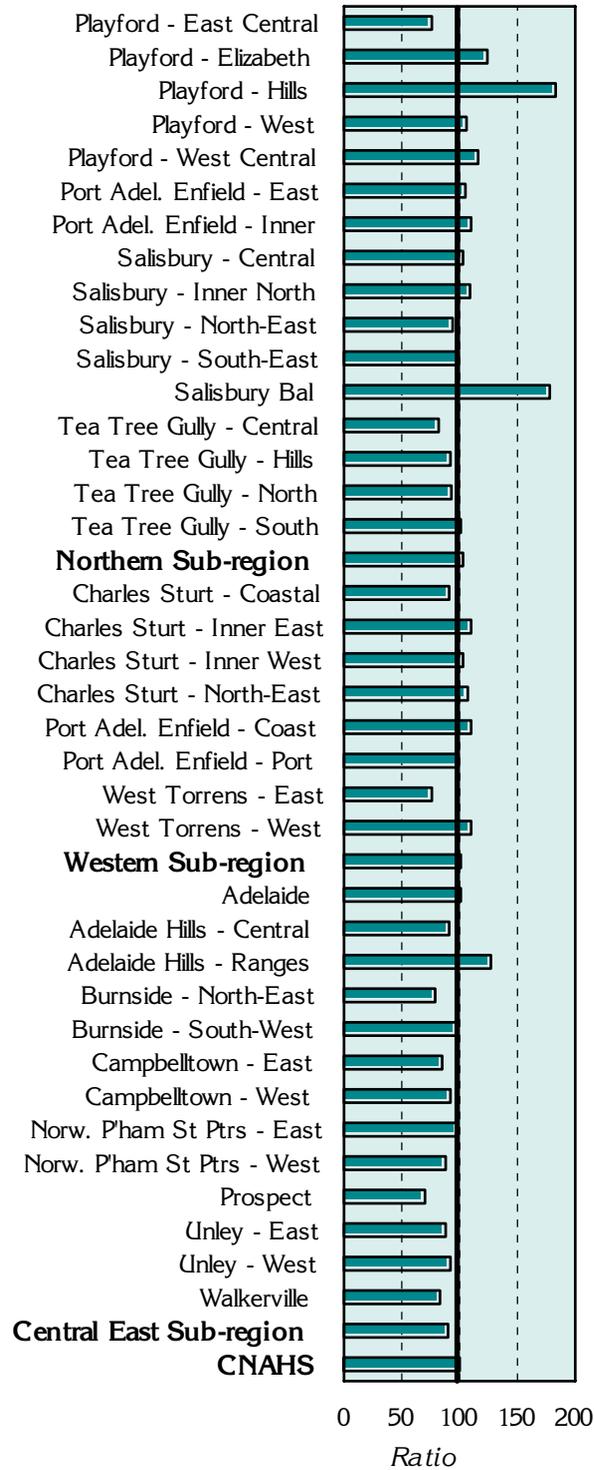
Admissions of males

CNAHS – 101 (SR)



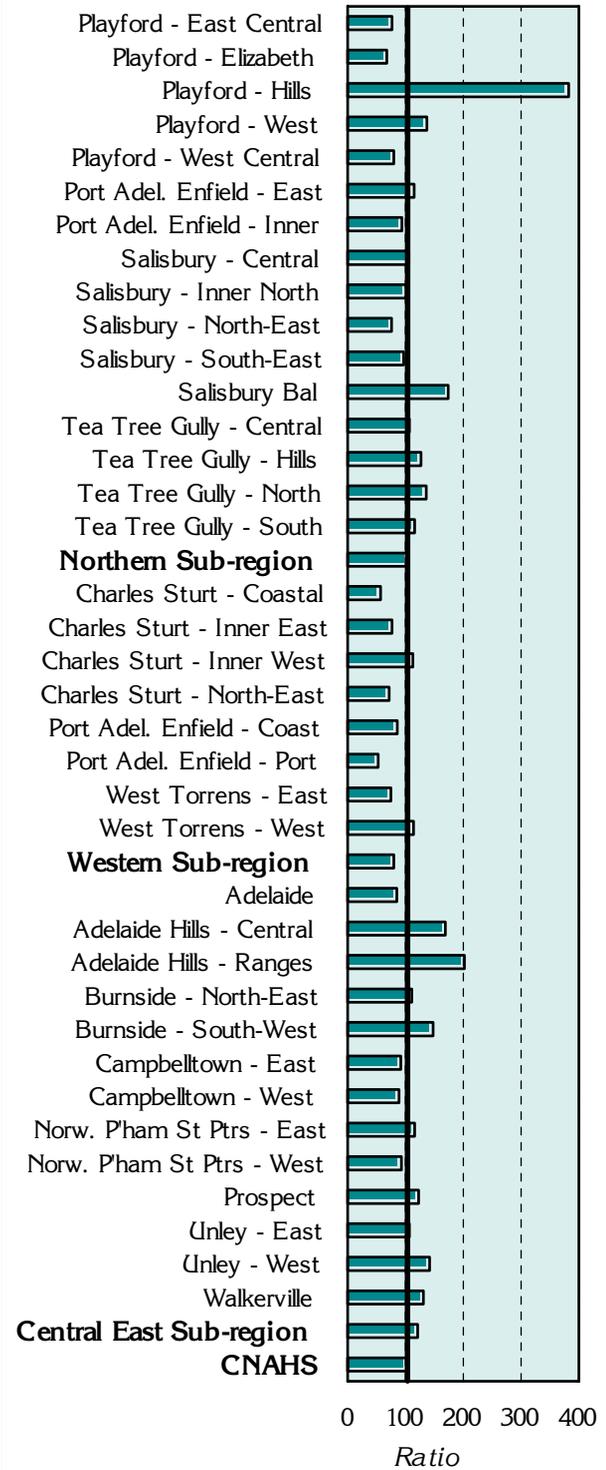
Admissions of females

CNAHS – 100 (SR)



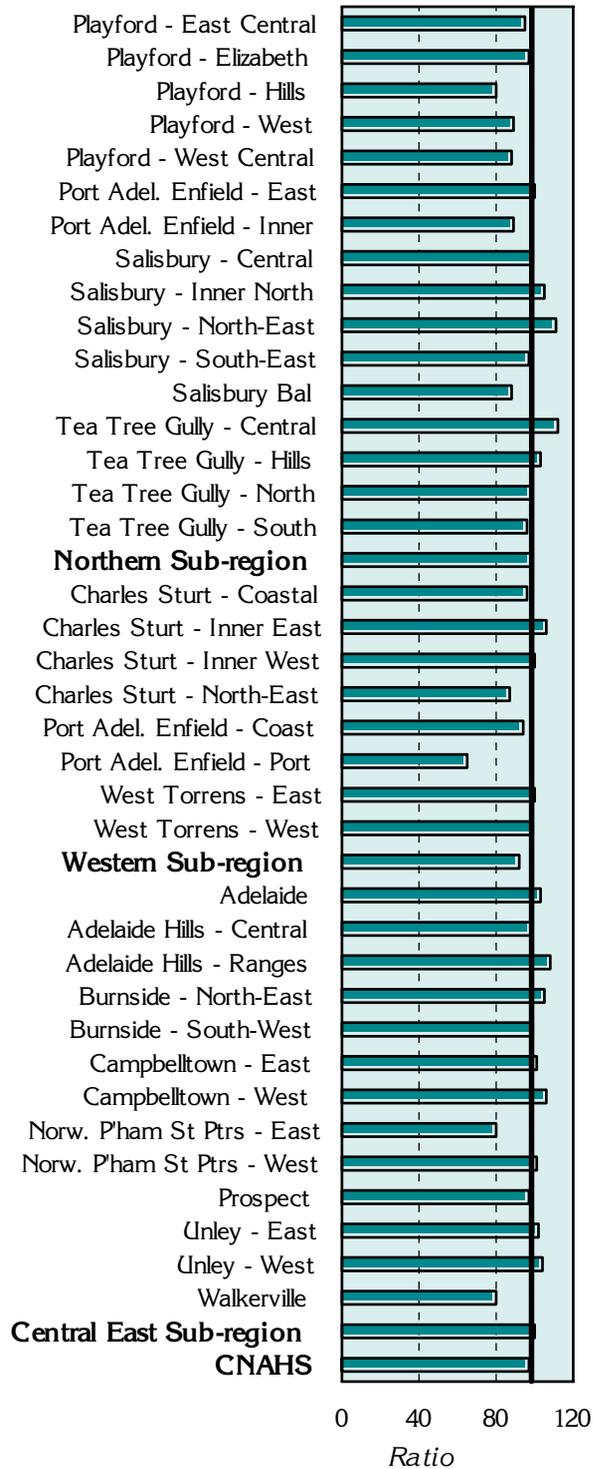
Admissions for myringotomy

CNAHS – 103 (SR)



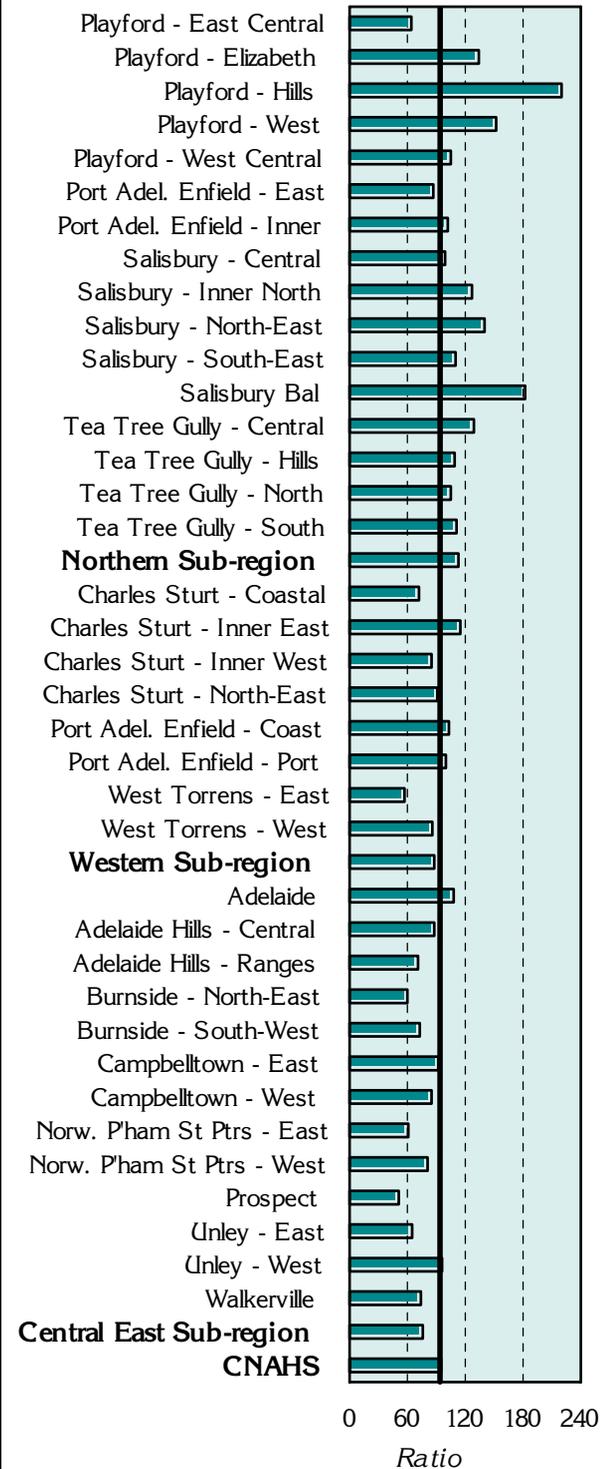
Admissions of females for Caesarean section

CNAHS – 97 (SR)



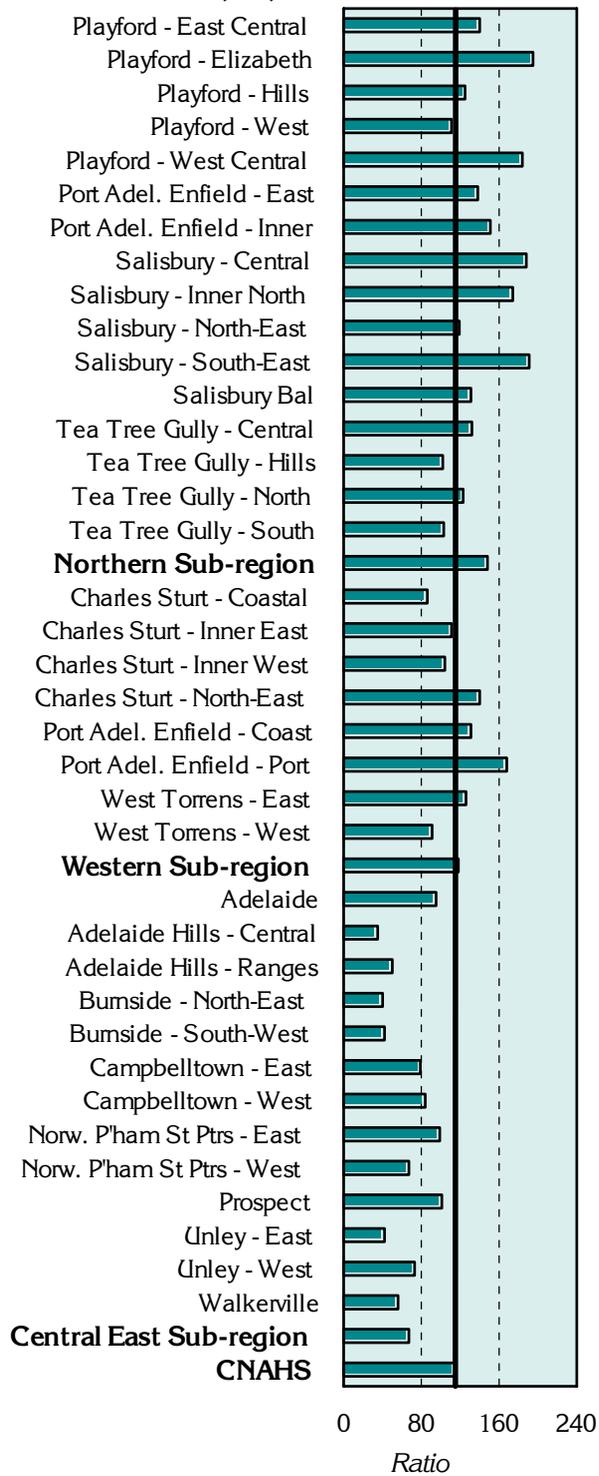
Admissions of females for hysterectomy

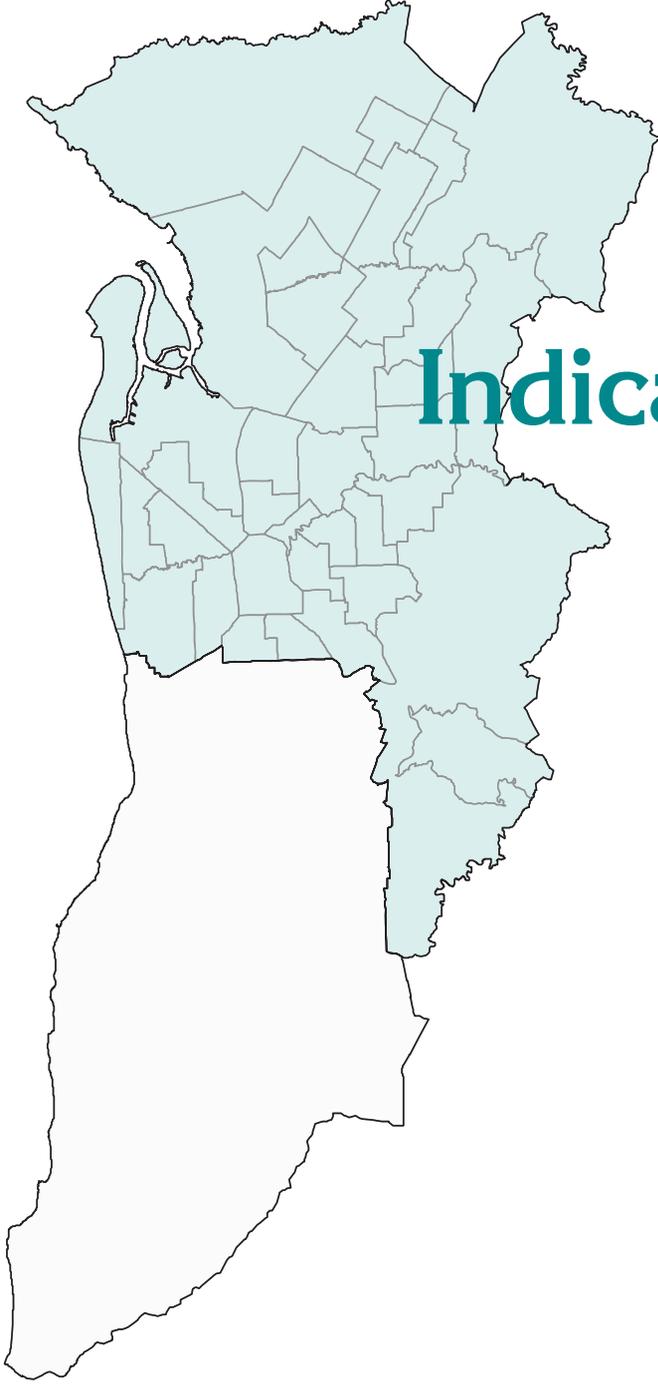
CNAHS – 95 (SR)



Hospital booking lists: people waiting for more than six months

CNAHS – 115 (SR)





Indicators

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Introduction

The next section of the atlas maps the geographic distribution of the population in the CNAHS region for each of the indicators under the headings of:

- demography and socioeconomic status
- income support
- health status and risk factors
- use of services

The final section provides the results of a correlation analysis, and a description of the main findings from that analysis.

Some people will use the atlas as a reference source, either going to particular maps (eg. a map of hospital admissions and a map of specialist medical practitioners), or using the index to find a particular topic (eg. families) or variable (eg. Avoidable mortality).

Others may choose to examine the correlation matrices and to then view the maps for variables for which the data are highly correlated. Or they may access the data by downloading a spreadsheet from the PHIDU web site, perhaps to re-group the SLAs to suit their own purpose, recalculating the percentages or standardised ratios to represent the new spatial groupings.

To assist users in reading the maps, the layout of the map, and how to read it, is described below.

The map

The area mapped is the Central Northern Adelaide Health Service Region. The major spatial unit mapped is the Statistical Local Area (SLA)², with the three sub regions shown with a thicker line.

The darker shades show the highest percentages and ratios, generally indicating the area to have the poorest outcomes, be they socioeconomic or health-related outcomes.

The legend shows the data ranges used to indicate the spatial distribution of the characteristic being mapped.

Footnotes on the map page draw attention to particular aspects of the mapped data and the source of the data.

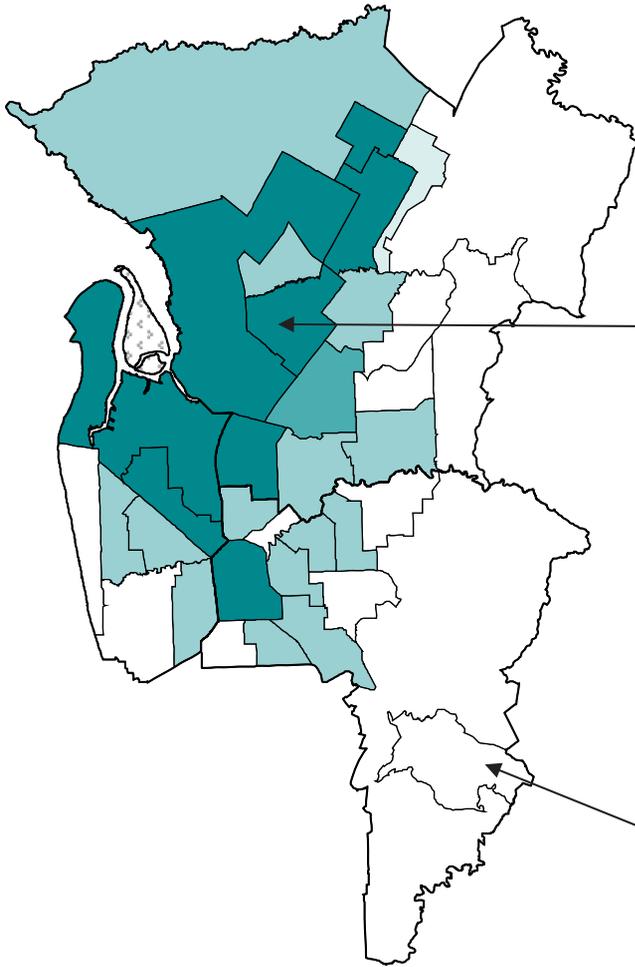
The map overleaf (Map A) is the map of avoidable mortality for deaths at ages 0 to 74 years. The measure mapped in this case is a standardised ratio, which shows the rate per 100,000 deaths, expresses as an index, where 100 is the State rate. Numbers above 100 show the percentage by which the rate in the SLA is 'above the level expected from the State rates'. For example, Playford - West Central has a standardised ratio of 164, showing that there were 64% more deaths at ages 0 to 74 years than would have occurred if the state-wide 'average' death rates applied in this SLA.

Where the standardised ratio (SR) is significantly different from the State rate under a test of statistical significance, this is indicated by an asterisk(s) attached to the SR – for example, 164^{**}. One asterisk indicates that the SR is statistically significant at the 5% level, that is, the likelihood of that ratio being due to chance is 5%; two asterisks indicate that the SR is significant at the 1% level, or that there is a smaller, 1%, chance of that SR occurring by chance.

² The 14 LGAs (Local Government Areas) of the Central Northern region of Adelaide have been shown as 37 SLAs (Statistical Local Areas) for the publication of this data.

Map 2: Example map: Avoidable mortality, 1999 to 2002

Mortality from avoidable causes age 0 to 74



The darkest green shade is used in areas with the highest rates for the variable in the map. In this map it shows areas with a standardised ratio (SR) of 120 or higher, compared with the State rate of 100 (see legend): in this case the SR is 121**.

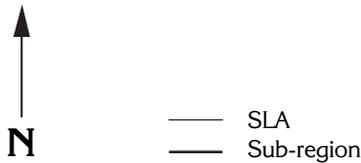
Put another way, at least 21% more people in Salisbury - Central died from avoidable causes than on average in the State. This is a poor outcome for the population in Salisbury - Central.

The two asterisks following the SR indicate that it is statistically significantly elevated – this is discussed on the previous page.

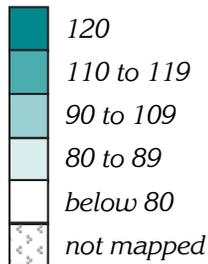
The areas in the map that are shown as white are those with the lowest rates for the variable in the map. In this map it shows areas with a standardised ratio of 79 or lower: in this case the SR is 67**

That is there were at least 33% fewer people in Adelaide Hills - Central who died from avoidable causes, when compared to the State average. This is a good outcome for the population of Adelaide Hills - Central.

The two asterisks following the SR indicate that it is statistically significantly below average – this is discussed on the previous page.



Standardised Ratio (as an Index), by SLA



14 LGAs (Local Government Areas) of the Central Northern region of Adelaide have been divided into 37 SLAs (Statistical Local Areas) for the publication of this data. The above map has been divided into SLAs, as shown by the thinner lines. The SLAs have been grouped into Sub-regions - Northern, Western and Central East, which are shown by the thicker lines that overlay the SLA boundaries.

INDICATORS: demography and socioeconomic status

Topic	Indicator	Page
Population:	Children 0 to 4 years	72
	Children 5 to 14 years	74
	Young people 15 to 24 years	76
	People 65 years and over	78
Total Fertility Rate		80
Families:	Single parent families	82
	Low income families	84
	Jobless families	86
Labour force:	Unemployment	88
	Unskilled and semi-skilled workers	90
	Female labour force participation	92
Education:	Full-time participation in secondary education at age 16	94
Technology:	Use of the Internet at home	96
Aboriginal and Torres Strait Islander people		98
Overseas born:	Resident for five years or more	100
	Resident for less than five years	102
	Poor proficiency in English	104
Housing:	Public rental dwellings	106
	Rent assistance	108
Transport:	Dwellings without a motor vehicle	110
Disadvantage:	Summary measure of socioeconomic disadvantage	112

Population: Children aged 0 to 4 years

Children aged 0 to 4 years as a proportion of the total population: data from the 2001 Census

Overview

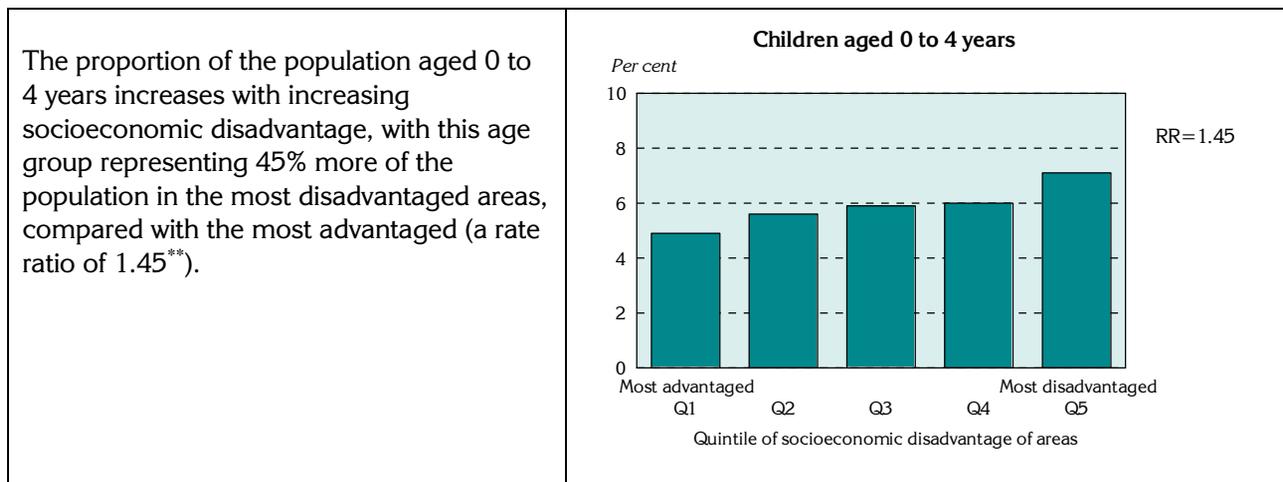
Children are major users of health services, especially in the first years of life. Developmental immaturity makes them particularly vulnerable to the influence of adverse experiences and poor living conditions. Children living in families of lower socioeconomic status are more likely to have poorer health status and generally make more use of health services than those who are better off. Their geographic distribution is therefore an indicator of likely health service demand and the need for preventative programs.

There were 43,921 children aged 0 to 4 years in the Central Northern region, 5.9% of the Region’s population (Table 4). The highest proportions of young children were located in outer northern SLAs, while the lowest proportions were in the more established inner and middle areas of the region (Map 3).

SLAs with the highest proportions of young children were located in the outer north, and included Playford - West Central (9.9%), Playford - East Central (9.0%), Salisbury - Inner North (8.8%), Salisbury Balance (8.3%), Tea Tree Gully - North (7.6%), Playford - Elizabeth (7.5%), Salisbury - Central (6.8%), Playford - Hills (6.6%), Playford - West (6.6%), Salisbury - North-East (6.5%) and Tea Tree Gully - Central (6.5%).

The largest numbers of 0 to 4 year olds were similarly located in the outer north, in Salisbury - Inner North (2,129 children), Salisbury - South-East (2,051), Tea Tree Gully - North (1,945), Playford - Elizabeth (1,869), Salisbury - Central (1,844), Tea Tree Gully - South (1,836), Tea Tree Gully - Central (1,714), Playford - East Central (1,678), as well as in Port Adelaide Enfield - Coast (1,639).

The SLAs with the lowest proportions of children aged 0 to 4 years in the Central Northern region were Adelaide (2.7%), Norwood Payneham St Peters - West (4.1%), Burnside - North-East (4.2%), Charles Sturt - Coastal (4.3%), Burnside - South-West (4.4%), and Walkerville (4.5%).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 3: Children aged 0 to 4 years, CNAHS, 2001

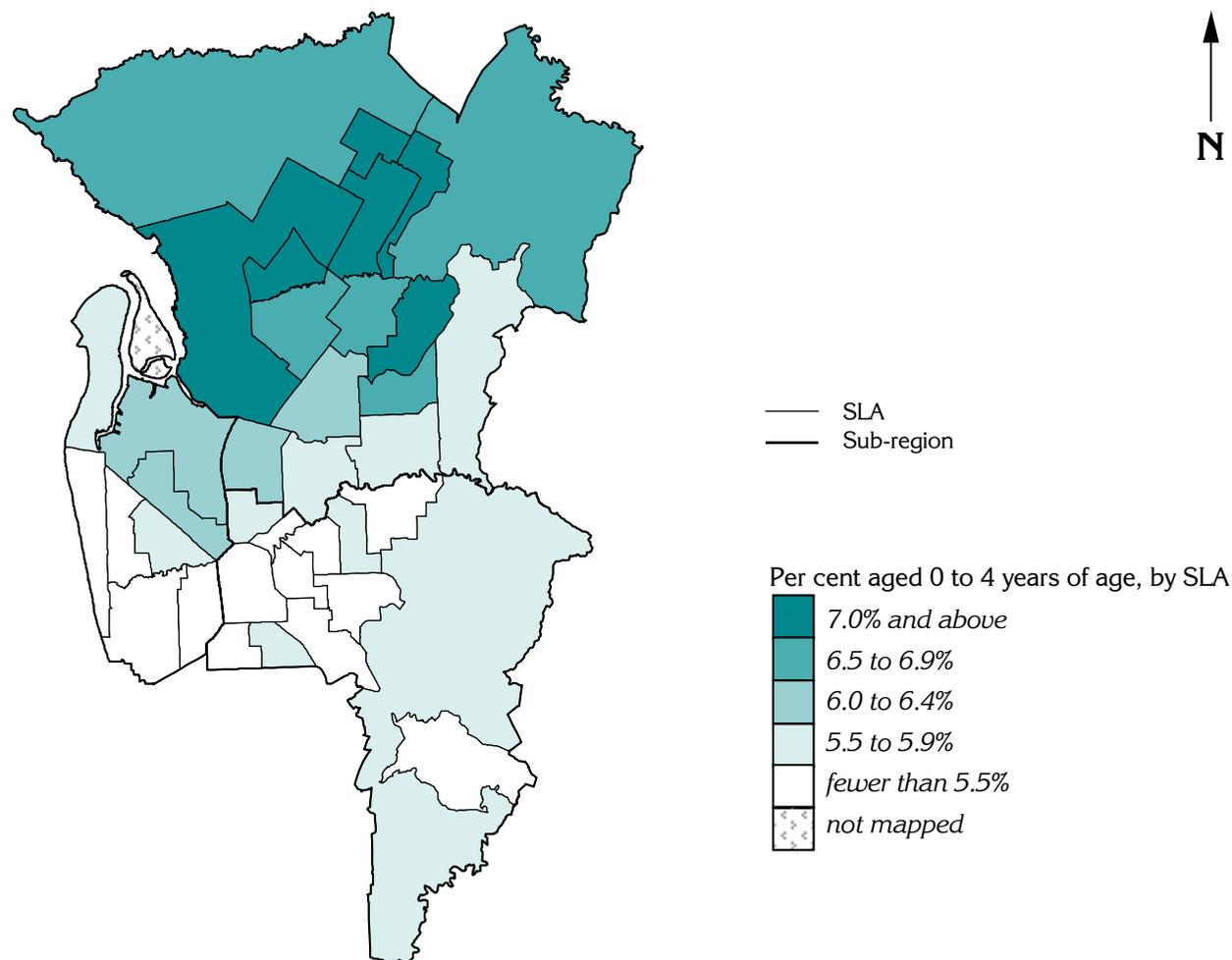


Table 4: Children aged 0 to 4 years, CNAHS, 2001

Area	Number		Per cent
	0 to 4 years	All ages	
CNAHS			
Quintile 1: most advantaged areas	6,746	137,719	4.9
Quintile 2	7,812	140,547	5.6
Quintile 3	9,100	163,136	5.9
Quintile 4	8,067	134,922	6.0
Quintile 5: most disadvantaged areas	12,196	163,166	7.1
Rate ratio	..	..	1.45**
Northern	22,420	321,961	7.0
Western	11,011	202,648	5.4
Central East	10,490	214,881	4.9
CNAHS	43,921	739,490	5.9
Southern	18,231	316,372	5.8
Metropolitan regions	62,152	1,055,862	5.9
State total	89,486	1,467,244	6.1

* indicates statistical significance: see page 19

Population: Children aged 5 to 14 years

Children aged 5 to 14 years as a proportion of the total population: data from the 2001 Census

Overview

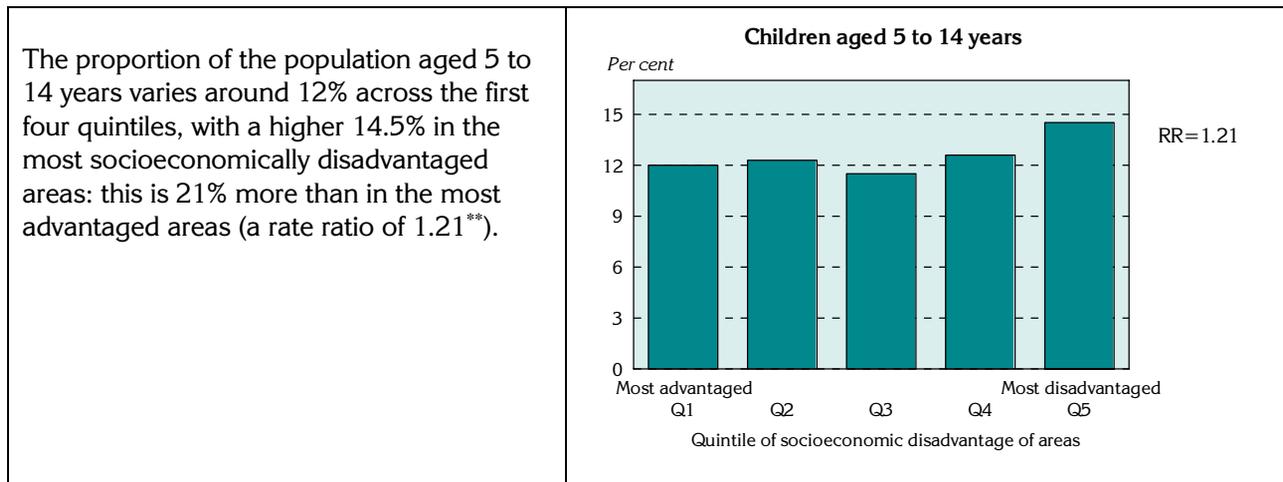
Children, 5 to 14 years, are school aged, and are significant users of health services. Children of these ages living in families of lower socioeconomic status are more likely to have poorer health status and generally make greater use of primary and secondary health services than those who are better off. Their geographic distribution is therefore an indicator of likely health service demand and the need for preventative programs.

There were 93,275 children aged five to 14 years of age in Central Northern, representing 12.6% of the total population in this region (Table 5). The highest proportions of children aged 5 to 14 years of age were concentrated in the outer northern SLAs, with above-average proportions in the outer eastern SLAs. Lower proportions were mapped in the city, and most inner and middle SLAs, as well as in the inner north-east (Map 4).

The majority of SLAs in Playford and parts of Salisbury had the highest proportions ranging between 17% and 19%, these included Playford - West Central (18.6%, 2,322 children), - East Central (18.3%, 3,391), - Hills (18.0%, 509) and - West (17.5%, 1,415), Salisbury - Inner North (18.0%, 4,327) and Balance (17.2%, 949). Tea Gully - North also had a high proportion of 17.1% (4,396). Other SLAs with above average proportions of children in this age group included Adelaide Hills - Central (15.8%, 1,988) and - Ranges (15.4%, 1,534), Salisbury - Central (15.2%, 4,110) and - North-East (14.8%, 3,263), Playford - Elizabeth (14.8%, 3,710), Tea Tree Gully - Central (13.8%, 3,611), Salisbury - South-East (13.3%, 4,353) and Campbelltown - East (13.0%, 3,464).

Relatively large numbers of children aged five to 14 years were located in Tea Tree Gully - South (3,931, 12.2%), Port Adelaide Enfield - Coast (3,479, 12.6%) and - Port (3,035, 12.2%) and Charles Sturt - North-East (3,017, 12.1%).

The smallest proportions of children in this age group were located in the SLA of Adelaide (4.2%, 547 children). There were also small proportions in West Torrens - East (8.9%, 2,038) and - West (9.7%, 2,656), Norwood Payneham and St Peters - East (8.9%, 2,038) and - West (9.3%, 1,601), Campbelltown - West (10.2%, 1,900), Unley - West (10.5%, 1,703) and - East (10.5%, 1,984), Port Adelaide Enfield - East (10.5%, 2,845), Charles Sturt - Coastal (10.5%, 3,204), Walkerville (10.7%, 727) and Charles Sturt - Inner East (10.8%, 2,246).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 4: Children aged 5 to 14 years, CNAHS, 2001

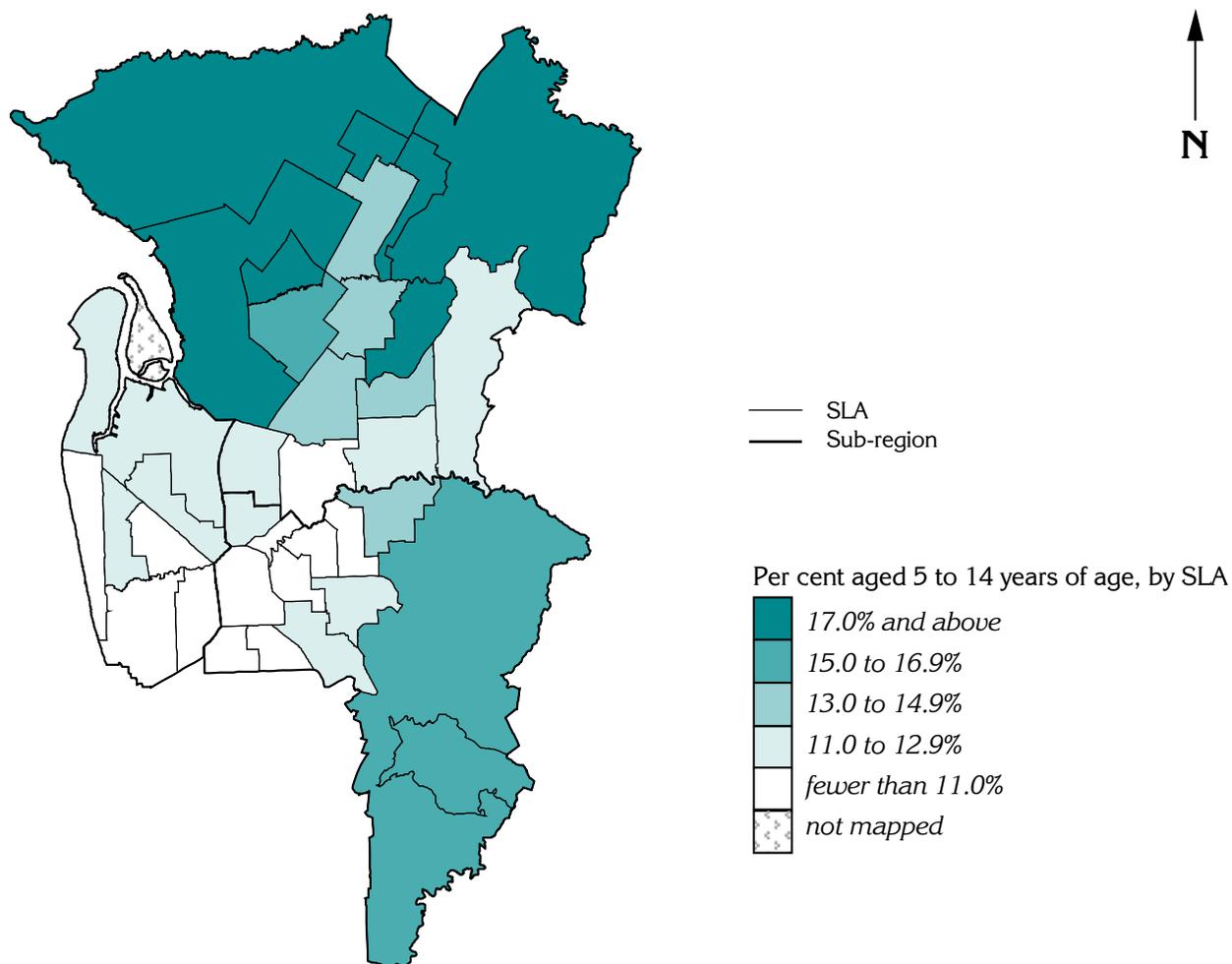


Table 5: Children aged 5 to 14 years, CNAHS, 2001

Area	Number		Per cent
	5 to 14 years	All ages	
CNAHS			
Quintile 1: most advantaged areas	16,472	137,719	12.0
Quintile 2	17,333	140,547	12.3
Quintile 3	18,835	163,136	11.5
Quintile 4	16,951	134,922	12.6
Quintile 5: most disadvantaged areas	23,684	163,166	14.5
Rate ratio	..	..	1.21**
Northern	46,896	321,428	14.6
Western	22,504	203,181	11.1
Central East	23,873	214,881	11.1
CNAHS	93,275	739,490	12.6
Southern	42,065	316,372	13.3
Metropolitan regions	135,340	1,055,886	12.8
State total	197,807	1,467,244	13.5

* indicates statistical significance: see page 19

Population: Young people aged 15 to 24 years

Young people aged 15 to 24 years as a proportion of the total population: data from the 2001 Census

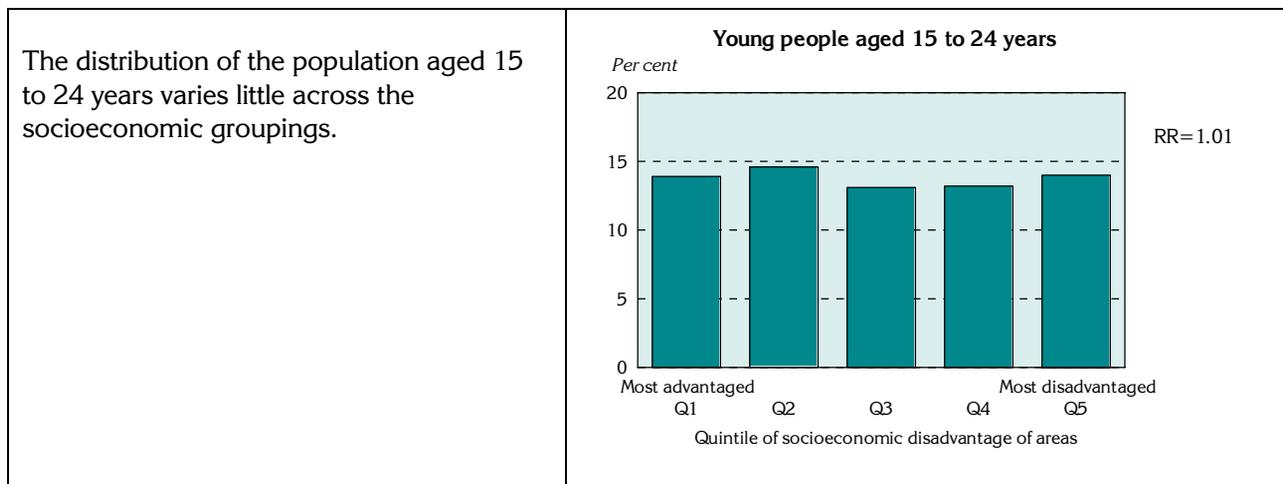
Overview

Young people under-utilise health services. Many are unaware of the services that are available, or how to access them, particularly when they are in distress. Their use of health services is also influenced by factors such as cost, availability of public transport, accessibility, and perceived authoritarian and judgmental attitudes of service providers. These can lead to young people foregoing health care. Young people of lower socioeconomic status are more likely to have poorer health status than those who are better off. Their geographic distribution is therefore an indicator of likely health service demand and the need for youth-friendly, preventative programs.

There were 101,828 young people aged 15 to 24 years in the Central Northern region in 2001, 13.8% of the total population for this region (Table 6). The largest proportions of 15 to 24 year olds were located in outer northern SLAs, as well as in the city and adjacent SLAs, lower proportions were located in the east and north-west (Map 5).

With nearly one in four people in this age group, the City of Adelaide had the highest proportion of young people (22.6%). This was followed by Salisbury Balance (15.9%), Norwood Payneham and St Peters - West (15.8%), Salisbury - Central (15.4%), Salisbury - Inner North (15.4%), Tea Tree Gully - Central (15.2%), Playford - West Central (14.9%), Salisbury - North-East (14.6%), West Torrens - East (14.6%), Unley - West (14.5%), Tea Tree Gully - South (14.5%), Tea Tree Gully - Hills (14.2%), Playford - Elizabeth (14.1%) and Tea Tree Gully - North (14.0%).

The largest numbers of young people were located in the outer SLAs of the region, in Tea Tree Gully - South (4,686 young people), Salisbury - South-East (4,501), Salisbury - Central (4,166), Tea Tree Gully - Central (3,981), Charles Sturt - Coastal (3,847), Salisbury - Inner North (3,695), Campbelltown - East (3,691), Port Adelaide Enfield - East (3,658), Tea Tree Gully - North (3,599), Playford - Elizabeth (3,546) and West Torrens - West (3,417).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 5: Young people aged 15 to 24 years, CNAHS, 2 001

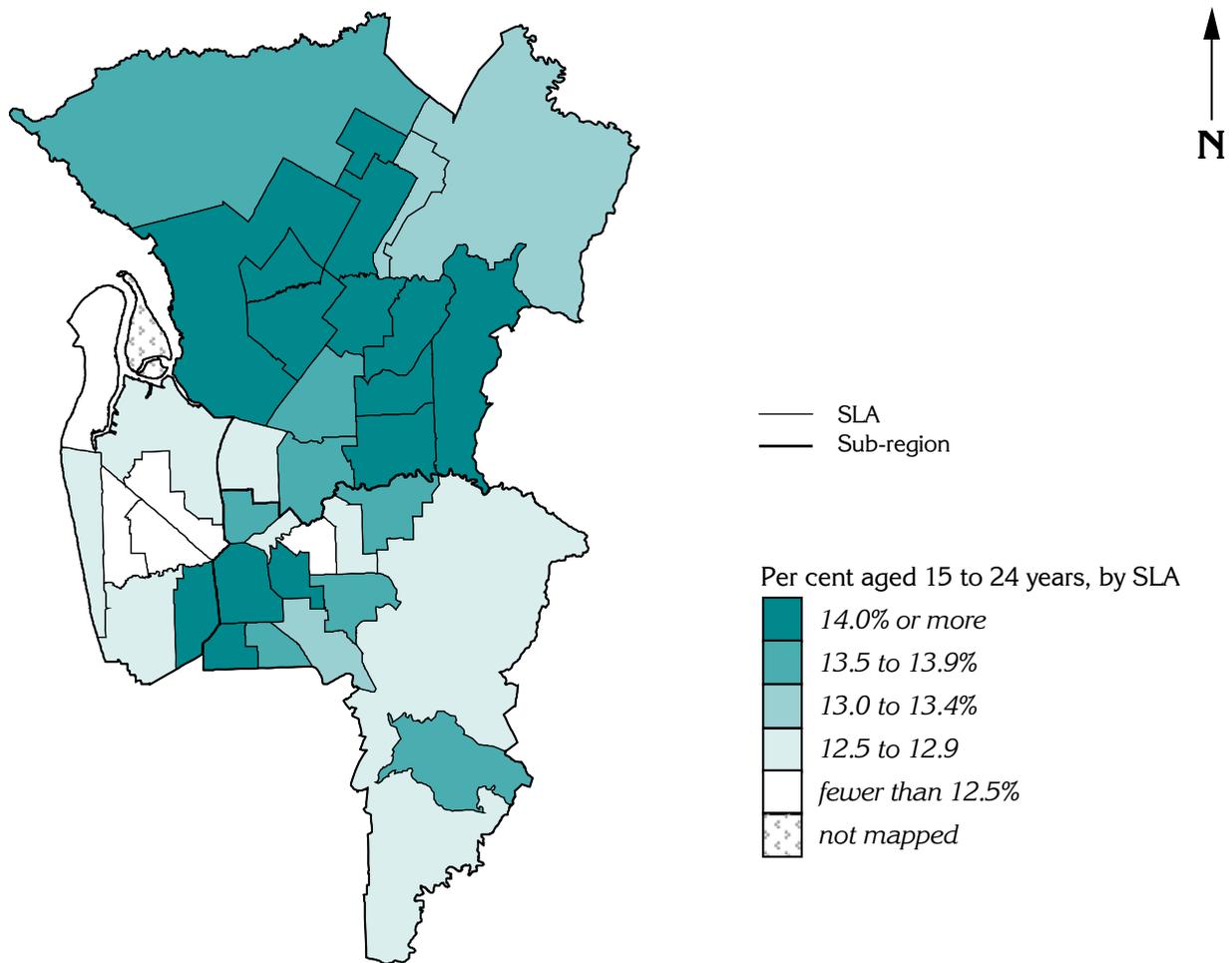


Table 6: Young people aged 15 to 24 years, CNAHS, 2001

Area	Number		Per cent
	15 to 24 years	All ages	
CNAHS			
Quintile 1: most advantaged areas	19,179	137,719	13.9
Quintile 2	20,585	140,547	14.6
Quintile 3	21,445	163,136	13.1
Quintile 4	17,805	134,922	13.2
Quintile 5: most disadvantaged areas	22,814	163,166	14.0
Rate ratio	..	..	1.01
Northern	45,961	321,428	14.3
Western	25,460	203,181	12.5
Central East	30,407	214,881	14.2
CNAHS	101,828	739,490	13.8
Southern	43,208	316,372	13.7
Metropolitan regions	145,036	1,055,862	13.7
State total	191,901	1,467,244	13.1

Population: People aged 65 years and over

People aged 65 years and over as a proportion of the total population: data from the 2001 Census

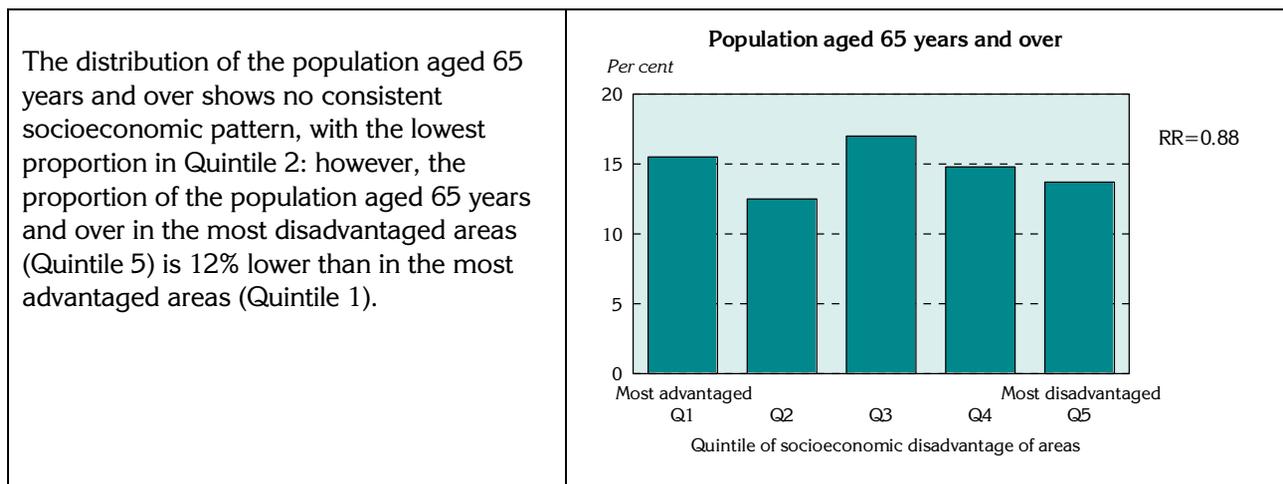
Overview

Australia is an ageing society, brought about in part by reduced mortality rates at older ages, a trend that has become especially evident over the past two to three decades. Increased morbidity is often associated with reduced mortality, and the incidence of an older population is likely to indicate areas where increased health and welfare services will be required.

In 2001, there were 108,897 people aged 65 years and over living in the region, 14.7% of the total population (Table 7). The main concentrations of older people are in the inner and middle suburbs, with an above-average proportion in the outer north, in Playford-Elizabeth (Map 6).

The inner suburbs with the highest proportions of people aged 65 and over were Norwood Payneham St Peters - East (23.1%), West Torrens - West (22.6%), Campbelltown - West (21.9%), Walkerville (21.3%), Port Adelaide Enfield - Inner (20.6%), Charles Sturt - Inner East (19.9%), Burnside - South-West (19.4%), Charles Sturt - Inner West (19.2%) and Burnside - North-East (19.2%).

The largest numbers of people aged 65 and over were distributed in a similar pattern with high numbers in West Torrens - West (6,191 people), Charles Sturt - Coastal (5,707), Charles Sturt - Inner West (4,605), Port Adelaide Enfield - East (4,556), Tea Tree Gully - South (4,459), Playford - Elizabeth (4,383), Port Adelaide Enfield - Port (4,365), Port Adelaide Enfield - Coast (4,330), Charles Sturt - Inner East (4,150), Campbelltown - West (4,086) and Charles Sturt - North-East (4,062).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 6: People aged 65 years and over, CNAHS, 2001

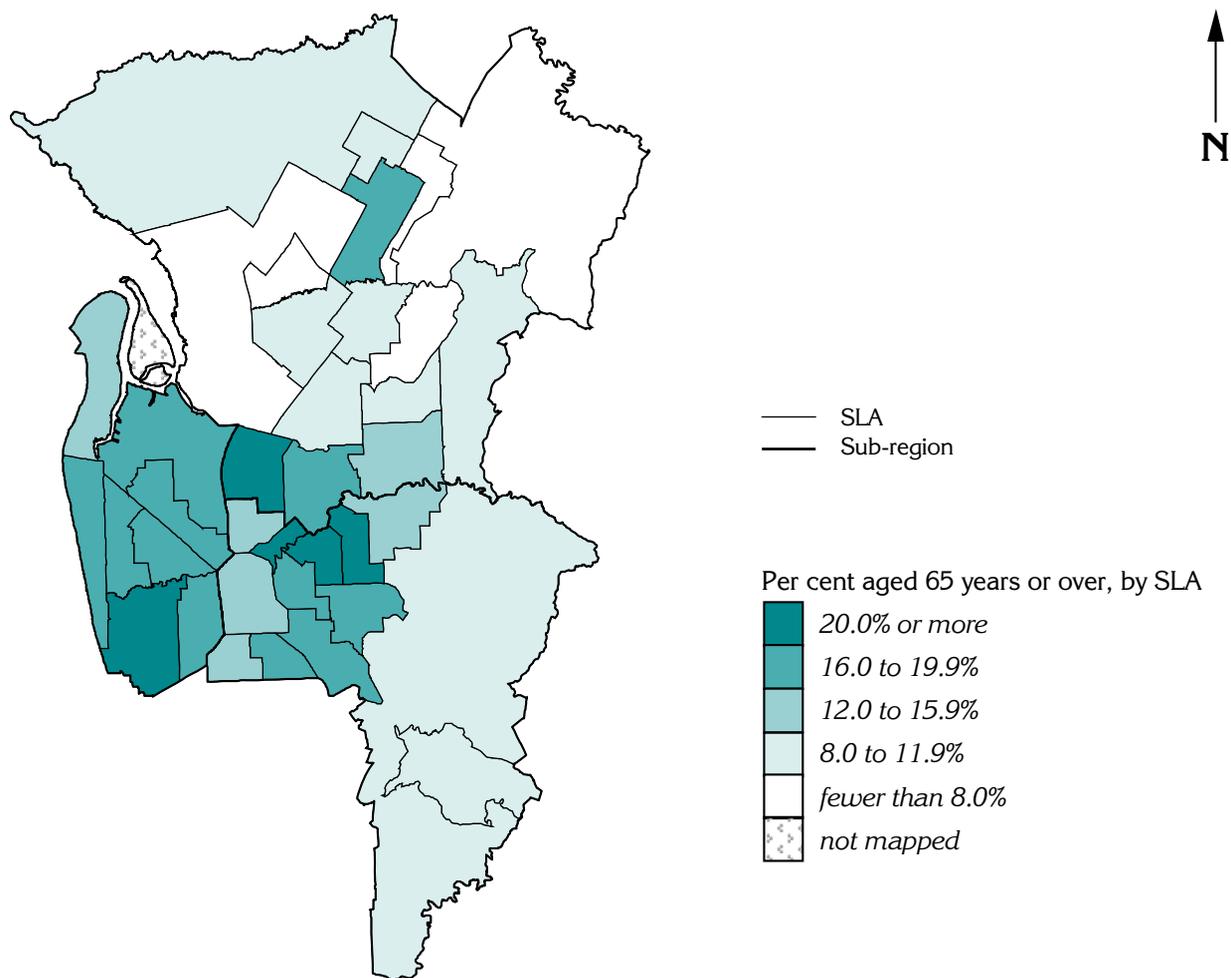


Table 7: People aged 65 years and over, CNAHS, 2001

Area	Number		Per cent
	65 years and over	All ages	
CNAHS			
Quintile 1: most advantaged areas	21,294	137,719	15.5
Quintile 2	17,856	140,547	12.5
Quintile 3	27,780	163,136	17.0
Quintile 4	19,931	134,922	14.8
Quintile 5: most disadvantaged areas	22,306	163,166	13.7
Rate ratio	..	..	0.88*
Northern	35,939	321,428	11.2
Western	37,306	203,181	18.4
Central East	35,652	214,881	16.6
CNAHS	108,897	739,490	14.7
Southern	47,595	316,372	15.0
Metropolitan regions	156,492	1,055,862	14.8
State total	215,603	1,467,244	14.7

* indicates statistical significance: see page 19

Total Fertility Rate

The Total Fertility Rate is an estimate of the number a children a woman of child-bearing age will have over her lifetime: based on births data from 2000 to 2002

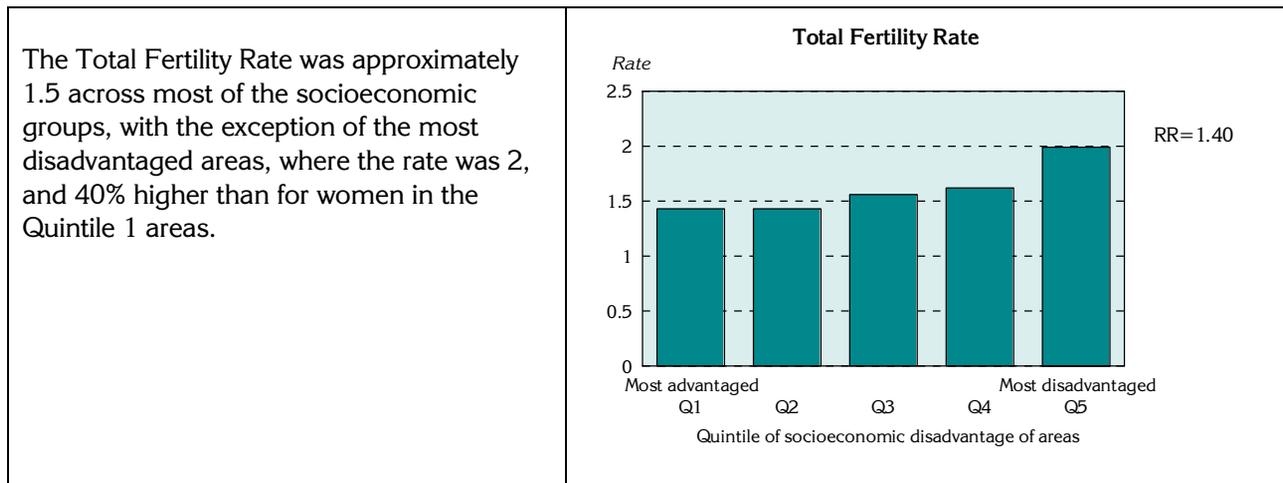
Overview

The Total Fertility Rate (TFR) measures the production of children and is calculated from details of the age of the female population, the number of births and the age of the mother at birth. SLAs recording fewer than 20 births were excluded from the analysis.

The TFR for the Central Northern region was 1.61, with 26,850 births over the period from 2000 to 2002 (Table 8). The highest TFRs were recorded in a number of outer northern SLAs, with relatively high rates in some north-western SLAs (Map 7). This geographic distribution is consistent with that in Maps 3 and 4, of the 0 to 4 and 5 to 14 year age groups, in particular the high TFRs in the outer northern areas.

The highest TFRs in the region were 2.63 in Playford - West Central (744 births), Playford - Elizabeth (a TFR of 2.27, 1,172), Playford - Hills (2.08, 111), Playford - East Central (2.08, 928), Salisbury - Inner North (1.99, 1,172), Port Adelaide Enfield - Inner (1.93, 802), Salisbury Balance (1.89, 271), Port Adelaide Enfield - Port (1.89, 1,015) and Salisbury - Central (1.81, 1,096).

The SLAs with the lowest TFRs were Adelaide (a TFR of 0.73, 247 births), Unley - West (1.26, 515), Norwood Payneham and St Peters - West (1.26, 558), Burnside - North-East (1.31, 492), Charles Sturt - Coastal (1.32, 775), Unley - East (1.37, 638), Norwood Payneham and St Peters - East (1.39, 506), Prospect (1.45, 701) and West Torrens - East (1.45, 896).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 7: Total Fertility Rate, CNAHS, 2000 to 2002

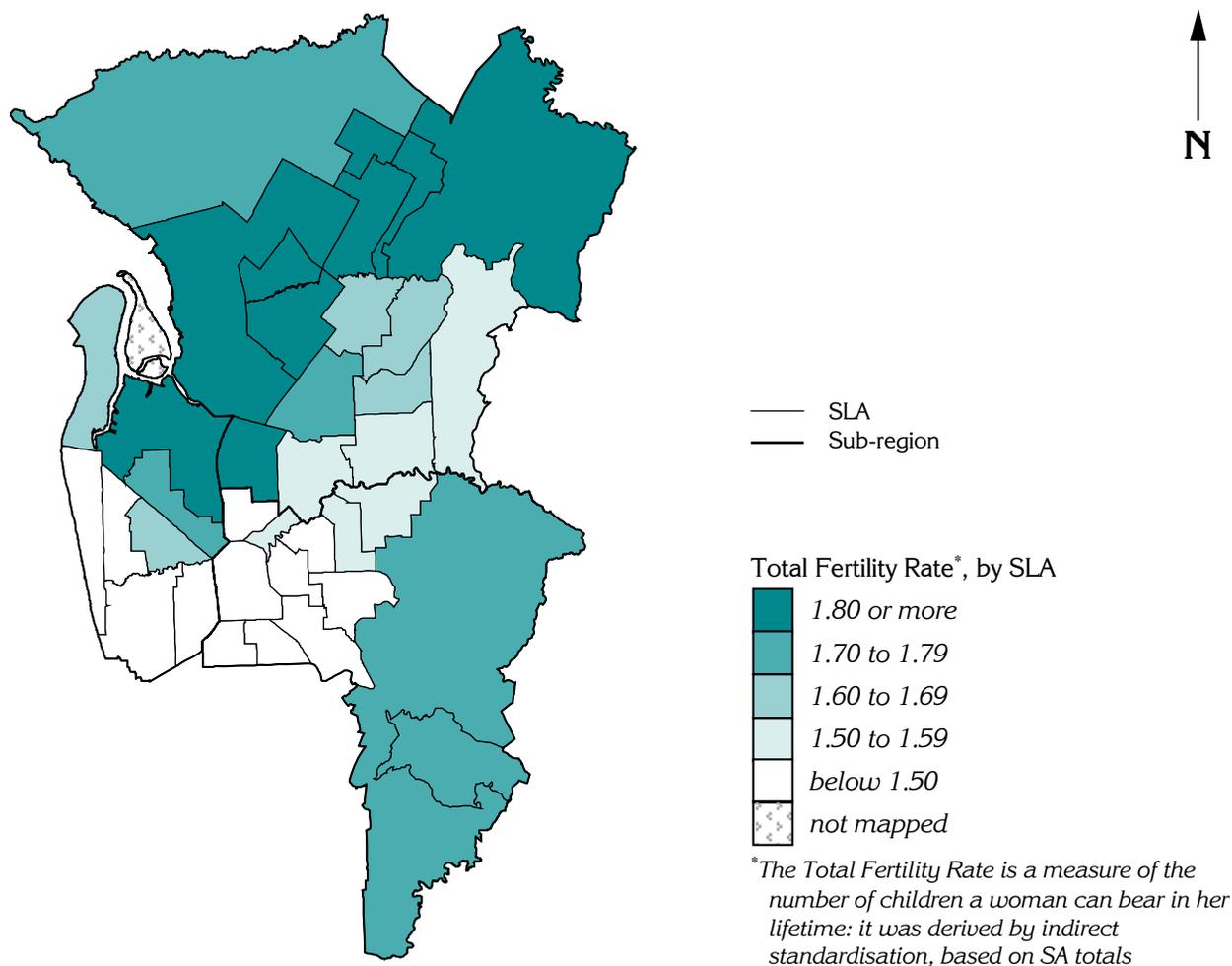


Table 8: Total Fertility Rate, CNAHS, 2000 to 2002

Area	Births	TFR
CNAHS		
Quintile 1: most advantaged areas	4,182	1.43
Quintile 2	4,655	1.43
Quintile 3	5,775	1.56
Quintile 4	4,928	1.62
Quintile 5: most disadvantaged areas	7,310	1.99
Rate ratio	..	1.40**
Northern	13,182	1.81
Western	7,018	1.56
Central East	6,650	1.38
CNAHS	26,850	1.61
Southern	10,613	1.64
Metropolitan regions	37,479	1.62
State total	52,774	1.70

* indicates statistical significance: see page 19

Families: Single parent families

Single parent families comprise female sole parents with dependent children under 15 years of age, as a proportion of all families: data from the 2001 Census

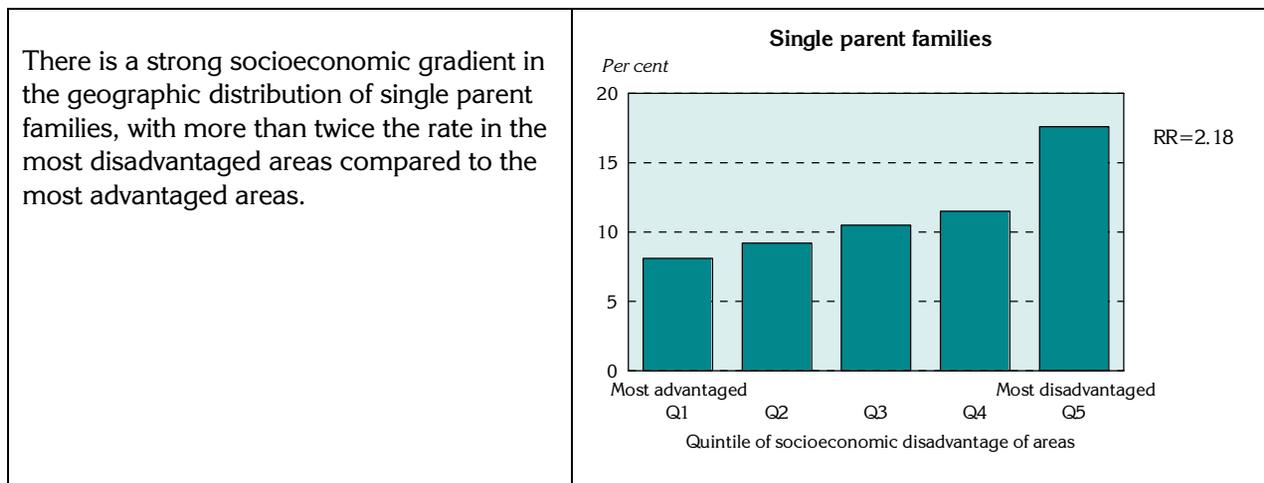
Overview

The majority of single parent families are characterised by poverty and hardship, have poorer health and are major users of publicly-funded services. Details of their location are, therefore, of importance to policy makers and those providing health, education, welfare, housing and transport services. With nearly half of single parents with dependent children under 15 years of age in the region having no job (44.9%), they are among the most reliant on government support. Access to employment, training and other opportunities are also issues for these families in outer suburban areas where opportunities are more limited for parents and school leavers alike.

There were 22,888 single parent families in the region in 2001, 11.5% of all families (Table 9). The majority of SLAs with high proportions and large numbers of single parent families were located in the north-western and outer northern suburbs (Map 8). The lowest proportions cover an area running from the city, to the east and to the south-east and north-east.

The highest proportion of single parent families, a quarter of all families (24.7%), was in Playford - West Central. Very high proportions were also living in Playford - Elizabeth (21.7%), Port Adelaide Enfield - Port (17.5%), Salisbury - Inner North (17.0%), Port Adelaide Enfield - Inner (16.8%), and Salisbury - Central (15.5%). Playford - Elizabeth had the largest number, with 1,467 single parent families, followed by Salisbury - South East (1,131), Salisbury - Central (1,119), Port Adelaide Enfield - Port (1,113), and Salisbury - Inner North (1,110).

The SLAs with the lowest proportions include Playford - Hills (4.3%), Tea Tree Gully Hills (7.1%), Adelaide Hills - Ranges (6.6%), Walkerville (6.8%), Adelaide (7.9%), Burnside - North-East (7.3%), and Burnside - South-West (7.7%).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 8: Single parent families, CNAHS, 2001

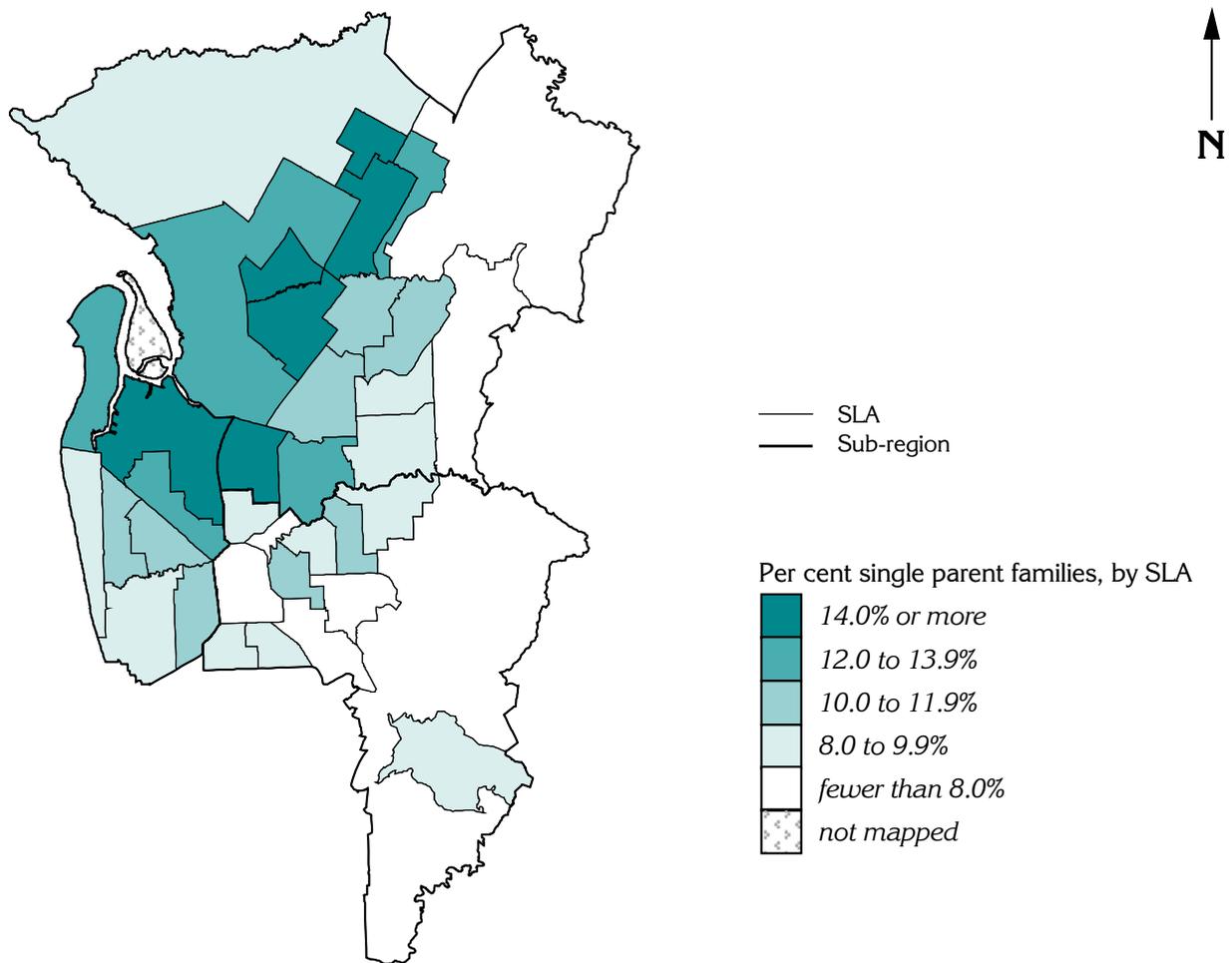


Table 9: Single parent families, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	2,896	8.1
Quintile 2	3,489	9.2
Quintile 3	4,621	10.5
Quintile 4	4,324	11.5
Quintile 5: most disadvantaged areas	7,558	17.6
Rate ratio	..	2.16**
Northern	11,854	13.3
Western	6,235	11.5
Central East	4,799	8.7
CNAHS	22,888	11.5
Southern	9,884	11.4
Metropolitan regions	32,772	11.5
State total	43,718	11.0

* indicates statistical significance: see page 19

Families: Low income families

Low income families include families with an income of less than \$26,000 per year, as a proportion of all families: data from the 2001 Census

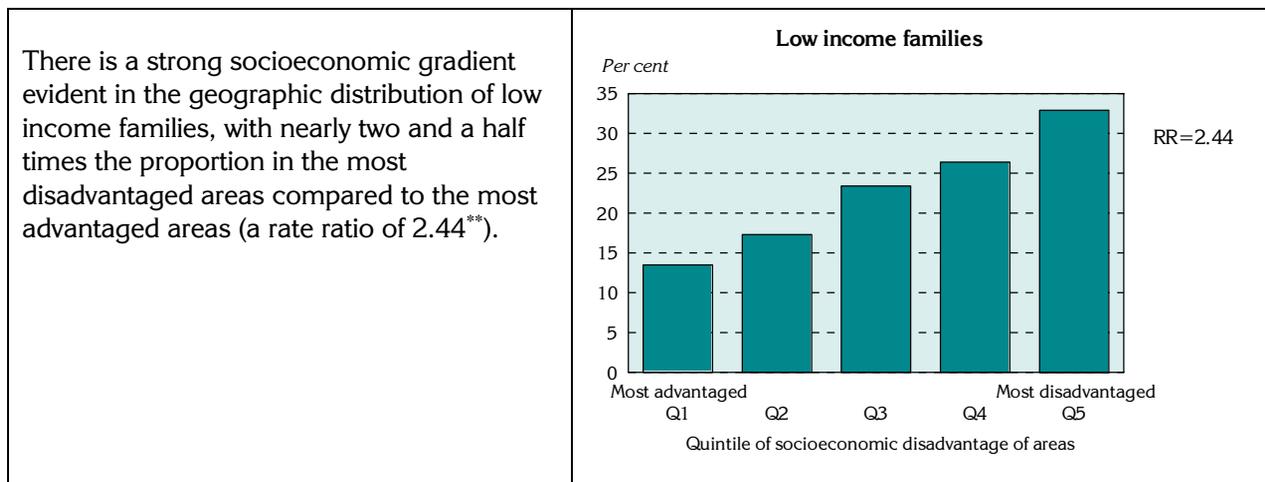
Overview

The use of low income as a measure of poverty is compromised to an extent by the fact that it is influenced by differences in family size, age structure and housing tenure and costs. While the variable will normally capture most welfare-dependent families, it will also include sizeable numbers of families for which low incomes are linked to their retirement status. However, the concentrations of low income families in areas with high proportions of people who are dependent on unemployment benefits, supporting parents' benefits, age or disability pensions suggests that many families in these areas are clearly suffering severe financial hardship. Those in outer suburban or country areas face additional hardship associated with accessing services. Income is among the most important individual-level determinants of wellbeing. People with a higher income generally enjoy better health and longer lives than people with a lower income.

There were 45,834 families living on a low income, nearly one quarter of all families (23.1%) (Table 10). The map shows that the highest proportions of low income families were located in the inner northern, north-western and outer northern SLAs, with low proportions in the east (Map 9), generally reflecting the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

The highest proportions of families living on a low income were located in Playford - Elizabeth (41.4%, 2,794 families), Playford - West Central (41.0%, 1,363), Port Adelaide Enfield - Port (37.6%, 2,388), Port Adelaide Enfield - Inner (35.1%, 1,760), Charles Sturt - North-East (28.6%, 1,842), Campbelltown - West (28.5%, 1,464), Charles Sturt - Inner West (28.4%, 1,917), and Salisbury - Central (28.0%, 2,025).

There were also large numbers of families living on a low income in Salisbury - South-East (2,404), Port Adelaide Enfield - East (2,000), Port Adelaide Enfield - Coast (1,874) and Tea Tree Gully - South (1,865).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 9: Low income families, CNAHS, 2001

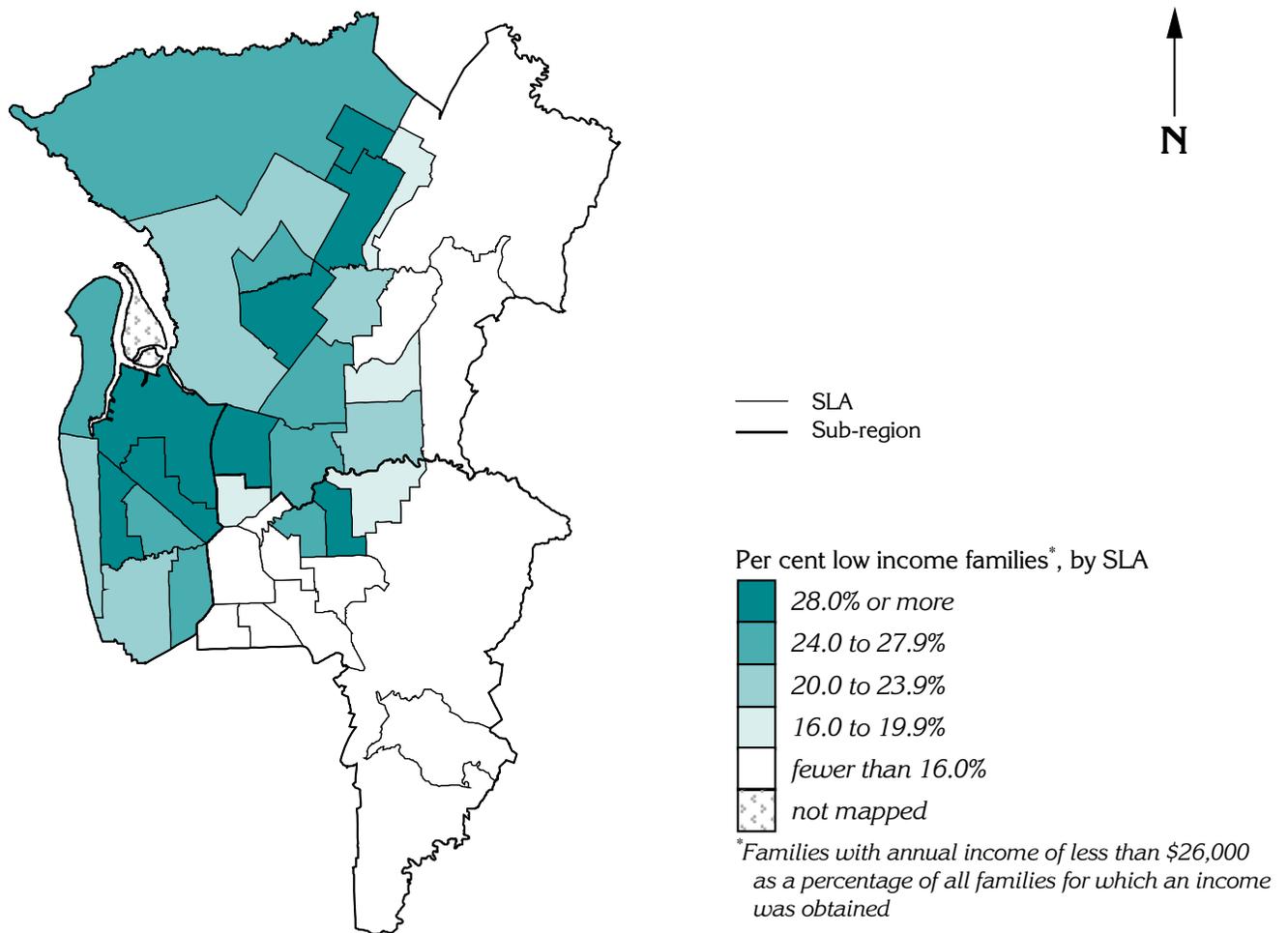


Table 10: Low income families, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	4,850	13.5
Quintile 2	6,571	17.3
Quintile 3	10,332	23.4
Quintile 4	9,908	26.4
Quintile 5: most disadvantaged areas	14,173	32.9
Rate ratio	..	2.44**
Northern	22,155	24.8
Western	14,495	26.8
Central East	9,184	16.6
CNAHS	45,834	23.1
Southern	18,278	21.0
Metropolitan regions	64,115	22.4
State total	94,480	23.8

* indicates statistical significance: see page 19

Families: Jobless families

Jobless families include families (both single parent and couple families) with children under 15 years, where no parent is employed: data from the 2001 Census

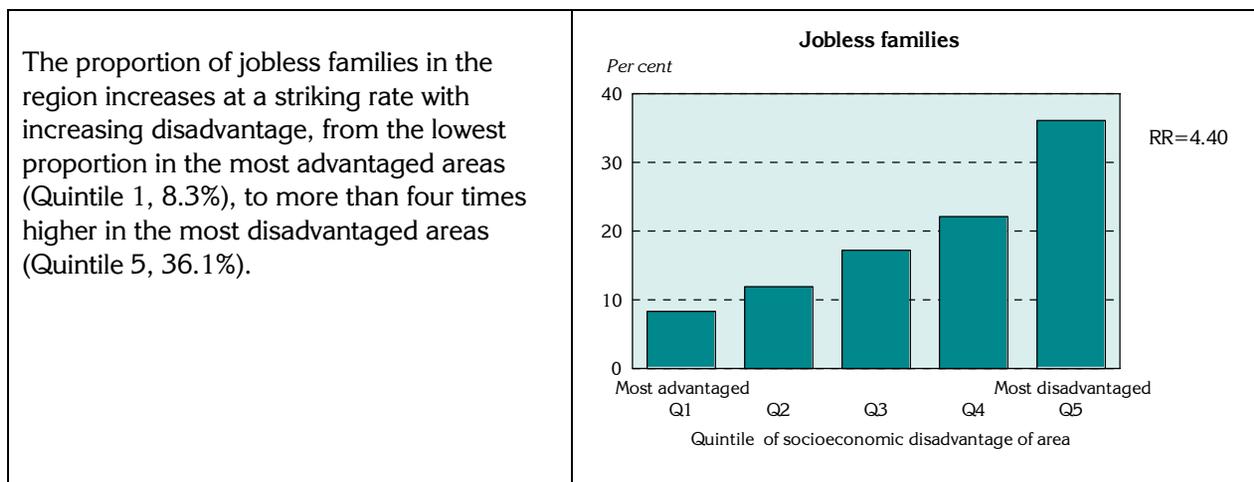
Overview

Children living without an employed parent, or children in jobless households, are at very significant risk of socioeconomic disadvantage. Jobless families with children are those with the greatest welfare dependency, facing the greatest financial hardship. They generally have poorer health, and their children often face poorer educational outcomes. These children may not have a role model of employment to follow, and so the joblessness of the parent(s) may mean that such children are more likely to have outcomes such as welfare dependency in the long term. However, there may be positive effects for children living without an employed parent; for example, if the reason the parent is without a job is to care for children or to undertake study to try to improve the future economic wellbeing of the household. Most of the children living without an employed parent live in one parent households ⁶⁰.

There were 15,490 jobless families with children less than 15 years of age living in Central Northern region, 20.4% of all families in the region with children of this age (Table 11). The map shows a clear pattern of high rates of jobless families in the north-west, north and outer northern Statistical Local Areas, in contrast to much lower rates to the east and south- and north-east of the city (Map 10).

Approximately half of all families in Playford - Elizabeth were jobless (51.0%, 1,451 jobless families, the largest number in either metropolitan region) and Playford - West Central (48.9%, 879 jobless families). There were also high proportions in the SLAs of Port Adelaide Enfield - Port (41.2%, 1,051), Port Adelaide Enfield - Inner (36.8%, 699), Salisbury - Central (29.9%, 962), Salisbury - Inner North (27.7%, 957), Salisbury Balance (27.5%, 201, Charles Sturt - North-East (26.8%, 699), Port Adelaide Enfield - East (26.2%, 663) and Charles Sturt - Inner West (22.1%, 503).

Relatively large numbers of jobless families were also recorded in the SLAs of Salisbury - South-East (787 jobless families, 21.8%), Port Adelaide Enfield - Coast (566, 19.3%), Tea Tree Gully - South (503, 15.3%) and Salisbury - North-East (501, 19.4%).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 10: Jobless families with dependent children, CNAHS, 2001

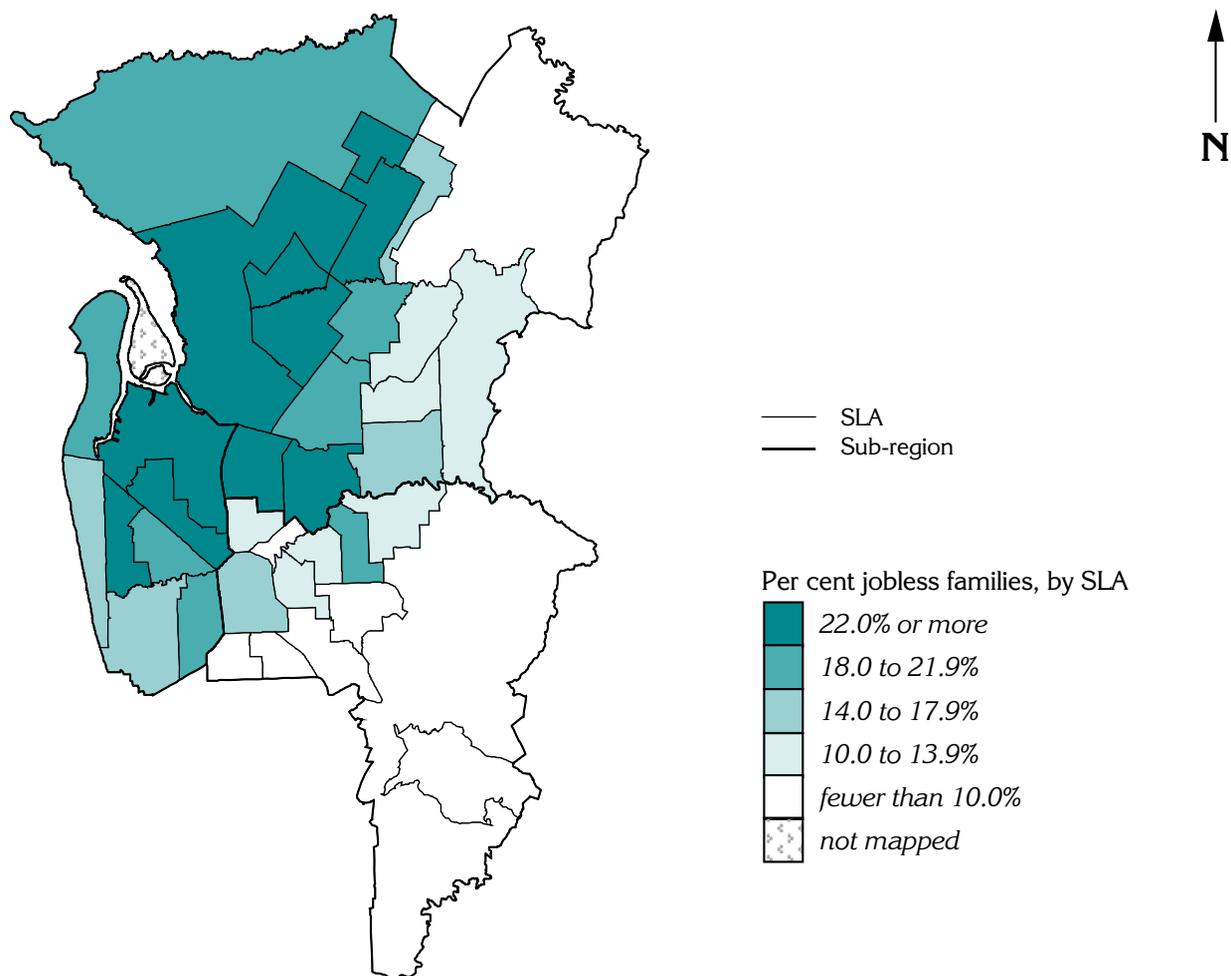


Table 11: Jobless families with dependent children, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	1,054	8.3
Quintile 2	1,696	11.9
Quintile 3	2,759	17.2
Quintile 4	3,082	22.1
Quintile 5: most disadvantaged areas	6,899	36.1
Rate ratio	..	4.40**
Northern	9,104	24.1
Western	4,351	22.8
Central East	2,035	10.6
CNAHS	15,490	20.4
Southern	5,592	16.6
Metropolitan regions	21,082	19.2
State total	29,203	18.7

* indicates statistical significance: see page 19

Labour force: Unemployment rate

The number of unemployed as a proportion of the labour force: data from the Department of Education and Workplace Relations, at June 2003

Overview

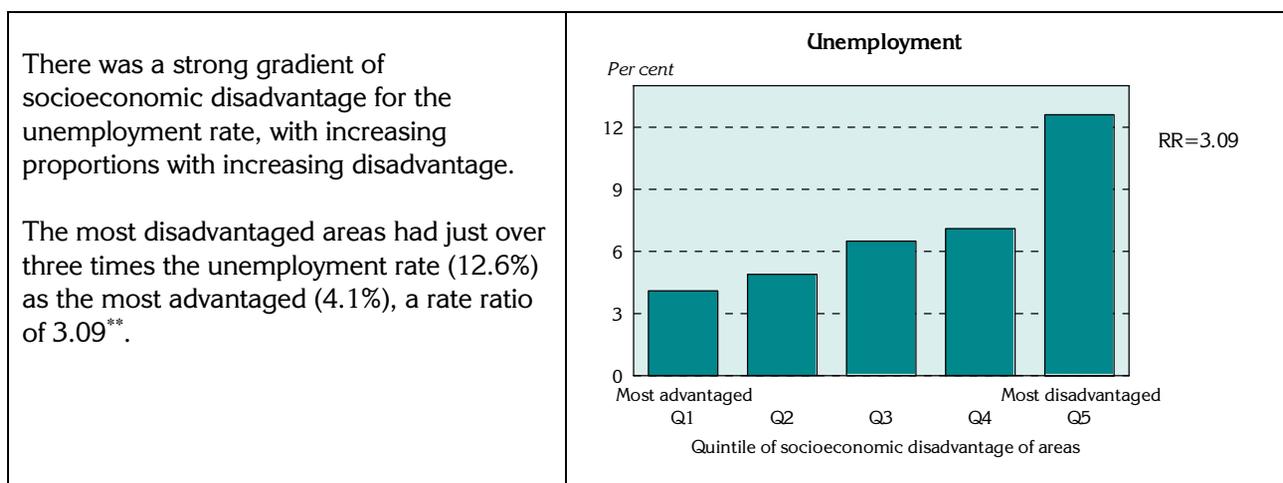
Those who do not have access to secure and satisfying work are less likely to have an adequate income; and unemployment and under-employment are generally associated with reduced life opportunities and poorer health and wellbeing.

Readers should note that the official measure of unemployment does not take account of hidden unemployment (measured by the labour force participation rate) or under-employment (resulting from the loss of full-time jobs and the creation of part-time jobs). An alternative labour force indicator, which addresses these deficiencies, suggests the real level of unemployment in South Australia is some three times the official rate ³³.

The unemployment rate for Central Northern was 6.9%, representing 27,012 unemployed people (Table 12). The rate of youth unemployment at the 2001 Census is much higher, at 17.2% for 15 to 24 year olds: young people aged 15 to 19 years of age have a rate nearly three times that of the general population (20.1%), while the rate for those aged 20 to 24 was lower, yet still more than double that of the general population (15.5%). The overall spatial pattern is of high unemployment rates across an area from the city centre to the north-western and inner northern suburbs, as well as in a number of outer northern suburbs (Map 11).

By far the highest unemployment rates in Central Northern were those in the SLAs of Playford - Elizabeth and - West Central (21.1% and 17.3%, respectively). Other SLAs with high rates were Port Adelaide Enfield - Port and - Inner (14.3% and 11.8%, respectively), Adelaide (10.5%), Charles Sturt - North-East (10.2%) and Salisbury - Central and - Inner North (9.9% and 9.8%, respectively).

The largest numbers of unemployed people were in Playford - Elizabeth (1,992 people), Port Adelaide Enfield - Port (1,465), Salisbury - Central and - South-East (1,320 and 1,267, respectively), Charles Sturt - North-East (1,224) and Salisbury - Inner North (1,201). Tea Tree Gully - North and - Hills (2.8 and 2.9%, respectively), Adelaide Hills - Central (3.0%) and Burnside - South-West (3.1%) had the lowest rates in the region.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 11: Unemployment rate, CNAHS, 2003

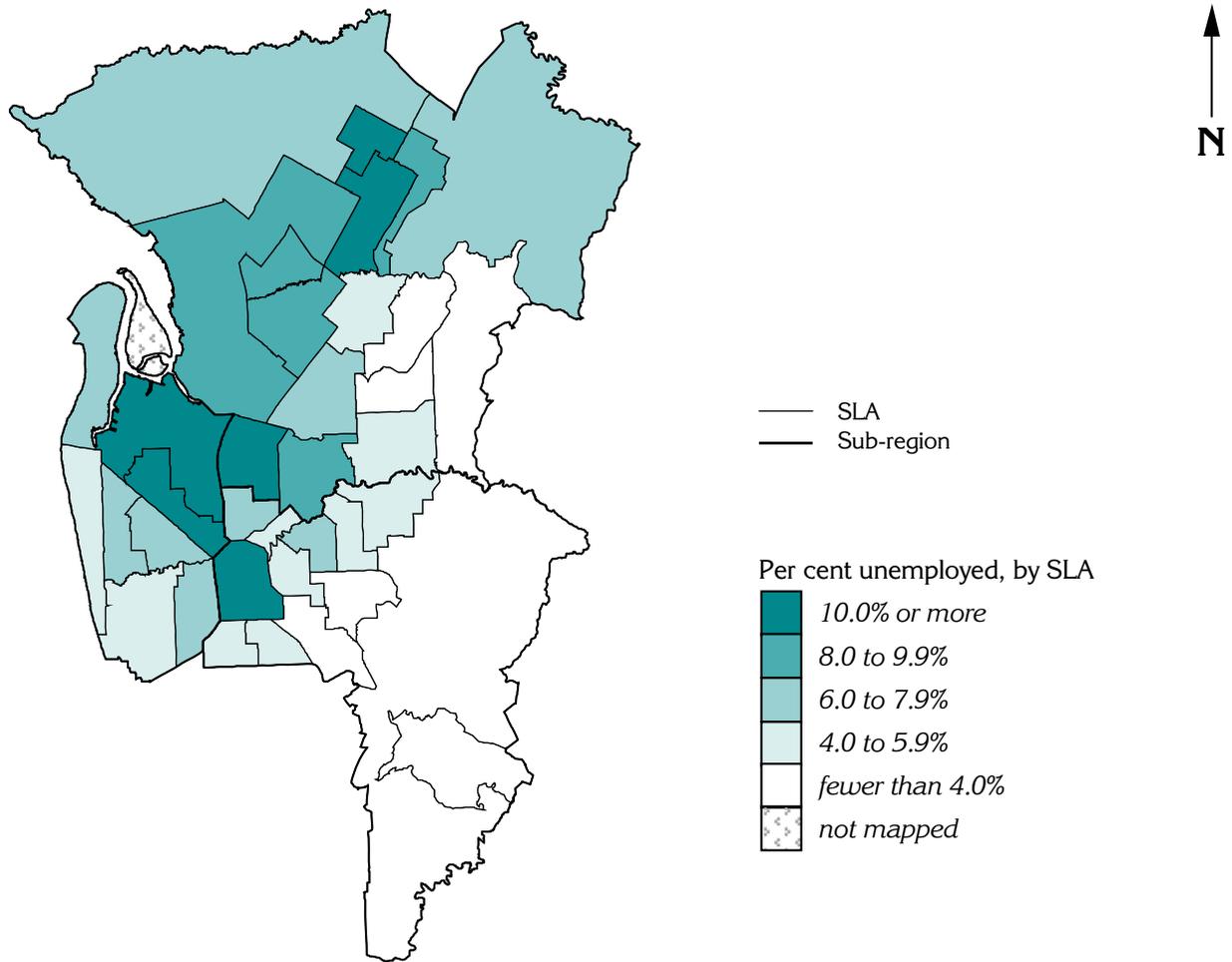


Table 12: Unemployment rate, CNAHS, 2003

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	3,223	4.1
Quintile 2	3,967	4.9
Quintile 3	5,564	6.5
Quintile 4	4,959	7.1
Quintile 5: most disadvantaged areas	9,299	12.6
Rate ratio	..	3.09**
Northern	13,202	7.8
Western	7,713	7.6
Central East	6,097	5.1
CNAHS	27,012	6.9
Southern	9,802	5.9
Metropolitan regions	36,815	6.6
State total	51,637	6.8

* indicates statistical significance: see page 19

Labour force: Unskilled and semi-skilled workers

People with an occupation classed as unskilled or semi-skilled, as a proportion of all employed people: data from the 2001 Census

Overview

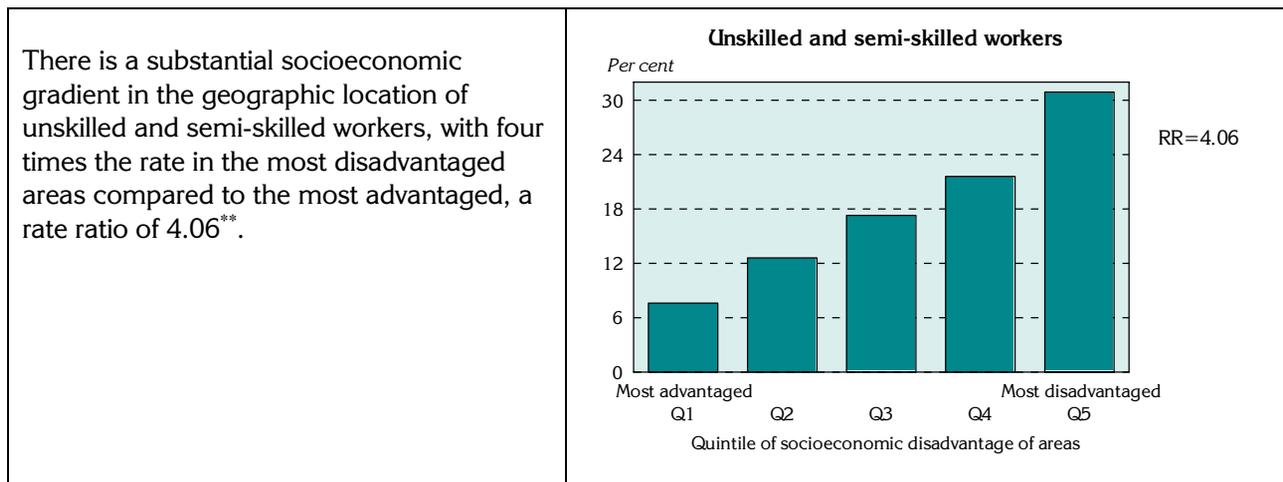
Occupation remains the most important determinant of wealth, social standing and wellbeing for most people in Australian society. The occupations described here as unskilled and semi-skilled encompass most lower paid, and less skilled, blue collar work, and their prevalence therefore forms a useful general measure of low socioeconomic status. These occupations (ABS 'intermediate production & transport workers' and 'labourers & related workers') have shown an overall decline as a proportion of the total employed labour force in South Australia since 1986, down by 21.2% in Metropolitan Adelaide. There was also a reduction in country South Australia between 1986 and 1991, before small increases over the following two census years, to give an overall decline of 5.4%. These trends have resulted in a widening gap between Metropolitan Adelaide and country areas.

The 55,634 unskilled and semi-skilled workers in the Central Northern region represented 17.4% of the labour force in 2001 (Table 13). The pattern of variation in the proportion of workers in these categories reflects the long-established contrast between the working class (inner and outer) northern and western suburbs, and the middle and upper class suburbs in and around the city, and to the east and south-east (Map 12). It is also markedly similar to that for the unemployment rate.

The highest proportion of these workers in either metropolitan region was located in Playford - West Central (42.8%, 1,411 workers). High proportions were also recorded in Playford - Elizabeth (36.7%, 2,384), Salisbury - Inner North (35.5%, 3,358), Port Adelaide Enfield - Port (32.8%, 2,546), Salisbury - Central (31.9%, 3,278), Salisbury Balance (29.9%, 706), Playford - East Central (25.5%, 2,126), Playford - West (25.0, 830) and Port Adelaide Enfield - Inner (24.0%, 1,568).

The largest number of unskilled and semi-skilled workers in the metropolitan regions was located in Salisbury - South-East (3,455, 23.9%). There were also large numbers in Port Adelaide Enfield - Coast (2,419, 20.5%), Tea Tree Gully - South (2,416, 15.9%), Salisbury - North-East (2,318, 23.4%), Tea Tree Gully - Central (2,180, 16.4%), Port Adelaide Enfield - East (2,016, 18.5%), Charles Sturt - North-East (2,005, 20.8%) and Charles Sturt - Inner West (1,913, 20.2%).

Values of less than 12.0% of the labour force in these occupations were common in SLAs in the eastern suburbs, with the lowest proportions in Burnside - South-West (5.1%), Burnside - North-East (5.9%), Adelaide (5.9%), Walkerville (5.9%), Norwood Payneham St Peters - West (6.2%) and Unley - East (6.6%); the SLAs of Campbelltown - West and - East (15.6% and 14.2%, respectively) were the exceptions.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 12: Unskilled and semi-skilled workers, CNAHS, 2001

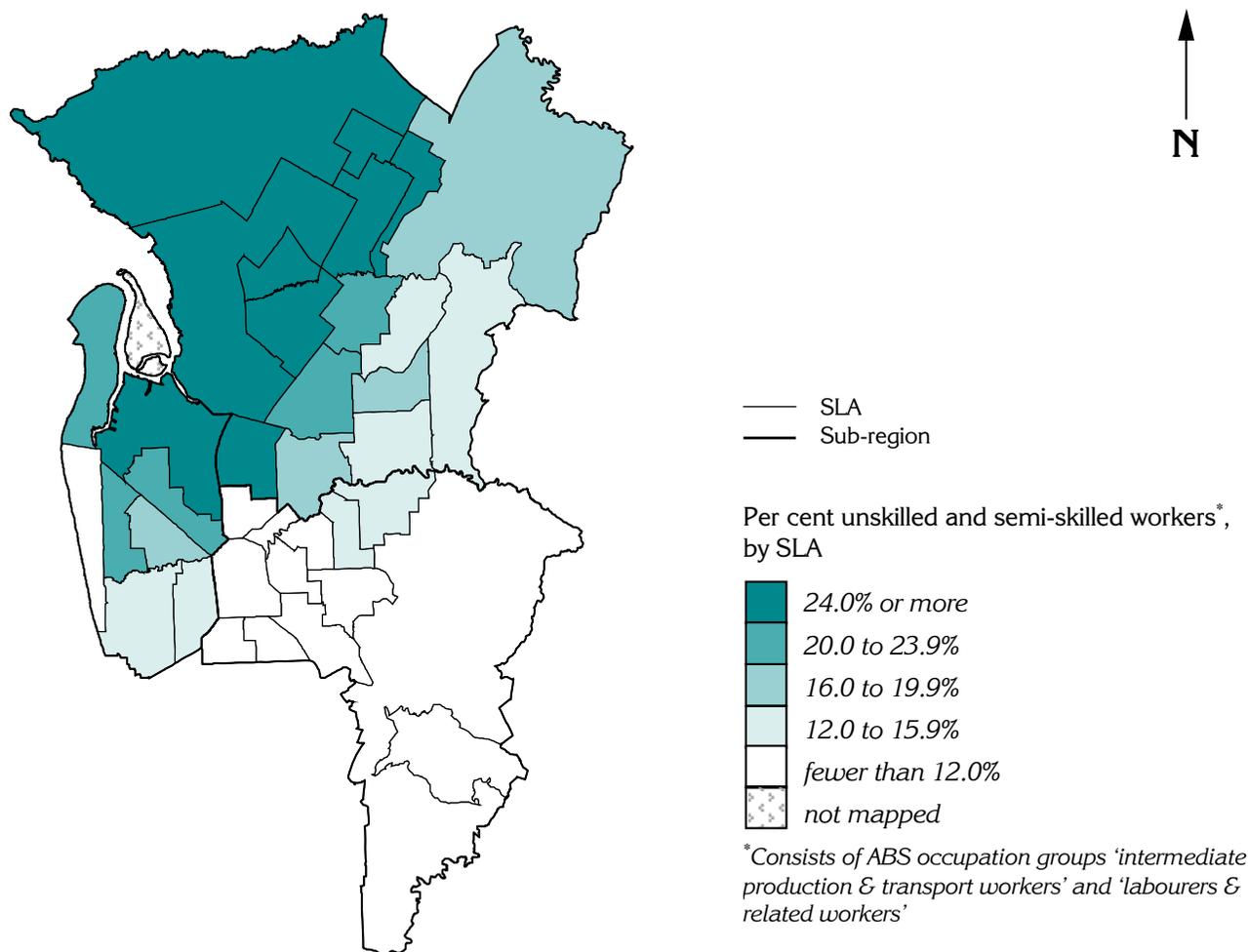


Table 13: Unskilled and semi-skilled workers, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	5,196	7.6
Quintile 2	8,634	12.6
Quintile 3	12,373	17.3
Quintile 4	12,172	21.6
Quintile 5: most disadvantaged areas	17,256	30.9
Rate ratio	..	4.06**
Northern	30,862	22.9
Western	15,636	18.8
Central East	9,133	8.9
CNAHS	55,631	17.4
Southern	22,498	15.8
Metropolitan regions	78,129	16.9
State total	120,402	18.9

* indicates statistical significance: see page 19

Labour force: Female labour force participation

Females 20 to 54 years in the labour force as a proportion of all females aged 20 to 54 years: data from the 2001 Census

Overview

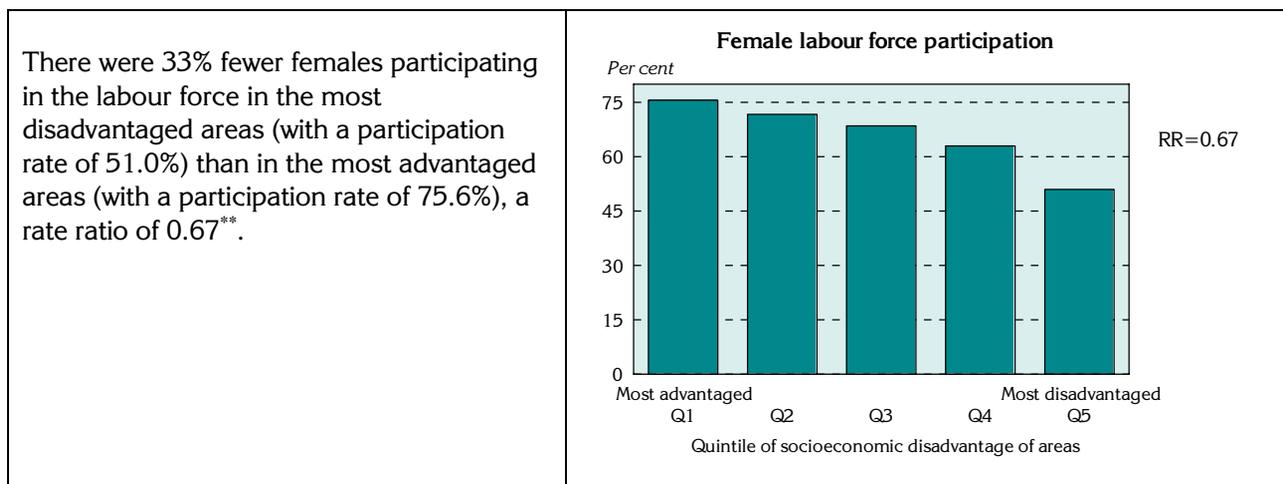
The marked increase in women’s participation in paid work (at a time of decline in male participation) has been one of the most significant trends in Australian society over the last three decades. Women are both remaining in the work force longer (partly by delaying childbirth), and re-entering the workforce after childbirth, because of changes in social perceptions of the role of women and increased economic pressures on families.

Approximately two thirds (65.8%, 123,130) of females aged 20 to 54 years in the Central Northern region were participating in the labour force (Table 14). The SLAs with the highest female labour force participation rates form a solid block to the east, south and south-east of the city, and stand in marked contrast to the lowest rates (Map 13). Local variations in female labour force participation have complex causes, and their implications for social health and for the provision of services such as child care are not straightforward. For example, high participation rates are not necessarily an indication of the need for child-care facilities; participation may be high partly because good services already exist, at least for better-off families. Low participation rates may indicate the existence of a welfare-dependent population, especially single mothers, for whom participation in low-paid employment has not been financially worthwhile.

The highest participation rates in this region were in Adelaide Hills - Ranges (77.3%), Unley - East (77.1%), Norwood Payneham St Peter’s - West (76.8%), Adelaide Hills - Central (76.3%), Burnside - North-East and Unley - West (both 75.9%), Burnside - South-West (75.5%) and Prospect (75.0%).

The largest number were located in Tea Tree Gully - South (5,597), Charles Sturt - Coastal (5,445), Tea Tree Gully - North (5,364), Salisbury - South-East (5,335), Tea Tree Gully - Central (5,019), Campbelltown - East (4,748) and Port Adelaide Enfield - Coast (4,658).

The lowest female labour force participation rate was in Playford - West Central (36.4%, 1,086), followed by - Elizabeth (39.2%, 2,149), Port Adelaide Enfield - Port (48.7%, 2,889), Salisbury - Inner North (53.2%, 3,409) and - Central (54.0%, 3,650), Port Adelaide Enfield - Inner (55.2%, 2,458), Salisbury Balance (55.7%, 792) and Playford - West (58.5%, 1,142).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 13: Female labour force participation, CNAHS, 2001

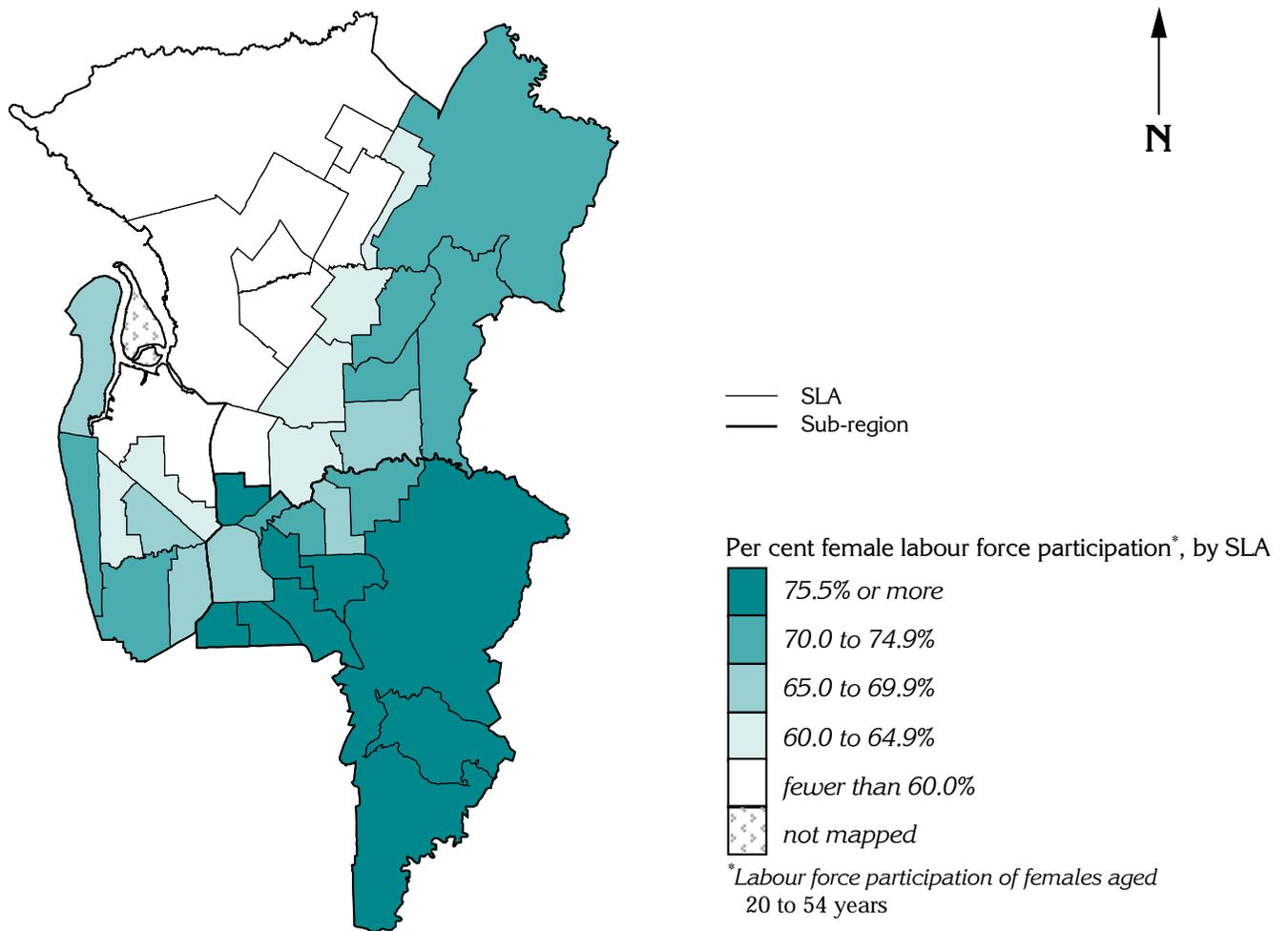


Table 14: Female labour force participation, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	27,036	75.6
Quintile 2	26,702	71.7
Quintile 3	27,784	68.5
Quintile 4	21,281	63.0
Quintile 5: most disadvantaged areas	20,327	51.0
Rate ratio	..	0.67**
Northern	49,805	60.8
Western	32,510	65.0
Central East	40,815	73.9
CNAHS	123,130	65.8
Southern	54,541	68.6
Metropolitan regions	177,671	66.6
State total	238,979	66.3

* indicates statistical significance: see page 19

Education: Educational participation at age 16

Participation of 16 year olds in full-time secondary education: data from the 2001 Census

Overview

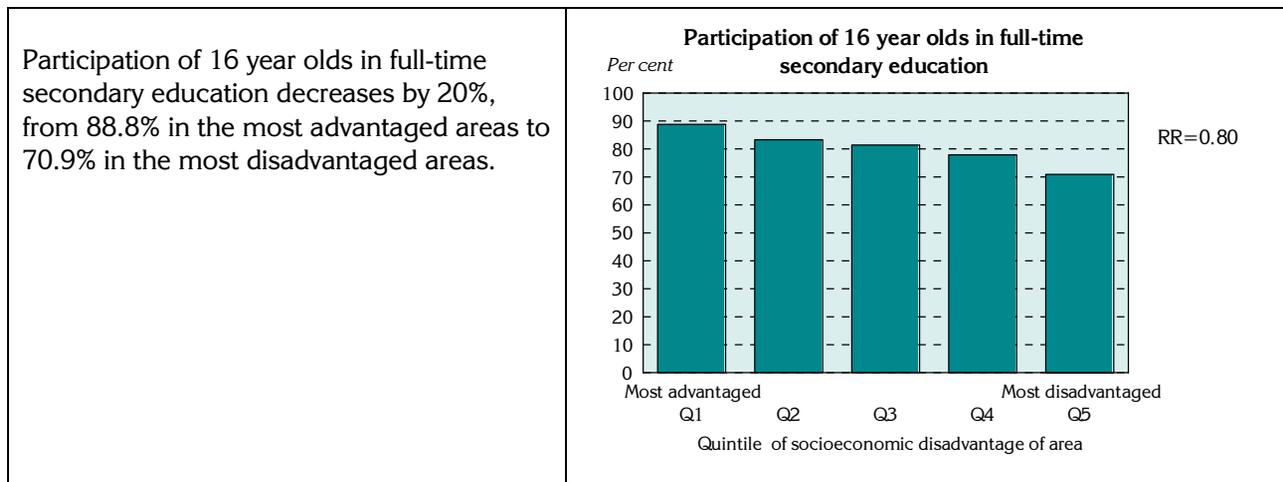
Education increases opportunities for choice of occupation and for income and job security, and also equips people with the skills and ability to control many aspects of their lives – key factors that influence wellbeing throughout the life course. Young people completing Year 12 (and who would be still at school at age 16) are more likely to make a successful initial transition to further education, training and work than early leavers⁶¹. Participation in schooling is also a major protective factor across a range of risk factors, including substance misuse and homelessness.

In 2001, 7,875 16 year olds were engaged in full-time secondary school education, 80.1% of 16 year olds (Table 15). Variations within the region in educational participation provide a striking illustration of the links between education, occupation and income, with the highest rates of full-time participation in secondary school education at age 16 strongly concentrated in the higher socioeconomic eastern, southern and south-eastern SLAs (Map 14).

The highest participation rates recorded in the region were in Unley - West (91.9%), Burnside - South-West (91.1%) and North-East (90.8%) and Adelaide Hills - Ranges (90.2%). There were also high proportions in Unley - East (89.8%), Walkerville (88.0%), Adelaide Hills - Central (87.9%), Norwood Payneham and St Peters - West (86.9%) and Campbelltown - East (86.2%).

In contrast, the lowest participation rates were in Playford - Elizabeth (60.6%), Playford - West Central (62.1%), Adelaide (65.5%), Salisbury - Inner North (71.6%), Salisbury - Central (72.6%), Port Adelaide Enfield - Port (73.6%), Port Adelaide Enfield - East (73.7%), Playford - West (74.2%) and Playford - East Central (74.7%).

The largest numbers of 16 year olds in full-time secondary school education were in Tea Tree Gully - South (402 students) and - North (392), Salisbury - South-East (340), Tea Tree Gully - Central (338), Salisbury - Inner North (315), Charles Sturt - Coastal (306) and Campbelltown - East (305).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 14: Participation of 16 year olds in full-time secondary education, CNAHS, 2001

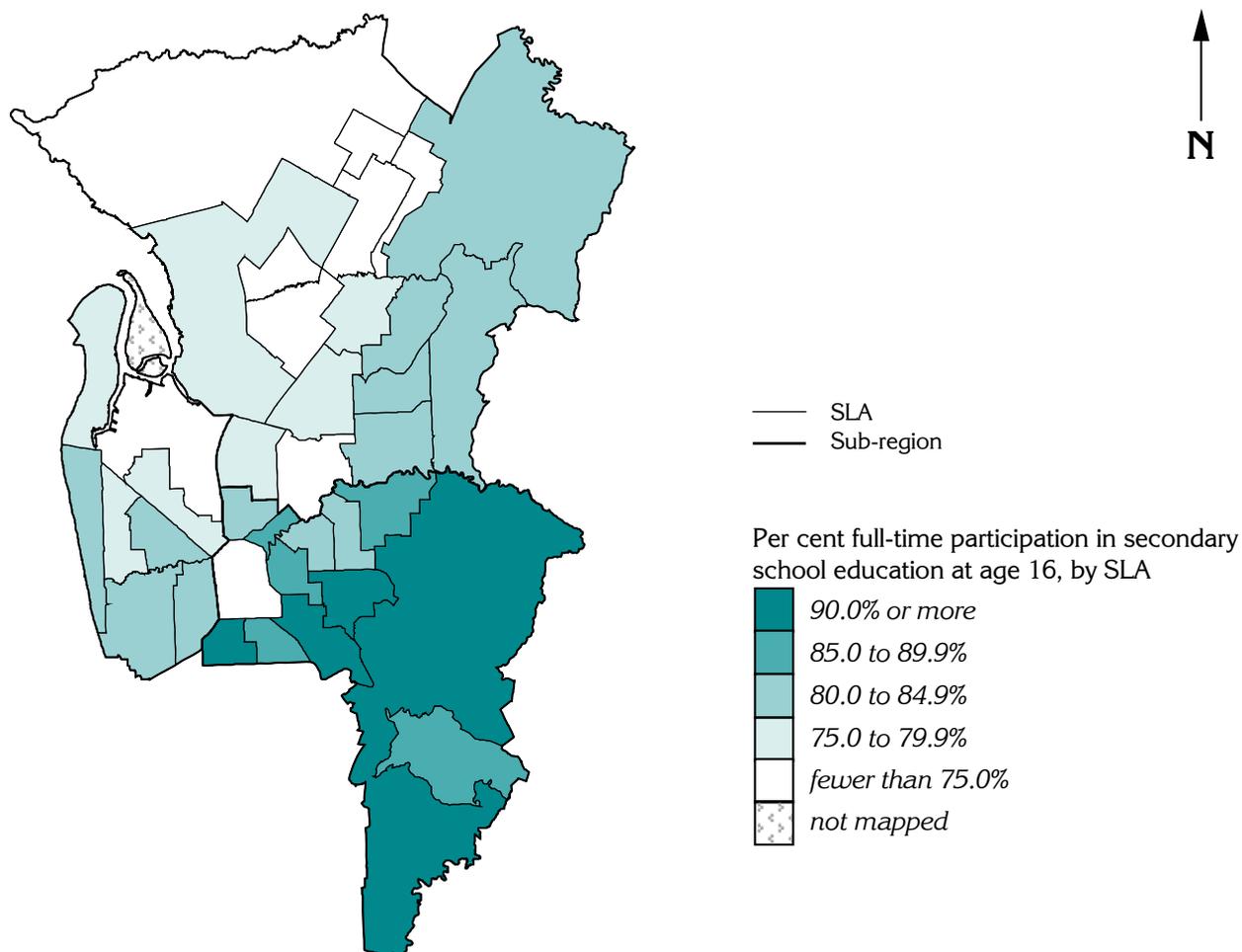


Table 15: Participation of 16 year olds in full-time secondary education, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	1,737	88.8
Quintile 2	1,559	83.3
Quintile 3	1,589	81.4
Quintile 4	1,313	77.9
Quintile 5: most disadvantaged areas	1,677	70.9
Rate ratio	..	0.80**
Northern	3,666	76.0
Western	1,856	80.2
Central East	2,353	87.2
CNAHS	7,875	80.1
Southern	3,818	82.4
Metropolitan regions	11,693	80.8
State total	16,341	80.1

* indicates statistical significance: see page 19

Access to technology: Use of the Internet at home

People who reported in the 2001 Census using the Internet at home in a one-week period

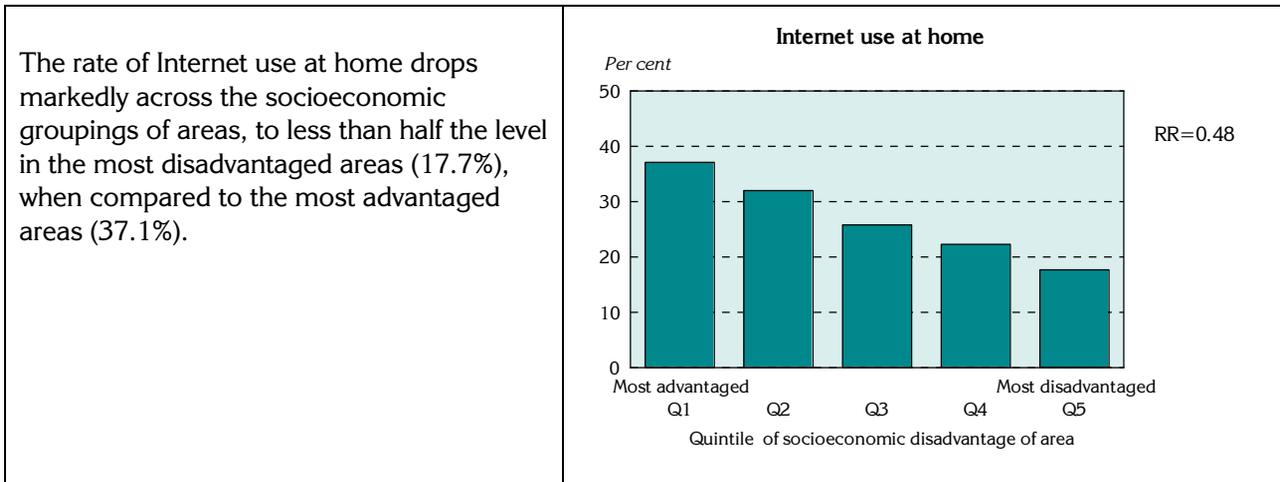
Key points

Home Internet access is increasingly becoming a valued part of life in Australia. However, access to this technology is not distributed equitably: this can lead to important disadvantages for young people at school, or adults wishing to undertake educational or personal development courses, or to use the Internet for commercial or recreational purposes

One quarter of residents in Central Northern use the Internet at home (26.7%, 197,362 people) (Table 16). There was considerable variation at the SLA level in the proportion of people using the Internet at home. The highest use was in the city, and to the south, east and south- and north-east, with the lowest use in the north-west and outer north. This pattern demonstrates a greater use of the Internet at home among more advantaged population groups compared to disadvantaged groups (Map 15).

SLAs with the highest proportions of the population using the Internet in the region were Adelaide Hills - Ranges (40.0%, 3,979 people), Burnside - North-East (39.6%, 8,166), Burnside - South-West (39.4%, 8,005), Adelaide Hills - Central (39.3%, 4,961), Tea Tree Gully - North (36.2%, 9,284), Norwood, Payneham and St Peters - West (36.0%, 6,177), Playford - Hills, 35.8%, 1,011), Walkerville (35.6%, 2,412), Unley - West (35.3%, 5,757), Unley - East (35.3%, 6,656) and Adelaide (35.2%, 4,582).

The lowest rates of home Internet use in the metropolitan regions were also in the Central Northern region, in the SLAs of Port Adelaide Enfield - Port (14.3%, 3,541 people), Playford - Elizabeth (14.7%, 3,683), Playford - West Central (15.2%, 1,901), Salisbury - Central (19.0%, 5,119), Salisbury - Inner North (20.0%, 4,810), Charles Sturt - Inner West (20.8%, 4,988) Playford - West (21.0%, 1,698), Charles Sturt - North-East (21.0%, 5,251), Salisbury Balance (21.2%, 1,169) and Charles Sturt - Inner East (21.3%, 4,454).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 15: Use of the Internet at home, 2001

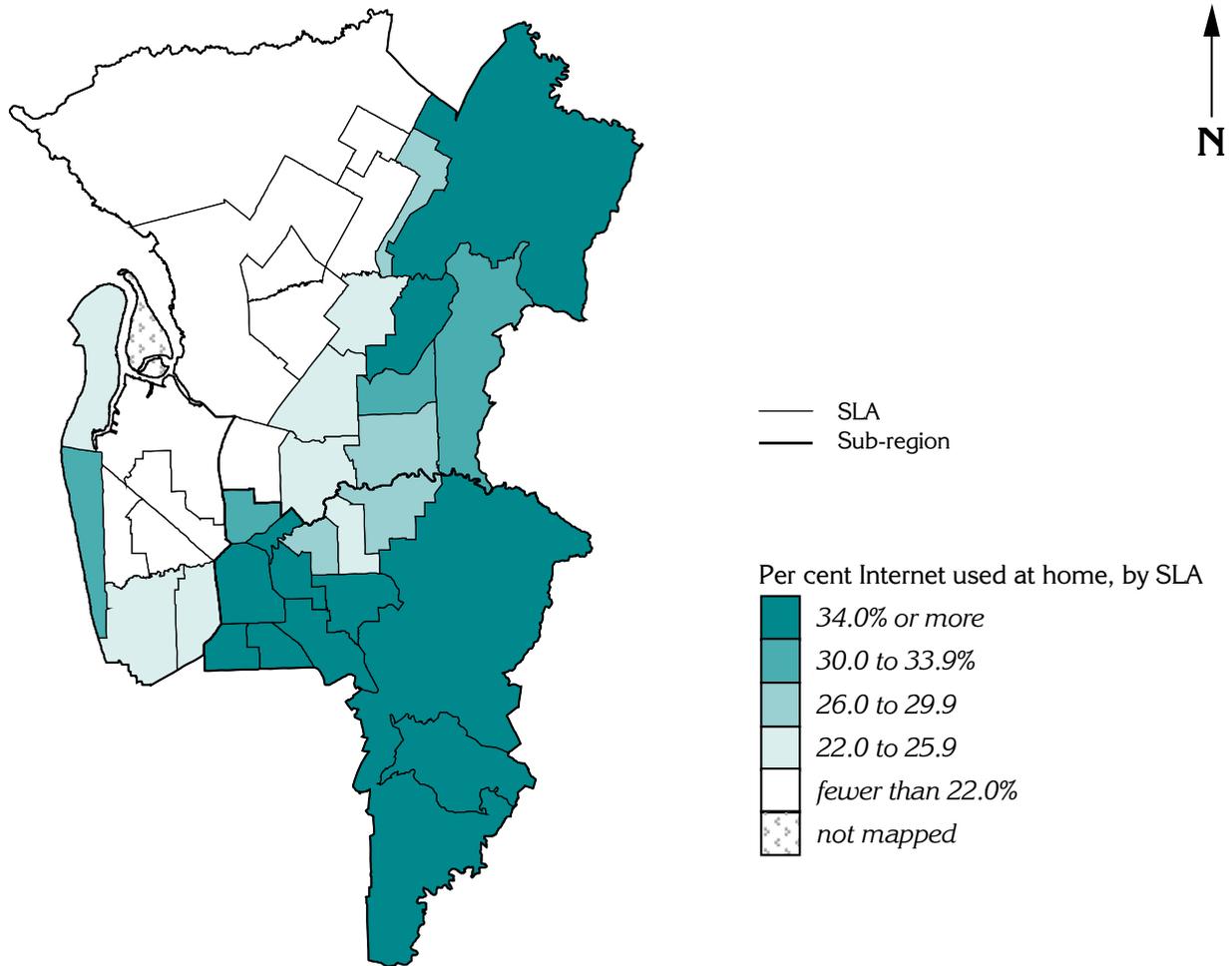


Table 16: Use of the Internet at home, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	51,137	37.1
Quintile 2	45,026	32.0
Quintile 3	42,110	25.8
Quintile 4	30,133	22.3
Quintile 5: most disadvantaged areas	28,956	17.7
Rate ratio	..	0.48**
Northern	77,778	24.2
Western	46,609	22.9
Central East	72,975	34.0
CNAHS	197,362	26.7
Southern	95,263	30.1
Metropolitan regions	292,625	27.7
State total	375,349	25.6

* indicates statistical significance: see page 19

Aboriginal and Torres Strait Islander people

People who identified in the 2001 Census as being of Aboriginal and/or Torres Strait Islander descent

Overview

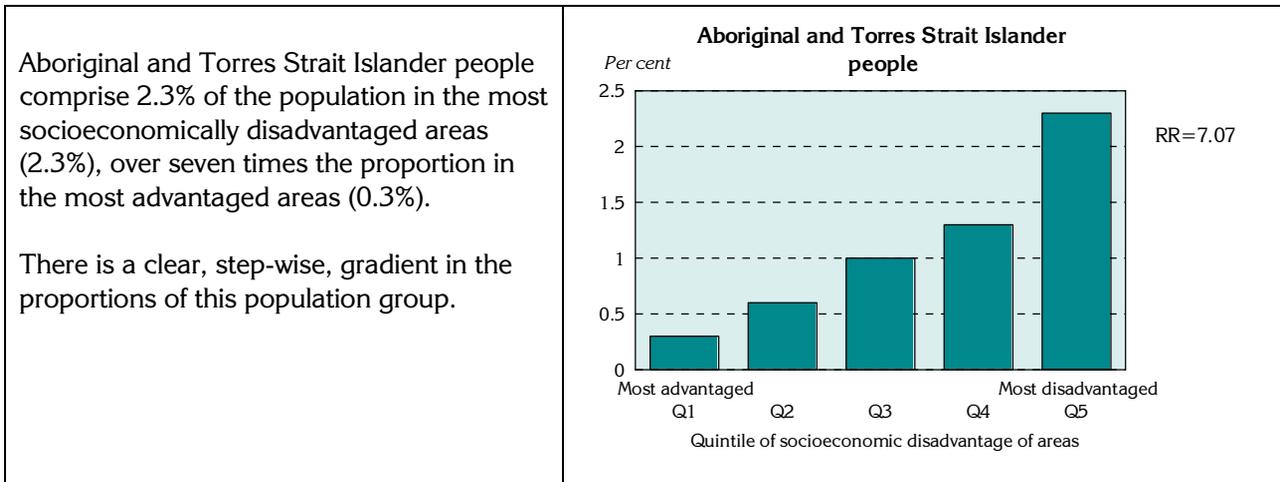
Over one-third of the Aboriginal and Torres Strait Islander peoples living in South Australia reside in the Central Northern region (36.5%). The proportion of the total population identifying as Aboriginal and/or Torres Strait Islander in the 2001 Census represented 1.0% of the Metropolitan Adelaide population, and a higher 3.1% of those in country South Australia. There is a high annual percentage increase in this population group which largely reflects the increasing preparedness of people to identify themselves as Indigenous on the Census form. This change was most notable in Metropolitan Adelaide, with smaller (although still notable) changes being seen in country South Australia.

In the Central Northern region 1.1% of the population identified as being of Aboriginal and/or Torres Strait Islander descent (8,439 people) (Table 17). The highest concentrations of Aboriginal people and Torres Strait Islanders were in the north-west and inner and outer northern SLAs, with very low proportions in eastern and south-eastern SLAs (Map 16).

The largest proportions of Indigenous usual residents were located in the SLAs of Playford - West Central (3.9%, 483 Indigenous people) and - Elizabeth (3.0%, 740), Port Adelaide Enfield - Port (2.5%, 624), - Inner (2.3%, 447), - Coast (1.9%, 539) and - East (1.9%, 505), Salisbury - Inner North (2.0%, 480), - Central (1.8%, 493) and - South-East (1.6%, 528) and Charles Sturt - North-East (1.9%, 481).

There were also relatively large numbers of Indigenous people in West Torrens - East (272, 1.2%), Tea Tree Gully - South (271, 0.8%), Charles Sturt - Inner East (252, 1.2%), Salisbury - North-East (232, 1.1%), Playford - East Central (216, 1.2%) and Charles Sturt - Inner West (216, 0.9%).

Small proportions of Indigenous peoples were mapped in the SLAs of Playford - Hills (0.2%, 6 people), Burnside - North-East (0.2%, 47) and - South-West (0.2%, 50), Unley - West (0.3%, 43), Walkerville (0.3%, 18), Campbelltown - East (0.3%, 77) and Norwood Payneham and St Peters - East (0.3%, 53).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 16: Aboriginal and Torres Strait Islander people, CNAHS, 2001

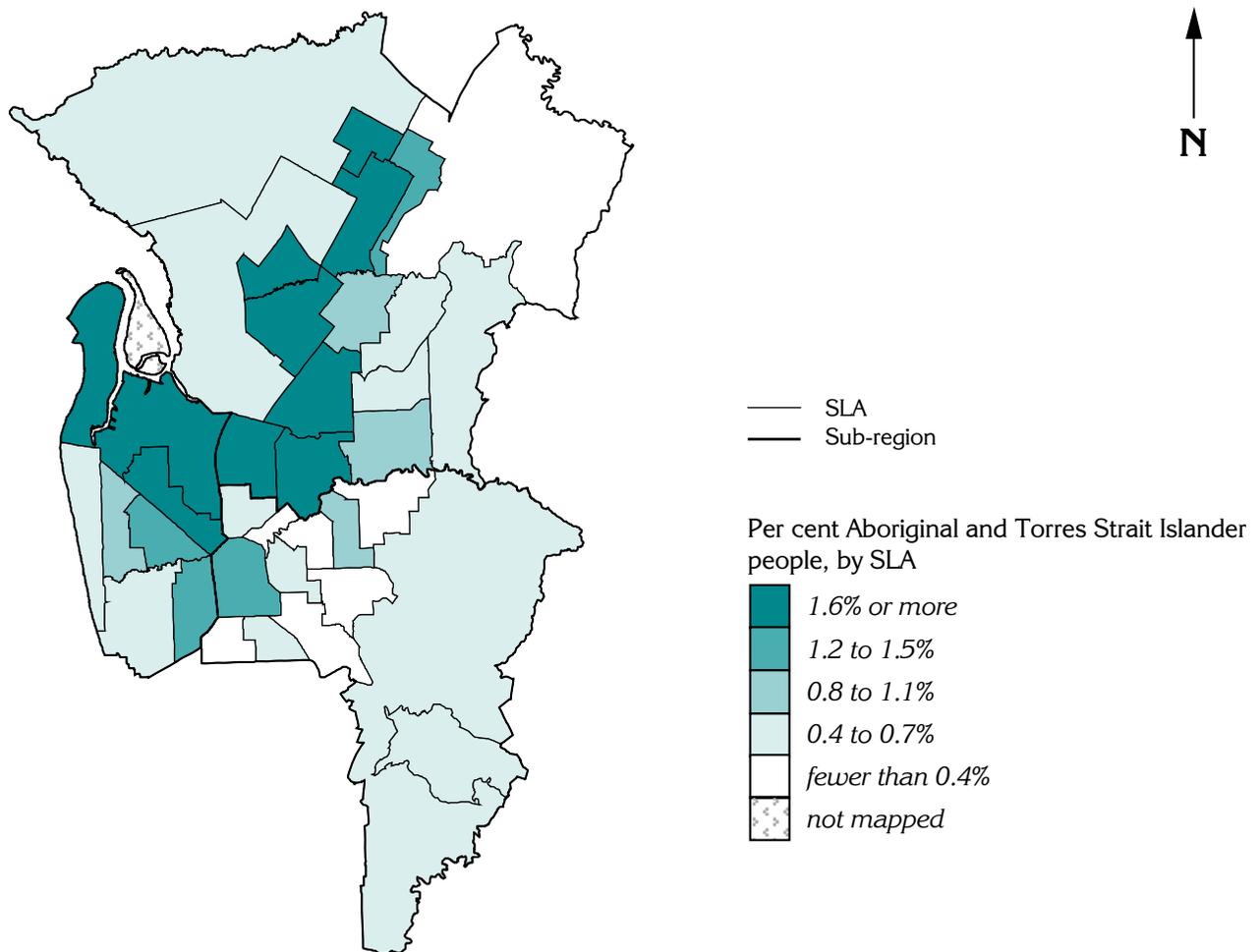


Table 17: Aboriginal and Torres Strait Islander people, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	450	0.3
Quintile 2	780	0.6
Quintile 3	1,646	1.0
Quintile 4	1,793	1.3
Quintile 5: most disadvantaged areas	3,770	2.3
Rate ratio	..	7.07**
Northern	4,832	1.5
Western	2,692	1.3
Central East	915	0.4
CNAHS	8,439	1.1
Southern	2,202	0.7
Metropolitan regions	10,641	1.0
State total	23,114	1.6

* indicates statistical significance: see page 19

People born in predominantly non-English speaking countries: Number resident in Australia for five years or more

People born in a predominantly non-English speaking country who have been resident in Australia for five years or more, as a proportion of the total population: data from the 2001 Census

Overview

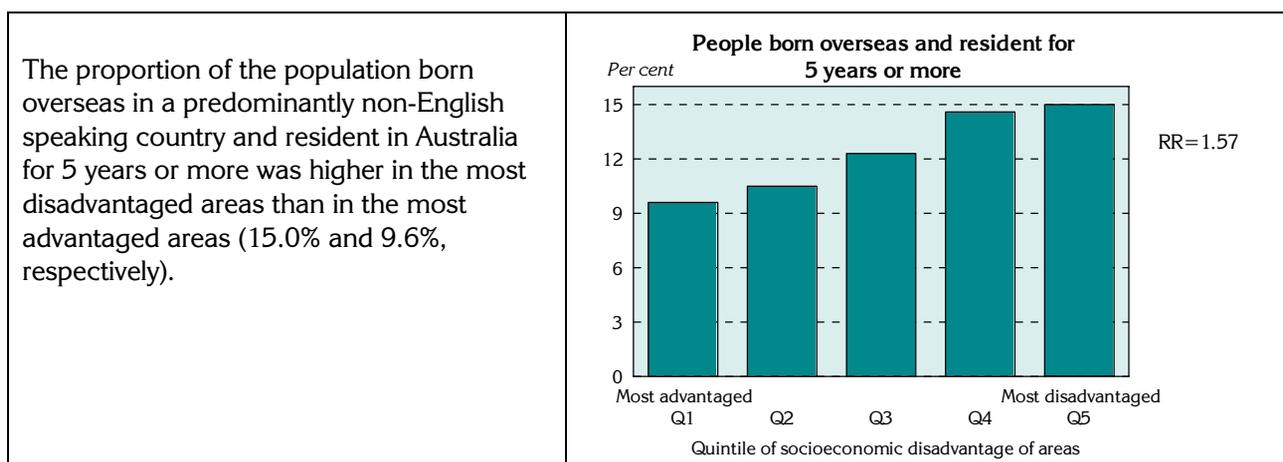
Migrants in this category arrived in Australia from predominantly non-English speaking countries in or before 1996. Data are mapped for people born overseas in 'predominantly non-English speaking countries' include all but the following overseas countries, which are loosely designated as 'English-speaking': Canada, Hong Kong, Ireland, New Zealand, South Africa, United Kingdom and the United States of America. In the post-war period (in particular from the 1950s) the majority of immigrants from non-English speaking countries came from Europe; in recent years the proportion of these immigrants from Europe has declined. The most rapidly growing non-English speaking groups are now from Asia, including from countries such as China, India and Cambodia, and from Africa.

Central Northern region had a large number of people born in non-English speaking countries and resident in Australia for five years or more, with 92,232 people, comprising 12.5% of the region's population (Table 18). As a substantial proportion of this population group will have been resident in Australia for many years, their distribution is often widespread; the ageing of the more established groups such as the Italian and Greek born, as well as the smaller numbers from Germany, the Netherlands, former Yugoslavia, Poland and the former USSR, pose special challenges for deliverers of health and welfare services. At the 2001 Census, the highest proportions of long-term residents born in non-English speaking countries were living in a group of SLAs adjacent to the west, north and north-west and north-east of the city (Map 17).

Port Adelaide Enfield - Port had almost one quarter of its residents in this category (25.0%), with other high proportions in Charles Sturt - North-East (21.0%), Charles Sturt - Inner West (20.9%), Campbelltown - West (20.5%), Campbelltown - East (19.6%), Charles Sturt - Inner East (17.9%), Salisbury Balance (17.4%), Norwood Payneham St Peters - East (17.2%), West Torrens - East (16.5%), Port Adelaide Enfield - Inner (15.8%) and Salisbury - Central (15.7%).

There were large numbers of people in this population group in Salisbury - South-East (4,269 people, 13.0%), West Torrens - West (3,577, 13.0%), Port Adelaide Enfield - East (3,533, 13.0%), Tea Tree Gully - South (3,525, 10.9%), Marion - Central (3,121, 9.7%) and Burnside - North-East (3,075, 14.9%).

The lowest proportions in the region were in the SLAs of Playford - East Central (4.7%), Playford - West Central (5.0%), Tea Tree Gully - Hills (5.2%), and Adelaide Hills - Central (5.6%).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 17: People born in predominantly non-English speaking countries & resident in Australia for 5 years or more, CNAHS, 2001

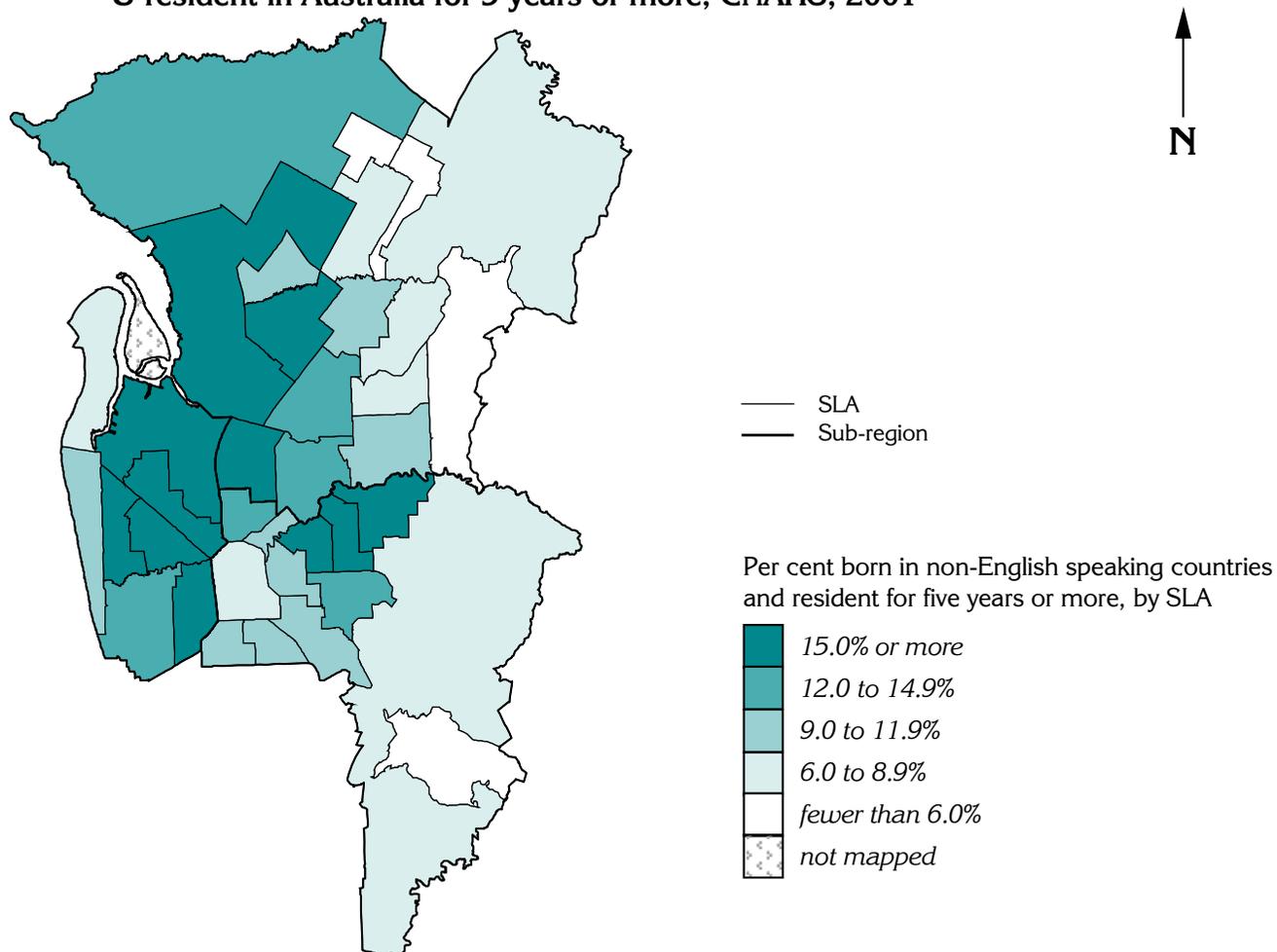


Table 18: People born in predominantly non-English speaking countries & resident in Australia for 5 years or more, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	13,185	9.6
Quintile 2	14,815	10.5
Quintile 3	20,126	12.3
Quintile 4	19,637	14.6
Quintile 5: most disadvantaged areas	24,463	15.0
Rate ratio	..	1.57**
Northern	32,557	10.1
Western	32,236	15.9
Central East	27,433	12.8
CNAHS	92,226	12.5
Southern	22,441	7.1
Metropolitan regions	114,673	10.9
State total	129,220	8.8

* indicates statistical significance: see page 19

People born in predominately non-English speaking countries: Number resident in Australia for less than five years

People born in a predominantly non-English speaking country who have been resident in Australia for less than five years, as a proportion of the total population: data from the 2001 Census

Overview

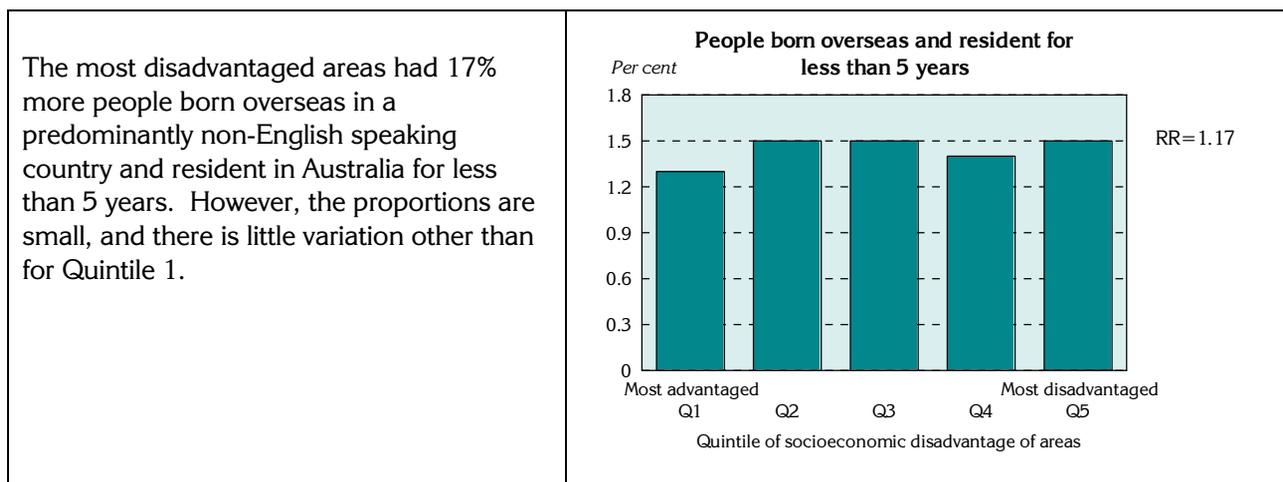
Predominantly non-English speaking countries include all but the following overseas countries, which are loosely designated as ‘English-speaking’: Canada, Hong Kong, Ireland, New Zealand, South Africa, United Kingdom and the United States of America. People born in predominantly non-English speaking countries and who have been in Australia for less than five years (also referred to as short-term residents) can face a number of difficulties. For many, the combination of economic struggle with adjustment to a new language and a new cultural milieu can be expected to give rise to considerable stresses. Although a relatively small group, they also pose special challenges for deliverers of health and welfare services.

Three quarters of South Australia’s population who are from a non-English speaking country, and resident for less than five years, live in the Central Northern region (74.5%). There are 10,535 people in this population group, 1.4% of the total population in the region (Table 19). The highest proportions of people in this population group lived in and around the city in the middle suburbs, in particular to the west, north-west and north, as well as in some eastern and south-eastern SLAs. The lowest proportions were recorded further away from the city to the north and in the Adelaide Hills (Map 18).

The City of Adelaide had the highest proportion of recently arrived migrants from predominantly non-English speaking countries, with 6.4% (828 people); other high proportions were found in the SLAs of West Torrens - East (3.8%, 866), Port Adelaide Enfield - Port (2.6%, 657), Charles Sturt - North-East (2.5%, 630), Port Adelaide Enfield - Inner (2.5%, 483), Charles Sturt - Inner East (2.3%, 473), West Torrens - West (2.0%, 549), Charles Sturt - Inner West (2.0%, 474), Campbelltown - West (1.9%, 362), Unley - East (1.9%, 359), Norwood Payneham and St Peters - West (1.9%, 319), Unley - West (1.8%, 287) and Salisbury Balance (1.8%, 98).

The largest numbers of people in this population group were located in Port Adelaide Enfield - East (416 people, 1.5%), Campbelltown - East (352, 1.3%), Salisbury - South-East (349, 1.1%) and - Central (341, 1.3%), Burnside - North-East (317, 1.5%), Charles Sturt - Coastal (317, 1.0%) and Prospect (307, 1.6%).

The SLAs with the lowest proportions of people in this category were Playford - East Central (0.2%, 28 people), followed by Playford - West (0.2%, 18), Playford - Elizabeth (0.3%, 66), Adelaide Hills - Central (0.3%, 40), Adelaide Hills - Ranges (0.3%, 32), Port Adelaide Enfield - Coast (0.3%, 90).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 18: People born in predominantly non-English speaking countries & resident in Australia for less than 5 years, CNAHS, 2001

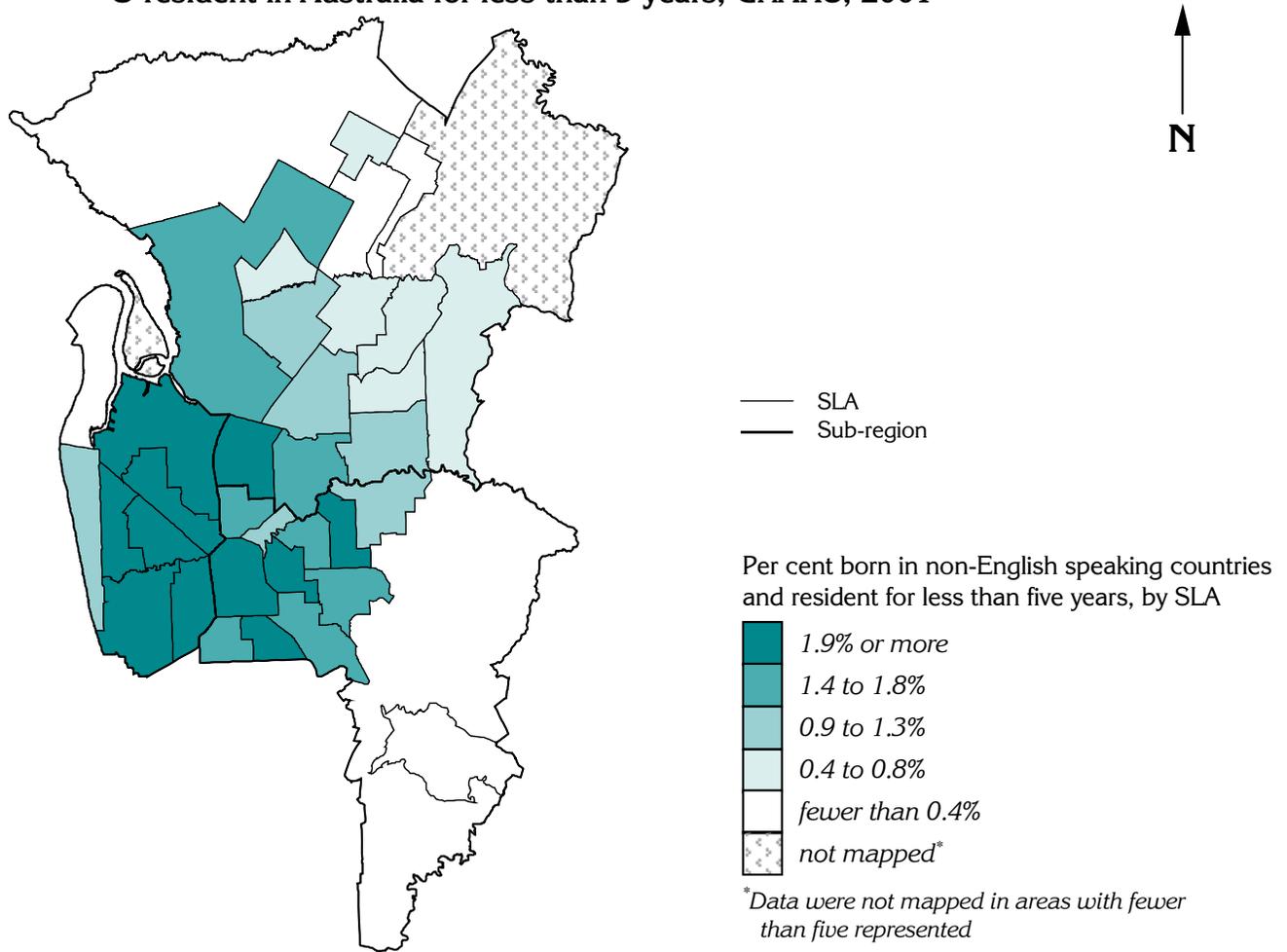


Table 19: People born in predominantly non-English speaking countries & resident in Australia for less than 5 years, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	1,771	1.3
Quintile 2	2,041	1.5
Quintile 3	2,432	1.5
Quintile 4	1,826	1.4
Quintile 5: most disadvantaged areas	2,465	1.5
Rate ratio	..	1.17**
Northern	2,661	0.8
Western	4,056	2.0
Central East	3,818	1.8
CNAHS	10,535	1.4
Southern	2,731	0.9
Metropolitan regions	13,266	1.3
State total	14,146	1.0

* indicates statistical significance: see page 19

People born in predominately non-English speaking countries: Poor proficiency in English

People aged five years and over who were born in a predominantly non-English speaking country and reported at the 2001 Census that they spoke English 'not well', or 'not at all', as a proportion of the population aged five years and over

Overview

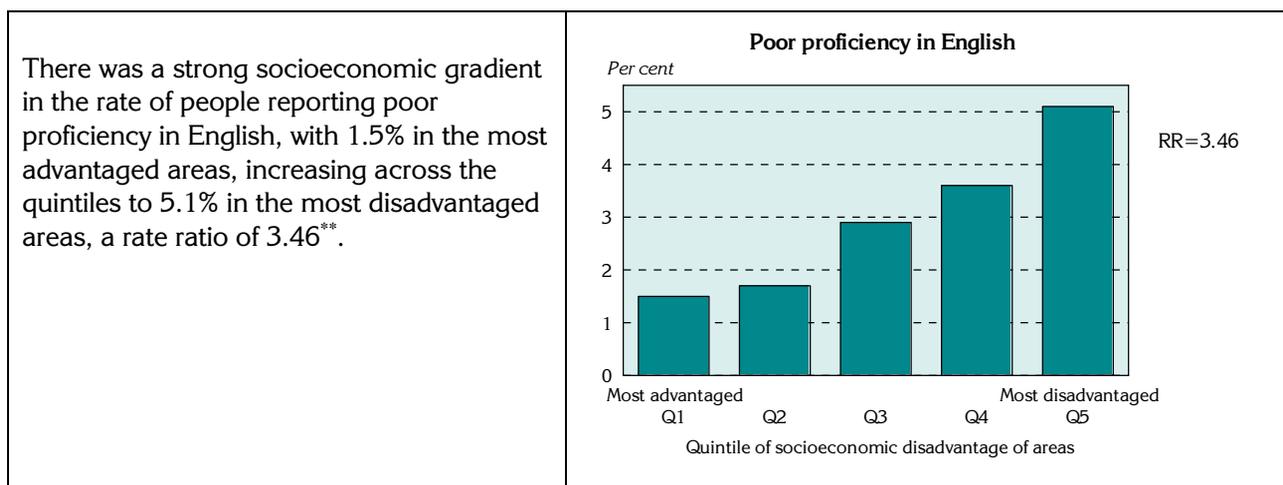
For migrants from non-English speaking countries, the rate at which they adapt to live in the host country is directly related to the rate at which they achieve proficiency in English. Their level of proficiency in English has profound implications for the ease with which they are able to access labour markets, develop social networks, become aware of and utilise services, and participate in many aspects of Australian society. From a health service viewpoint, the location of this population group is most relevant in the provision of health services for women and older people, as many migrants from European countries who arrived in Australia in the 1950s and 1960s have not developed English language skills (especially females), or have returned to using the language of their birthplace as they have aged (both females and males).

In 2001, there were 20,989 people living in the region with poor proficiency in English (3.0% of the total population) (Table 20). People with poor proficiency in English were mainly located in two groups of SLAs, the larger extending from west of the city to the north-west and to the outer north: the other is covers a number inner and middle SLAs to the north-east (Map 19).

The highest proportions of people reporting a poor proficiency in English were in Port Adelaide Enfield - Port (10.6%, 2,461 people), Charles Sturt - North-East (8.1%, 1,895), Salisbury Balance (6.8%, 342), West Torrens - East (6.0%, 1,302), Charles Sturt - Inner West (5.7%, 1,284), Charles Sturt - Inner East (5.3%, 1,055), Campbelltown - West (5.1%, 897), Salisbury - Central (5.0%, 1,259), Port Adelaide Enfield - Inner (4.9%, 883), Playford - West (4.6%, 350), Norwood Payneham St Peters - East (4.6%, 674), Campbelltown - East (3.8%, 957), West Torrens - West (3.2%, 828) and Norwood, Payneham and St Peters - West (3.0%, 495).

There were a further 849 people in Salisbury - South-East (2.8%), 828 in West Torrens - West (3.2%), 639 in Port Adelaide Enfield - East (2.5%) and 626 in Salisbury - Inner North (2.9%).

The SLAs with the lowest proportions of people with poor proficiency in English were Playford - East Central (0.3%), Tea Tree Gully - Hills (0.2%), and Adelaide Hills - Central (0.1%).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 19: People born in predominantly non-English speaking countries who reported poor proficiency in English, CNAHS, 2001

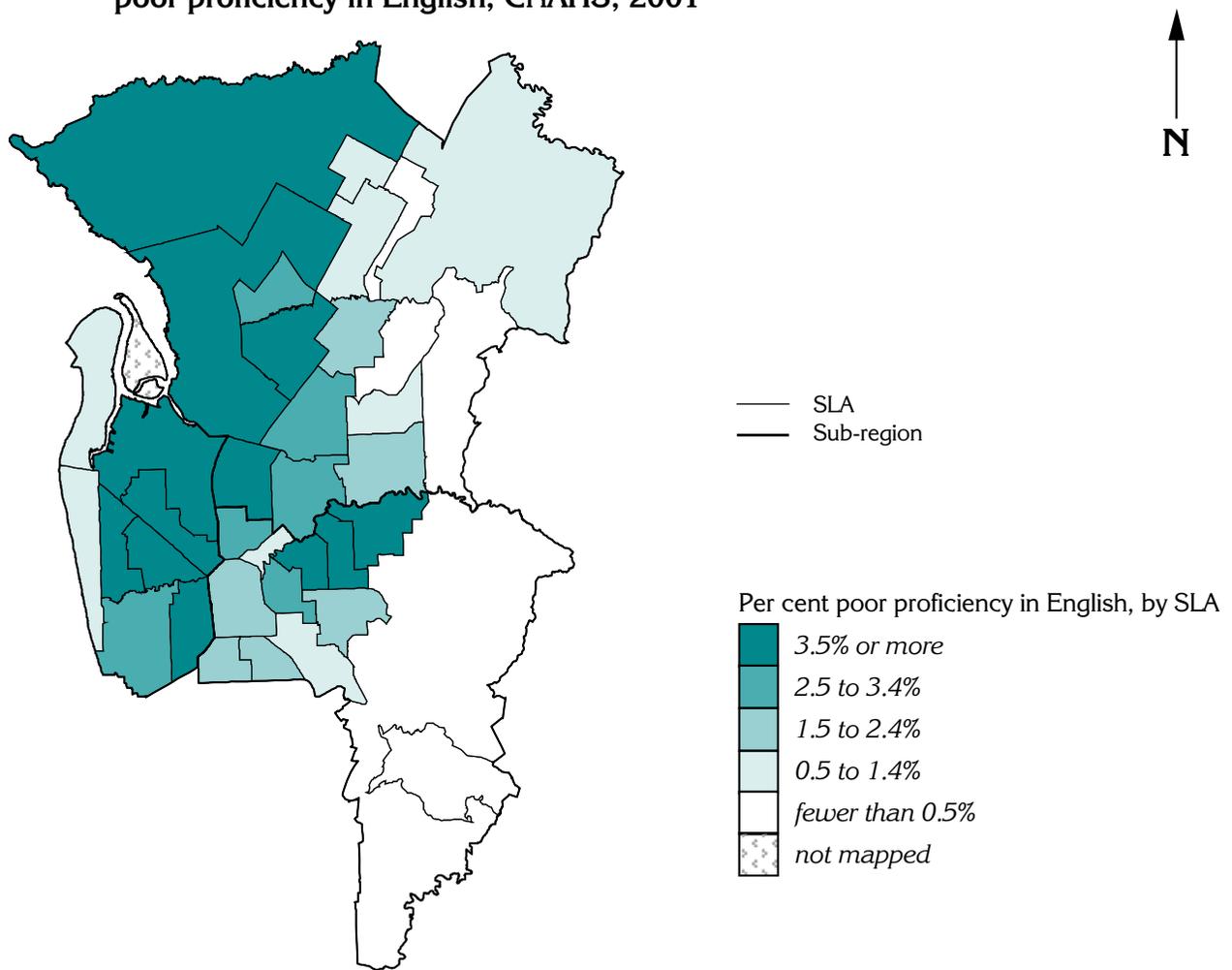


Table 20: People born in predominantly non-English speaking countries who reported poor proficiency in English, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	1,948	1.5
Quintile 2	2,270	1.7
Quintile 3	4,471	2.9
Quintile 4	4,522	3.6
Quintile 5: most disadvantaged areas	7,778	5.1
Rate ratio	..	3.46**
Northern	6,436	2.2
Western	9,380	4.9
Central East	5,173	2.5
CNAHS	20,989	3.0
Southern	2,456	0.8
Metropolitan regions	23,445	2.4
State total	24,883	1.8

* indicates statistical significance: see page 19

Housing: Dwellings rented from the SA Housing Trust

Dwellings rented from the SA Housing Trust as a proportion of all dwellings: data from the 2001 Census

Overview

The distribution of public rental housing is an indicator of the distribution of single parents, those unemployed, aged or with a disability, and Aboriginal and Torres Strait Islander people, as these groups are given waiting list priority for public housing, which has become increasingly scarce since the 1970s.

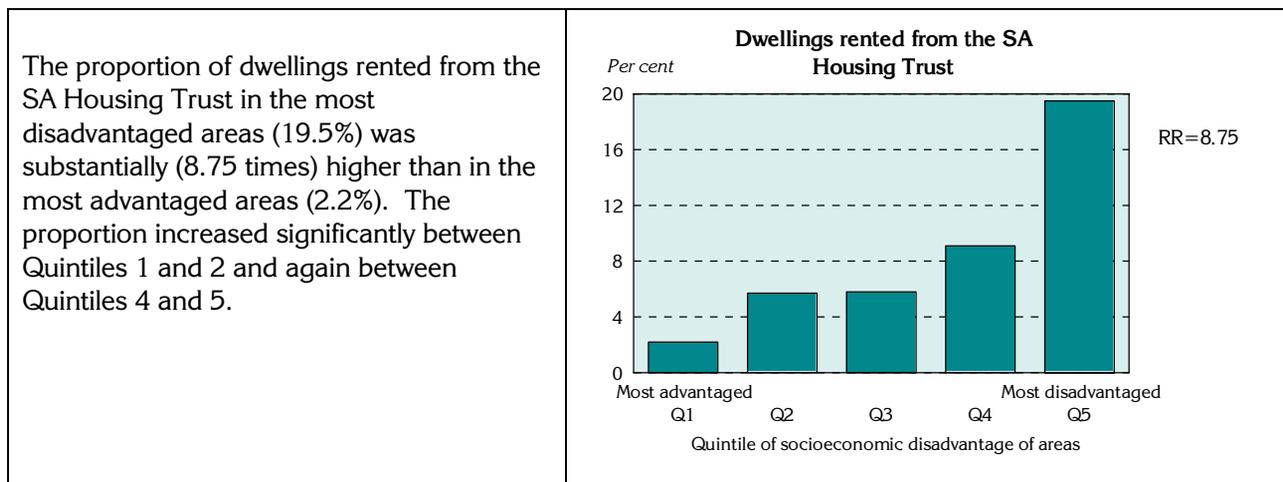
A higher proportion of the housing stock is South Australian Housing Trust (SAHT) housing – 8.7 per cent compared with 7.7 per cent in the State as a whole and 8 per cent in Adelaide. The region contains some of the major concentrations of SAHT housing in the Adelaide Metropolitan Area. The reduced availability of state housing is reflected in the fact that the number of SAHT dwellings in the region declined from 31,745 in 1991 to 25,848 in 2001⁶².

In 2001, 8.7% of housing in Central Northern was rented from the South Australian Housing Trust (25,848) (Table 21). The concentration of these dwellings in the north-west, inner north and outer northern SLAs reflects historical planning decisions and forms one of the most distinctive features of the region's social geography (Map 20).

The highest proportions of Housing Trust rental dwellings were in the SLAs of Playford - West Central (28.2%, 1,295 dwellings), Playford - Elizabeth (27.1%, 2,795), Port Adelaide Enfield - Port (26.7%, 2,835), Port Adelaide Enfield - Inner (20.4%, 1,737), Charles Sturt - North-East (14.8%, 1,551), Salisbury - Central (13.8%, 1,352), Salisbury - Inner North (12.4%, 1,038) and Port Adelaide Enfield East (11.6%, 1,323).

Large numbers were recorded in the SLAs of Port Adelaide Enfield - Coast (1,113, 9.7%), Charles Sturt - Inner West (1,065, 10.9%), Charles Sturt - Coastal (1,002, 7.8%), Salisbury - South-East (959, 7.6%), Tea Tree Gully - North (933, 10.4%).

The SLAs with the lowest proportions of Housing Trust rental dwellings were the Adelaide Hills - Central (0.1%, 6 dwellings), Tea Tree Gully - Hills (0.2%, 7), Burnside - North-East (0.6%, 47) and Burnside - South-West (1.5%, 125).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 20: Dwellings rented from the SA Housing Trust, CNAHS, 2001

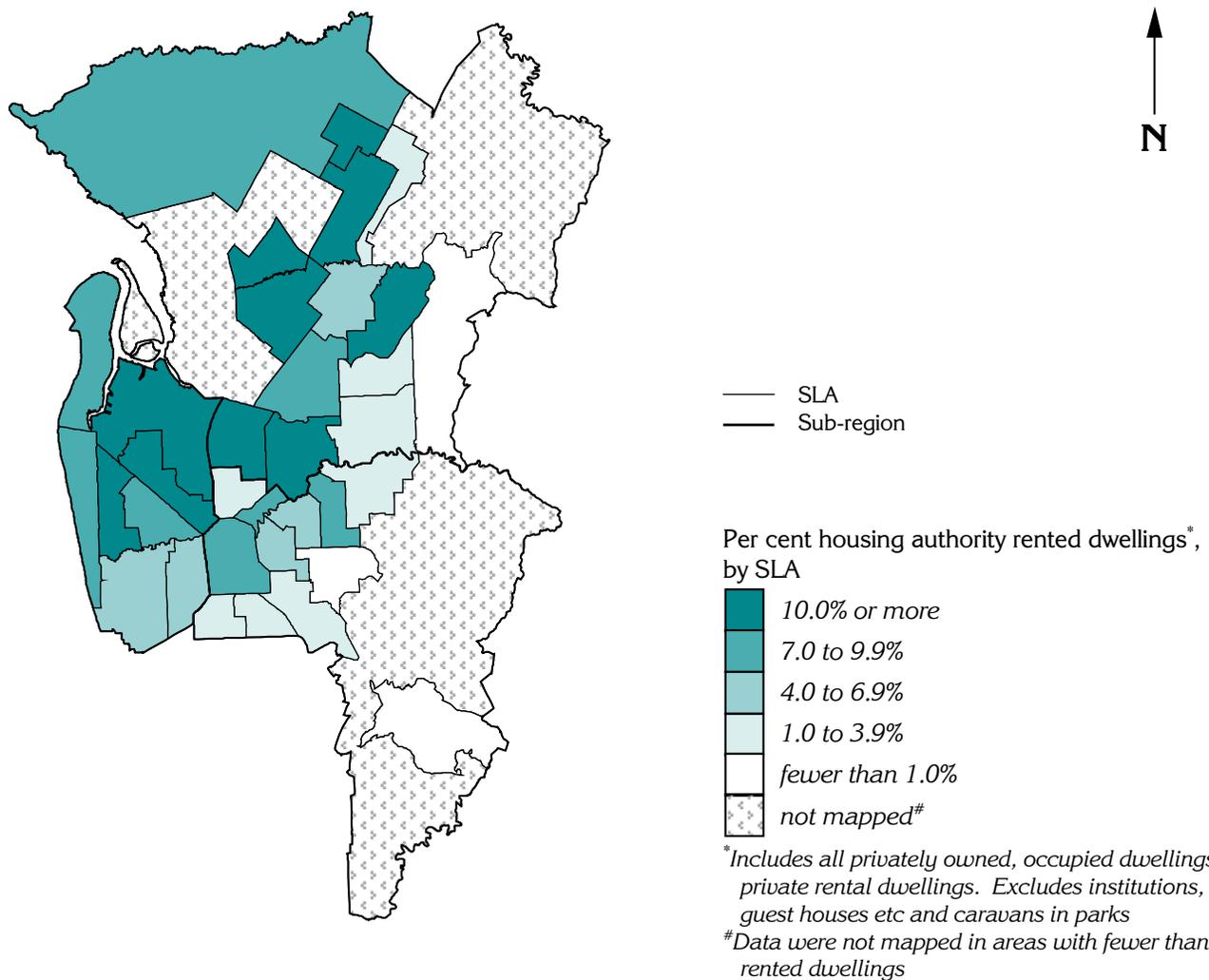


Table 21: Dwellings rented from the SA Housing Trust, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	1,250	2.2
Quintile 2	3,144	5.7
Quintile 3	3,973	5.8
Quintile 4	4,874	9.1
Quintile 5: most disadvantaged areas	12,607	19.5
Rate ratio	..	8.75**
Northern	12,891	10.7
Western	9,762	11.2
Central East	3,195	3.5
CNAHS	25,848	8.7
Southern	7,995	6.4
Metropolitan regions	33,843	8.0
State total	44,686	7.7

* indicates statistical significance: see page 19

Housing: Rent assistance

Households receiving rent assistance from Centrelink in 1999 to 2002, as a proportion of all households

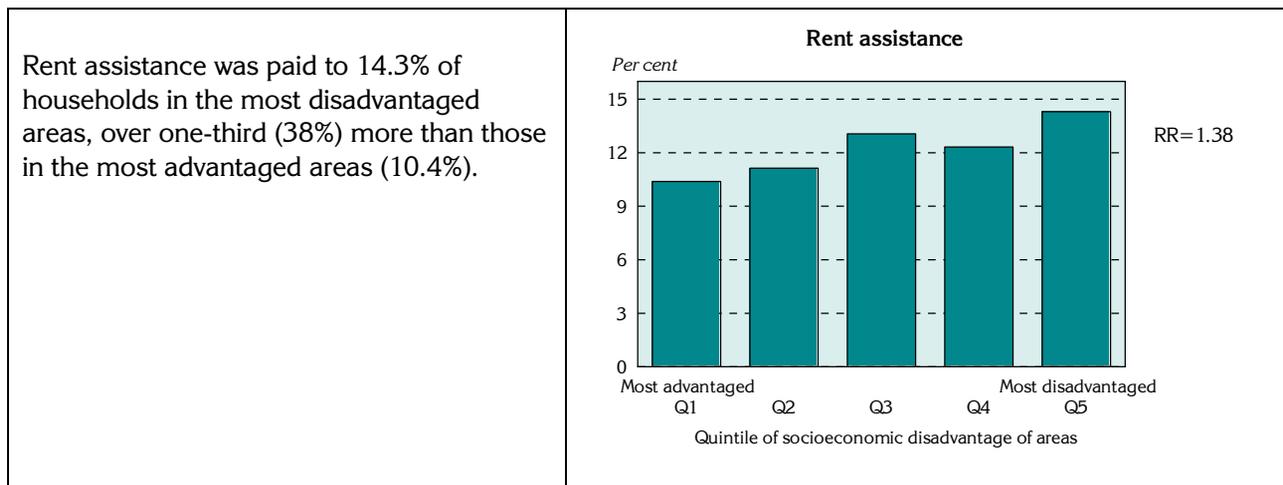
Overview

Affordable, secure and safe housing is fundamental to one’s health and wellbeing, employment, education and other life opportunities. The Australian Council of Social Service (ACOSS) estimated that more than one in three households could not afford to buy a house in Sydney, Melbourne or Adelaide; the poorest 40 per cent of households could not afford housing in those cities; and over 200,000 people were recorded on waiting lists for public housing across Australia⁶². The data mapped are of people receiving rent assistance from the federal Department of Family and Community Services, through Centrelink. They are referred to in the text as ‘renters’, and are shown as a proportion of households.

There were 35,763 households receiving rent assistance in the Central Northern region (12.3% of households) (Table 22). The highest proportions of renters were located in and around the city centre and in the outer north; low proportions were mapped in SLAs to the east and south- and north-east (Map 21). This generally reflects the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

More than 15% of households in the City of Adelaide were receiving rent assistance (22.8% and 1,267 renters), with other high proportions in West Torrens - East (17.3%, 1,770), Port Adelaide Enfield - East (16.3%, 1,824 renters, the largest number at the SLA level), Salisbury - Inner North (15.3%, 1,306) and Charles Sturt - North-East (15.1%, 1,500), Playford - West Central (15.1%, 681) and Playford - Elizabeth (15.1%, 1,600).

At the other end of the scale, the lowest proportions of households receiving rent assistance were in Tea Tree Gully - North (5.4%, 485), Adelaide Hills - Central (6.2%, 273) and Tea Tree Gully - Hills (6.4%, 280).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 21: Rent assistance, CNAHS, 1999 to 2002

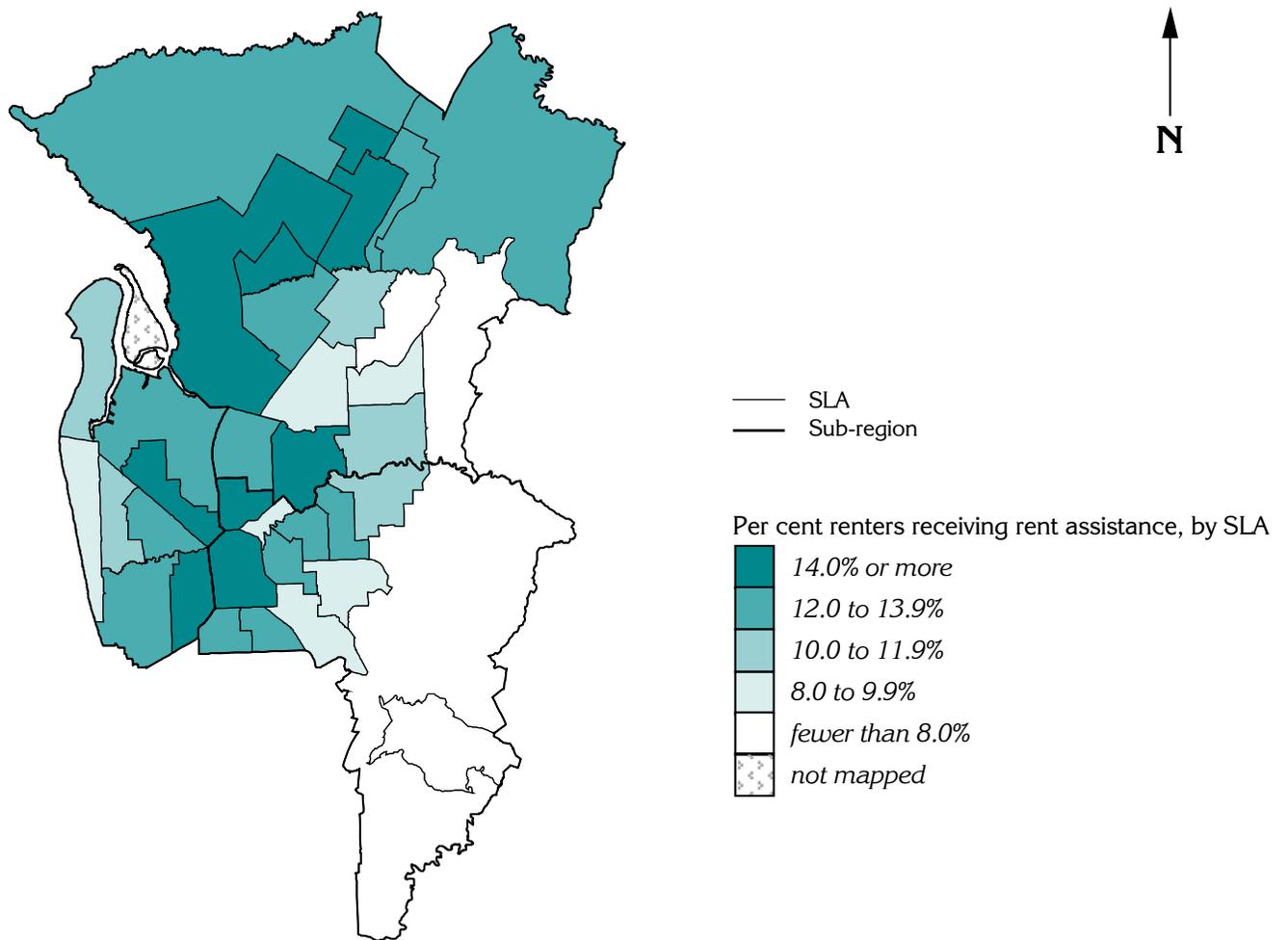


Table 22: Rent assistance, CNAHS, 1999 to 2002

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	5,662	10.4
Quintile 2	6,008	11.1
Quintile 3	8,628	13.1
Quintile 4	6,467	12.3
Quintile 5: most disadvantaged areas	8,997	14.3
Rate ratio	..	1.38**
Northern	14,008	11.8
Western	11,117	13.1
Central East	10,639	12.2
CNAHS	35,763	12.3
Southern	13,600	11.1
Metropolitan regions	49,362	12.0
State total	64,563	11.4

* indicates statistical significance: see page 19

Transport: Dwellings without a motor vehicle

Dwellings with no motor vehicle garaged or parked on Census night 2001, as a proportion of all dwellings

Overview

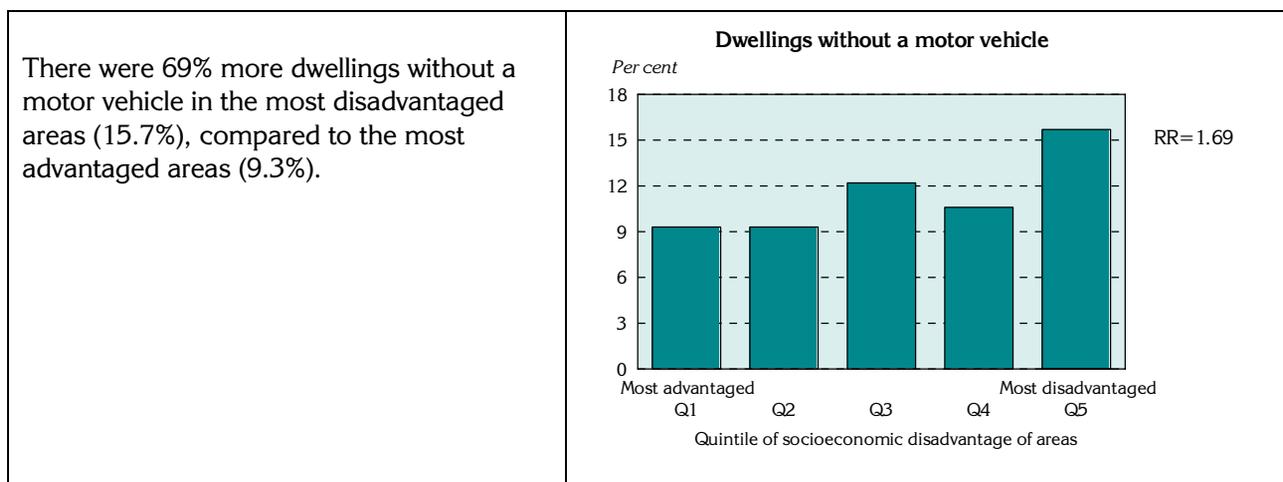
People living in households without cars face many disadvantages in gaining access to jobs, services and recreation, especially if they are in low-density outer suburbia, or in other areas poorly served by public transport. It is also important whether they can afford to maintain a vehicle in reliable condition to meet their transport needs.

Overall, 11.6% of dwellings in Central Northern did not have a motor vehicle parked or garaged on Census night (34,460 dwellings) (Table 23). Variations in car-ownership levels within the region are influenced by socioeconomic status, age structure, dwelling type and distance from the city centre. Areas with high proportions of dwellings without a motor vehicle predominate in the inner SLAs (in particular to the north-west, north and south of the city centre), and in the outer northern suburbs – that is, covering areas with older populations and areas with disadvantaged populations (Map 22). The lowest rates are in the outer eastern SLAs.

The highest proportion of dwellings without a motor vehicle was in the City of Adelaide (22.1%, 1,421 dwellings), where closeness to facilities and the availability of public transport make cars less of a necessity. However, this is not to deny that some of this group may desire a car but are unable to afford it. There were also high proportions in Port Adelaide Enfield - Port (20.7%, 2,205 dwellings), Playford - Elizabeth (19.9%, 2,054), Port Adelaide Enfield - Inner (18.2%, 1,551), West Torrens - East (16.9%, 1,827), Norwood Payneham and St Peters - East (16.7%, 1,183), Charles Sturt - North-East (16.4%, 1,723) and Playford - West Central (16.3%, 750).

The areas with the lowest proportions of these dwellings were Playford - Hills (1.1%), Adelaide Hills - Ranges (1.4%), Tea Tree Gully - Hills (3.3%), Onkaparinga - Hills (3.4%) and Adelaide Hills - Central (4.0%).

There were large numbers of dwellings without a motor vehicle in West Torrens - West (1,540 dwellings, 12.8%), Port Adelaide Enfield - Coast (1,414, 12.4%), Charles Sturt - Coastal (1,248, 9.7%), Charles Sturt - Inner West (1,246, 12.7%) and Salisbury - Central (1,080, 11.0%).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 22: Dwellings without a motor vehicle, CNAHS, 2001

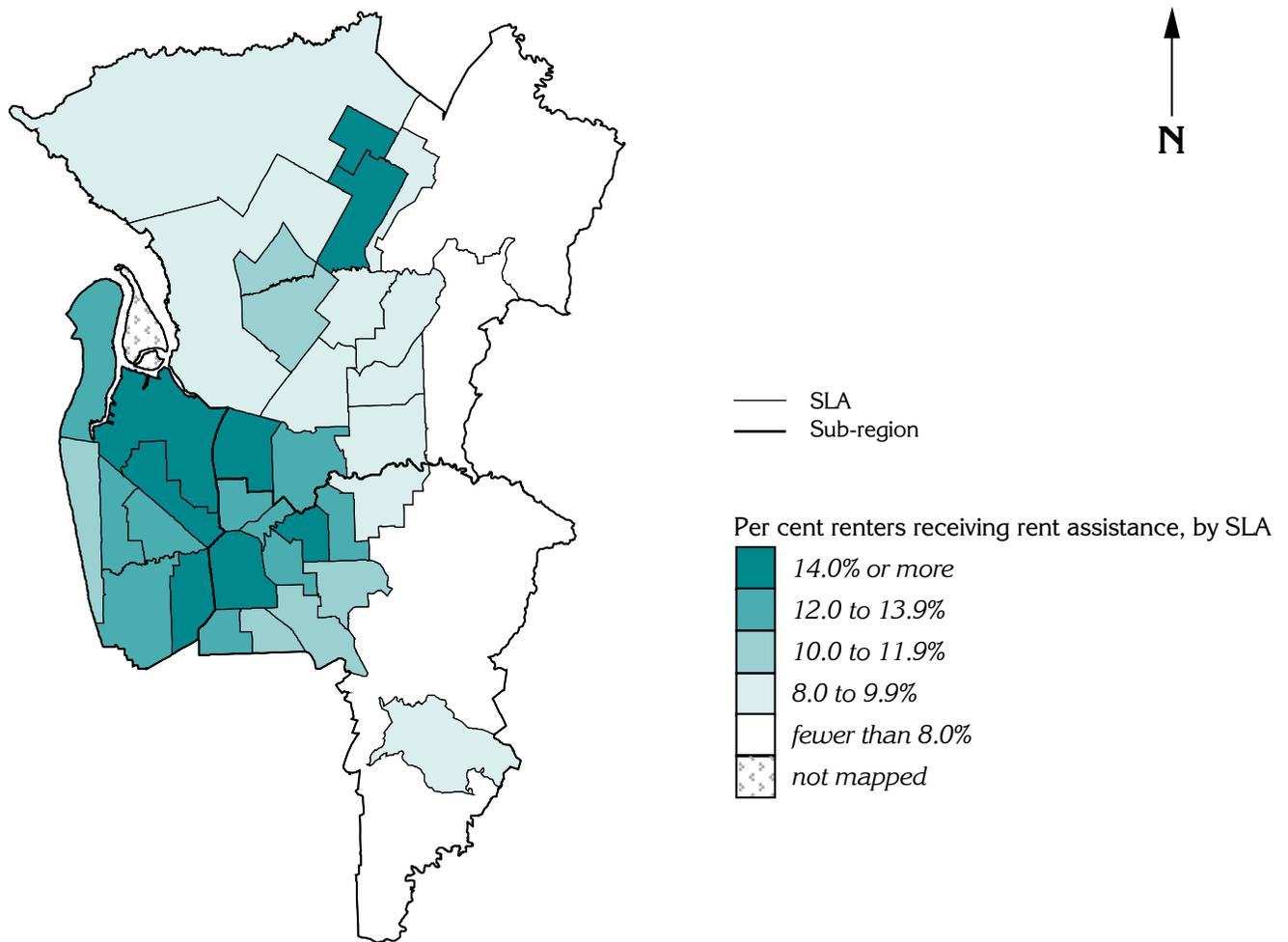


Table 23: Dwellings without a motor vehicle, CNAHS, 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	5,198	9.3
Quintile 2	5,177	9.3
Quintile 3	8,316	12.2
Quintile 4	5,665	10.6
Quintile 5: most disadvantaged areas	10,104	15.7
Rate ratio	..	1.69**
Northern	11,627	9.6
Western	12,410	14.3
Central East	10,423	11.6
CNAHS	34,460	11.6
Southern	11,630	9.3
Metropolitan regions	46,090	10.9
State total	58,044	9.9

* indicates statistical significance: see page 19

Socioeconomic disadvantage: Summary measure

ABS Index of Relative Socio-Economic Disadvantage (IRSD) – index numbers above 1000 indicate relative advantage and those below 1000 indicate relative disadvantage: data from the 2001 Census

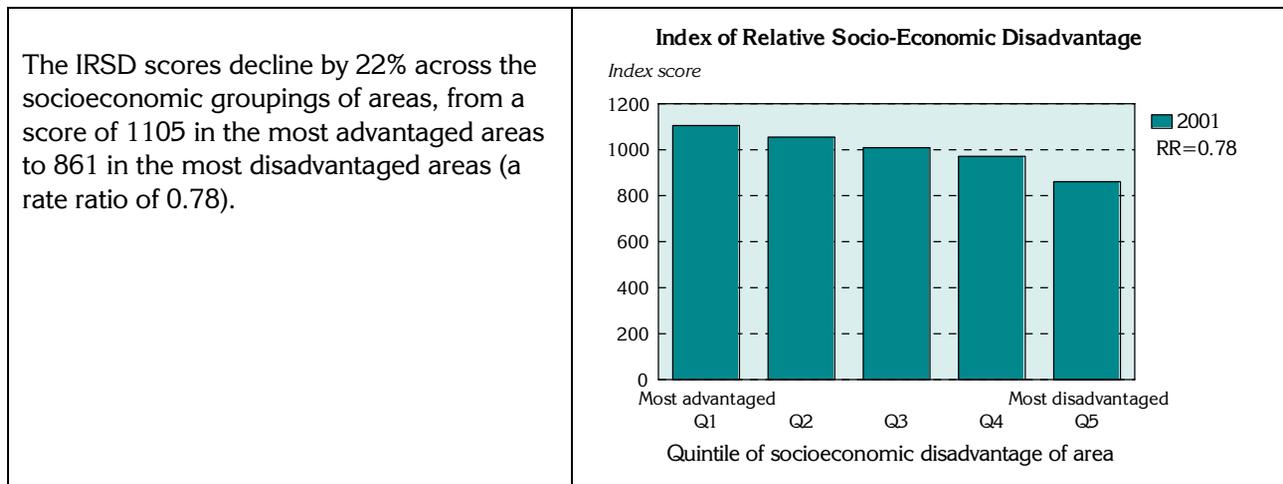
Overview

The Index of Relative Socioeconomic Disadvantage (IRSD) score provides a summary measure of the relative socioeconomic disadvantage of the population of an area in comparison with the average for South Australia as a whole. High index scores indicate least disadvantage and low index scores indicate greatest disadvantage. See page 18 for further details

At the 2001 Census, the Index of Relative Socioeconomic Disadvantage (IRSD) for CNAHS was 996, marginally below the index score for the metropolitan regions of 1006 (Table 24). Despite an overall IRSD that is relatively close to average, there is considerable variation in the region with IRSD scores ranging from 762 to 1122 (Table 24). The areas with the lowest IRSD scores, and the highest levels of disadvantage, are located in a number of SLAs in the north-west, north and outer north of the region (Map 23, page 113).

The most disadvantaged SLAs in the region (and some of the most disadvantaged in the State) are Playford - West Central (with an index score of 762), Port Adelaide Enfield - Port (799) and Playford - Elizabeth (807). Other SLAs with IRSD scores below average included Port Adelaide Enfield - Inner (an index score of 886), Salisbury - Inner North (891), Salisbury - Central (897), Salisbury Balance (920), Charles Sturt - North-East (929) and Playford - West (948).

The areas with the highest IRSD scores (least disadvantaged) are located in the eastern suburbs and included Burnside - South-West (an index score of 1122), Adelaide Hills - Ranges (1120), Adelaide Hills - Central (1118), Burnside - North-East (1117), Walkerville (1114), Unley - East (1102), Unley - West (1091), Playford - Hills (1089), Norwood Payneham and St Peters - West (1083), Tea Tree Gully - Hills (1078), Adelaide (1072) and Prospect (1066).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 23: Index of Relative Socio-Economic Disadvantage, CNAHS, 2001

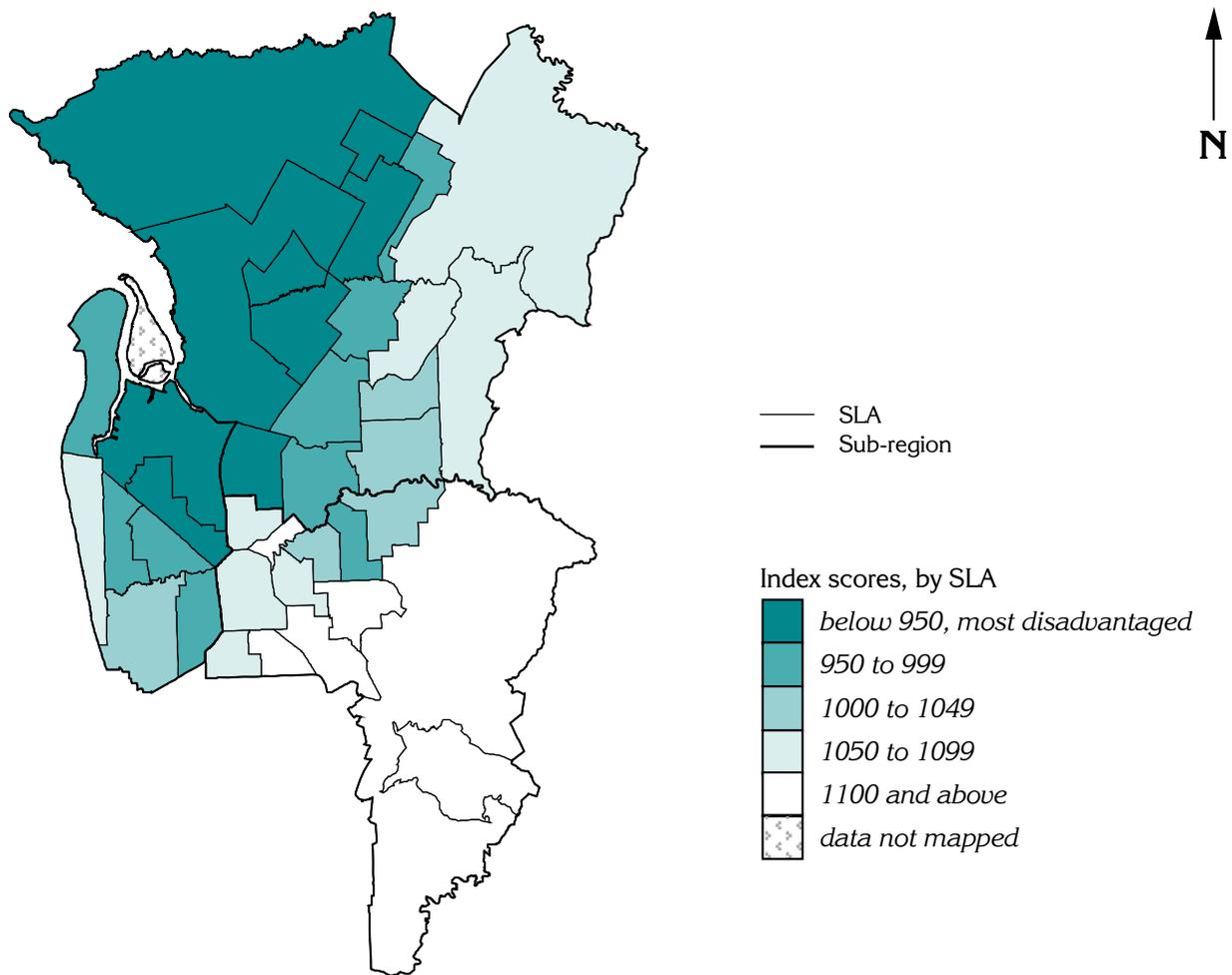


Table 24: Index of Relative Socio-Economic Disadvantage scores, CNAHS, 2001

Area	Population	Index scores	
		Average	Range*
CNAHS			
Quintile 1: most advantaged areas	137,719	1105	1078-1122
Quintile 2	140,547	1055	1046-1072
Quintile 3	163,136	1009	981-1037
Quintile 4	134,922	971	948-980
Quintile 5: most disadvantaged areas	163,166	861	762-929
Ratio	..	0.78	..
Northern	321,428	959	762-1089
Western	203,181	967	799-1051
Central East	214,881	1079	999-1122
CNAHS	739,490	996	762-1122
Southern	316,372	1028	925-1116
Metropolitan regions	1,055,862	1006	762-1122
State total	1,467,244	1000	680-1122

*Range is the range in IRSD scores at the SLA level

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INDICATORS: income support

Topic	Indicator	Page
Pension/benefit type:	Age pensioners	116
	Disability support pensioners	118
	Female sole parent pensioners	120
	People receiving unemployment benefits	122
	Children in welfare-dependent families	124

Note: In this section, some SLAs have proportions of over 100%. The reason for this is not clear, although it may occur in part because the data have been converted from postcode areas to SLAs.

Income support: Age pensioners

Age pensioners as a proportion of the population of males aged 65 years and over and females aged 60 years and over: data at June 2004

Overview

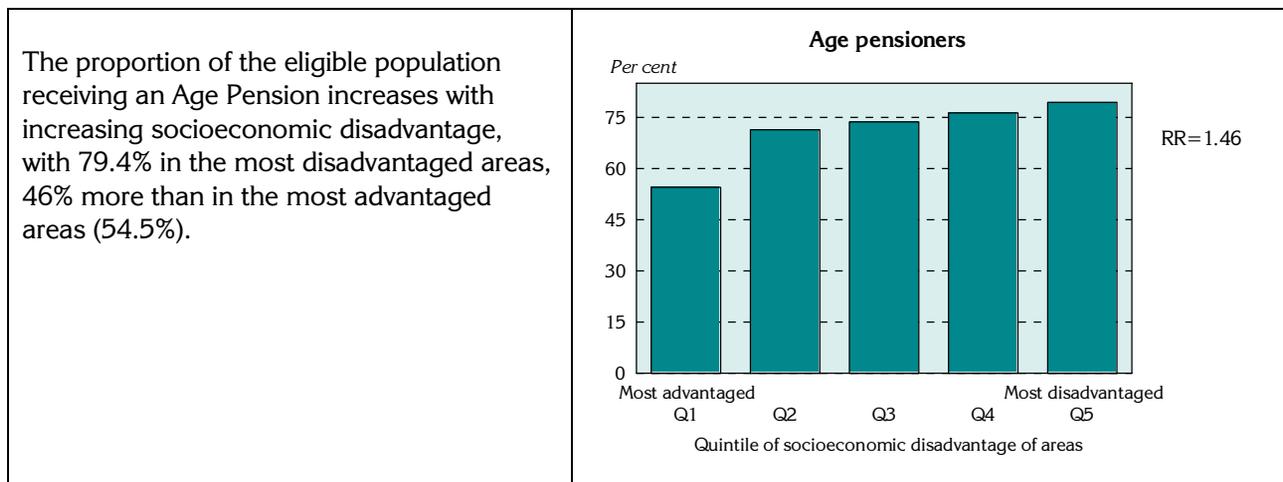
People eligible for an Age Pension from Centrelink comprise females aged 60 years and over and males aged 65 years and over: the Department of Veterans' Affairs (DVA) provides a service pension to eligible males at age 60 years and females at age 55 years. The data mapped are the sum of these pension types, referred to generally as age pensioners, expressed as a percentage of all females aged 60 years and over and all males aged 65 years and over at 30 June 2004.

In Central Northern region there were 94,181 people receiving an Age Pension, 71.3% of people in this age group (Table 25). The highest proportions were in a number of western, north-western and outer northern SLAs (Map 24).

Salisbury - Inner North, with 2,165 people on an Age Pension, had in excess of 100% (116.1% - see note on page 115). There were also high proportions in Playford - West Central (91.8%, 1,309), Tea Tree Gully - Central (88.4%, 2,821), Salisbury - South-East (83.9%, 4,212), Playford - East Central (83.8%, 1,449), Charles Sturt - North-East (82.3%, 3,867), West Torrens - East (81.5%, 3,653), Port Adelaide Enfield - Port (80.6%, 4,044), Playford - Elizabeth (80.4%, 4,118) and Port Adelaide Enfield - Coast (79.8%, 3,975).

Large numbers of people on Age Pensions were located in West Torrens - West (4,653 people, 65.0%), Charles Sturt - Coastal (4,504, 66.6%), Tea Tree Gully - South (4,318, 77.9%), Charles Sturt - Inner West (4,264, 75.7%) and Port Adelaide Enfield - East (4,162, 74.4%).

The SLAs with low proportions of people on an Age Pension were typically those of high relative socioeconomic status. These included Walkerville (43.3%, 722), Burnside - North-East (45.4%, 2,163) and - South-West (46.0%, 2,121), Adelaide (47.9%, 1,038), Adelaide Hills - Central (52.7%, 866), Salisbury Balance (57.1%, 346) and Unley - East (57.8%, 2,088).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 24: Age pensioners, CNAHS, June 2004

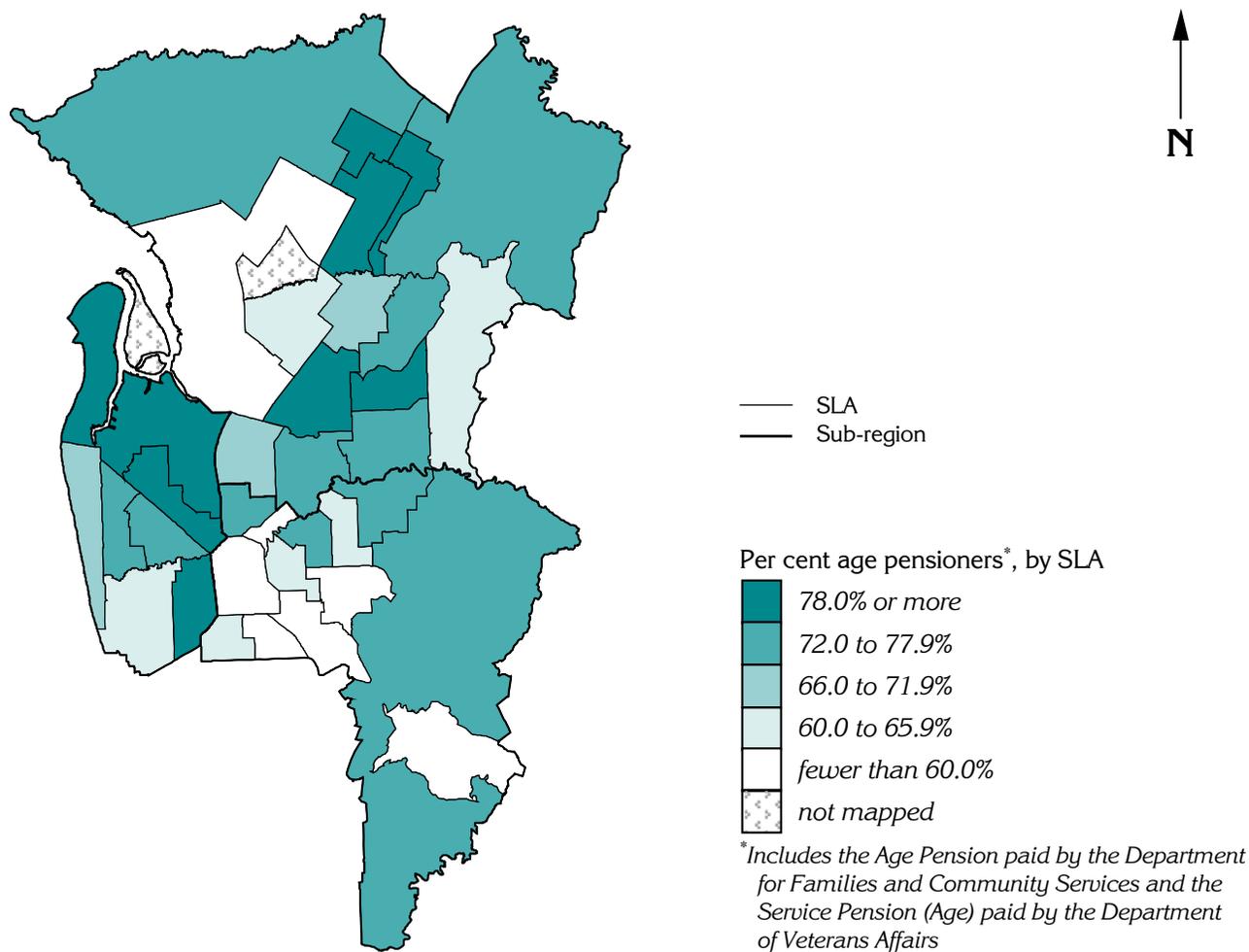


Table 25: Age pensioners, CNAHS, June 2004

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	13,808	54.5
Quintile 2	15,940	71.4
Quintile 3	24,202	73.7
Quintile 4	19,015	76.3
Quintile 5: most disadvantaged areas	21,216	79.4
Rate ratio	..	1.46**
Northern	36,186	78.0
Western	32,526	74.9
Central East	25,468	60.2
CNAHS	94,181	71.3
Southern	39,083	68.1
Metropolitan regions	133,264	70.3
State total	184,744	70.1

* indicates statistical significance: see page 19

Income support: Disability support pensioners

Recipients of the Disability Support Pension as a proportion of the population of males aged 15 to 64 years and females aged 15 to 54 years: data at June 2004

Overview

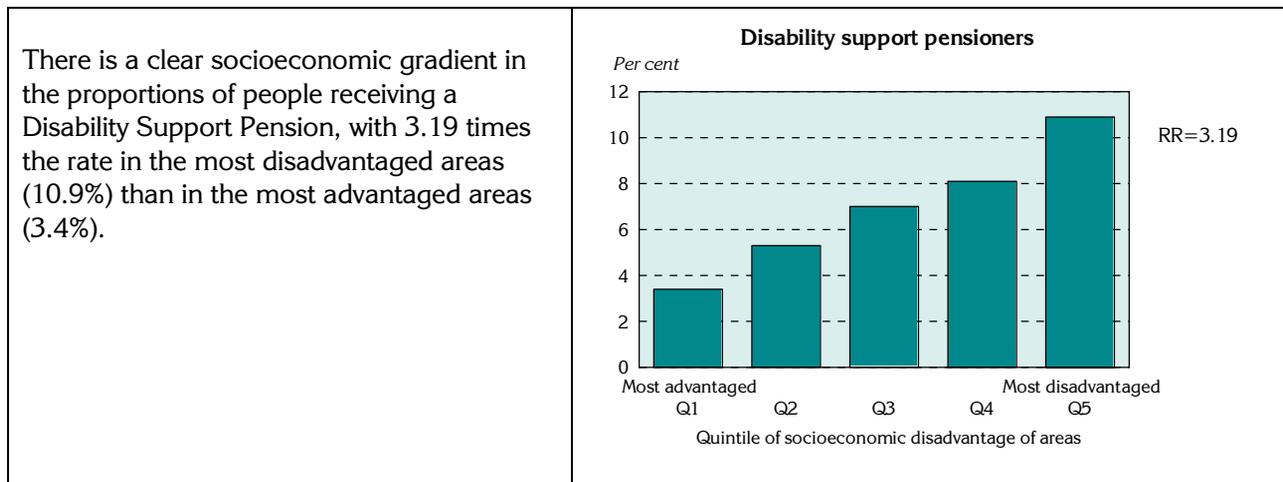
People eligible for a Disability Support Pension (DSP), paid by Centrelink, must be aged 16 years or over and have not reached age-pensionable age; be permanently blind or have a physical, intellectual or psychiatric impairment level of 20 per cent or more and a continuing inability to work. Details of males under 65 years of age and females under 60 years of age receiving the DVA service pension (permanently incapacitated) have been combined with the DSP data: details on people above these ages are included in the data for Age Pensioners.

Central Northern had a relatively high proportion of people receiving a DSP (7.0%, 35,328 people) (Table 26). The highest rates were mapped in a number of north-western and outer northern SLAs, with low proportions in the east (Map 25), following the pattern of socioeconomic disadvantage seen in Map 23, page 113.

Playford - Elizabeth had more than double the regional average, with 15.4% (2,271), as did Port Adelaide Enfield - Port (13.3%, 2,175) and - Inner (11.7%, 1,395). There were also high proportions in Playford - West Central (10.9%, 865), Charles Sturt - North-East (10.6%, 1,757), Salisbury - Central (9.1%, 1,655), Port Adelaide Enfield - East (8.9%, 1,735), Charles Sturt - Inner East (8.9%, 1,186) and - Inner West (8.8%, 1,339), Port Adelaide Enfield - Coast (8.7%, 1,591) and Salisbury - Inner North (8.6%, 1,466).

Tea Tree Gully - South (1,136, 5.2%), Salisbury - North-East (964, 6.6%) and Playford - East Central (915, 6.9%) had relatively large numbers of people receiving the DSP.

Adelaide Hills - Central (2.0%, 178) and - Ranges (2.2%, 156); Burnside - South-West (2.8%, 378) and - North-East (3.1%, 415); Tea Tree Gully - Hills (3.2%, 272) and Salisbury Balance (3.8%, 205) had low proportions.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 25: Disability support pensioners, CNAHS, June 2004

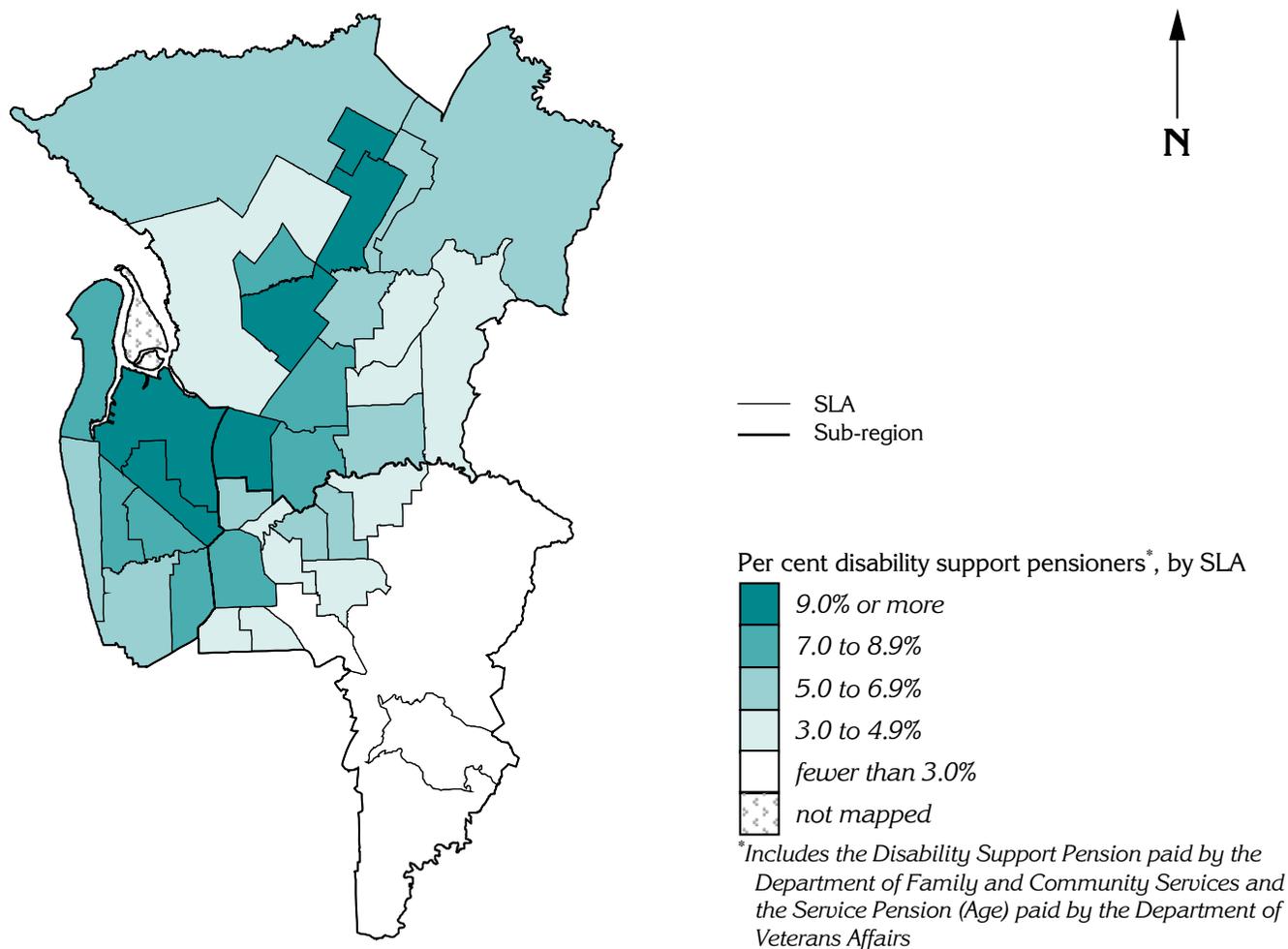


Table 26: Disability support pensioners, CNAHS, June 2004

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	3,233	3.4
Quintile 2	5,262	5.3
Quintile 3	7,602	7.0
Quintile 4	7,442	8.1
Quintile 5: most disadvantaged areas	11,789	10.9
Rate ratio	..	3.19**
Northern	16,801	7.6
Western	11,718	8.8
Central East	6,809	4.6
CNAHS	35,328	7.0
Southern	12,945	6.1
Metropolitan regions	48,273	6.7
State total	66,172	6.7

* indicates statistical significance: see page 19

Income support: Female sole parent pensioners

Female sole parents receiving a Parenting Payment Single, as a proportion of all females aged 15 to 54 years: data at June 2004

Overview

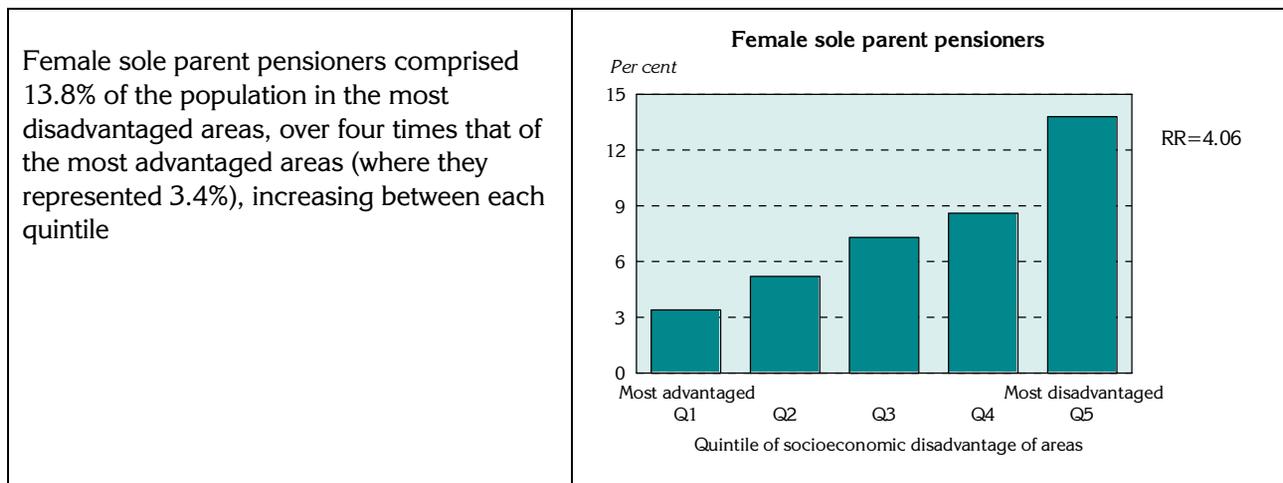
People eligible for a Parenting Payment Single paid by Centrelink comprise female and male sole parents with at least one child under 16 years of age (who meet certain qualifications, or the child attracts a child disability allowance). Only female sole parent pensioners have been mapped because females comprise the majority of all sole parent pensioners (90.6% at 30 June 2004).

In 2004 there were 17,112 female sole parent pensioners who were usual residents of the Central Northern region, 7.8% of females aged 15 to 54 years (Table 27). High proportions of female sole parent pensioners were found in a number of north-western and inner and outer northern SLAs, with low proportions in the city, and to the east and south-east (Map 26).

Playford - Elizabeth and Playford - West Central had the highest proportions, of 22.1% (1,422 females) and 18.6% (654), respectively. Other SLAs in this region to record rates well above the average were Salisbury - Central (13.6%, 1,090), Salisbury - Inner North (13.3%, 1,019) and Port Adelaide Enfield - Port (12.8%, 906).

The SLA of Adelaide had the lowest proportion for this variable, with only 2.0% of its female population aged from 15 to 54 years in this category (89 females). Proportions of below 3.0% were also recorded in Burnside - South-West (2.5%, 146 females), Walkerville (2.6%, 48), Unley - West (2.9%, 155) and Norwood Payneham St Peters - West (2.9%, 162).

Playford - Elizabeth had the largest number, with 1,422 female sole parent pensioners, followed by, Salisbury - Central (1,090), Salisbury - Inner North (1,019), Salisbury - South East (979) and Port Adelaide Enfield - Port (906).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 26: Female sole parent pensioners, CNAHS, June 2004

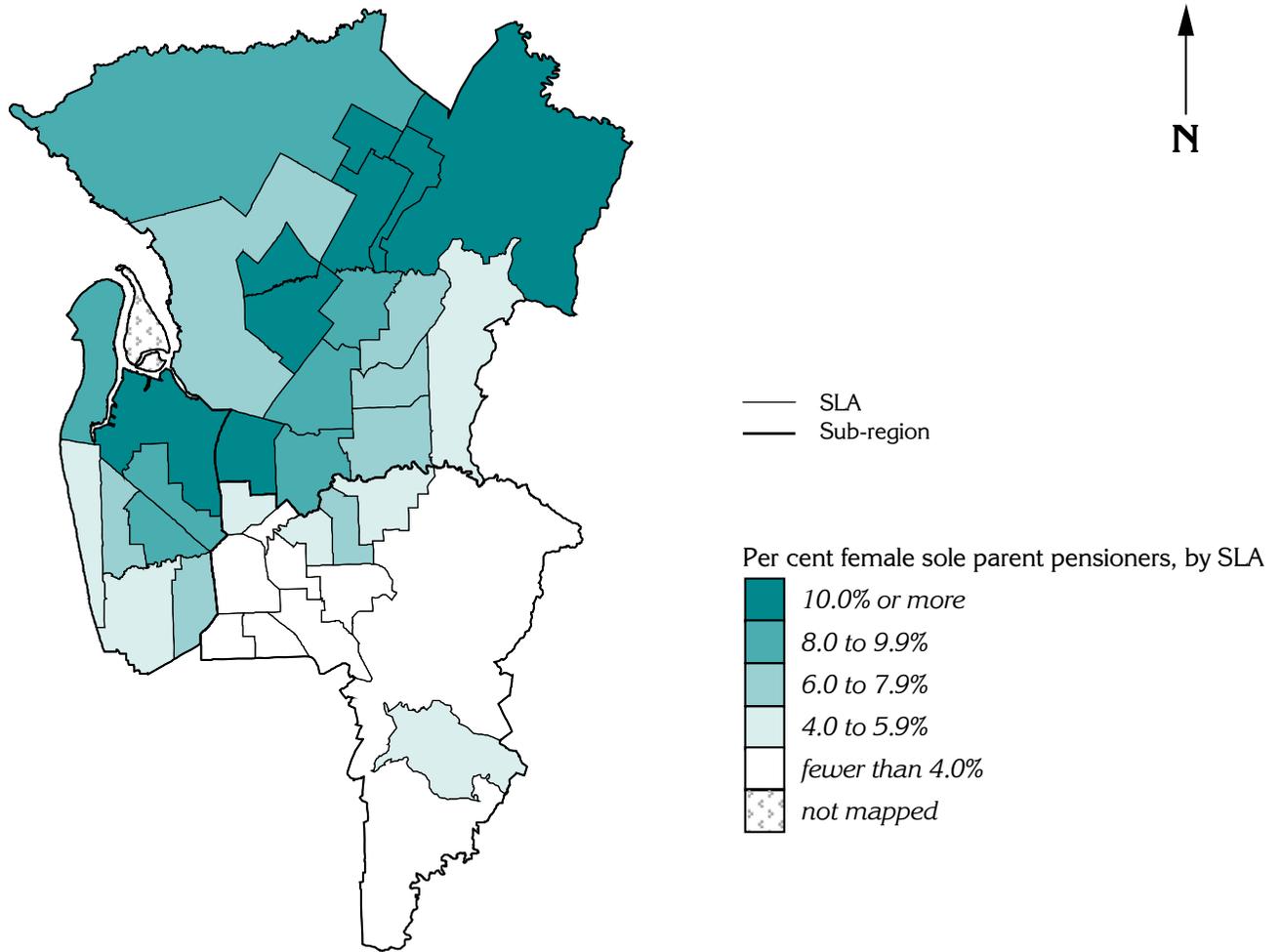


Table 27: Female sole parent pensioners, CNAHS, June 2004

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	1,419	3.4
Quintile 2	2,269	5.2
Quintile 3	3,437	7.3
Quintile 4	3,405	8.6
Quintile 5: most disadvantaged areas	6,581	13.8
Rate ratio	..	4.06**
Northern	10,136	10.4
Western	4,529	7.9
Central East	2,447	3.8
CNAHS	17,112	7.8
Southern	6,694	7.2
Metropolitan regions	23,806	7.6
State total	32,050	7.6

* indicates statistical significance: see page 19

Income support: People receiving an unemployment benefit

People receiving an unemployment benefit from Centrelink, as a proportion of the population of males aged 15 to 64 years and females aged 15 to 54 years (includes CDEP – see below): data at June 2004

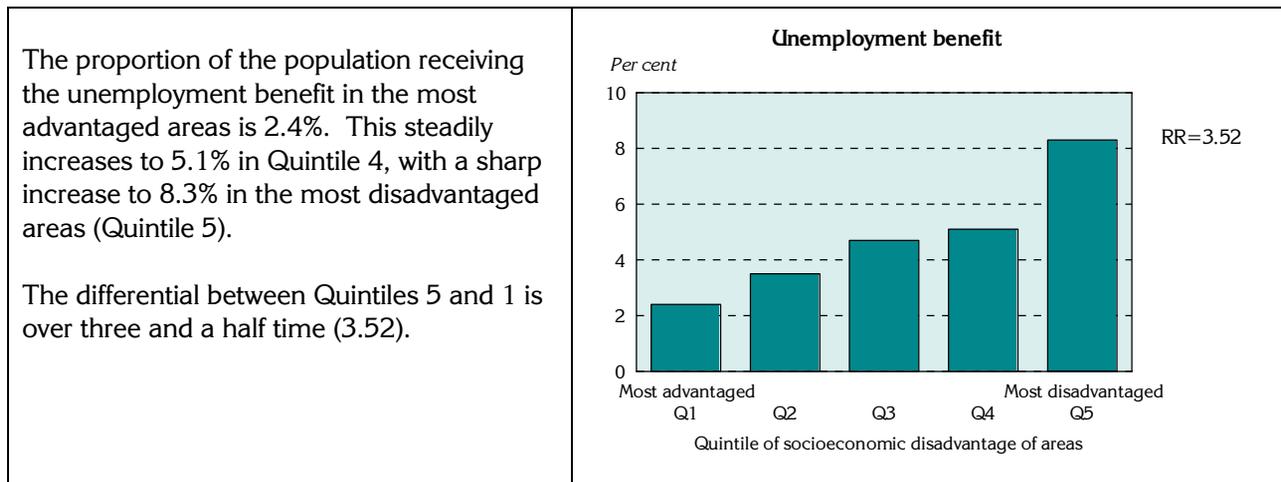
Overview

People receiving an unemployment benefit are shown as a percentage of the eligible population (of males aged 15 to 64 years and females aged 15 to 59 years). The data mapped are the proportion of the population receiving 'unemployment benefits': they include the Youth Training Allowance and Newstart Allowance paid by Centrelink and people participating in the Community Development Employment Program (CDEP) schemes in 2003#.

There were 24,489 people in the Central Northern region in receipt of an unemployment benefit, 4.9% of the eligible population (Table 28). The SLAs with the highest proportions of people receiving an unemployment benefit were located in two distinct areas, one in the outer north and the other covering the city and much of the western, north-western and inner northern suburbs (Map 27).

The largest number and proportion of unemployment beneficiaries was recorded in the SLA of Playford - Elizabeth, with 1,900 people representing 12.9% of the eligible population. High proportions were also recorded in the SLAs of Port Adelaide Enfield - Port (9.6%, 1,575 people), Playford - West Central (9.2%, 731), Port Adelaide Enfield - Inner (8.0%, 952) and Charles Sturt - North-East (7.8%, 1,298).

The SLA of Adelaide Hills - Ranges had the lowest proportion, with 1.4% of its eligible population in receipt of unemployment benefits (100 people). Proportions of lower than 2.0% were also recorded in the SLAs of Adelaide Hills - Central (1.7%, 153), Burnside - South-West (1.8%, 236) and Tea Tree Gully - Hills (1.9%, 165).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

#The Community Development Employment Projects scheme is, effectively, an Aboriginal work-for-the-dole scheme and has been included in the data to avoid understating unemployment levels in the rural and remote areas where many communities participate in these schemes

Map 27: People receiving an unemployment benefit[#], CNAHS, June 2004

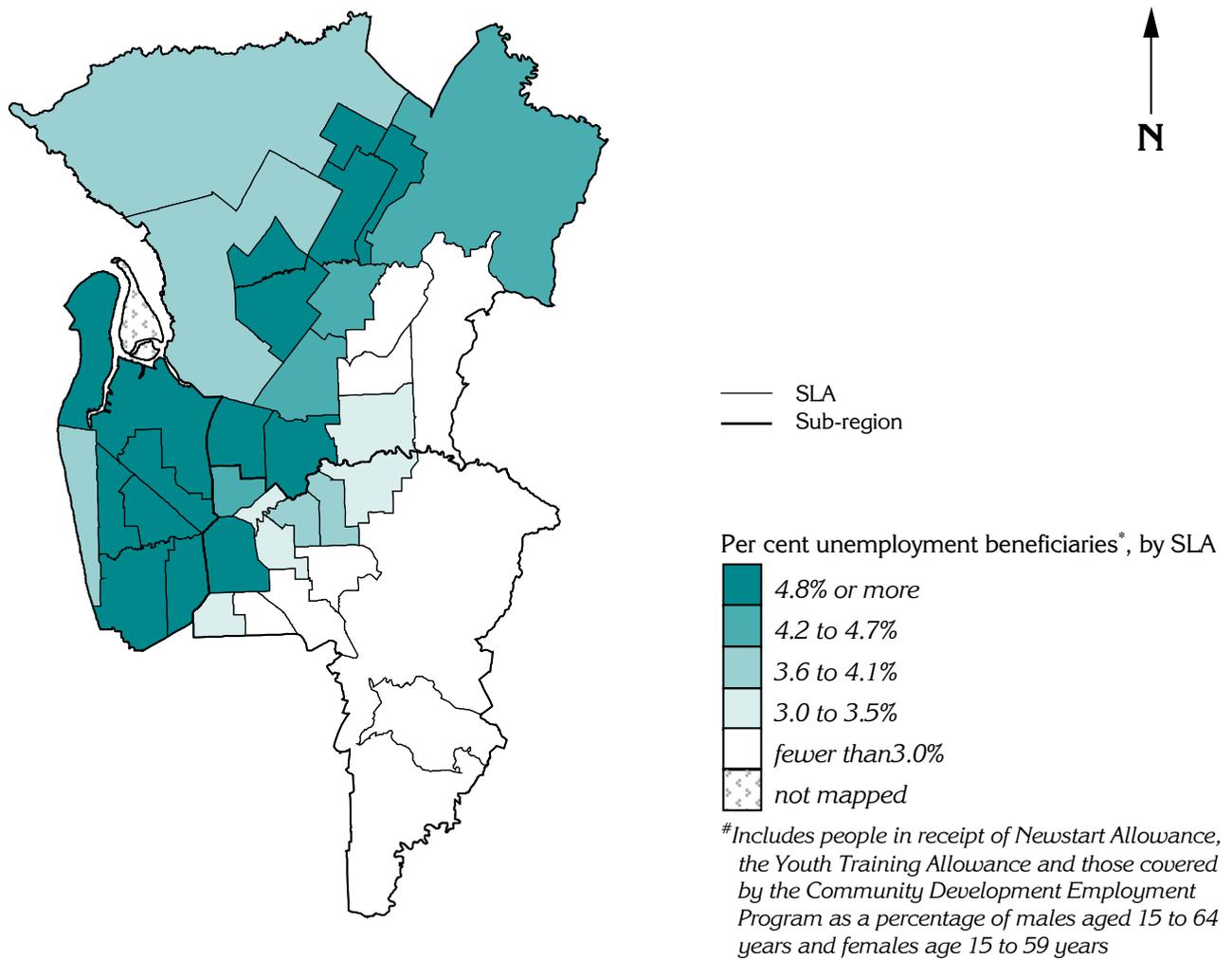


Table 28: People receiving an unemployment benefit[#], CNAHS, June 2004

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	2,249	2.4
Quintile 2	3,440	3.5
Quintile 3	5,088	4.7
Quintile 4	4,668	5.1
Quintile 5: most disadvantaged areas	9,044	8.3
Rate ratio	..	3.52^{**}
Northern	11,902	5.4
Western	8,010	6.0
Central East	4,578	3.1
CNAHS	24,489	4.9
Southern	8,789	4.1
Metropolitan regions	33,279	4.6
State total	47,783	4.9

[#]The Community Development Employment Projects scheme is, effectively, an Aboriginal work-for-the-dole scheme and has been included in the data to avoid understating unemployment levels in the rural and remote areas where many communities participate in these schemes

^{*} indicates statistical significance: see page 19

Income support: Children in welfare-dependent and other low income families

Dependent children (and students) in families receiving a pension, benefit or Family Tax Benefit (A), with income under \$32,845: these children as a proportion of all children aged 17 years or under: data at June 2004

Overview

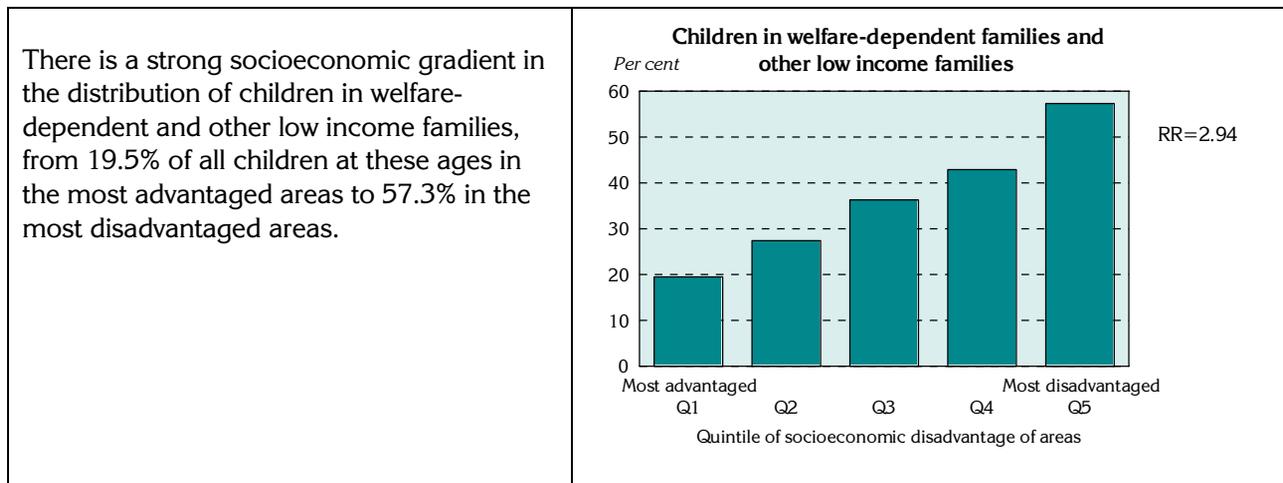
Families receiving these pension and benefit types represent the majority of families reliant on government welfare payments for their main source of income, or wage earners on low incomes. Children living in families either solely or largely dependent on government for their income have the least access to income and other resources, and are more likely to face lower achievements in education and to have poorer health outcomes.

Almost three quarters (72.4%) of dependent children in the metropolitan regions were located in the Central Northern region (61,132 children, 38.4% of the population under 17 years of age) (Table 29). The highest proportions of this population group were in a number of outer northern and north-western SLAs, while the lowest proportions were in the city, and adjacent SLAs to the south, east and north (Map 28).

Within this region, the SLAs of Playford - Elizabeth (75.2%, 4,831 children), Port Adelaide Enfield - Port (62.5%, 3,356), Salisbury - Central (59.9%, 4,017), Playford - West Central (57.1%, 2,248), Port Adelaide Enfield - Inner (55.3%, 2,114) and Charles Sturt - North-East (50.4%, 2,626) had more than half of their children under 17 years of age living in welfare-dependent and other low income families.

The lowest proportions were recorded in the inner eastern areas of Burnside - South-West (13.1%, 514), Walkerville (14.5%, 182), Burnside - North-East (15.8%, 626), Unley - East (17.1%, 581) and Norwood Payneham St Peters - West (17.5%, 492).

Note: The majority (92.3%) of these children were under 15 years of age



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 28: Children in welfare-dependent and other low income families, CNAHS, 2004

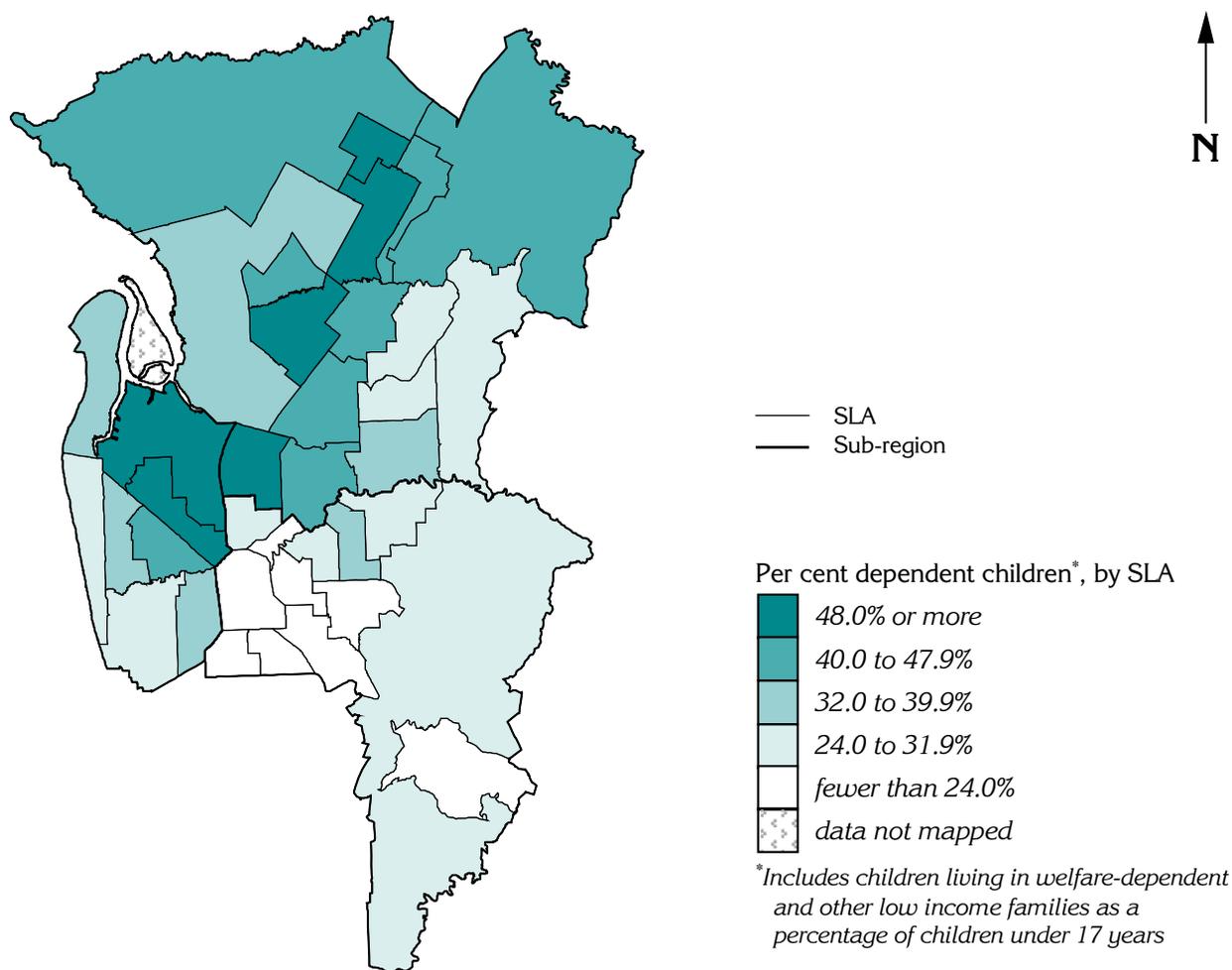


Table 29: Children in welfare-dependent and other low income families, CNAHS, 2004

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	5,265	19.5
Quintile 2	7,959	27.4
Quintile 3	11,962	36.3
Quintile 4	12,553	42.9
Quintile 5: most disadvantaged areas	23,392	57.3
Rate ratio	..	2.94**
Northern	36,080	44.0
Western	15,941	41.2
Central East	9,111	22.7
CNAHS	61,132	38.4
Southern	23,334	33.5
Metropolitan regions	84,466	36.9
State total	123,689	37.5

* indicates statistical significance: see page 19

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INDICATORS: health status and risk factors

Topic	Indicator	Page
Perinatal:	Low birthweight babies	128
	Pregnancy outcomes	130
	Termination of pregnancy	132
	Smoking during pregnancy	134
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	Health-Adjusted Life Expectancy, males	200
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	Years of Life Lost	204
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Health risk: Low birthweight babies

Low birthweight babies per 1,000 live births: data for 2000 to 2002

Overview

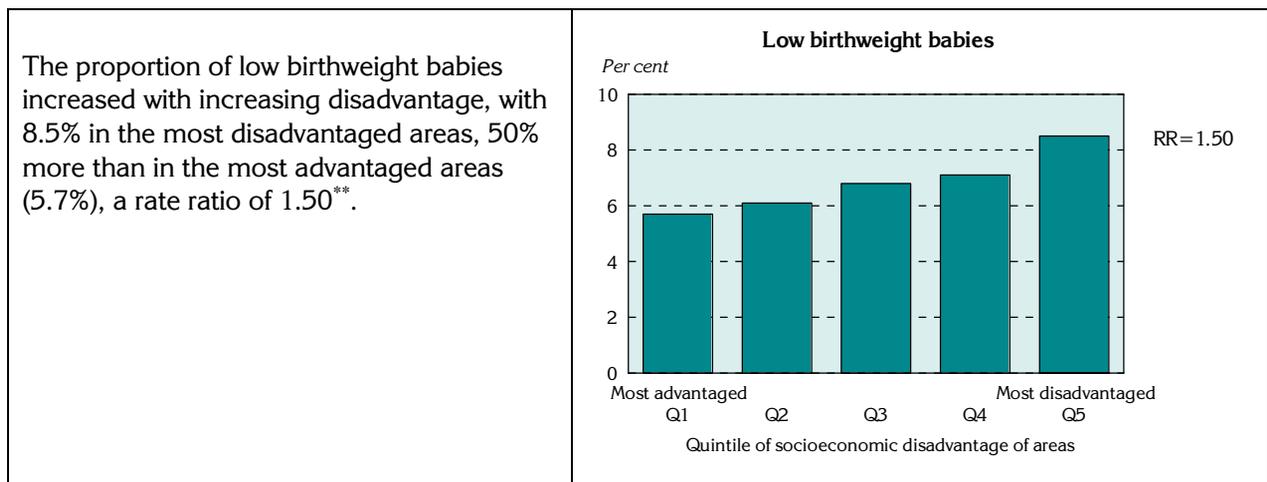
Low birthweight babies are babies (both live-born and stillborn) weighing less than 2500 grams at birth. Low birthweight increases the risk of death in infancy and of serious health problems. An infant may be small when it is born for two reasons: it may be born early (premature), or it may be small for its gestational age (intra-uterine growth restriction). Risk factors include socioeconomic disadvantage; maternal size, age and nutritional status; the number of babies previously born; illness, and alcohol, tobacco and drug use during pregnancy; and duration of the pregnancy⁶³. Babies born to Indigenous women in 2001 were more than twice as likely to be of low birthweight (12.9%) than those born to non-Indigenous women (6.0%). The low-birthweight proportions for babies born to Indigenous women were highest for SA (16.5%)⁶⁴.

There were 1,890 low birthweight babies born in Central Northern in 2000 to 2002, 7.0% of all births (Table 30). The highest rates of low birthweight babies were mapped in a number of north-western and outer northern SLAs, with low rates in the city and adjacent SLAs to the east (Map 29), generally reflecting the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

Of all Central Northern SLAs, babies with low birthweight were most predominant in Playford - Elizabeth (11.2%, 152 babies). There were also high proportions of low birthweight babies, but much smaller numbers, in Salisbury Balance (10.4%, 23 babies), Playford - West Central (9.1%, 63), Port Adelaide Enfield - Port (8.6%, 91), Port Adelaide Enfield - Inner (8.5%, 65), Playford - East Central (8.3%, 71), Salisbury - North-East (8.0%, 62), Playford - West (7.7%, 21), Playford - Hills (7.6%, 11) and West Torrens - East (7.6%, 66).

In addition to Playford - Elizabeth, several SLAs had large numbers of low birthweight babies: they were Salisbury - South-East (92 babies, 7.0%), Salisbury - Central (90, 7.4), Salisbury - Inner North (80, 7.2), Tea Tree Gully - North (75, 6.8), Port Adelaide Enfield - East (71, 6.8), Charles Sturt - North-East (66, 6.7%), Port Adelaide Enfield - Coast (65, 7.3%) and Tea Tree Gully - South (65, 5.8%).

The SLAs of Adelaide Hills - Ranges (4.5%, 16 babies) and - Central (4.6%, 18), Charles Sturt - Coastal (5.1%, 40), Norwood Payneham and St Peters - East (5.2%, 24), Adelaide (5.4%, 15) and Burnside - South-West (5.4%, 28) all had proportions in the lowest range mapped.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 29: Low birthweight babies, CNAHS, 2000 to 2002

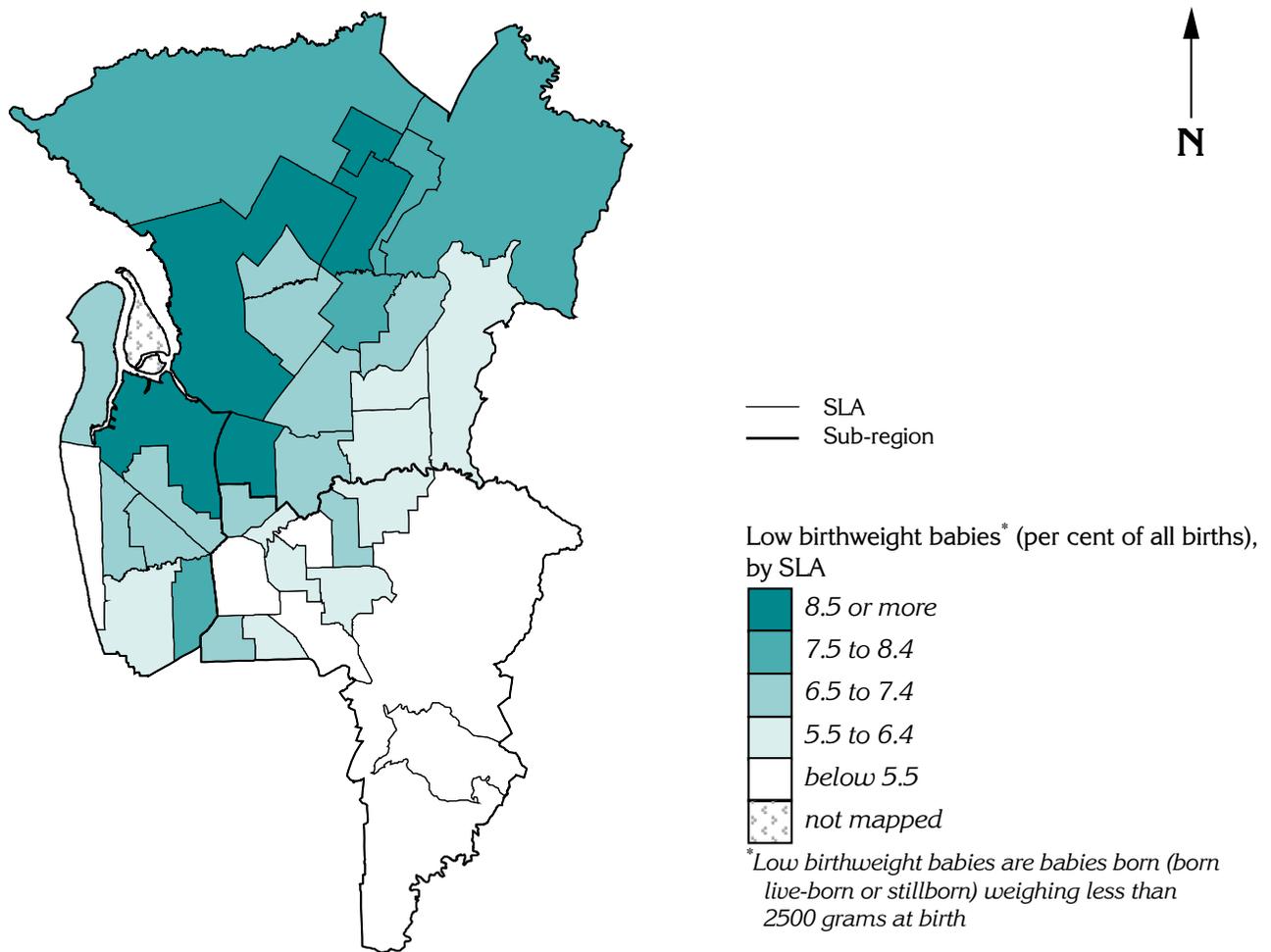


Table 30: Low birthweight babies, CNAHS, 2000 to 2002

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	246	5.7
Quintile 2	284	6.1
Quintile 3	382	6.8
Quintile 4	349	7.1
Quintile 5: most disadvantaged areas	629	8.5
Rate ratio	..	1.50**
Northern	1,017	7.6
Western	482	6.9
Central East	391	5.8
CNAHS	1,890	7.0
Southern	681	6.4
Metropolitan regions	2,571	6.8
State total	3,624	6.8

* indicates statistical significance: see page 19

Health risk: Pregnancy outcomes

Risk factors for pregnancy: data for 2000 to 2002

Risk factors most predictive of adverse perinatal outcomes

Aboriginal maternal race; single marital status; high parity; previous still births; previous neonatal death; previous pregnancy termination; few antenatal visits; young maternal age; obstetric complications; complications of labour/delivery; homebirth; low birthweight; pre-term birth; low Apgar score; prolonged time to establish regular breathing; congenital abnormality; perinatal death.

Overview

The following data is collected through the Perinatal Statistics Collection and includes maternal socio-demographic, medical and obstetric information, as well as characteristics and outcomes of the baby. Studies undertaken by the Epidemiology Branch (SA Department of Health) in 1986 on these data identified seventeen risk factors that were most predictive of adverse perinatal outcomes (see box). Certain risk factors directly or indirectly reflect the socioeconomic status of women for whom these events are recorded.

A summary perinatal risk score has been calculated for each SLA. The score is calculated by examining the frequency with which a poorer outcome was recorded on individual risk factors (e.g. percentage of mothers with low birthweight babies, or with previous still births) in relation to the South Australian average. SLAs were considered to be 'high risk' for adverse perinatal outcomes if ten or more individual risk factors had a poor outcome, in comparison with the South Australian average.

At the regional level, rates for seven risk factors were above the State average. However, there was considerable geographic variation, with the eastern sub-region having elevated rates for only two risk factors, compared to higher counts in northern (eleven) and western (eight) (Table 31). The majority of SLAs were not considered under this analysis to have a high risk for adverse perinatal outcomes. Eleven SLAs that were considered to be at high risk were located in a cluster across the inner northern and north-western suburbs, and extending to Playford in the outer north (Map 30).

Playford - Elizabeth had the highest possible perinatal risk factor score, with rates in all seventeen risk factors above the South Australian average, indicating poor perinatal outcomes. In addition to having the highest risk score in the region, this SLA had the largest number of births over this three year period.

The surrounding SLAs of Salisbury - Central (15 risk factors) and Salisbury - Inner North (15 risk factors) also had a very high risk of poor perinatal outcomes. The other high risk SLAs in this region were Playford - West Central (13 risk factors), Port Adelaide Enfield - Port (13), Playford - East Central (12), Port Adelaide Enfield - Inner (12), Salisbury Balance (12), Port Adelaide Enfield - Coast (ten) and Salisbury - North-East (ten) and - South East (ten).

Map 30: Perinatal risk factor scores, CNAHS, 2000 to 2002

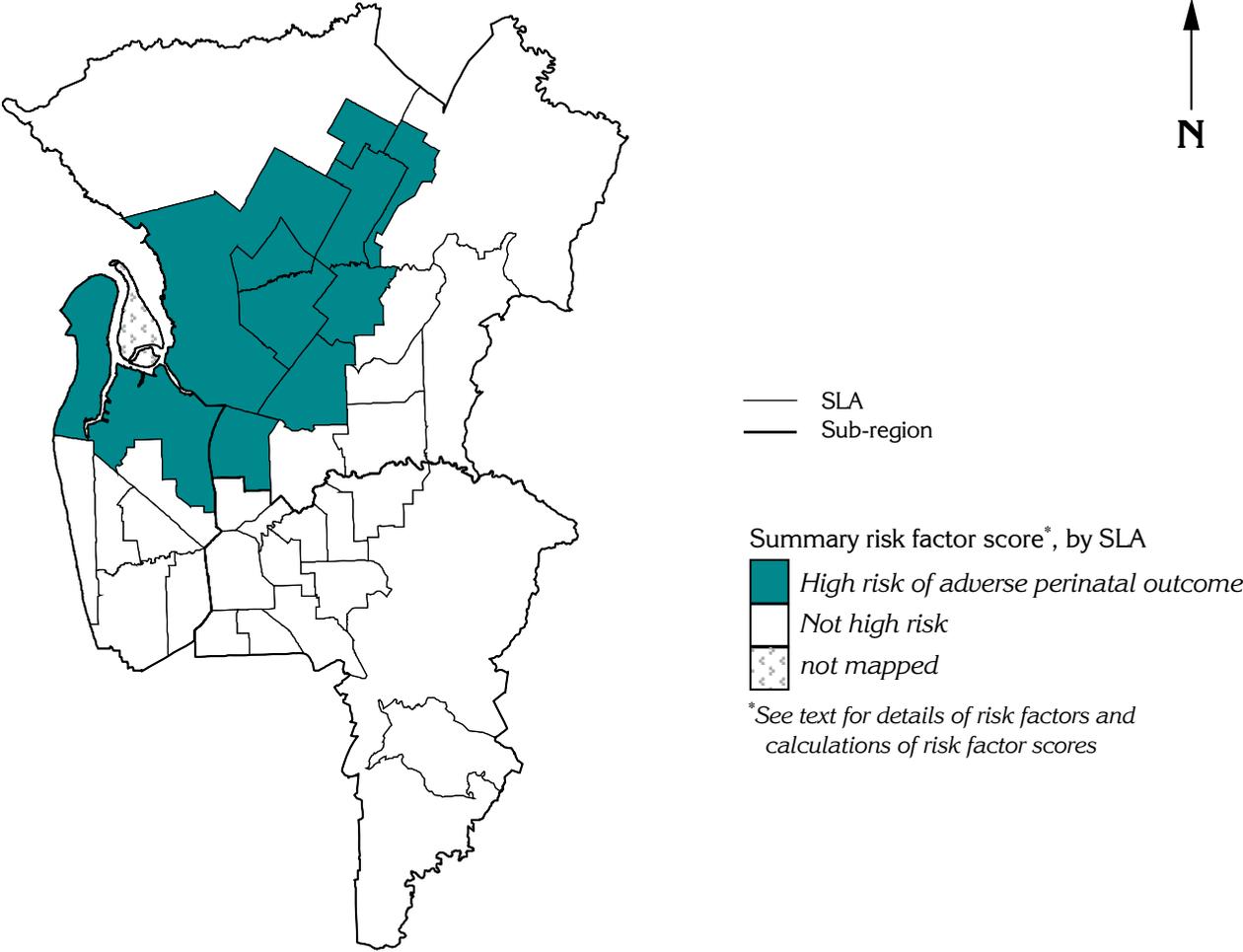


Table 31: Perinatal risk factors, CNAHS, 2000 to 2002

Area	Risk factors ¹
Northern (high risk)	12
Western (not high risk)	6
Central East (not high risk)	2
CNAHS (not high risk)	6
Southern (not high risk)	8

¹ Number of risk factors in the region with rates above the State average: high risk shown where ten or more risk factors have rates above the State average

Health risk: Termination of pregnancy

Age-standardised rate of abortions per 1,000 women aged 15 to 44 years: data for 2000 to 2002

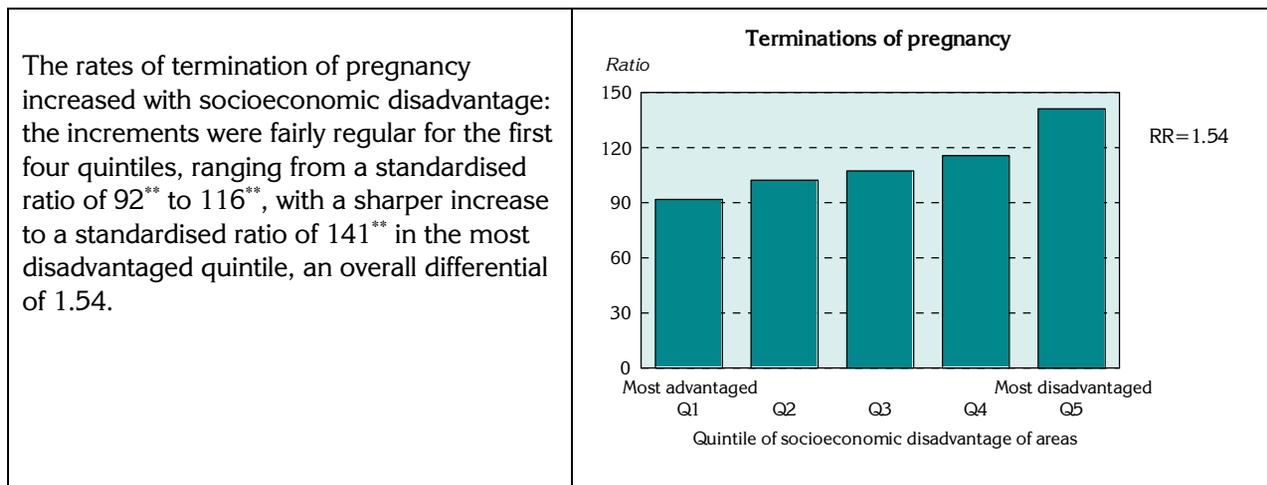
Overview

In 1969, legislation was amended to allow termination of pregnancy in certain circumstances. Across the metropolitan regions, the highest abortion rates were recorded for women in the 20 to 24 year age group (27.4% of terminations in 2002, down from 31.0% in 1985-87), followed by those under 20 years (23.1% of terminations in 2002, a slight reduction from 24.6% in 1985-87). The majority of terminations (91.9%) are conducted within the first 14 weeks of pregnancy⁶⁵.

Residents of Central Northern had 13% more terminations of pregnancy than expected from the State rates (a standardised ratio (SR) of 113**, 10,016 terminations) (Table 32). The areas with the highest termination ratios (Map 31) follow the pattern of socioeconomic disadvantage shown by the IRSD (Map 23, page 113).

Port Adelaide Enfield - Port had over two thirds more terminations than expected (an SR of 169**, 473 terminations). Highly elevated ratios were also recorded in Playford - Elizabeth (an SR of 157**, 449 terminations), Charles Sturt - North-East (149**, 442), Charles Sturt - Inner East (145**, 347), Salisbury - Central (140**, 468), Salisbury Balance (139**, 101), Adelaide (137**, 297), Salisbury - Inner North (131**, 426), Port Adelaide Enfield - Inner (129**, 284), Playford - West Central (126**, 200) and Port Adelaide Enfield - Coast (125**, 367).

Large numbers of terminations were recorded for women in the SLAs of Salisbury - South-East (419 terminations, an SR of 106), Port Adelaide Enfield - East (384, 116**), West Torrens - West (363, 118**), Charles Sturt - Coastal (356, 113) and Tea Tree Gully - South (351, 92).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 31: Termination of pregnancy, CNAHS, 2000 to 2002

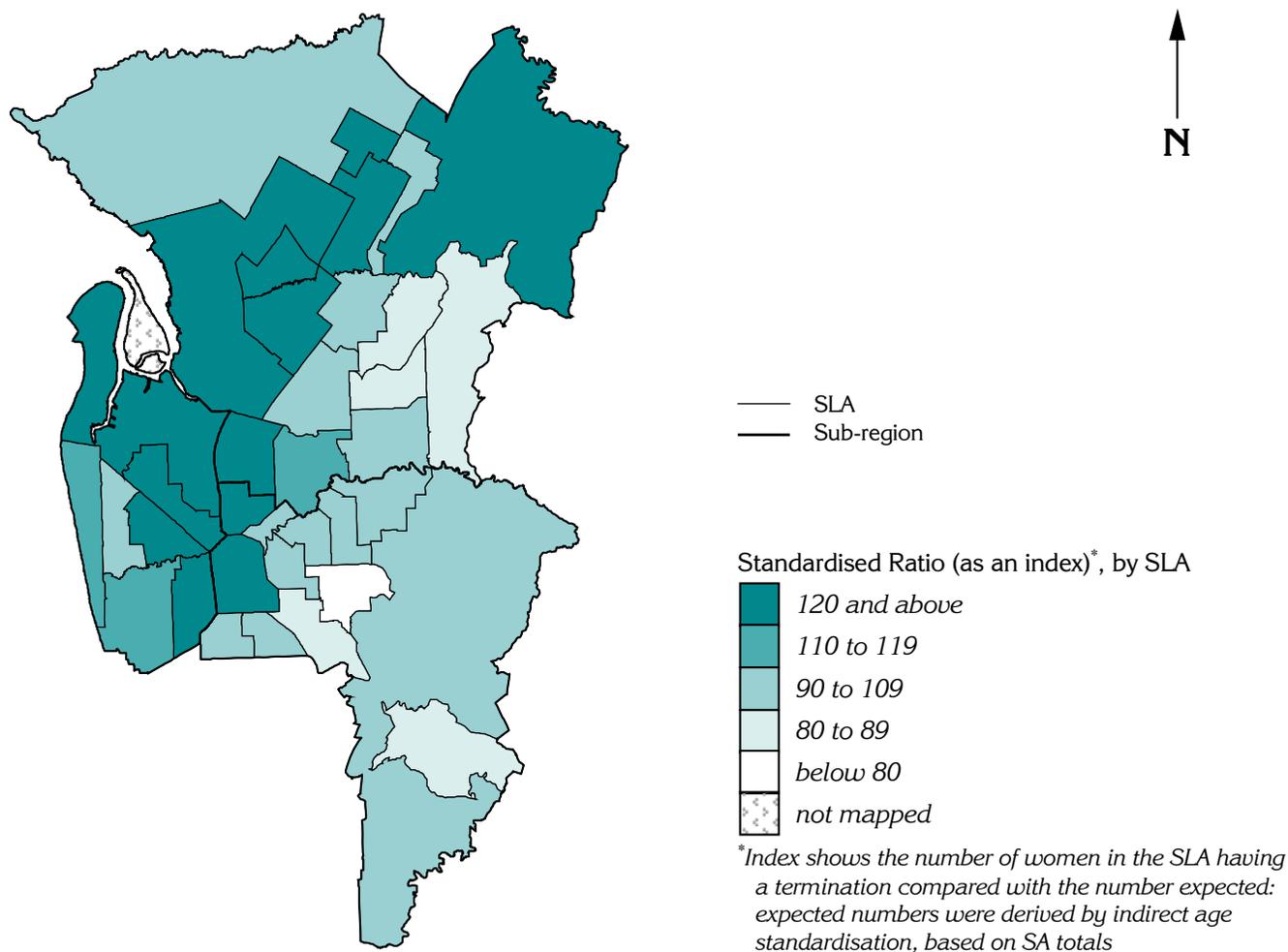


Table 32: Termination of pregnancy, CNAHS, 2000 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	1,489	92**
Quintile 2	1,795	102
Quintile 3	2,006	107**
Quintile 4	1,783	116**
Quintile 5: most disadvantaged areas	2,944	141**
Rate ratio	..	1.54**
Northern	4,473	111**
Western	2,936	131**
Central East	2,608	100
CNAHS	10,016	113**
Southern	3,385	94**
Metropolitan regions	13,402	107**
State total	16,499	100

* indicates statistical significance: see page 19

Health risk: Smoking during pregnancy

Age standardised rate of women who reported smoking during pregnancy: data for 1998 to 2001

Overview

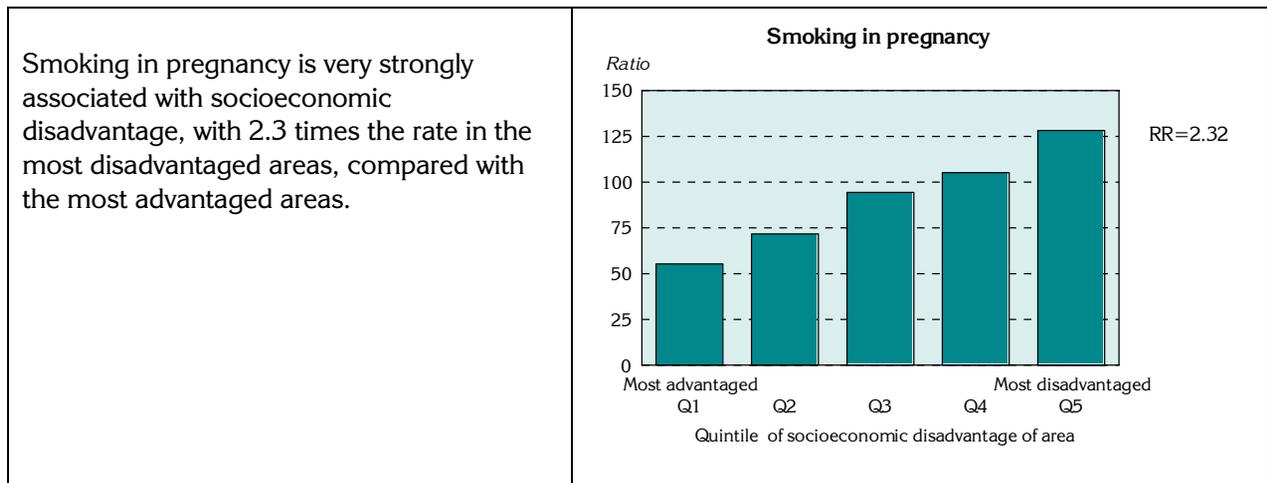
Maternal smoking during pregnancy has many consequences before and after delivery, such as premature birth, miscarriage and perinatal death, low birthweight, and infants being smaller at birth than they should be. These problems may affect children through to adulthood, including a higher risk of disability and developmental delay, decreased lung function and increased respiratory illness ⁶⁶.

In Central Northern, 8,097 women reported smoking during a pregnancy, two per cent fewer than expected from the State rates (a standardised ratio (SR) of 98^{*}) (Table 33). The highest rates of smoking during pregnancy were found in a number of north-western and outer northern SLAs (Map 32).

The SLAs with elevated rates of smoking during pregnancy included Playford - Elizabeth (an SR of 160^{**}, 797 pregnancies), Playford - West Central (145^{**}, 357 pregnancies), Playford - East Central (133^{**}, 387), Salisbury - Inner North (127^{**}, 510), Port Adelaide Enfield - Coast (124^{**}, 351), Port Adelaide Enfield - Port (122^{**}, 431) and Playford - Hills (122, 55).

There were large numbers of women smoking during a pregnancy living in Port Adelaide Enfield - East (339 pregnancies, an SR of 106), Tea Tree Gully - South (313, 88^{*}), Charles Sturt - North-East (311, 104), Tea Tree Gully - Central (268, 92), Charles Sturt - Inner West (215, 97) and - Inner East (213, 94).

The SLAs with the lowest rates of smoking during pregnancy largely form a block across Adelaide's middle SLAs: they include Unley - East (an SR of 37^{**}, 65 pregnancies), Burnside - South-West (38^{**}, 49), Norwood Payneham and St Peters - West (44^{**}, 63), Walkerville (48^{**}, 24), Unley - West (50^{**}, 75), Burnside - North-East (50^{**}, 68), Adelaide Hills - Central (54^{**}, 57) and Adelaide Hills - Ranges (56^{**}, 53).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 32: Smoking in pregnancy, CNAHS, 1998 to 2001

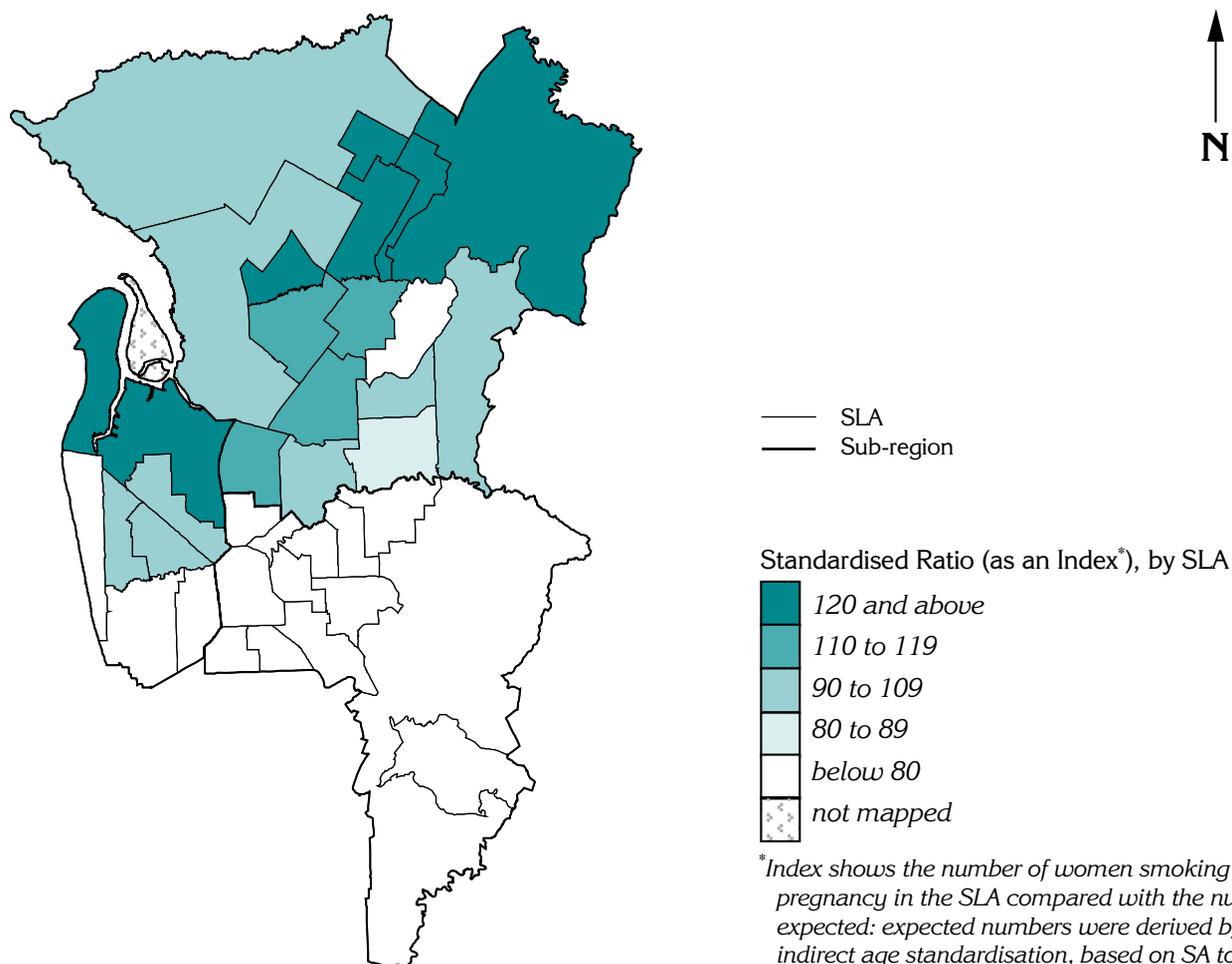


Table 33: Smoking in pregnancy, CNAHS, 1998 to 2001

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	640	55**
Quintile 2	959	72**
Quintile 3	1,639	94*
Quintile 4	1,598	105*
Quintile 5: most disadvantaged areas	3,261	128**
Rate ratio	..	2.32**
Northern	5,029	115**
Western	2,078	98
Central East	990	55**
CNAHS	8,097	98*
Southern	2,696	83**
Metropolitan regions	10,794	94**
State total	16,558	100

* indicates statistical significance: see page 19

Immunisation status at one year

Number of fully immunised children at 12 months of age, as a proportion of all children at that age in 2002

Overview

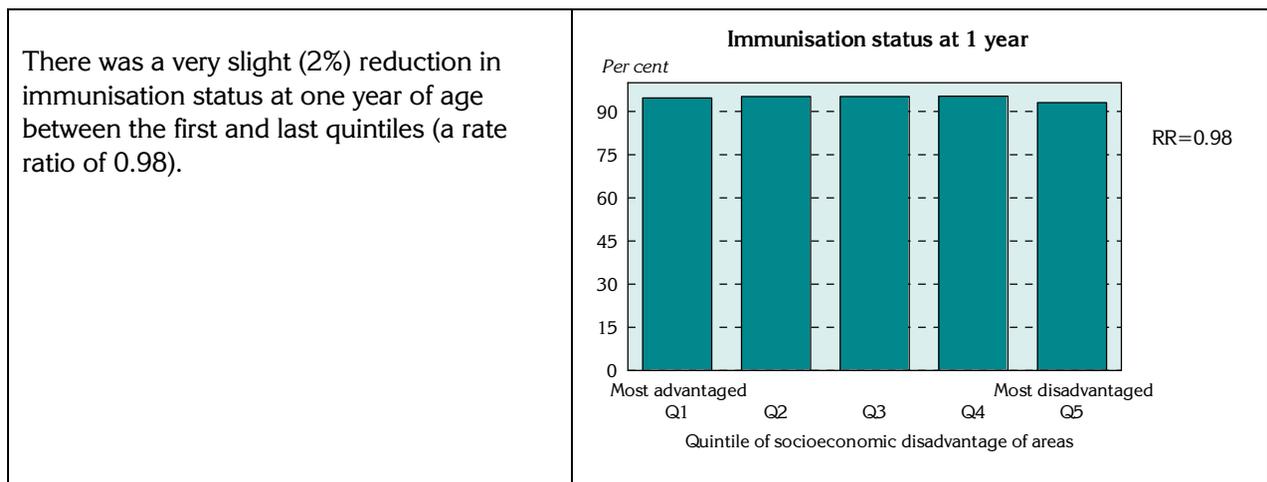
Immunisation coverage among Australian children is an important public health issue. If a sufficiently large proportion of children have been immunised against a particular infectious disease, then the potential for that disease to spread is greatly reduced. Immunisation data are collected by the Health Insurance Commission, which has maintained the Australian Childhood Immunisation Register (ACIR) since 1996. The ACIR provides comprehensive information on the immunisation status of children under seven years of age in Australia. These data are used to provide a measure of coverage at a national, State/Territory and local level. By mid-1998, the register had sufficient coverage to be used for small area analysis. The data presented here are of children fully immunised at age 12 months.

Hull et al. (2002) found that, among other things, demographic factors “impacted on immunisation status”⁶⁷. Children in larger, lower income families and families with a health care card were less likely to be age-appropriately immunised.

The majority (94.6%) of 12 month old children in Central Northern were fully immunised (Table 34). The largest proportions of immunised children were located in SLAs in the inner and outer north-east, and in the western suburbs (Map 33).

The SLAs with the highest immunisation rates were Tea Tree Gully - North (98.5%, 369 children), Charles Sturt - Inner West (97.4%, 223), Campbelltown - East (97.1%, 290), Charles Sturt - Inner East (97.0%, 238), Tea Tree Gully - Hills (96.9%, 145), West Torrens - West (96.5%, 265), Campbelltown - West (96.2%, 196) and Playford - Hills (96.2%, 45). There were also large numbers of fully immunised children at 12 months in the SLAs of Salisbury - South-East (431 children, 94.3%), Salisbury - Central (364, 95.1%), Tea Tree Gully - South (347, 95.4%), Salisbury - Inner North (324, 94.6%) and Port Adelaide Enfield - East (323, 95.7%).

The SLAs with the lowest immunisation rates of 12 month-olds were Adelaide (87.3%, 76 children) and Playford - Elizabeth (88.4%, 371). Other SLAs with rates below average for the region – but not greatly so – were Playford - West Central (91.9%, 210), Port Adelaide Enfield - Inner (92.1%, 237), Adelaide Hills - Central (92.6%, 131), Adelaide Hills - Ranges (92.8%, 114), Prospect (92.9%, 219), Playford - West (93.0%, 97), Walkerville (93.8%, 65), Port Adelaide Enfield - Port (93.8%, 302) and Burnside - South-West (93.9%, 160).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 33: Immunisation status at one year of age, CNAHS, 2002

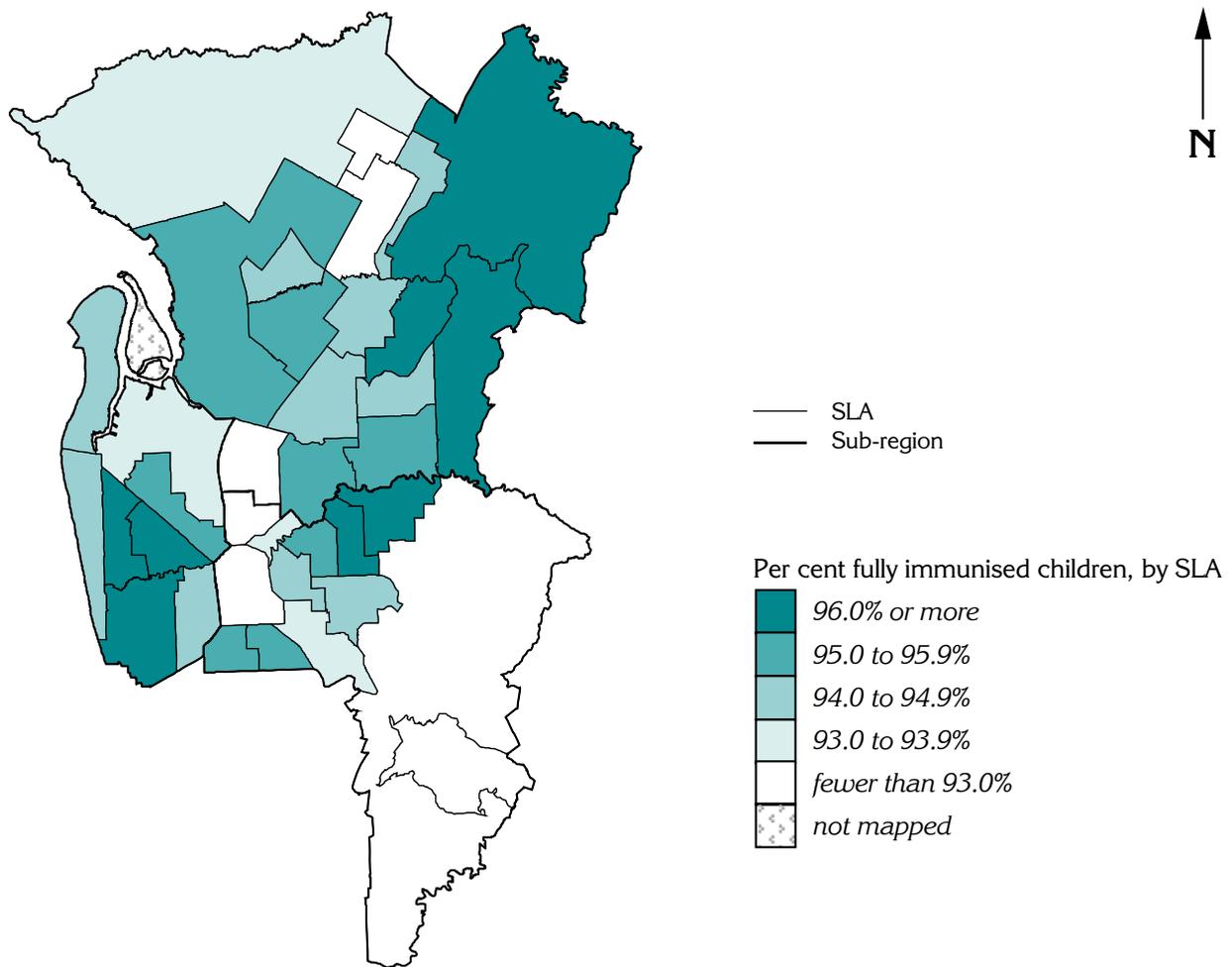


Table 34: Immunisation status at one year of age, CNAHS, 2002

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	1,388	94.7
Quintile 2	1,481	95.2
Quintile 3	1,731	95.2
Quintile 4	1,554	95.3
Quintile 5: most disadvantaged areas	2,153	93.1
Rate ratio	..	0.98
Northern	4,127	94.2
Western	2,068	95.3
Central East	2,113	94.6
CNAHS	8,308	94.6
Southern	3,338	95.0
Metropolitan regions	11,646	94.7
State total	16,657	94.6

Overweight in childhood: Overweight (not obese) four year old boys

Number of four year old boys whose Body Mass Index rated them as overweight (not obese), as a proportion of all boys at that age: data for 2000 to 2003

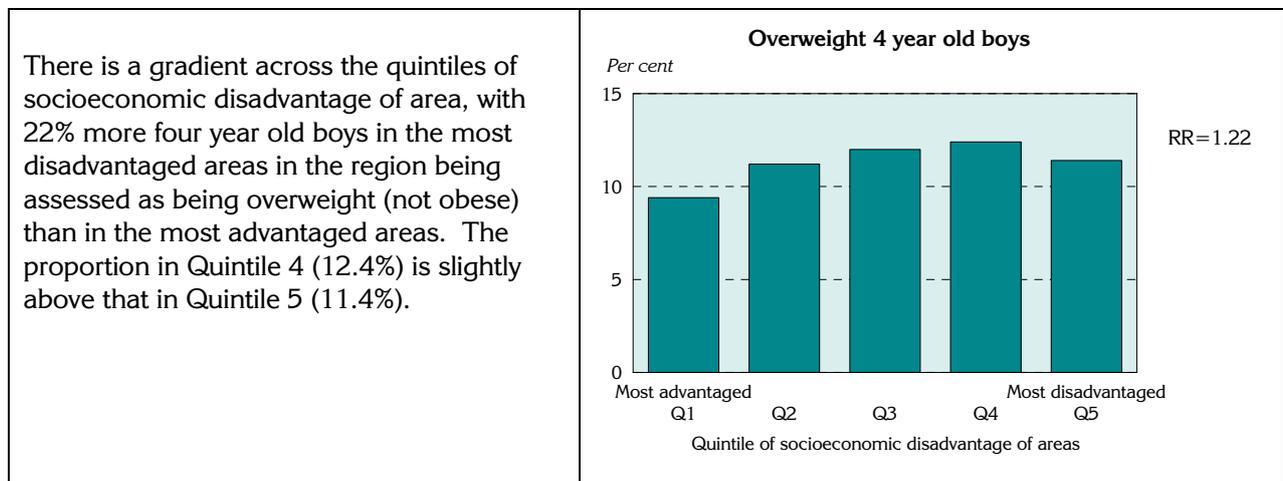
Overview

Overweight and obesity in childhood and adolescence can cause a wide range of significant physical and emotional health problems, and increase the risk of premature illness and death in adulthood. Australian prevalence rates are high by international standards and represent a serious public health concern. Current rates in South Australia represent a dramatic increase since 1995, of around 70% for boys and girls at this age³³.

In Central Northern, 11.4% of four year old boys were classified as overweight (1,318 boys) (Table 35). The geographic distribution of overweight four year old boys (Map 34) is somewhat mixed, although it shows similarities to the pattern of socioeconomic disadvantage (Map 23, page 113).

High proportions were found in the SLAs of Port Adelaide Enfield - Coast (16.4%, 63 boys), Adelaide (16.3%, seven), Playford - West (14.9%, 28), and Charles Sturt - Inner West (13.8%, 42) and - Coastal (13.2%, 40). Relatively large numbers were also recorded in Salisbury - South-East (76 boys, 12.2%), Tea Tree Gully - North (73, 12.0%), Salisbury - Central (66, 11.0%), and Playford - Elizabeth (67, 11.5%) and - Inner North (61, 11.0%).

Low proportions of overweight four year old boys were recorded in Burnside - South-West (7.3%, 13 boys), Campbelltown - East (7.6%, 29), Adelaide Hills - Ranges (7.6%, 13), Unley - East and West (both 8.5%, 19), Adelaide Hills - Central (8.5%, 19), Salisbury Balance (8.7%, ten) and Campbelltown - West (9.9%, 22).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Note: These data were provided by Child and Youth Health (CYH) who have, for a number of years, collected height and weight information for children aged from four years three months to five years (collectively referred to as four year old children in the text). The measurements are taken at child care and pre-school centres by staff of CYH, with an average coverage at these ages of just under 80%. The data for girls have not been shown because of concerns with data quality.

Map 34: Overweight (not obese) four year old boys, CNAHS, 2000 to 2003

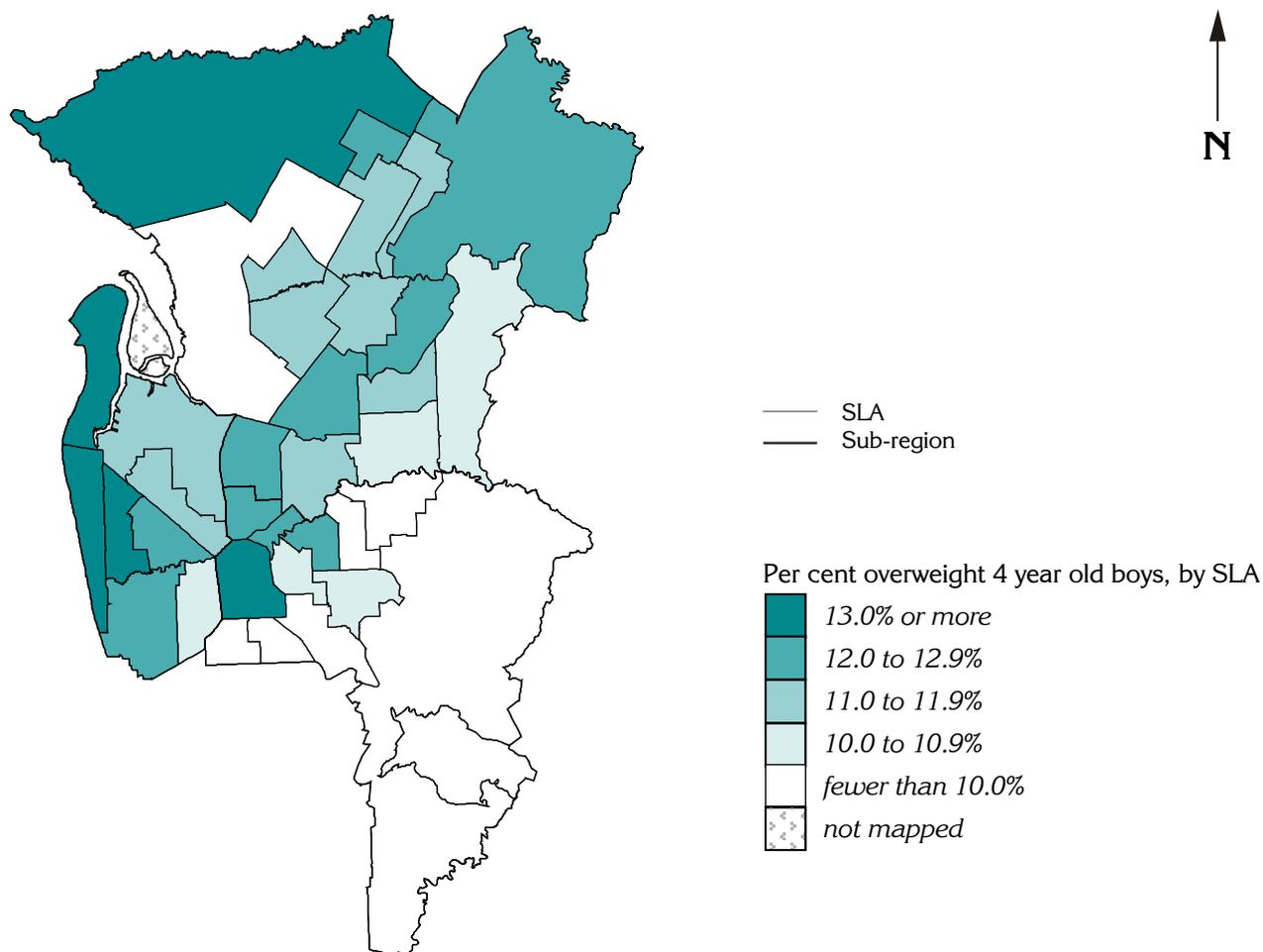


Table 35: Overweight four year old boys, CNAHS, 2000 to 2003

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	164	9.4
Quintile 2	232	11.2
Quintile 3	284	12.0
Quintile 4	274	12.4
Quintile 5: most disadvantaged areas	365	11.4
Rate ratio	..	1.22*
Northern	747	11.5
Western	331	12.8
Central East	240	9.5
CNAHS	1,318	11.4
Southern	549	11.1
Metropolitan regions	1,867	11.3
State total	3,066	12.1

Obesity in childhood: Obese four year old boys

Number of four year old boys whose Body Mass Index rated them as not obese, as a proportion of all boys at that age: data for 2000 to 2003

Overview

Overweight and obesity in childhood and adolescence can cause a wide range of significant physical and emotional health problems, and increase the risk of premature illness and death in adulthood. These data were provided by Child and Youth Health (CYH) who have, for a number of years, collected height and weight information for children aged from four years three months to five years (collectively referred to as four year old children in the text). The measurements are taken at child care and pre-school centres by staff of CYH, with an average coverage at these ages of just under 80%. The data for girls have not been shown because of concerns with data quality

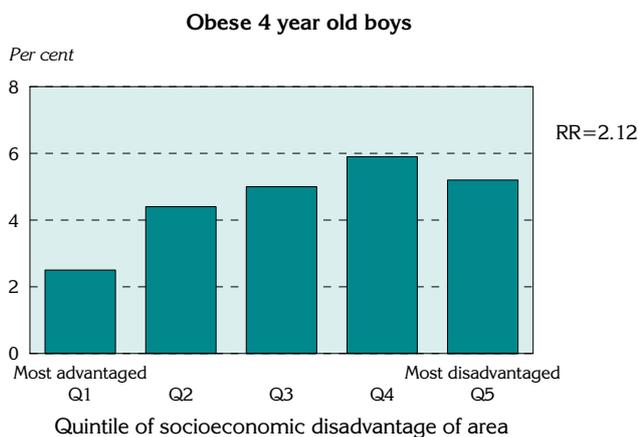
Central Northern had a relatively high proportion of boys assessed as being obese (4.7%, 548 boys) (Table 36). A cluster of SLAs with above-average rates of obesity lies across the western, north-western and inner- and outer-northern suburbs (Map 35).

SLAs with the largest proportions of these boys in their populations were the adjoining SLAs of Port Adelaide Enfield - East (8.0%, 30 boys), Charles Sturt - Inner West (6.7%, 21), Salisbury Balance (6.6%, seven boys), Port Adelaide Enfield - Port (6.6%, 24) and - Inner (6.5%, 18), and Salisbury - South-East (6.3%, 39).

Relatively large numbers of obese four year old boys were found in Playford - Elizabeth (35 boys, 6.0%), Salisbury - Central (26, 4.3%), Tea Tree Gully - South (24, 4.7%), Port Adelaide Enfield - Coast (22, 5.7%) and Campbelltown - East (22, 5.6%).

Low proportions (and relatively low numbers) were recorded for boys in Unley - East (2.0%, five boys), Tea Tree Gully - Hills (2.1%, four boys), Adelaide Hills - Central (2.6%, six), Salisbury - North-East (2.9%, 13), and Tea Tree Gully - North (3.4%, 21).

There is a very strong gradient across the quintiles of socioeconomic disadvantage of area, with twice the proportion of four year old boys in the most disadvantaged areas in the region assessed as being obese than in the most advantaged areas. The proportion in Quintile 4 (5.9%) is above that in Quintile 5 (5.2%).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 35: Obese four year old boys, CNAHS, 2000 to 2003

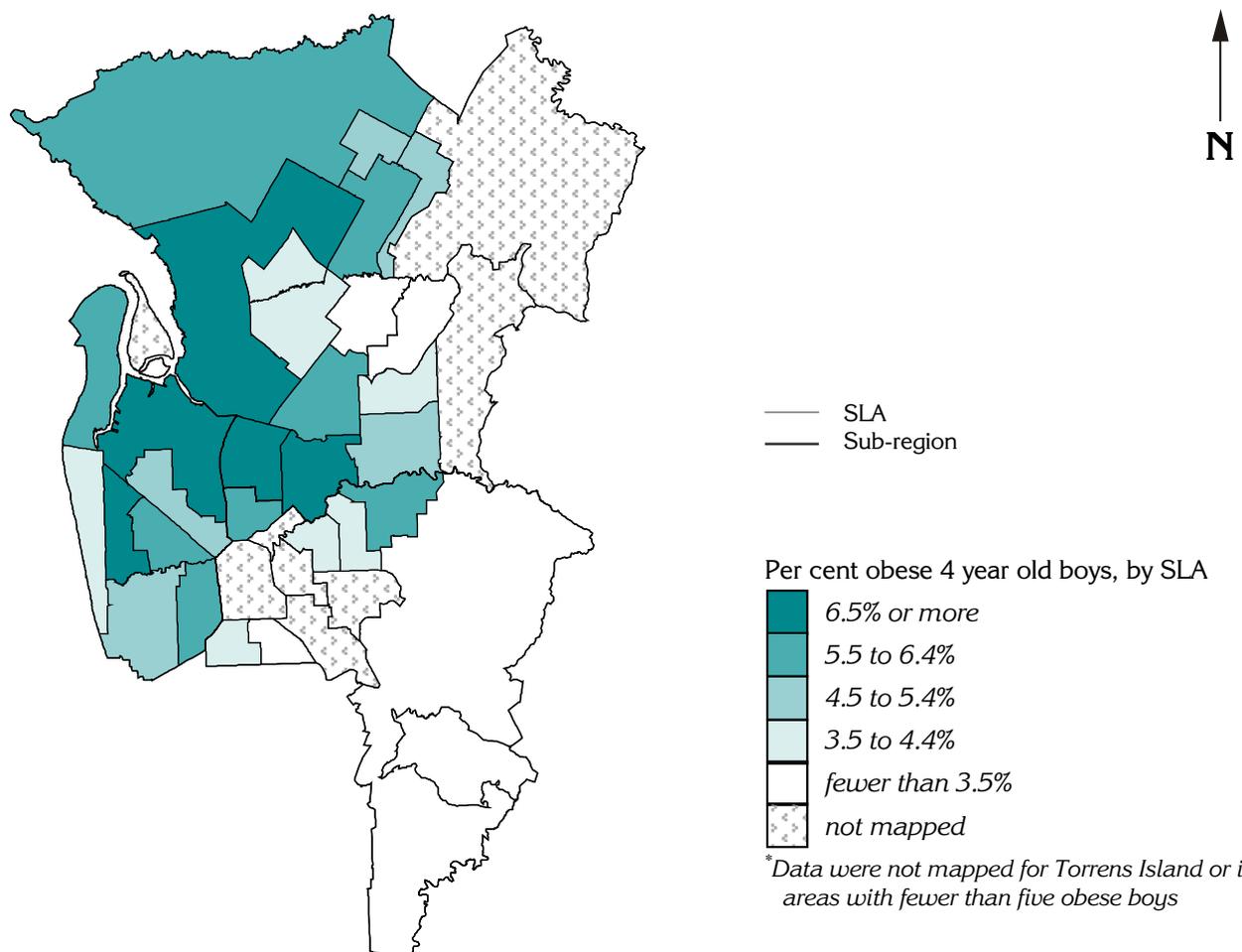


Table 36: Obese four year old boys, CNAHS, 2000 to 2003

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	43	2.5
Quintile 2	90	4.4
Quintile 3	119	5.0
Quintile 4	130	5.9
Quintile 5: most disadvantaged areas	167	5.2
Rate ratio	..	2.12*
Northern	312	4.8
Western	147	5.7
Central East	89	3.5
CNAHS	548	4.7
Southern	202	4.1
Metropolitan regions	751	4.5
State total	1,148	4.5

Dental health: No decayed, missing or filled teeth at 12 years of age

Proportion of 12 year olds attending a SA Dental Service (SADS) clinic who have no decayed, missing or filled teeth, 2002 to 2004

Overview

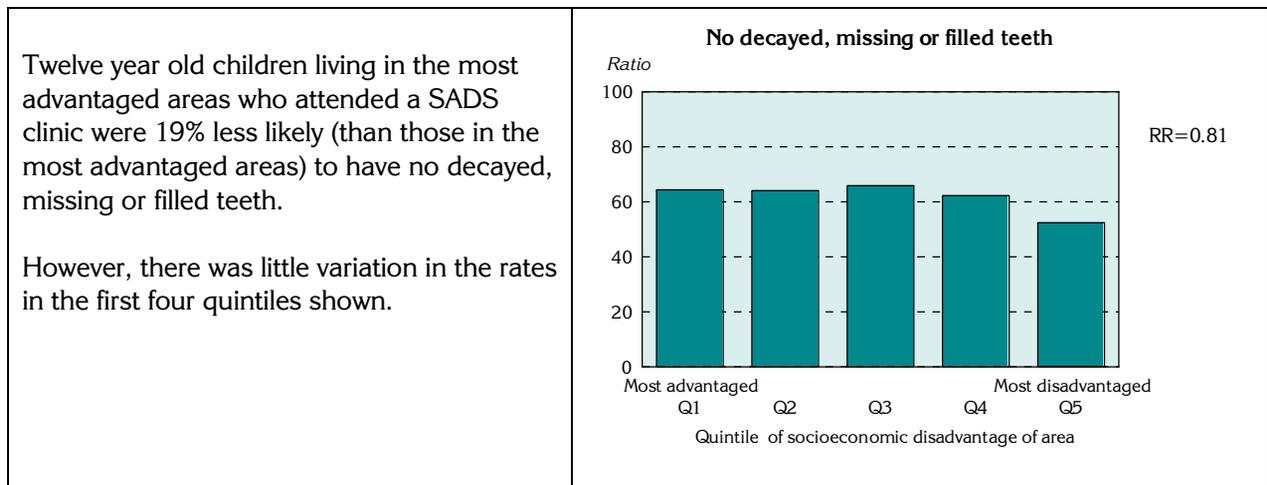
Dental decay and gum disease are costly health burdens, and yet, are also some of the most preventable health conditions. Overall, Australian children experience comparatively low levels of dental decay. However, a minority of children still experience extensive decay and carry most of the burden of this disease ⁶⁸

In Central Northern, 60.9% of children aged 12 years were assessed by the SDS as being without any decayed, missing or filled teeth, a total of 5,432 children (Table 37). The highest proportions of 12 year old children with healthy teeth were located in a number of SLAs adjacent to the city, to the east, south and west, and in parts of the north-east. SLAs with the highest proportion of children with decayed, missing or filled teeth were located in a band, starting in Adelaide and covering SLAs to the north-west and north, and extending to the outer-north (Map 36).

Around three quarters of 12 year old children from West Torrens - West (77.6%, 225 children) and West Torrens - East (74.6%, 185) who attended an SDS clinic had no decayed, missing or filled teeth. There were also high proportions in Burnside - South-West (69.5%, 91 children), Tea Tree Gully - South (69.0%, 267), Charles Sturt - Coastal (68.5%, 241) and Salisbury - North-East (68.3%, 185).

Large numbers of 12 year olds without any decayed, missing or filled teeth were recorded in Salisbury - South-East (293 children, 60.4%), Tea Tree Gully - North (257, 65.7%) and Charles Sturt - Inner West (210, 66.5%).

Children in Charles Sturt - North-East had a poor outcome on this measure, with 37.8% of 12 year olds attending an SADS clinic without these dental problems (126 children aged 12), followed by Port Adelaide Enfield - Port (48.1%, 185), Salisbury - Inner North (51.7%, 185) and - Central (54.8%, 251), Port Adelaide Enfield - Coast (57.0%, 254) and Playford - Elizabeth (57.9%, 256). Of the 26 children aged 12 living in the SLA of Adelaide who were clients of SADS, none were free of decayed, missing or filled teeth.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 36: Twelve year olds with no decayed, missing or filled teeth, CNAHS, 2002 to 2004

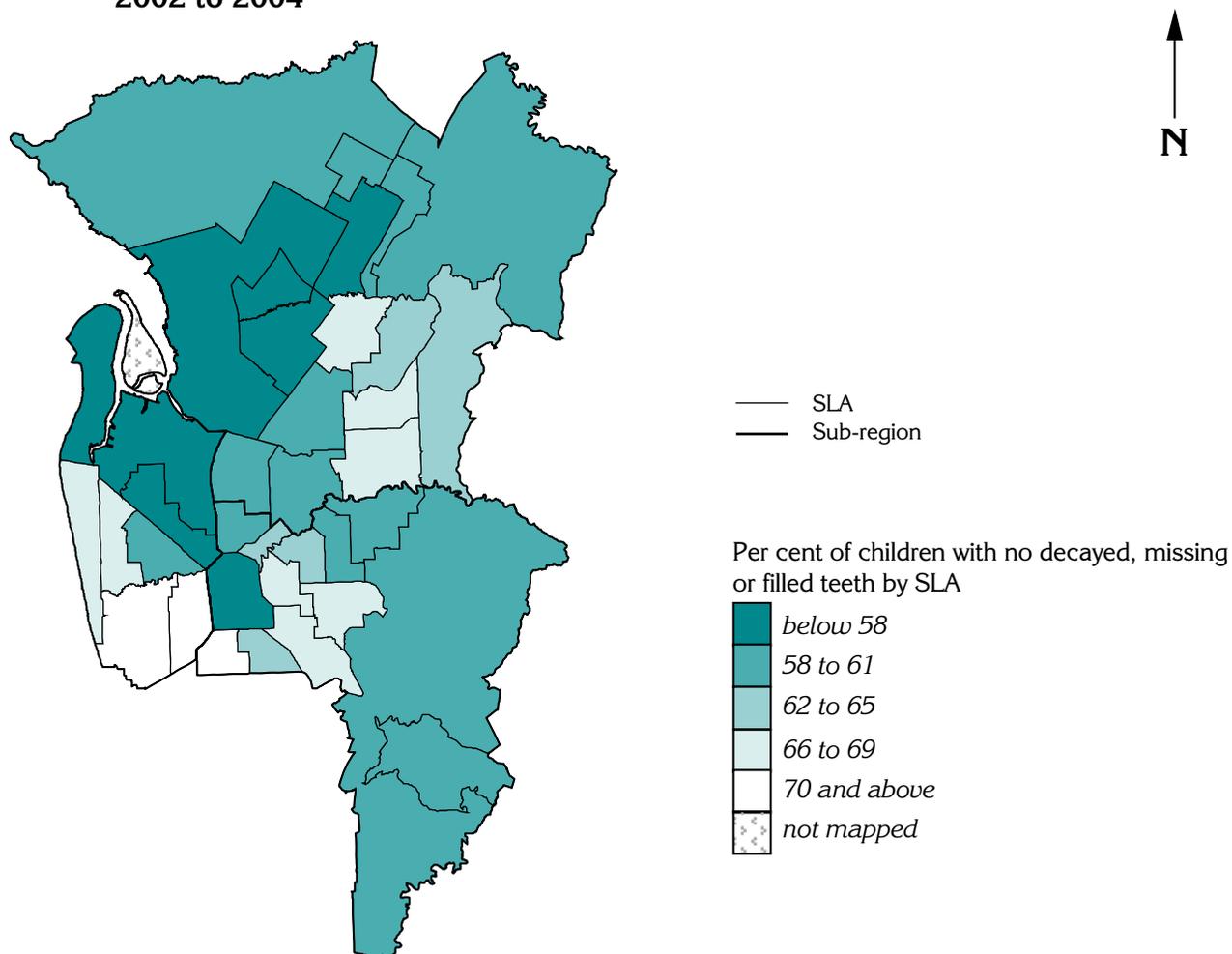


Table 37: Twelve year olds with no decayed, missing or filled teeth, CNAHS, 2002 to 2004

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	1,116	64.4
Quintile 2	1,540	64.1
Quintile 3	1,986	65.9
Quintile 4	1,768	62.3
Quintile 5: most disadvantaged areas	2,515	52.4
Rate ratio	..	0.81**
Northern	2,793	60.9
Western	1,589	60.0
Central East	1,050	62.0
CNAHS	5,432	60.9
Southern	3,051	67.3
Metropolitan regions	8,483	63.0
State total	12,254	61.2

* indicates statistical significance: see page 19

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Explanatory notes for chronic disease estimates

Notes on estimates of chronic diseases and associated risk factors from the 2001 NHS

Indicator	Notes on the data
Estimates of chronic disease and injury	
Long term conditions	- Respondents were asked whether they had been diagnosed with any long term health condition (a condition which has lasted or is expected to last for 6 months or more), and were also asked whether they had been told by a doctor or nurse that they had asthma, cancer, heart and circulatory conditions, and/or diabetes
Injury event	- Injuries which occurred in the four weeks prior to interview
Estimates of measures of self-reported health	
Very high psychological distress levels (K10)	- Derived from the Kessler Psychological Distress Scale 10 items (K-10)*, which is a scale of non-specific psychological distress based on 10 questions about negative emotional states in the 4 weeks prior to interview. 'Very high' distress is the highest level of distress category (of a total of four categories)
Fair or poor self-assessed health status	- Respondent's general assessment of their own health, against a five point scale from excellent through to poor – 'fair' or 'poor' being the two lowest in the scale
Estimates of selected risk factors	
Overweight & obese	- Based on self-reported height and weight; BMI calculated and grouped into categories (to allow reporting against both WHO and NHMRC guidelines) as follows – overweight (not obese): 25.0 to less than 30.0; obese: 30.0 and greater
Smokers	- Respondent's undertaking regular (or daily) smoking at the time of interview
Physical inactivity	- Did not exercise in the two weeks prior to interview through sport, recreation or fitness (including walking) – excludes incidental exercise undertaken for other reasons, such as for work or while engaged in domestic duties
High health risk due to alcohol consumed	- Respondent's estimated average daily alcohol consumption in the seven days prior to interview (based on number of days and quantity consumed). Alcohol risk levels were grouped according to NHMRC risk levels for harm in the long term, with 'high risk' defined as a daily consumption of more than 75 ml for males and 50 ml for females

Note: For a full description, refer to *ABS 2001 National Health Survey, Cat. No. 4364.0* and *ABS 2001 Health Risk Factors, Cat. No. 4812.0*. *Reference for K10: Kessler & Mroczek 1994

Estimated disease prevalence: Respiratory system diseases

Estimated number of people who reported in the 2001 NHS having been told by a doctor or nurse they had respiratory system diseases

Overview

Chronic respiratory system diseases are those that affect the respiratory tract and include asthma, lung diseases, and breathing disorders. They often persist over many years and, if severe, may require a wide range of treatments and medications from specialised health practitioners. Some diseases may be caused by environmental pollutants such as tobacco smoke or toxic emissions from industry or transport. Others are the result of genetic conditions which affect people from a young age, such as cystic fibrosis.

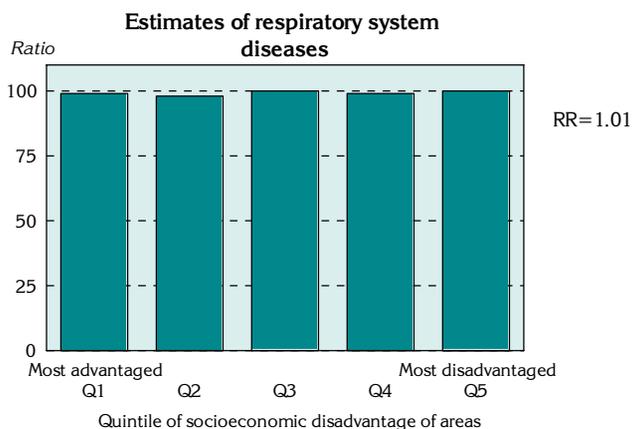
Central Northern had one per cent fewer people with respiratory diseases than expected from the rates for the combined metropolitan regions (a standardised ratio (SR) of 99**, 267,533 people) (Table 38). There was very little variation at the SLA level in Central Northern, with SRs no more than six per cent above or below the average. The SLAs of Playford - Elizabeth and Port Adelaide Enfield - Coast had the highest ratios, with lower ratios in similarly disadvantaged SLAs elsewhere in the region (Map 37).

Playford SLAs all had elevated ratios, with Elizabeth recording the highest (an SR of 106**, 9,513 people), followed by West Central (103*, 4,623) and East Central (103*, 6,846). There were also elevated ratios in Port Adelaide Enfield - Coast (104**, 10,297) and Salisbury - Inner North (101, 8,868), West Torrens - West (101, 9,852) and Walkerville (101, 2,440).

A number of SLAs in the Central Northern region were estimated to have large numbers of people with respiratory system diseases: these included Salisbury - South-East (11,928 people, 99), Tea Tree Gully - South (11,684 people, 99), Charles Sturt - Coastal (11,085, 100), Port Adelaide Enfield - East (9,942, 100), Salisbury - Central (9,674, 99), Tea Tree Gully - Central (9,469, 99) and - North (9,180, 99).

SLAs with fewer people estimated as having respiratory system disease than expected included Campbelltown - East (an SR of 95**, 9,204 people), Adelaide (96**, 6,038), Salisbury Balance (96, 2,033), Charles Sturt - Inner West (96**, 8,301), West Torrens - East (97**, 8,258), Adelaide Hills - Ranges (98, 3,543), Campbelltown - West (98, 6,506), Charles Sturt - North-East (98*, 8,789) and - Inner East (98, 7,455), Tea Tree Gully - Hills (98, 4,416), Burnside - North-East (98, 7,200), Playford - West (98, 2,896) and Port Adelaide Enfield - Port (98, 8,778).

There was only marginal variation across the quintiles of socioeconomic status in the estimated number of people reporting respiratory system diseases.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 37: Estimated prevalence of respiratory system diseases, CNAHS, 2001

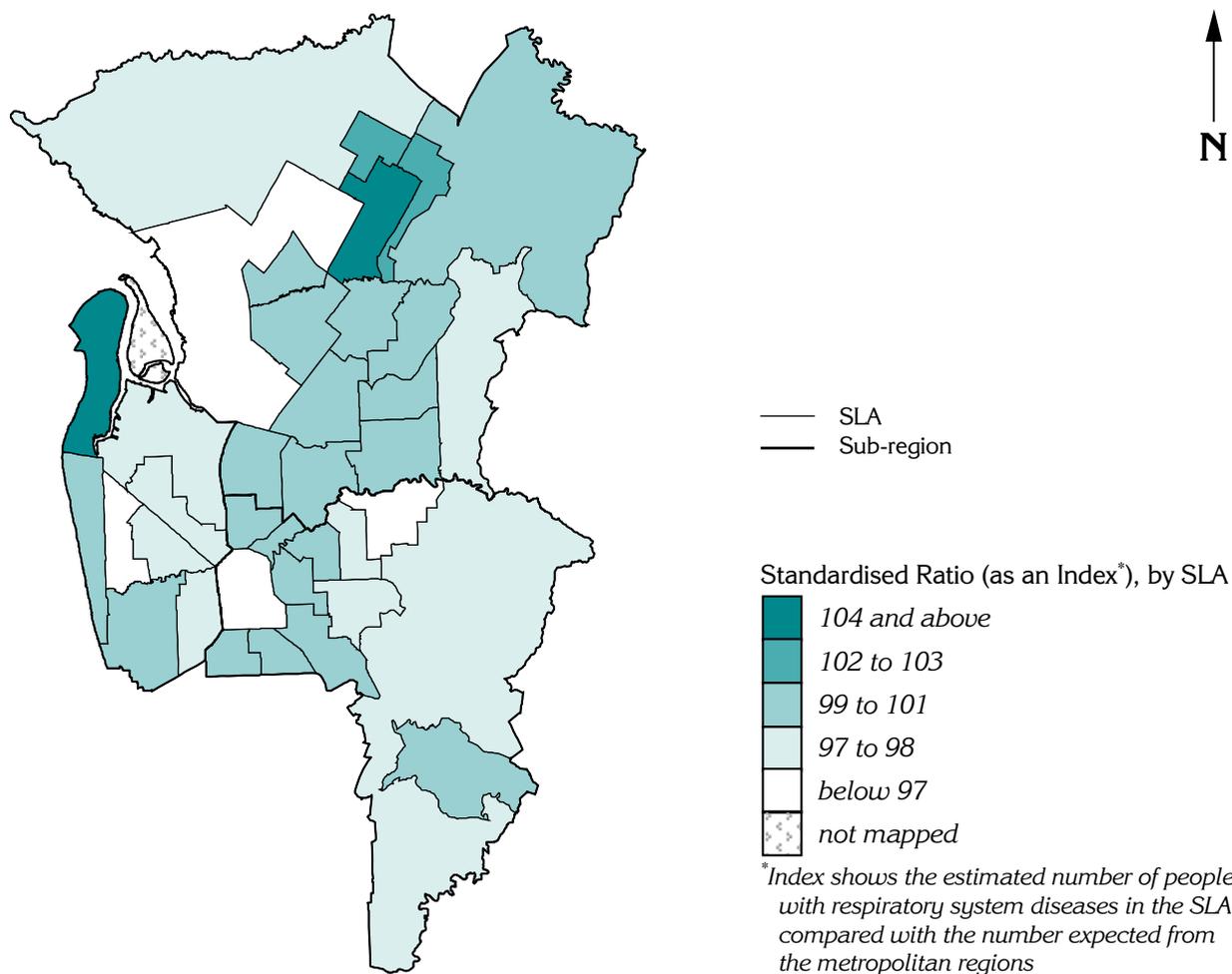


Table 38: Estimated prevalence of respiratory system diseases, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	49,277	362.4	99
Quintile 2	51,631	358.4	98**
Quintile 3	58,920	366.0	100
Quintile 4	48,524	360.2	99**
Quintile 5: most disadvantaged areas	59,180	366.6	100
Rate ratio	..	1.01	1.01
Northern	116,984	365.5	100
Western	72,815	326.6	99*
Central East	77,734	359.4	98**
CNAHS	267,533	362.9	99**
Southern	115,356	370.7	101**
Metropolitan regions	382,890	365.2	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated disease prevalence: Asthma

Estimated number of people who reported in the 2001 NHS having been told by a doctor or nurse they had asthma

Overview

Asthma is a disorder affecting the small airways of the lungs. People with asthma have very sensitive airways that narrow in response to certain "triggers", leading to difficulty in breathing. The airway narrowing is caused by inflammation and swelling of the airway lining, the tightening of the airway muscles, and the production of excess mucus. This results in a reduced airflow in and out of the lungs. Asthma is Australia's most widespread chronic (long-term and persistent) health problem. It affects over 2 million Australians: 1 in 4 children, 1 in 7 teenagers and 1 in 10 adults. At present the cause of asthma is not known and there is no cure. However, with appropriate management, most people with asthma can lead normal, active lives.

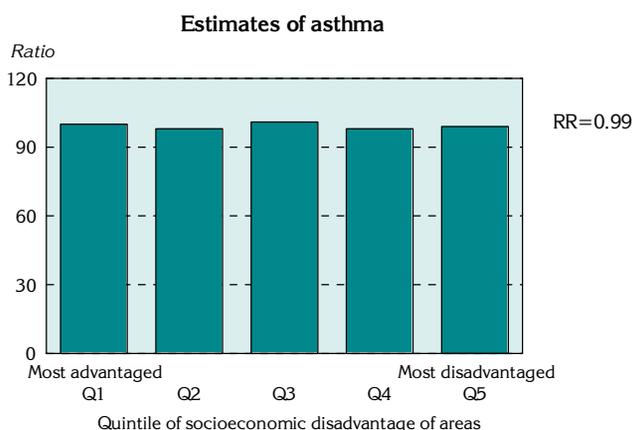
In Central Northern, 102,274 people were estimated to have asthma in 2001, one per cent fewer than expected from the metropolitan regions' rate (a standardised ratio (SR) of 99^{**}) (Table 39). A small number of SLAs had marginally elevated SRs in parts of the outer north and west (Map 38).

The most highly elevated ratio was mapped in Playford – Elizabeth, where eight per cent more people than expected were estimated to have asthma (an SR of 108^{**}, 3,804 people). Other SLAs with elevated ratios were Port Adelaide Enfield - Coast (105^{**}, 3,980), Playford - West Central (104, 1,911), Playford - East Central (102, 2,807), Charles Sturt - Coastal (102, 4,182), Walkerville (102, 919) and West Torrens - West (102, 3660).

Salisbury - South-East (4,607 people, an SR of 99), Tea Tree Gully - South (4,524, 100), - Central (3,762, 100), - North (3,744, 99), Port Adelaide Enfield - East (3,695, 99), Salisbury - Inner North (3,583, 99), - North-East (3,159, 99), Burnside - South-West (2,770, 101), Unley - East (2,553, 101), Port Adelaide Enfield - Inner (2,550, 99) and Prospect (2,518, 99) had high estimated numbers of people with asthma.

Ratios mapped in the lowest range included Campbelltown - East (an SR of 93^{**}, 3,469 people), Salisbury Balance (93^{*}, 805), Port Adelaide Enfield - Port (94^{**}, 3,170), Adelaide (94^{**}, 2,126), Charles Sturt - North East (94^{**}, 3,219) and - Inner West (94^{**}, 3,070), Playford - West (96, 1,133), West Torrens - East (96^{*}, 2,996), Salisbury - Central (96^{*}, 3,765), Charles Sturt - Inner East (97, 2,746), Adelaide Hills - Ranges (97, 1,387), Campbelltown - West (97, 2,408) and Burnside - North-East (98, 2,713).

There was only marginal variation across the quintiles of socioeconomic status in the estimated number of people reporting asthma.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 38: Estimated prevalence of asthma, CNAHS, 2001

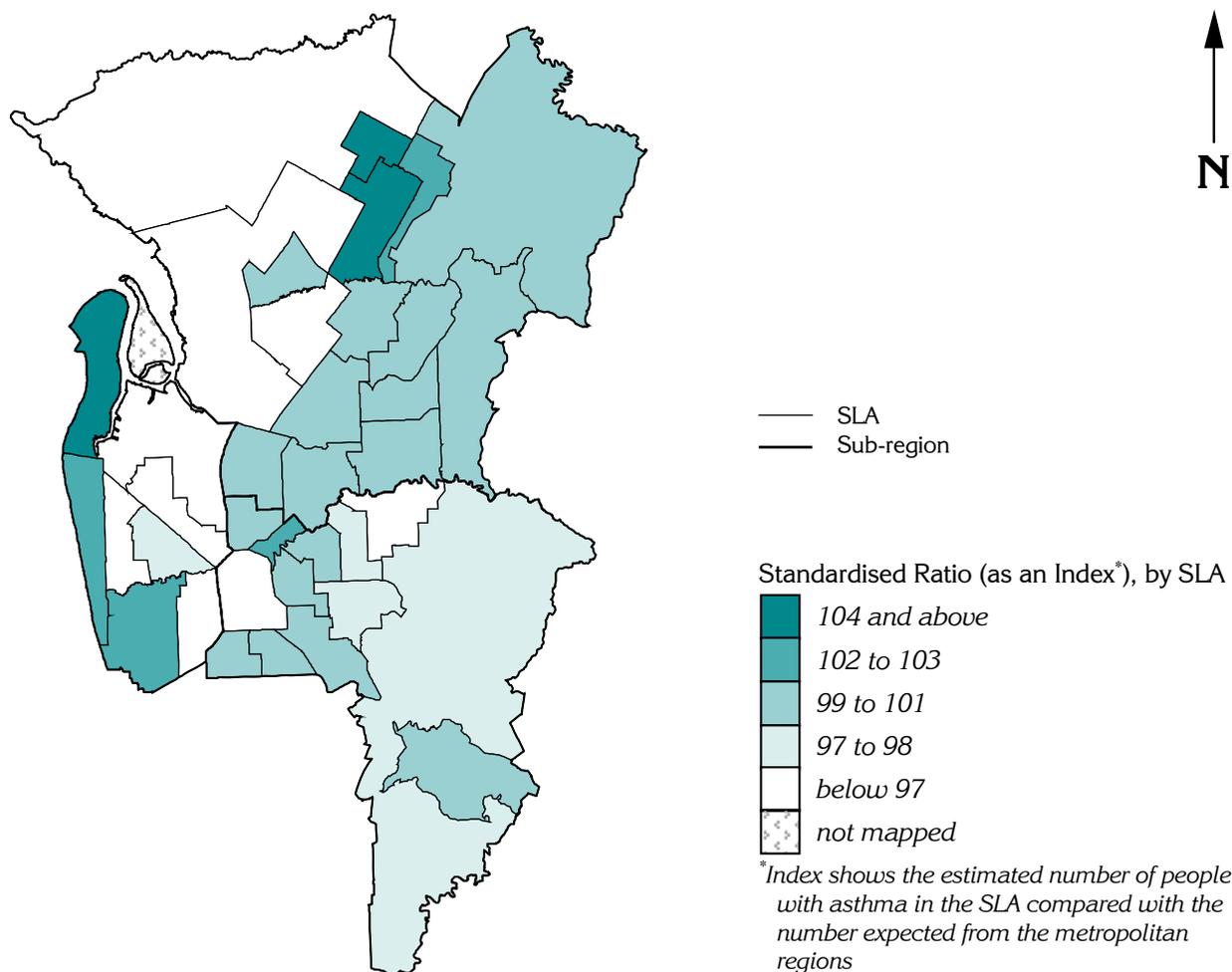


Table 39: Estimated prevalence of asthma, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	18,859	140.3	100
Quintile 2	19,801	137.6	98**
Quintile 3	22,397	141.3	101
Quintile 4	18,410	137.1	98**
Quintile 5: most disadvantaged areas	22,808	138.4	99*
Rate ratio	..	0.99	0.99
Northern	46,007	140.2	100
Western	27,023	137.9	98**
Central East	29,244	138.0	98**
CNAHS	102,274	139.0	99**
Southern	44,835	143.5	102**
Metropolitan regions	147,109	140.3	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated disease prevalence: Circulatory system diseases

Estimated number of people who reported in the 2001 NHS having been told by a doctor or nurse they had circulatory system diseases

Overview

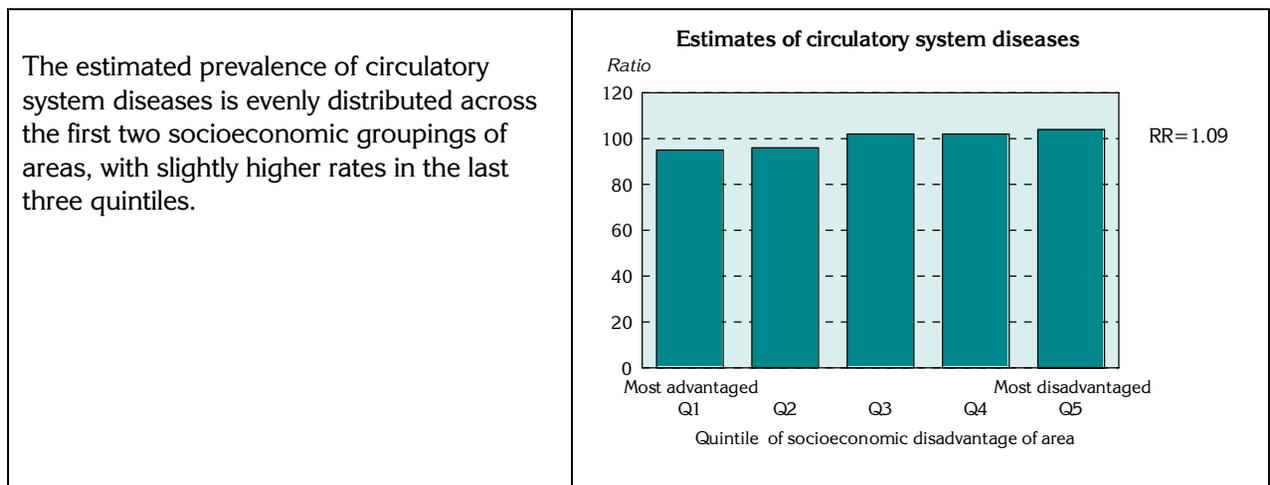
Chronic circulatory system diseases are chronic diseases affecting the cardiovascular system. These include ischaemic or coronary heart disease, cerebrovascular accident or stroke, hypertension (high blood pressure) and rheumatic heart disease. These diseases kill more Australians every year than any other health condition and are responsible for enormous health care costs. Within the Australian population, certain population groups are at increased risk for developing and dying from cardiovascular conditions. These groups include Indigenous Australians, people of lower socioeconomic status, males over the age of 45 years and males in rural and remote areas ⁶⁹.

An estimated 134,751 people in Central Northern had circulatory system diseases, an SR of 100 (Table 40). Elevated standardised ratios (SRs) were mapped in parts of the west and outer north, with low ratios in the east and south-east (Map 39).

The most highly elevated ratio was in Salisbury - Inner North, with eleven per cent more people estimated to have circulatory system diseases than expected (an SR of 111**, 3,221 people). There were also elevated ratios in Playford - West Central (109**, 1,887) and - East Central (109**, 2,527), Port Adelaide Enfield - Coast (108**, 5,620), West Torrens - West (104**, 6,297), Charles Sturt - North-East (104*, 4,733), Port Adelaide Enfield - East (104**, 5,481) Playford - Elizabeth (104*, 4,960) and West Torrens - East (103, 4,463).

There were large numbers of people with circulatory system diseases in Charles Sturt - Inner West (5,086, 101), Port Adelaide Enfield - Port (4,875, 101), Salisbury - Central (4,272, 101) and Campbelltown - West (4,003, 99).

A number of SLAs were mapped in the lowest range, including Adelaide (an SR of 91**, 2,801 people), Burnside - North-East (93**, 3,973), Adelaide Hills - Ranges (93**, 1,528), Tea Tree Gully - Hills (93**, 1,983), Campbelltown - East (94**, 4,594), Adelaide Hills - Central (95*, 1,969), Walkerville (95**, 1,444), Playford - West (95, 1,201), Burnside - South-West (95**, 4,124), Norwood Payneham and St Peters - West (95**, 2,978), Tea Tree Gully - North (96*, 3,149), - South (96**, 5,757), Charles Sturt - Coastal (96**, 6,240) and Tea Tree Gully - Central (97, 3,910).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 39: Estimated prevalence of circulatory system diseases, CNAHS, 2001

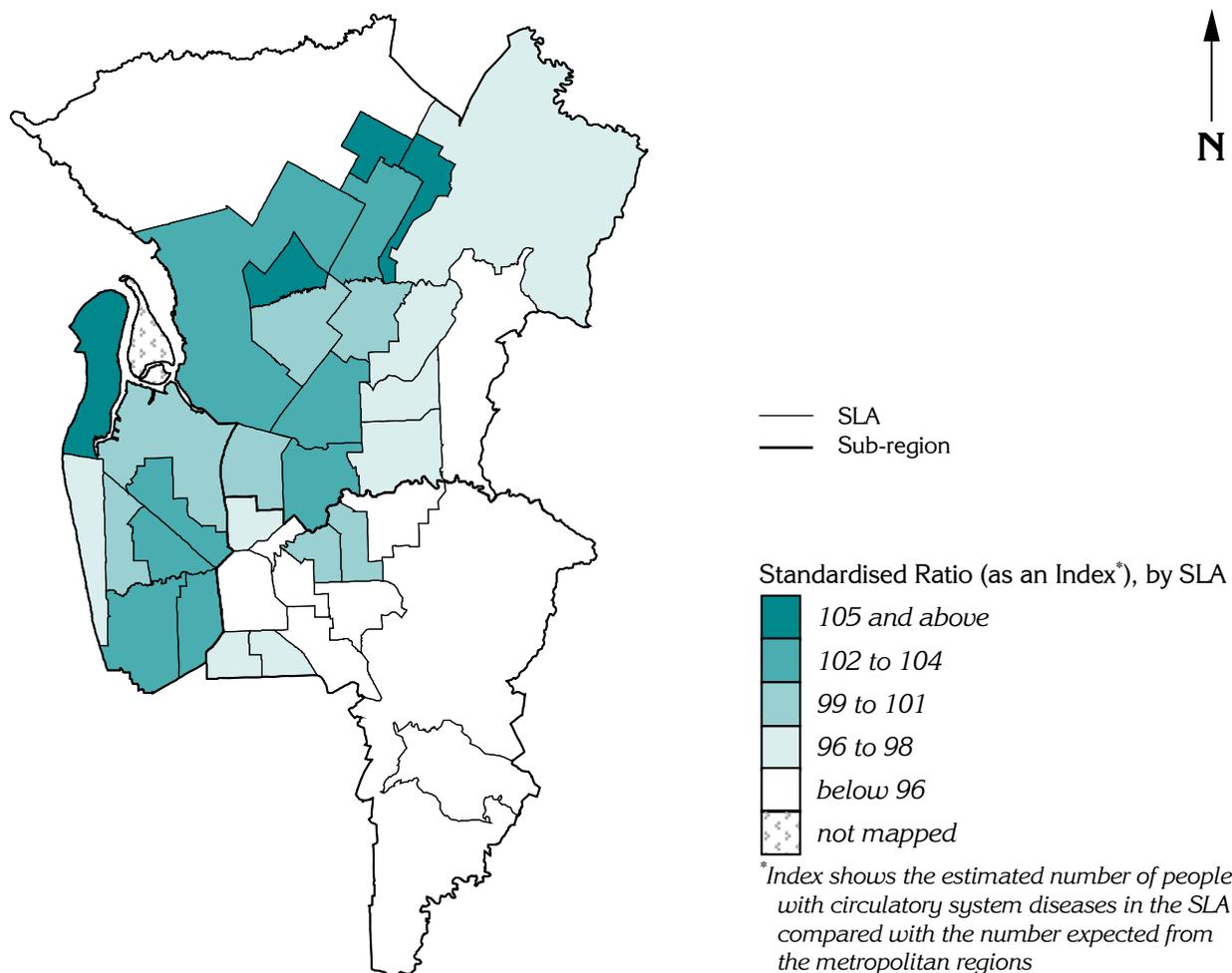


Table 40: Estimated prevalence of circulatory system diseases, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	24,758	175.0	95**
Quintile 2	23,841	176.0	96**
Quintile 3	32,023	188.0	102**
Quintile 4	25,497	187.2	102**
Quintile 5: most disadvantaged areas	28,631	190.6	104**
Rate ratio	..	1.09	1.09**
Northern	52,717	186.3	101**
Western	41,768	187.9	102**
Central East	40,266	176.3	95**
CNAHS	134,751	183.7	100
Southern	58,301	185.3	101
Metropolitan regions	193,052	184.1	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated disease prevalence: Diabetes type 2

Estimated number of people who reported in the 2001 NHS having been told by a doctor or nurse they had diabetes type 2

Overview

Diabetes type 2 diabetes is the commonest form of diabetes. It affects 85 to 90 per cent of all people with diabetes. While it usually affects mature adults, younger people are also now being diagnosed in greater numbers as rates of overweight and obesity increase. It is strongly associated with high blood pressure, high cholesterol and excessive weight. Type 2 diabetes was previously called non-insulin dependent diabetes or mature onset diabetes. The causes of type 2 diabetes are known and in some cases, it can be prevented. However there is currently no cure for type 2 diabetes.

The Central Northern region had an estimated 19,165 people with diabetes type 2 in 2001, standardised ratio (SR) of 102** (Table 41). SLAs with elevated ratios covered much of the north and north-west, as well as parts of the west and outer north (Map 40), following the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

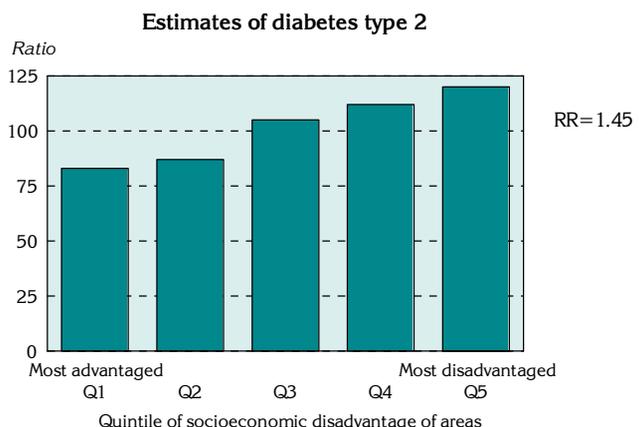
The majority of SLAs with elevated ratios were concentrated in groups, with all or most SLAs having elevated SRs in Salisbury, Port Adelaide Enfield, Charles Sturt and Playford. The Salisbury SLAs were - Inner North (an SR of 128**, 480 people), - Balance (117, 102), - Central (112**, 656), - South-East (109**, 887) and - North-East (109, 534). In Port Adelaide Enfield, elevated SRs were recorded for - Port (127**, 835 people), - Inner (117**, 618), - Coast (112**, 809), and - East (112**, 822). Elevated SRs in Charles Sturt were recorded for - North-East (126**, 779 people), - Inner West (117**, 841) and - Inner East (117**, 704). The Playford SLAs of - East Central (with an SR of 121**, 369 people), - West Central (an SR of 120**, 284 people) and - Elizabeth (116**, 765) all had more people with diabetes type 2 than expected from the metropolitan rates. There were also elevated ratios in West Torrens - East (an SR of 125**, 733 people) and Campbelltown - West (114**, 643).

Relatively large numbers of people with diabetes type 2 were estimated for West Torrens - West (805 people, an SR of 95) and Campbelltown - East (660, 92).

The SLAs with low ratios included Adelaide Hills - Ranges (an SR of 71**, 167 people) and - Central (76**, 225), Adelaide (75**, 329), Tea Tree Gully - Hills (77**, 247) and - North (79**, 341), Playford - Hills (80, 48), Burnside - South-West (83**, 509), Walkerville (83*, 183), Tea Tree Gully - Central (86**, 483), Unley - West (86**, 346), Burnside - North-East (87**, 527), Unley - East (87**, 427), Tea Tree Gully - South (88**, 760), Charles Sturt - Coastal (89**, 822) and Norwood Payneham and St Peters - West (89*, 382).

There was a distinct socioeconomic gradient in the estimates for diabetes type 2.

Those in the most disadvantaged areas were 45% more likely to have diabetes type 2 than those in the most advantaged areas.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 40: Estimated prevalence of diabetes type 2, CNAHS, 2001

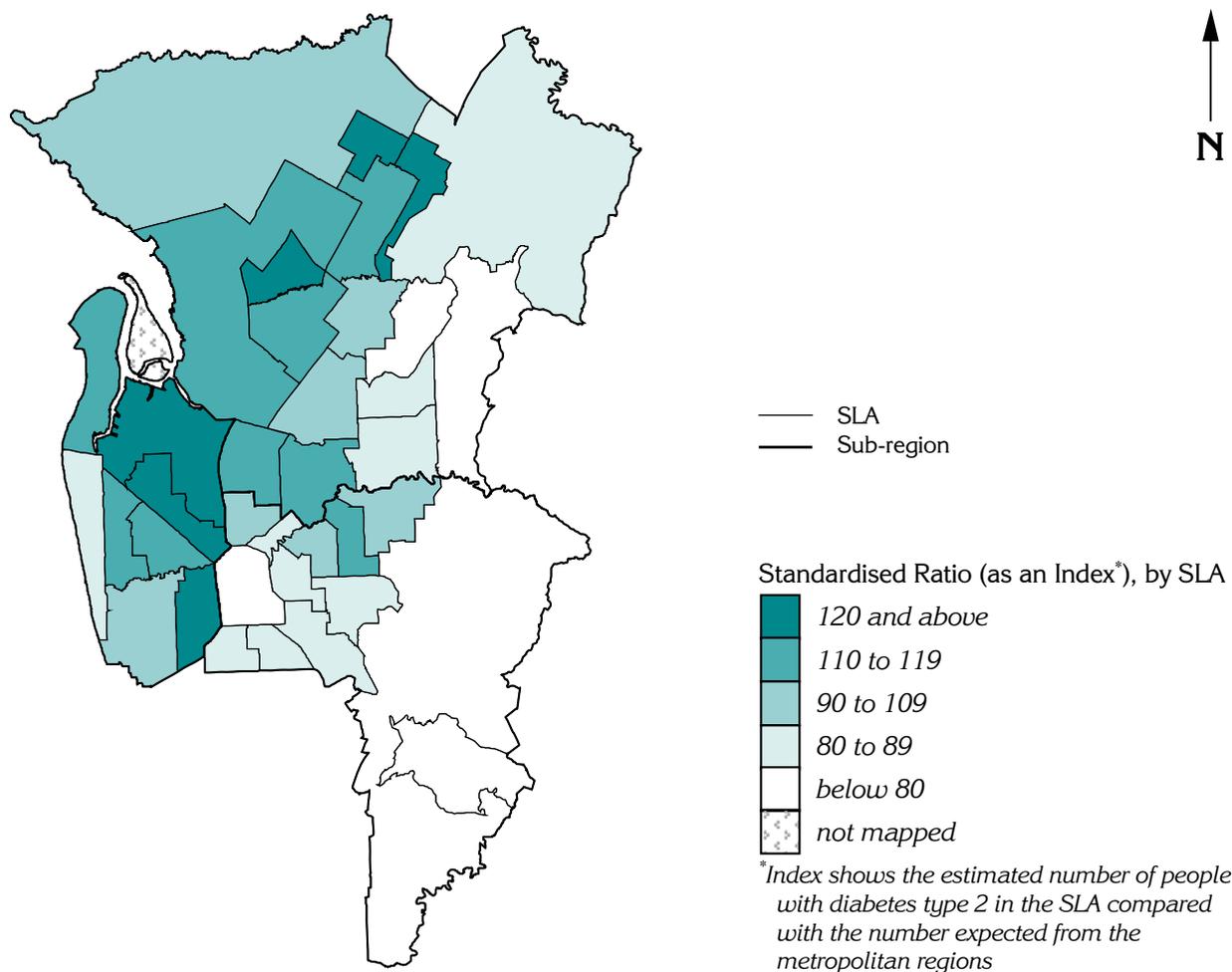


Table 41: Estimated prevalence of diabetes type 2, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	3,061	21.3	83**
Quintile 2	3,038	22.2	87**
Quintile 3	4,588	26.9	105**
Quintile 4	3,960	28.7	112**
Quintile 5: most disadvantaged areas	4,518	30.8	120**
Rate ratio	..	1.45	1.45**
Northern	7,566	26.8	105**
Western	6,330	28.5	111**
Central East	5,269	22.8	88**
CNAHS	19,165	26.1	102*
Southern	7,683	24.5	96**
Metropolitan regions	26,848	25.6	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated disease prevalence: Mental and behavioural disorders

Estimated number of people who reported in the 2001 NHS having mental or behavioural disorders

Overview

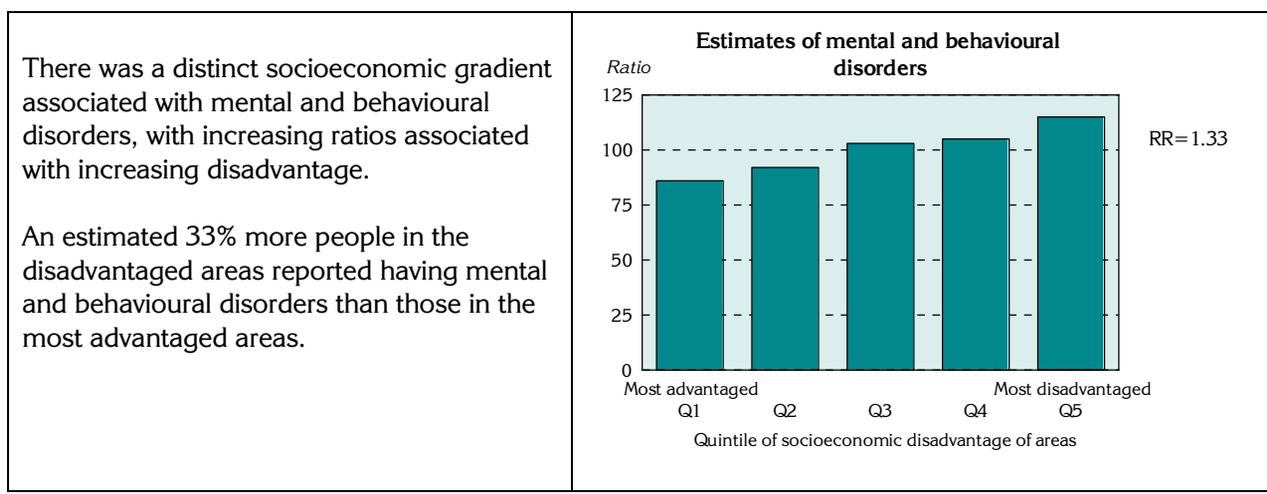
A diverse range of social, environmental, biological and psychological factors can impact on an individual’s mental health. In turn, people can develop symptoms and behaviours that are distressing to themselves or others, and interfere with their social functioning and capacity to negotiate daily life. These symptoms and behaviours may require treatment or rehabilitation, and sometimes, hospitalisation. Chronic mental health conditions can affect young people as well as adults, and may require a range of community-based or institutional interventions, depending on the severity of the episode.

Central Northern had a standardised ratio (SR) of 101**, representing 79,229 people who reported mental and behavioural disorders as chronic conditions (Table 42). The most highly elevated ratios were mapped in the inner northern, north-western, western and outer northern SLAs, with low ratios in the east and south-east (Map 41), following the pattern of socioeconomic disadvantage (Map 23, page 113).

There were estimated to be nearly one third more than the expected number in Playford - Elizabeth (an SR of 130**, 3,339 people). Other SLAs with elevated ratios included Port Adelaide Enfield - Port (an SR of 121**, 3,112 people) and - Inner (118**, 2,291), Playford - West Central (117**, 1,553), Charles Sturt - North-East (111**, 2,911), West Torrens - East (110**, 2,645), Port Adelaide Enfield - East (110**, 3,139) and - Coast (109**, 3,199), Salisbury - Inner North (109**, 2,884) and Central (107**, 3,115), Charles Sturt - Inner East (108**, 2,342) and Inner West (106**, 2,635), Norwood Payneham and St Peters - East (105*, 1,631) and West Torrens - West (105**, 2,910).

There were estimated to be large numbers of people with mental and behavioural disorders in the SLAs of Salisbury - South-East (3,653 people, an SR of 104*), Tea Tree Gully - South (3,258, 95**), Charles Sturt - Coastal (3,049, 96**), Campbelltown - East (2,609, 91**) and Tea Tree Gully - Central (2,575, 91**).

The SLAs of Adelaide Hills - Ranges (with an SR of 78**, 868 people) and - Central (81**, 1,104), Burnside - North-East (82**, 1,753) and - South-West (83**, 1,765), Tea Tree Gully - North (85**, 2,433) and - Hills (85**, 1,145), Playford - Hills (86*, 275) and Walkerville (87**, 608) all had ratios below the level expected from the metropolitan rates.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 41: Estimated prevalence of mental and behavioural disorders, CNAHS, 2001

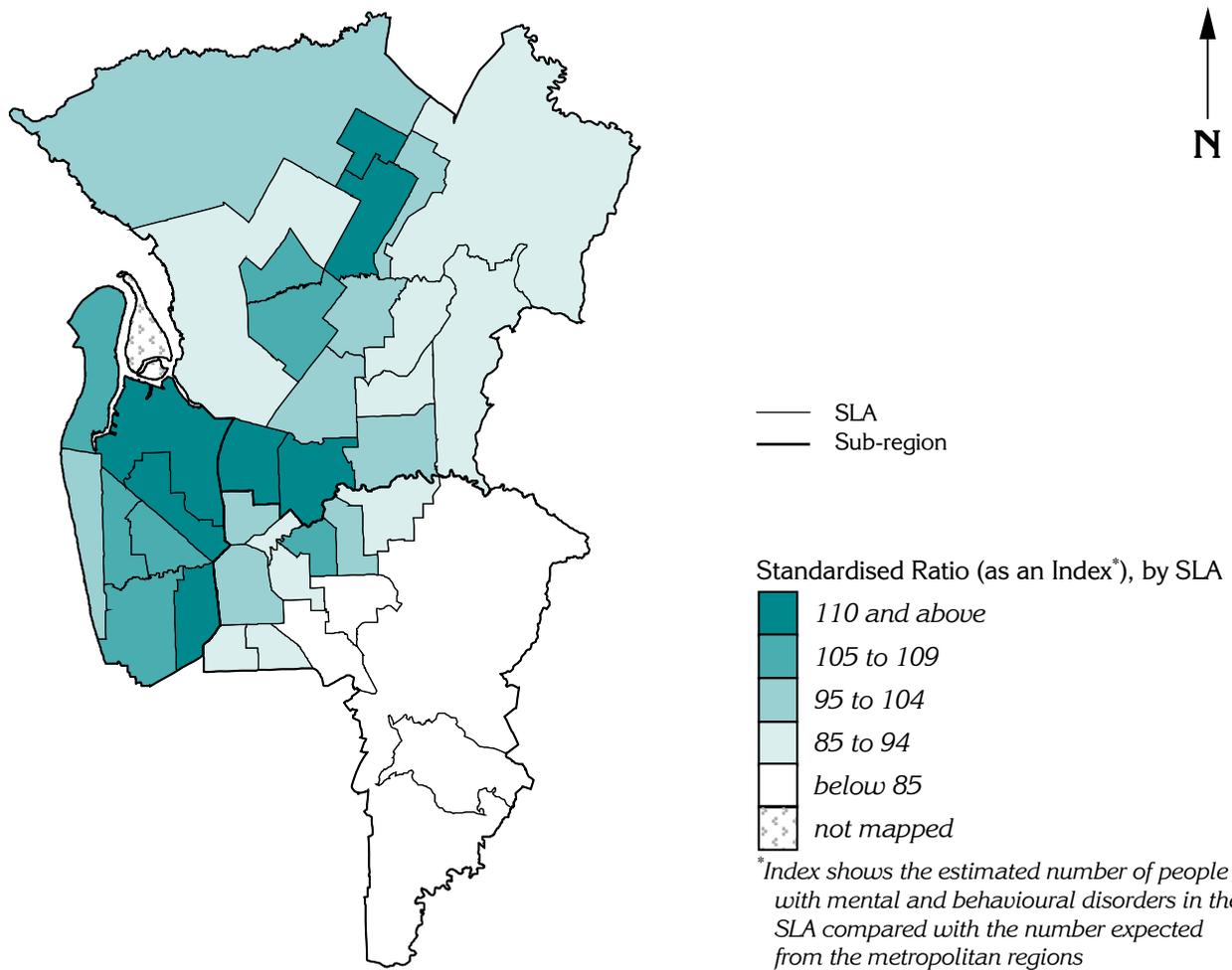


Table 42: Estimated prevalence of mental and behavioural disorders, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	12,538	92.1	86**
Quintile 2	14,251	98.4	92**
Quintile 3	17,589	110.3	103**
Quintile 4	15,048	112.1	105**
Quintile 5: most disadvantaged areas	19,804	122.7	115**
Rate ratio	..	1.33	1.33**
Northern	35,542	109.8	103**
Western	22,804	115.2	108**
Central East	20,883	97.3	90**
CNAHS	79,229	107.6	101*
Southern	32,584	104.3	98**
Metropolitan regions	111,814	106.7	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated disease prevalence: Musculoskeletal system diseases

Estimated number of people who reported in the 2001 NHS reporting a musculoskeletal system disease

Overview

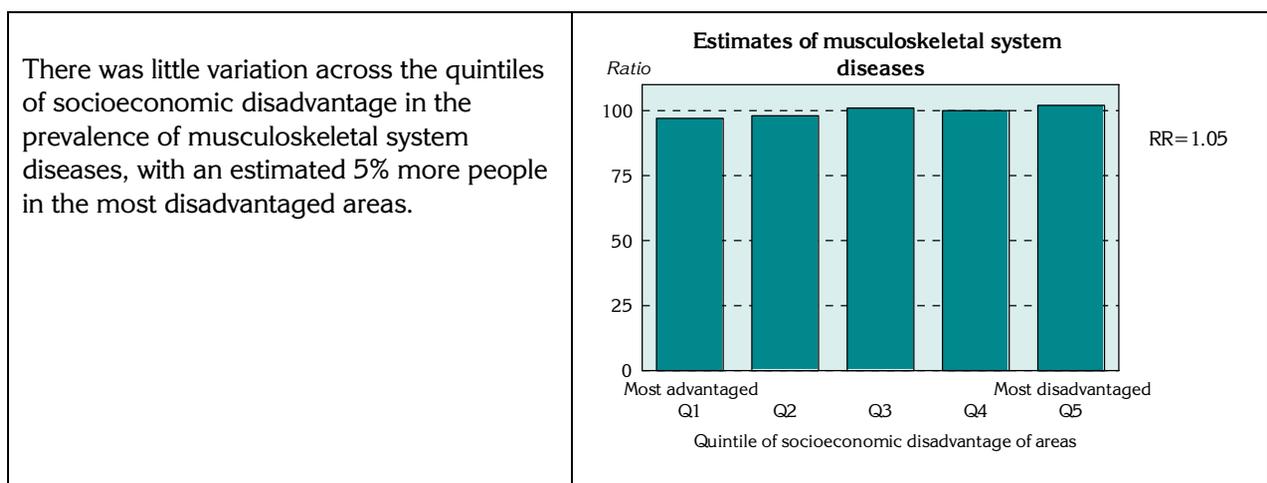
Chronic musculoskeletal system diseases are chronic disorders of the muscles and bones. They include osteoarthritis and osteoporosis. More than 6.1 million Australians are reported to have arthritis or a musculoskeletal condition. Most commonly reported conditions are back pain and various forms of arthritis. Almost 1.2 million of these are reported to have disability associated with their condition ⁷⁰. Highly prevalent, they place a significant burden on the community, both economic and personal, including the use of hospital and primary care services, disruptions to daily life and lost productivity through disability ⁷⁰.

There were 258,446 people estimated as having musculoskeletal system diseases in 2001, two per cent fewer than expected (a standardised ratio (SR) of 98**) (Table 43). None of the standardised ratios in the Central Northern SLAs were highly elevated. Ratios above average were mapped in a small number of north-west and outer northern SLAs, with those below average in the east (Map 42), generally following the pattern of socioeconomic disadvantage shown in Map 23, page 113.

The SLAs with the slightly elevated ratios, or a ratio of 100 included Playford - West Central (an SR of 103*, 3,913 people), Port Adelaide Enfield - Coast (102*, 10,163), Playford - Elizabeth (102*, 8,919), Salisbury - Inner North (101, 7,195), West Torrens - West (101, 10,607), Port Adelaide Enfield - Inner (101, 7,075), Norwood Payneham and St Peters - East (100, 5,924), Charles Sturt - Inner East (100, 7,877), Salisbury - Central (100, 8,894), Playford - East Central (100, 5,502), Port Adelaide Enfield - Port (100, 8,922) and Salisbury - South-East (100, 11,311).

Large numbers of people with musculoskeletal system diseases were mapped in Charles Sturt - Coastal (11,455 people, an SR of 98), Tea Tree Gully - South (11,309, 97*), Port Adelaide Enfield - East (9,939, 99), Charles Sturt - Inner West (8,874, 99) and - North-East (8,804, 99), Tea Tree Gully - Central (8,482, 97**) and West Torrens - East (8,402, 98).

The SLAs with the lowest ratios included Adelaide (90**, 5,815 people), Adelaide Hills - Ranges (94**, 3,194), Norwood Payneham and St Peters - West (96**, 5,948), Burnside - North-East (95**, 7,269), Adelaide Hills - Central (95**, 4,048), Tea Tree Gully - Hills (95**, 4,110), Campbelltown - East (96**, 9,097), Unley - East (96**, 6,593), Burnside - South-West (96**, 7,388), Walkerville (96*, 2,529), Tea Tree Gully - North (96**, 7,533) and Unley - West (96**, 5,626).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 42: Estimated prevalence of musculoskeletal system diseases, CNAHS, 2001

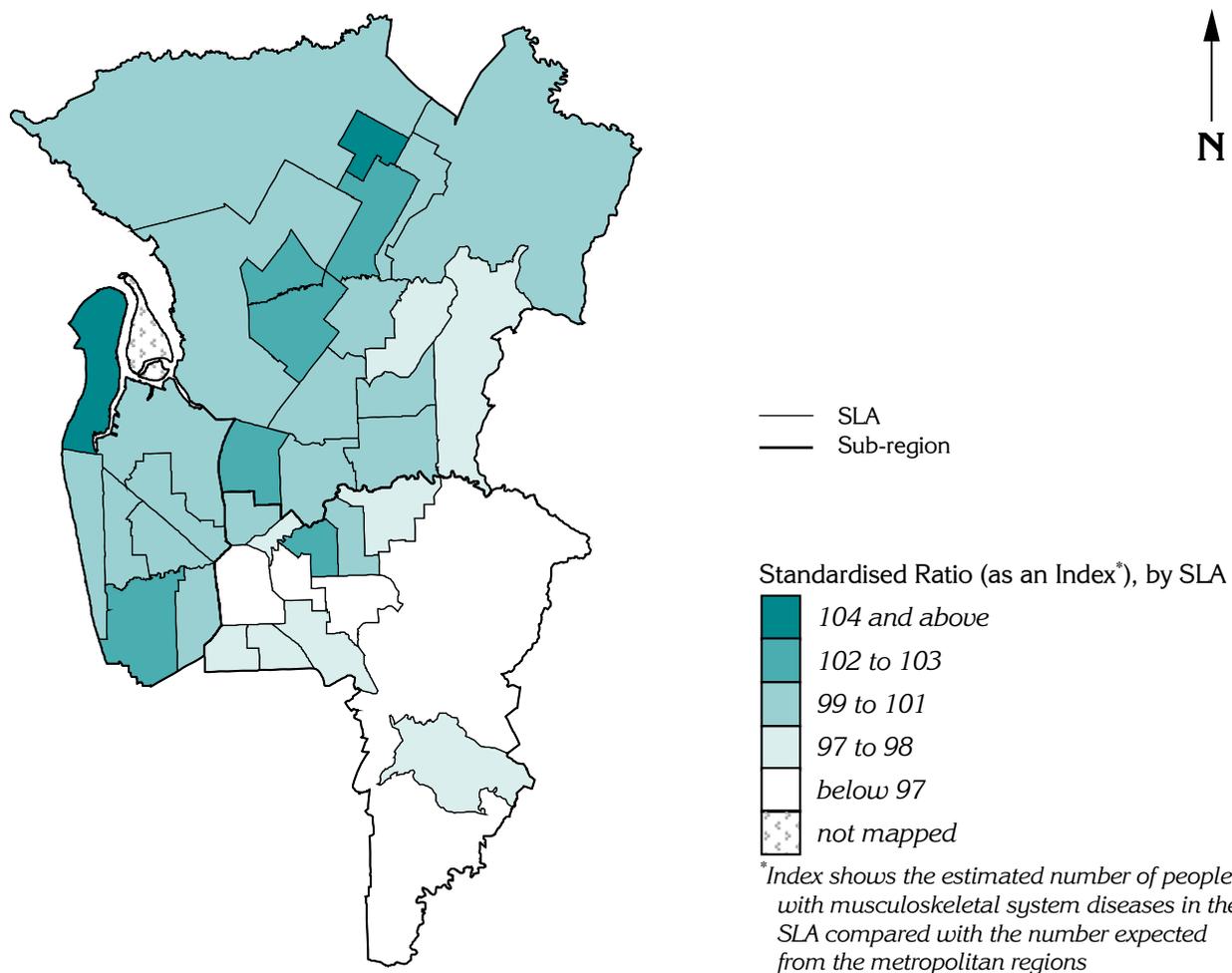


Table 43: Estimated prevalence of musculoskeletal system diseases, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	47,588	341.1	97**
Quintile 2	48,736	343.3	98**
Quintile 3	58,880	355.5	101**
Quintile 4	47,840	353.2	100
Quintile 5: most disadvantaged areas	55,402	358.7	102**
Rate ratio	..	1.05	1.05**
Northern	106,582	353.5	101
Western	75,094	355.6	101**
Central East	76,770	342.2	97**
CNAHS	258,446	350.6	100
Southern	110,101	353.7	101*
Metropolitan regions	368,546	351.5	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated disease prevalence: Arthritis

Estimated number of people who reported in the 2001 NHS having arthritis

Overview

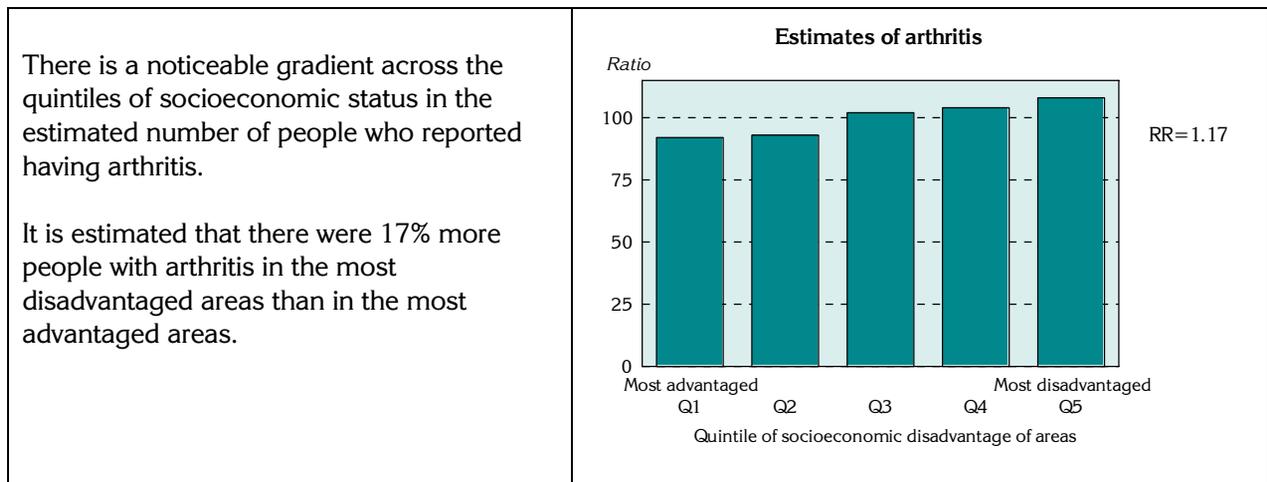
Arthritis is a term used to refer to the many disorders of one or more joints. The commonest forms of arthritis are osteoarthritis. Their prevalence increases sharply with age, and females are more likely to be affected than males. Arthritis is the commonest chronic condition, affecting almost 15% of the Australian population ⁷⁰.

In Central Northern, 110,216 people were estimated to have arthritis (a standardised ratio (SR) of 100) (Table 44). The highest ratios were in a small number of outer northern and north-western SLAs (with elevated ratio covering much of the western, north-western and inner northern suburbs), with low ratios in the east (Map 43), generally following the pattern of socioeconomic disadvantage shown in Map 23, page 113. The standardised ratios cover a wider range than do those for musculoskeletal system diseases (above).

Playford - West Central (1,591 people) and Salisbury - Inner North (2,653 people) both had ratios of 113^{**}, indicating 13% more people with arthritis than expected from the State rates. Other SLAs with elevated SRs included Port Adelaide Enfield - Coast (110^{**}, 4,642 people), - Port (107^{**}, 4,215), - Inner (107^{**}, 3,392) and - East (106^{**}, 4,577), Playford - Elizabeth (109^{**}, 4,200) and - East Central (108^{**}, 2,042), Charles Sturt - North East (107^{**}, 3,985) and - Inner East (105^{**}, 3,739), Salisbury - Central (106^{**}, 3,653) and - South-East (105^{**}, 4,797).

Large numbers of people with arthritis were estimated in the SLAs of Charles Sturt - Coastal (5,064 people, an SR of 96^{**}), West Torrens - West (4,921, 100), Tea Tree Gully - South (4,686, 96^{**}), Charles Sturt - Inner West (4,256, 104^{*}), West Torrens - East (3,753, 104^{*}), Campbelltown - West (3,178, 96^{*}) and Tea Tree Gully - Central (3,138, 95^{**}).

The SLAs estimated to have fewer people with arthritis than expected included Adelaide (an SR of 86^{**}, 2,215 people), Adelaide Hills - Ranges (88^{**}, 1,163) and - Central (90^{**}, 1,518), Burnside - North-East (90^{**}, 3,138) and - South-West (92^{**}, 3,231), Tea Tree Gully - Hills (91^{**}, 1,590) and - North (91^{**}, 2,427), Playford - Hills (92, 313), Campbelltown - East (92^{**}, 3,729) and Norwood Payneham and St Peters - West (92^{**}, 2,393).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 43: Estimated prevalence of arthritis, CNAHS, 2001

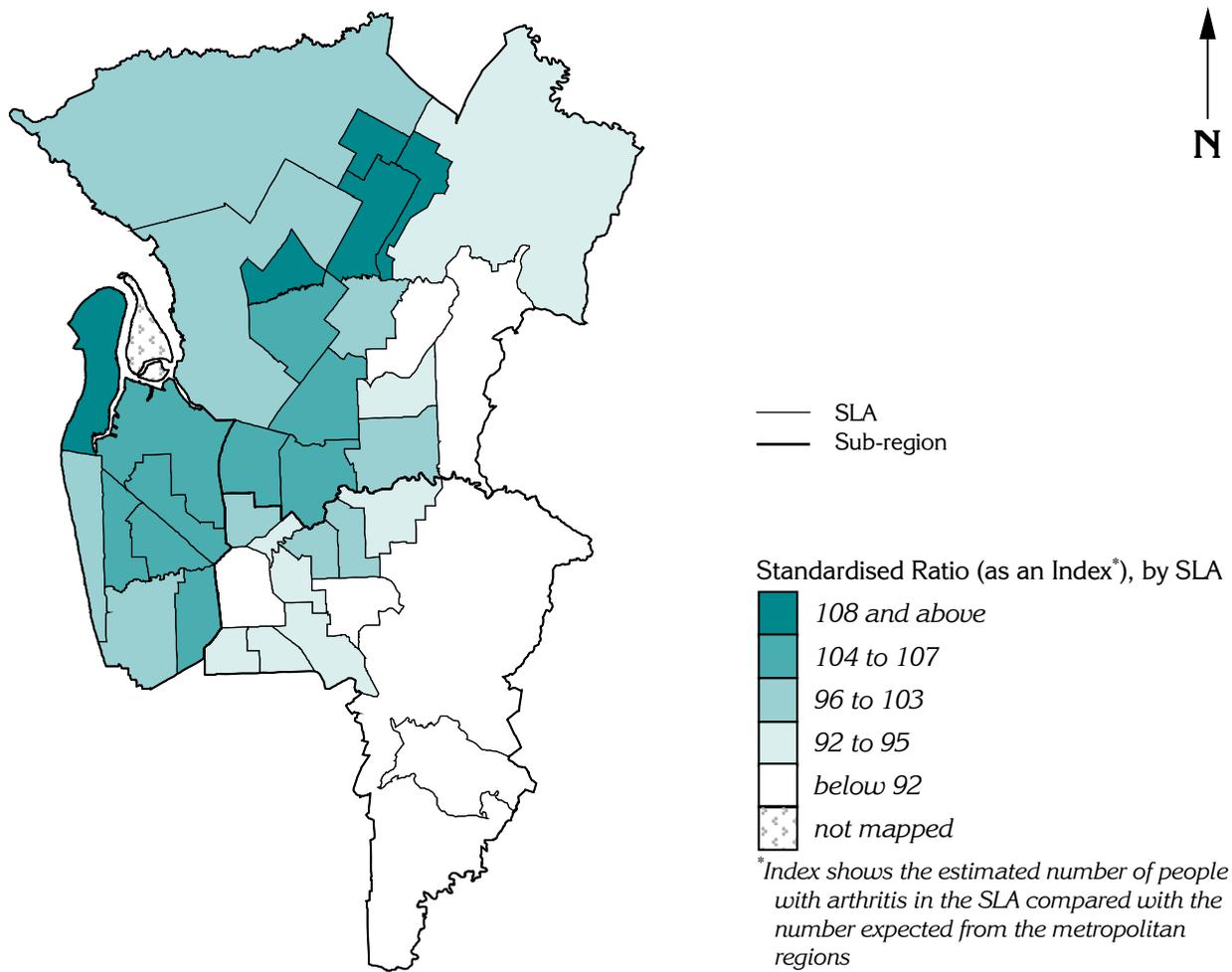


Table 44: Estimated prevalence of arthritis, CNAHS, 2001

Area	Number	Rate [*]	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	19,572	137.9	92 ^{**}
Quintile 2	19,094	139.8	93 ^{**}
Quintile 3	25,987	152.3	102 [*]
Quintile 4	21,321	156.4	104 ^{**}
Quintile 5: most disadvantaged areas	24,243	161.8	108 ^{**}
Rate ratio	..	1.17	1.17^{**}
Northern	43,564	153.9	103^{**}
Western	34,557	155.5	104^{**}
Central East	32,096	139.5	92^{**}
CNAHS	110,216	149.9	100
Southern	46,998	150.2	100
Metropolitan regions	157,214	150.0	100

^{*}Rate per 1,000 population

^{*} indicates statistical significance: see page 19

Estimated disease prevalence: Osteoarthritis

Estimated number of females who reported in the 2001 NHS having been told by a doctor or nurse they had osteoarthritis

Overview

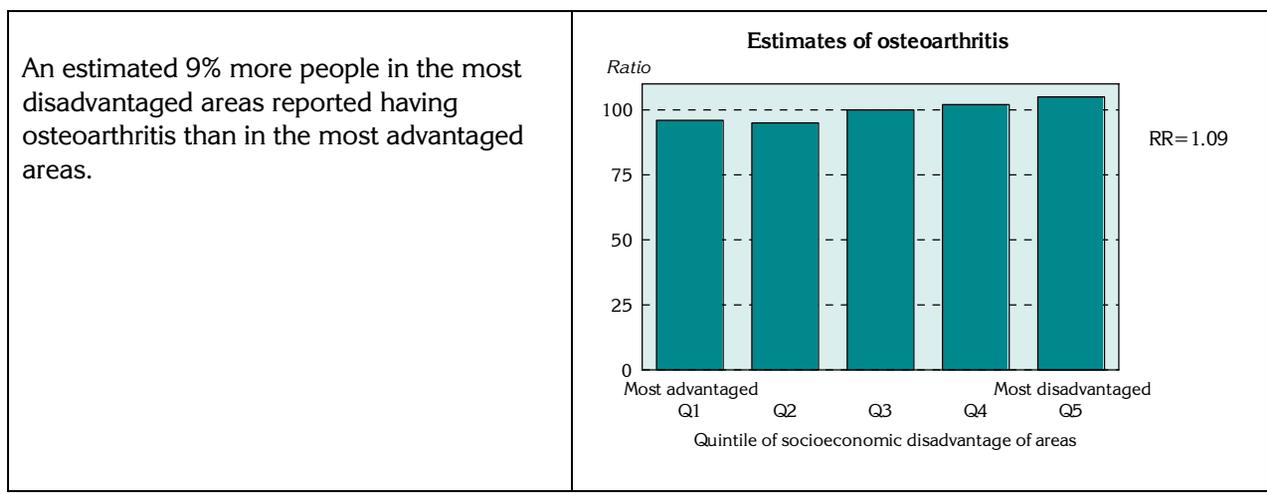
Osteoarthritis is the commonest type of arthritis. It affects the cartilage in the joints. Cartilage cushions the ends of bones, where bones meet to form a joint. In osteoarthritis this cartilage degenerates. Osteoarthritis is most commonly found in the knees, neck, lower back, hip and fingers. Weight loss, strength training and exercise to strengthen bones and muscles can provide relief for many osteoarthritis sufferers and delay progression of the disorder. New pharmaceuticals and joint replacement procedures have also improved the quality of life for many with arthritis ⁷⁰.

In Central Northern, 61,253 people were estimated to have osteoarthritis, one per cent fewer than expected (a standardised ratio (SR) of 99) (Table 45). The highest ratios were in the outer north and two SLAs in the north-west and north-east, with low ratios to the east of the city (Map 44), generally following the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

Playford - West Central (an SR of 123**, 915 people), - East Central (116**, 1,137) and - Elizabeth (114**, 2,484) all had highly elevated SRs. Salisbury - Inner North (114**, 1,362 people) and - North-East (106*, 1,618) also had elevated ratios, as did Port Adelaide Enfield - Coast (109**, 2,612) and - East (106**, 2,544).

Large numbers of people with osteoarthritis were estimated for the populations of Charles Sturt - Coastal (2,903 people, an SR of 96), West Torrens - West (2,771, 97), Salisbury - South-East (2,576, 104*), Charles Sturt - Inner West (2,294, 98), Port Adelaide Enfield - Port (2,177, 97), Charles Sturt - North-East (2,089, 99), West Torrens - East (2,036, 101), Charles Sturt - Inner East (2,028, 99), Burnside - South-West (1,980, 97), Salisbury - Central (1,913, 102) and Port Adelaide Enfield - Inner (1,877, 102).

Ratios below average were estimated for the SLAs of Campbelltown - East (an SR of 89**, 1,980 people) and - West (92**, 1,754), Playford - West (91*, 500), Tea Tree Gully - Hills (93*, 876), Adelaide Hills - Ranges (93, 667), Burnside - North-East (93**, 1,877), Prospect (94*, 1,381), Adelaide Hills - Central (95, 875) and Tea Tree Gully - South (95**, 2,577).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 44: Estimated prevalence of osteoarthritis, CNAHS, 2001

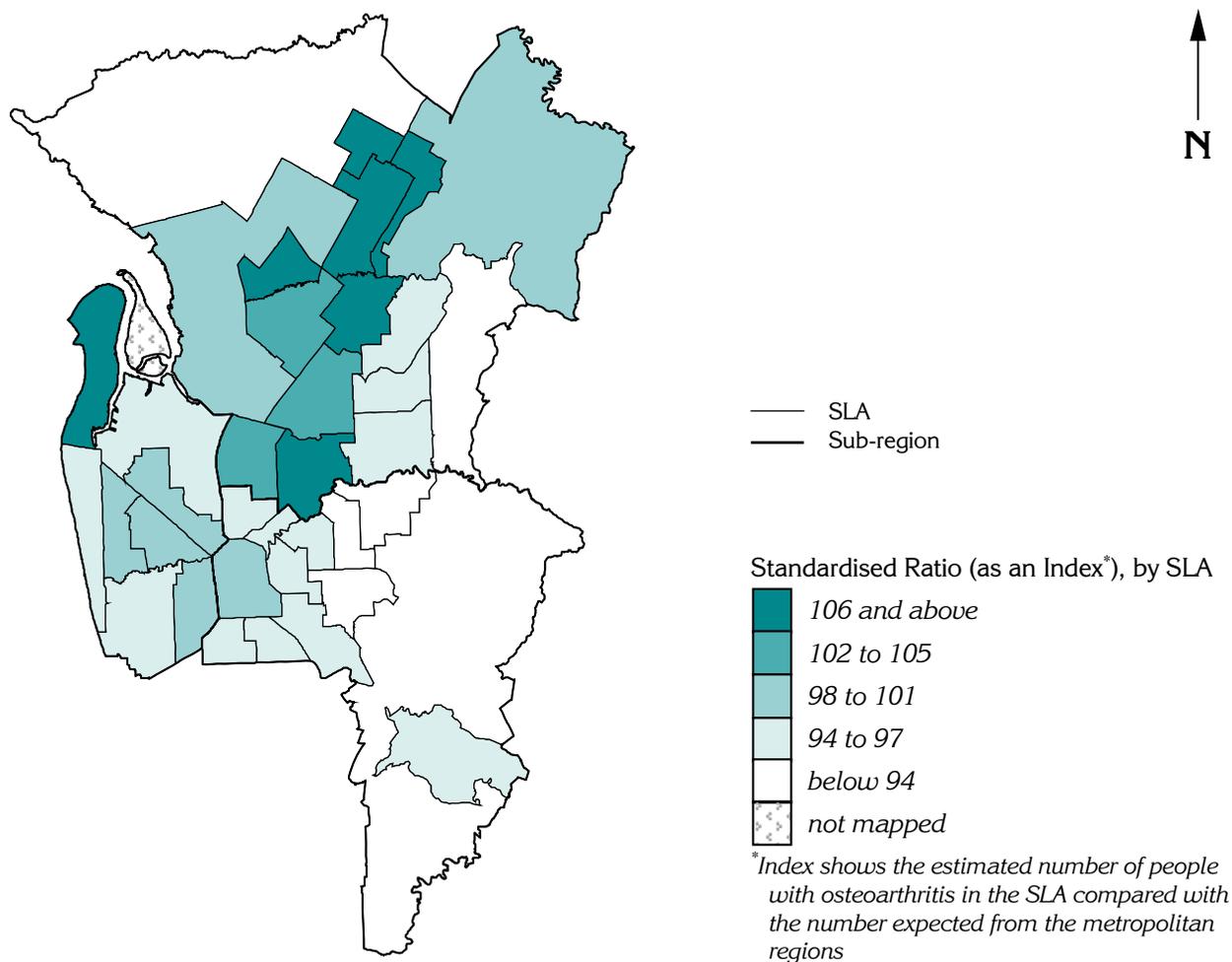


Table 45: Estimated prevalence of osteoarthritis, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	11,491	80.4	96**
Quintile 2	10,667	79.7	95**
Quintile 3	14,442	83.7	100
Quintile 4	11,560	85.4	102
Quintile 5: most disadvantaged areas	13,093	88.0	105**
Rate ratio	..	1.09	1.09**
Northern	23,851	86.9	104**
Western	18,911	83.4	99
Central East	18,491	79.7	95**
CNAHS	61,253	83.5	99
Southern	26,790	85.0	101*
Metropolitan regions	88,044	84.0	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated disease prevalence: Females with osteoporosis

Estimated number of females who reported in the 2001 NHS having osteoporosis

Overview

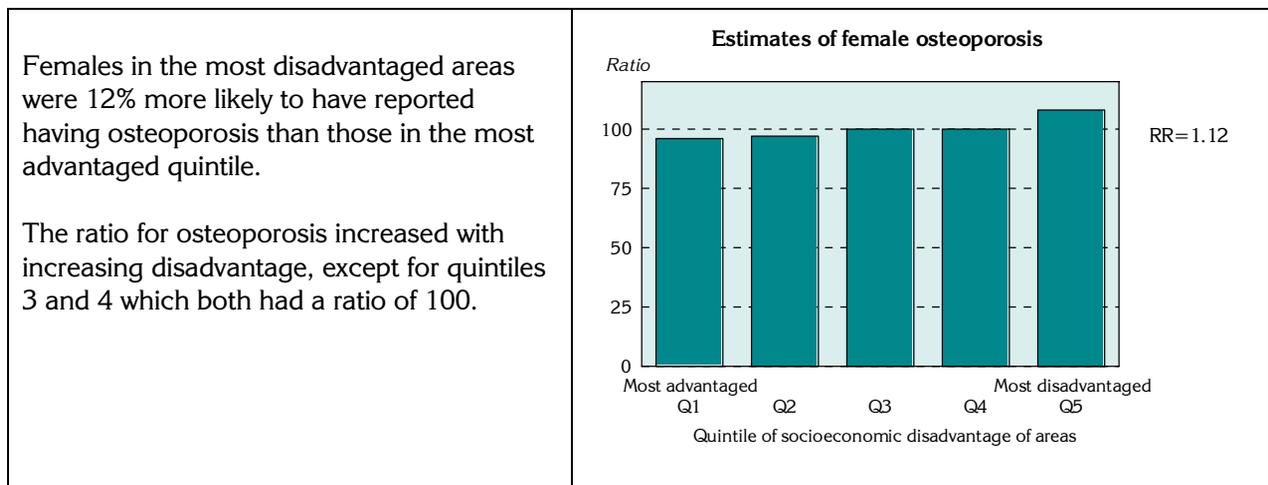
Osteoporosis is characterised by bones becoming fragile and breaking easily due to a loss of calcium. This is particularly evident in women as they age after menopause, when the protective effects of the hormone, oestrogen, diminish. Other preventable risk factors include poor diet; physical inactivity; tobacco use and alcohol misuse. Use of medications, appropriate exercise regimes and nutrition can help to reduce the impact of osteoporosis ⁷⁰.

In Central Northern, it was estimated that 13,271 females had osteoporosis, a standardised ratio (SR) of 101 (Table 46). Elevated standardised ratios (SRs) were concentrated in the outer northern SLAs, with fewer than expected females with osteoporosis throughout the eastern SLAs (Map 45), generally following the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

Salisbury Balance had over one third more females with osteoporosis than expected from the State rates, an SR of 136* (65 females). Playford - West Central (an SR of 122**, 170 females) and Salisbury - Inner North (121**, 271) also had highly elevated ratios, all with over 20% more females than expected. All of the Playford SLAs had elevated ratios, these were - Elizabeth (110*, 520), - East Central (109, 202), - Hills (106, 36) and - West (105, 107).

It was estimated that there are large numbers of females with osteoporosis living in West Torrens - West (645 females, an SR of 101), Port Adelaide Enfield - East (524, 102) and - Port (517, 102), Salisbury - South-East (508, 100), Charles Sturt - Inner West (494, 96) and - Inner East (447, 100), West Torrens - East (438, 101), Port Adelaide Enfield - Inner (432, 103) and Campbelltown - West (412, 97).

SLAs with fewer females with osteoporosis than expected from the metropolitan rates included Burnside - North-East (an SR of 92, 420 females), Tea Tree Gully - Hills (93, 173), Adelaide Hills - Central (93, 182), Charles Sturt - Coastal (93, 618), Burnside - South-West (94, 446), Campbelltown - East (95, 433), Tea Tree Gully - South (95, 557) and - Central (95, 346) and Walkerville (95, 158).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 45: Estimated prevalence of female osteoporosis, CNAHS, 2001

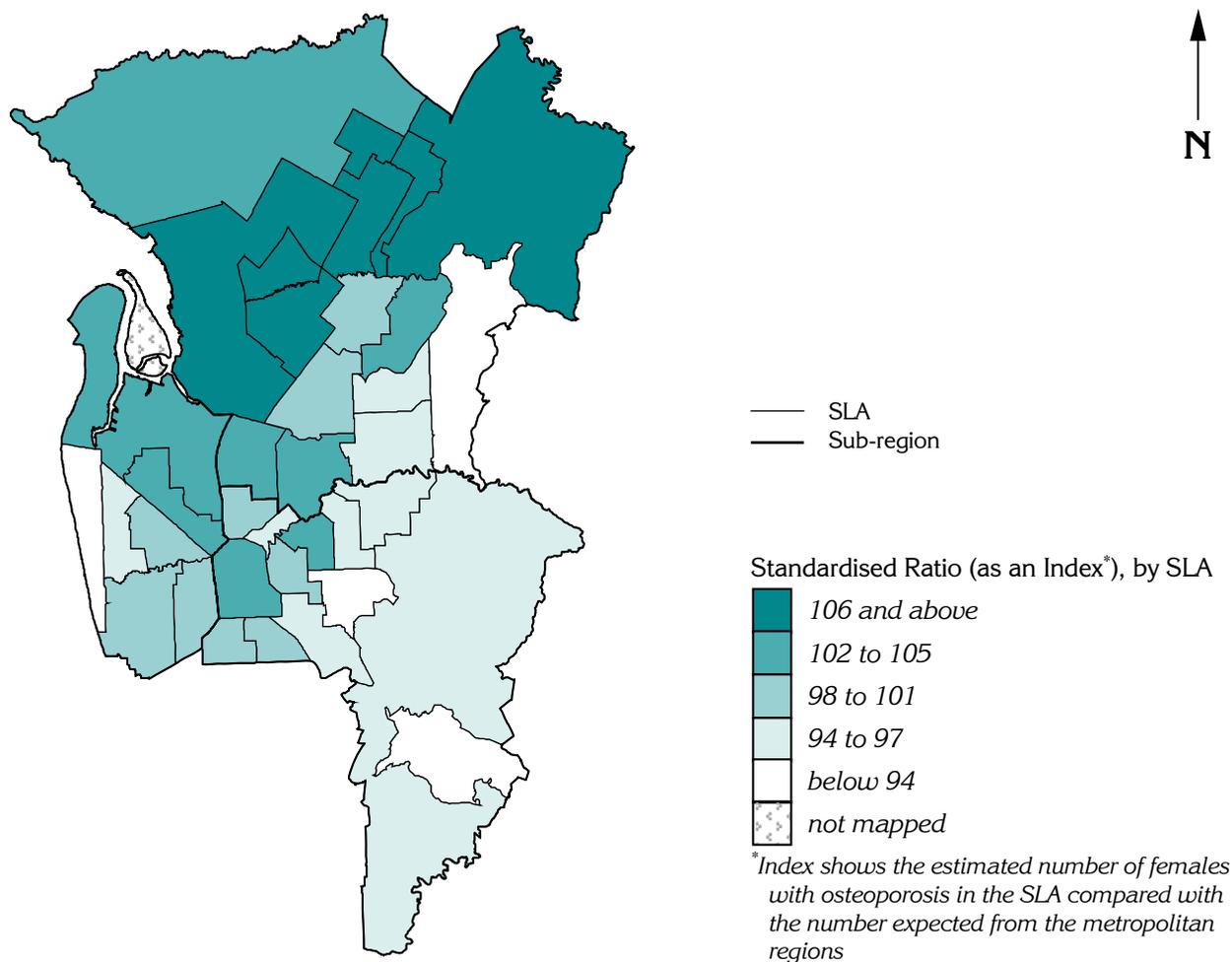


Table 46: Estimated prevalence of female osteoporosis, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	2,574	34.0	96
Quintile 2	2,279	34.4	97
Quintile 3	3,165	35.5	100
Quintile 4	2,391	35.3	100
Quintile 5: most disadvantaged areas	2,862	38.3	108**
Rate ratio	..	1.12	1.12**
Northern	4,925	36.7	104**
Western	4,162	35.3	100
Central East	4,184	34.5	97
CNAHS	13,271	35.5	101
Southern	5,748	35.0	99
Metropolitan regions	19,019	35.4	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated disease prevalence: Injury

Estimated number of people who reported in the 2001 NHS having been had an injury in the two weeks prior to being interviewed

Overview

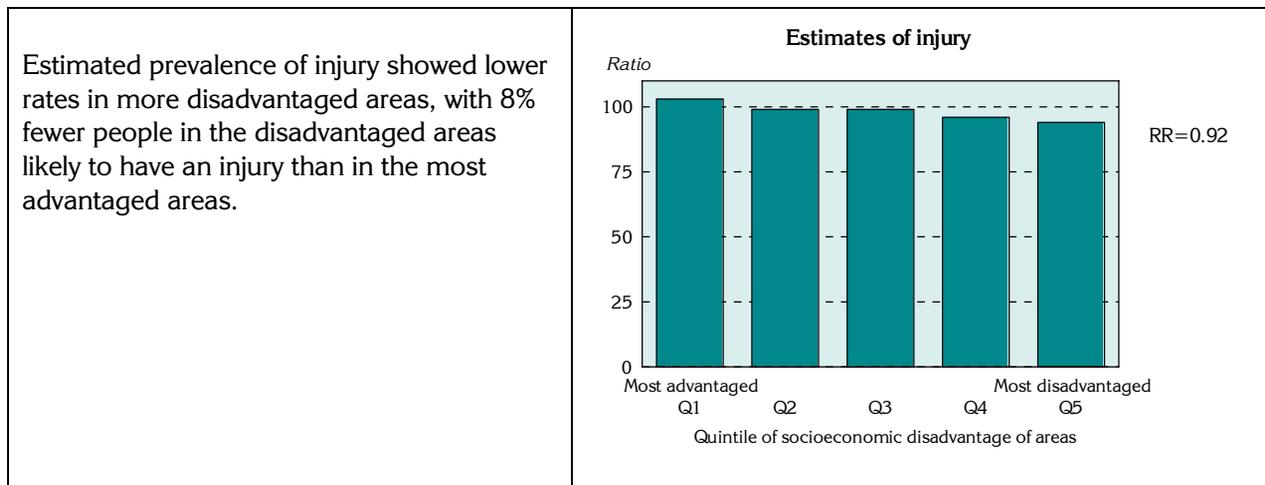
Injury contributes significantly to mortality and morbidity in Australia. It is the leading cause of death among young people. Injury is also the cause of a range of disabling conditions, often persisting, that affect the quality of life of injured people and their families ⁷¹. Injuries cost the health system an estimated \$4.0 billion annually (8.0% of health expenditure) ⁷¹

There were an estimated 87,097 injuries in Central Northern over a four week period (an SR of 98^{**}) (Table 47). The lowest standardised ratios (SRs) were estimated for the SLA of Adelaide and the surrounding inner western SLAs, with elevated SRs generally in outer areas, in the north-east and south-east, as well as in the beachside suburbs to the west of the city (Map 46).

SLAs in the region had only marginally above-average ratios, the highest of which was estimated for Playford - Hills (an SR of 109^{*}, 381 people). The other SLAs with above-average numbers of injuries included Adelaide Hills - Central (an SR of 109^{**}, 1,611 injuries), Port Adelaide Enfield - Coast (107^{**}, 3,395), Burnside - South-West (105^{**}, 2,360), Tea Tree Gully - Hills (105, 1,526), Walkerville (105, 769), Playford - East Central (104^{*}, 2,620), Charles Sturt - Coastal (104^{*}, 3,486), Adelaide Hills - Ranges (104, 1,237), Tea Tree Gully - Central (104^{**}, 3,361) and - North (103, 3,453), Burnside - North-East (103, 2,326) and Playford - Elizabeth (103^{**}, 3,158).

There were relatively large numbers of injuries in the SLAs of Salisbury - South-East (3,949 injuries, an SR of 99), - Inner North (3,223, 97) and - North-East (2,781, 100) and West Torrens - West (2,969, 98).

The SLAs with the lowest numbers of injuries included Port Adelaide Enfield - Port (an SR of 87^{**}, 2,528 injuries), Adelaide (89^{**}, 1,724), Charles Sturt - North East (90^{**}, 2,668), - Inner West (91^{**}, 2,469) and - Inner East (93^{**}, 2,244), West Torrens - East (91^{**}, 2,496), Salisbury Balance (92^{*}, 731), Campbelltown - East (92^{**}, 2,912) and - West (93^{**}, 1,952), Port Adelaide Enfield - Inner (92^{**}, 2,066), Playford - West (94, 968), Salisbury - Central (94^{**}, 3,240) and Port Adelaide Enfield - East (94^{**}, 3,017).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 46: Estimated prevalence of injury, CNAHS, 2001

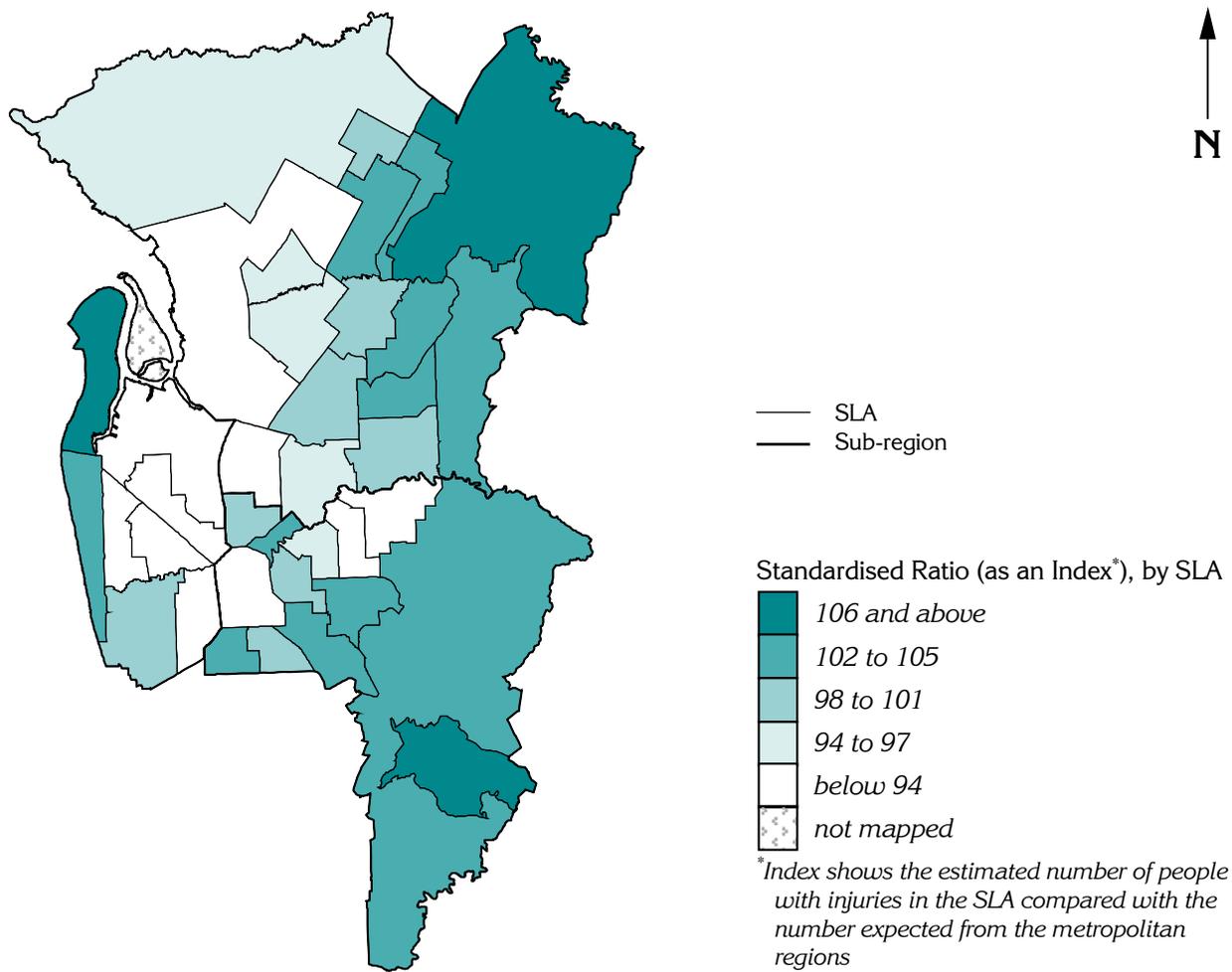


Table 47: Estimated prevalence of injury, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	16,320	124.0	103**
Quintile 2	17,124	119.1	99
Quintile 3	18,943	119.2	99
Quintile 4	15,429	115.0	96**
Quintile 5: most disadvantaged areas	19,281	113.4	94**
Rate ratio	..	0.92	0.92**
Northern	40,010	119.4	99
Western	22,255	114.6	95**
Central East	24,832	118.7	99
CNAHS	87,097	117.9	98**
Southern	38,830	125.3	104**
Metropolitan regions	125,926	120.1	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated self-reported health prevalence: Very high psychological distress (K-10)

Estimated number of people aged 18 years and over who had very high levels of psychological stress: data from the 2001 NHS

Overview

In addition to the self-reported responses to questions on mental health, shown above (page 136), information was collected using the Kessler Psychological Distress Scale (K-10). This is a scale of non-specific psychological distress, based on 10 questions about negative emotional states in the four weeks prior to interview, and asked of respondents 18 years and over ⁶³

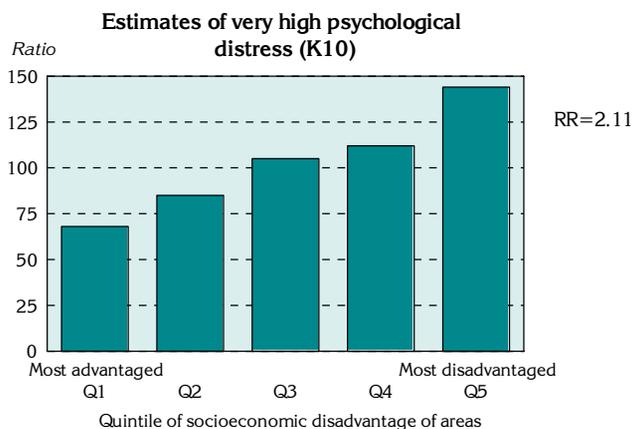
Overall, Central Northern had four per cent more people with very high levels of psychological distress than expected from the State rates (a standardised ratio (SR) of 104^{**}, 23,453 people) (Table 48). The SLAs with elevated ratios (Map 47) follow the pattern of socioeconomic disadvantage shown in Map 23 (page 113), with elevated ratios in the west, north-west and outer north, and low ratios to the east, south-east and north-east of the city.

Highly elevated ratios were recorded for people in Port Adelaide Enfield - Port (an SR of 161^{**}, 1,218 people), Playford - Elizabeth (158^{**}, 1,126) and - West Central (155^{**}, 515), Salisbury - Inner North (142^{**}, 944), Charles Sturt - North East (135^{**}, 1,026), Salisbury - Central (134^{**}, 1,049), Port Adelaide Enfield - Inner (134^{**}, 773), Salisbury Balance (124^{**}, 202) and West Torrens - East (121^{**}, 873).

Relatively large numbers of people with very high levels of psychological distress were estimated for the populations of Salisbury - South-East (1,123 people, an SR of 112^{**}), Port Adelaide Enfield - Coast (964, 111^{**}) and - East (955, 113^{**}), West Torrens - West (899, 106), Tea Tree Gully - South (880, 88^{**}), Charles Sturt - Inner West (851, 114^{**}) and - Coastal (808, 83^{**}).

Very low ratios were recorded for Adelaide Hills - Ranges (an SR of 55^{**}, 173 people), - Central (57^{**}, 222), Burnside - South-West (61^{**}, 390), - North-East (63^{**}, 402), Walkerville (64^{**}, 135), Tea Tree Gully - Hills (68^{**}, 264), Unley - East (75^{**}, 428) and - West (79^{**}, 397) and Tea Tree Gully - North (79^{**}, 594).

There was a distinct socioeconomic pattern associated with very high psychological distress levels, with increasing ratios with increasing disadvantage. Those in the most disadvantaged quintile were more than twice as likely to have very high psychological distress levels as those in the most advantaged quintile.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 47: Estimates of very high psychological distress (K-10), people aged 18 years and over, CNAHS, 2001

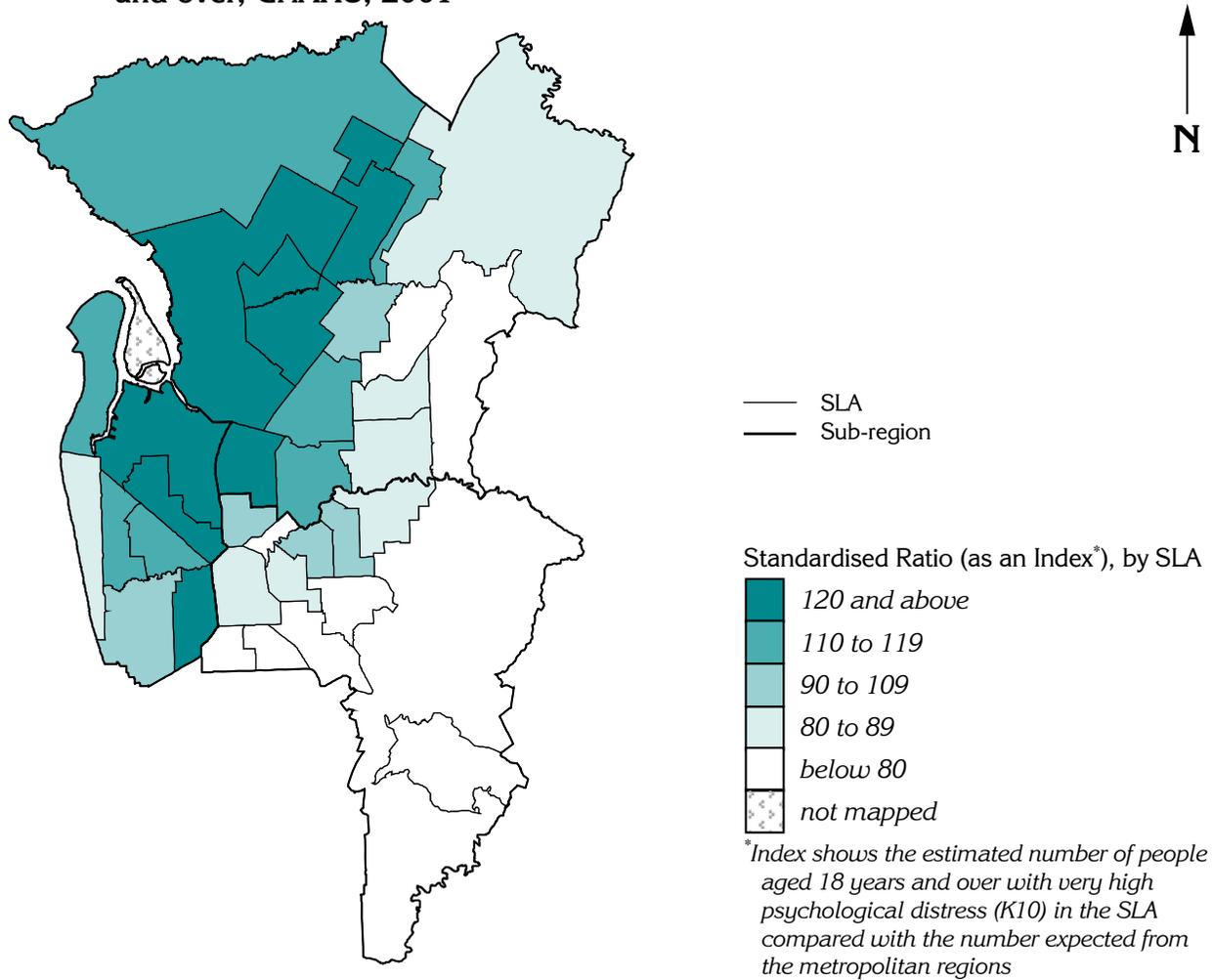


Table 48: Estimates of very high psychological distress (K-10), people aged 18 years and over, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	2,915	27.3	68**
Quintile 2	3,777	33.7	85**
Quintile 3	5,248	42.0	105**
Quintile 4	4,658	44.8	112**
Quintile 5: most disadvantaged areas	6,855	57.6	144**
Rate ratio	..	2.11	2.11**
Northern	10,664	44.7	112**
Western	7,407	46.8	117**
Central East	5,382	31.7	77**
CNAHS	23,453	41.4	104**
Southern	8,759	36.4	91**
Metropolitan regions	32,212	39.9	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated self-reported health prevalence: Fair or poor health

Estimated number of people aged 15 years and over who reported their health in the 2001 NHS as having 'fair' or 'poor' health

Overview

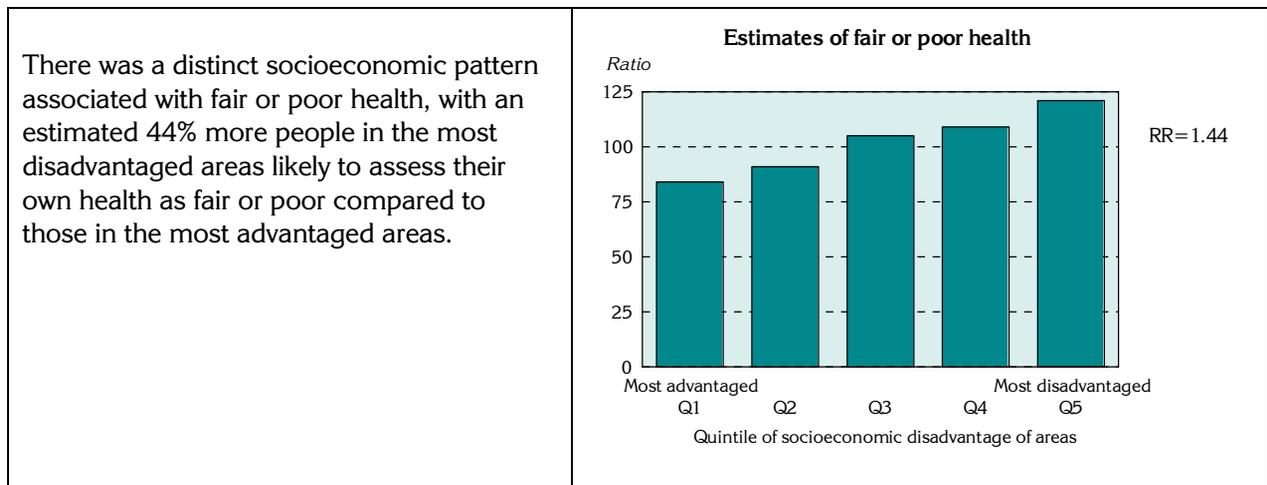
Self-assessed health status refers to a person's perception of their general state of health. Respondents aged 15 years and over in the 2001 NHS were asked to rate their health on a scale from 'excellent', through 'very good', 'good' and 'fair', to 'poor' health⁶³. The data shown here relate to the 20% of the population who reported their health as 'fair' or 'poor'.

In the Central Northern region, an estimated 127,996 people rated their health as fair or poor (two per cent more than expected, a standardised ratio (SR) of 102**) (Table 49). SLAs with highly elevated ratios were largely located in the north-west and outer north, with low ratios to the east, south-east and north-east of the city (Map 48), following the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

A number of SLAs in this region had elevated or highly elevated ratios, including Salisbury - Inner North (an SR of 125**, 3,978 people), Port Adelaide Enfield - Port (124**, 5,368), Playford - Elizabeth (124**, 5,192), - West Central (123**, 2,114) and - West (117**, 1,444), Charles Sturt - North East (118**, 4,980), Salisbury - Central (117**, 4,821) and Balance (116**, 884), Port Adelaide Enfield - Inner (116**, 3,961), West Torrens - East (112**, 4,559), Charles Sturt - Inner East (112**, 4,275) and - Inner West (110**, 4,853), and Playford - East Central (111**, 2,729).

Large numbers of people rating their health as fair or poor were residents in Salisbury - South-East (5,754 people, an SR of 107**), West Torrens - West (5,438, 106**), Port Adelaide Enfield - East (5,243, 109**) and - Coast (5,214, 109**), Tea Tree Gully - South (5,090, 91**) and Charles Sturt - Coastal (5,082, 89**).

SLAs with fewer than expected people reporting their health as fair or poor included Adelaide Hills - Ranges (an SR of 75**, 1,214) and - Central (77**, 1,575), Burnside - South-West (80**, 3,042) and - North-East (82**, 3,060), Tea Tree Gully - Hills (82**, 1,690), Walkerville (84**, 1,091) and Playford - Hills (85**, 361).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 48: Estimates of fair or poor health, people aged 15 years and over, CNAHS, 2001

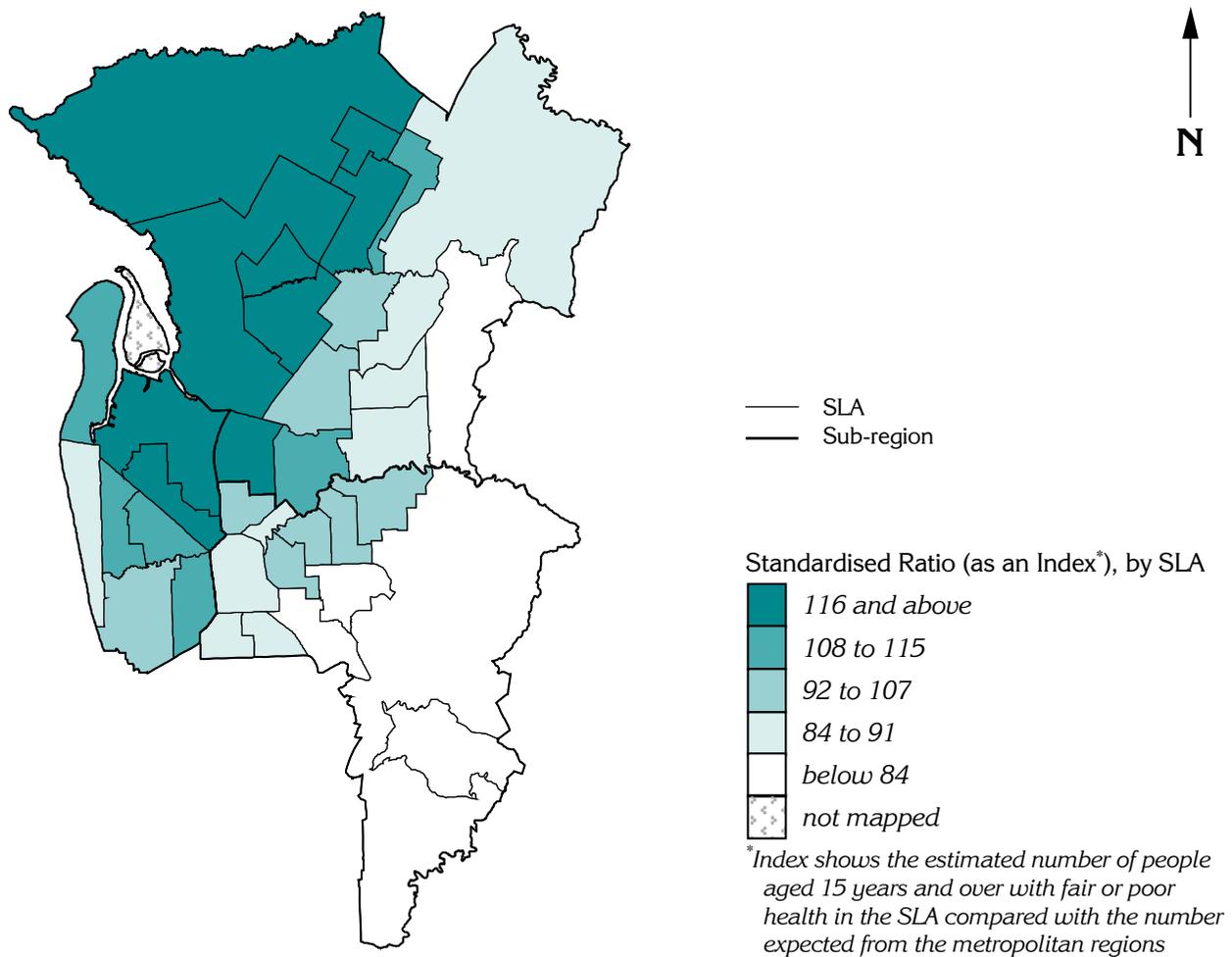


Table 49: Estimates of fair or poor health, people aged 15 years and over, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	20,132	176.2	84**
Quintile 2	21,716	190.3	91**
Quintile 3	29,666	219.9	105**
Quintile 4	25,183	229.4	109**
Quintile 5: most disadvantaged areas	31,299	253.6	121**
Rate ratio	..	1.44	1.44**
Northern	53,602	223.5	106**
Western	39,770	229.1	109**
Central East	34,624	189.2	89**
CNAHS	127,996	214.6	102**
Southern	50,833	199.8	95**
Metropolitan regions	178,829	210.2	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated risk factor prevalence: Overweight (not obese) males

Estimated number of males aged 15 years and over who were assessed as being overweight, based on reports of their height and weight in the 2001 NHS

Overview

Each increment in a person's body weight above their optimal level is associated with an increase in the risk of ill health. Overweight arises through an energy imbalance over a sustained period of time. While many factors may influence a person's weight, weight gain is essentially due to the energy intake from the diet being greater than the energy expended through physical activity. The energy imbalance need only be minor for weight gain to occur, and some people, due to genetic and biological factors, may be more likely to gain weight than others⁷². Overweight is associated with higher mortality and morbidity, and those who are already overweight have a higher risk of becoming obese.

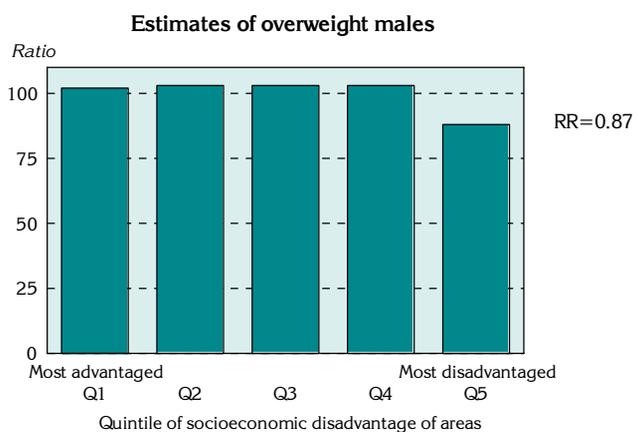
It was estimated that there were 106,514 overweight (not obese) males (an SR of 100) in the region in 2001 (Table 50). The highest standardised ratios (SRs) were estimated for SLAs in the north-east and outer north-east of the Central Northern region (Map 49).

SLAs with more overweight males than expected were Tea Tree Gully - North (an SR of 108**, 3,472 males), Playford - East Central (107**, 2,501) and - Hills (107, 424), Campbelltown - East (106**, 4,085), Tea Tree Gully - Central (105**, 3,861), Charles Sturt - Inner West (105**, 3,730), Adelaide Hills - Ranges (105, 1,534) and - Central (105**, 1,827) and Salisbury - North-East (105**, 3,252).

Large numbers of overweight males aged 15 years and over were usual residents in the SLAs of Tea Tree Gully - South (4,872 males, 103*), Salisbury - South-East (4,866, 103), Charles Sturt - Coastal (4,717, 101), West Torrens - West (4,222, 103*), Port Adelaide Enfield - East (4,125, 100) and - Coast (4,087, 101).

SLAs with low ratios, having fewer overweight males than expected, included Port Adelaide Enfield - Port (an SR of 82**, 2,985 males) and - Inner (87**, 2,427), Playford - Elizabeth (84**, 2,846) and - West Central (87**, 1,400), Salisbury - Central (90**, 3,329) and - Inner North (91**, 2,795), Charles Sturt - North-East (94**, 3,402) and Adelaide (94**, 2,903).

The rate of overweight males was consistent across Quintiles 1 to 4; however, there were fewer overweight males than expected in the most disadvantaged quintile, 13% less than in the most advantaged areas.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 49: Estimates of overweight (not obese) males aged 15 years and over, CNAHS, 2001

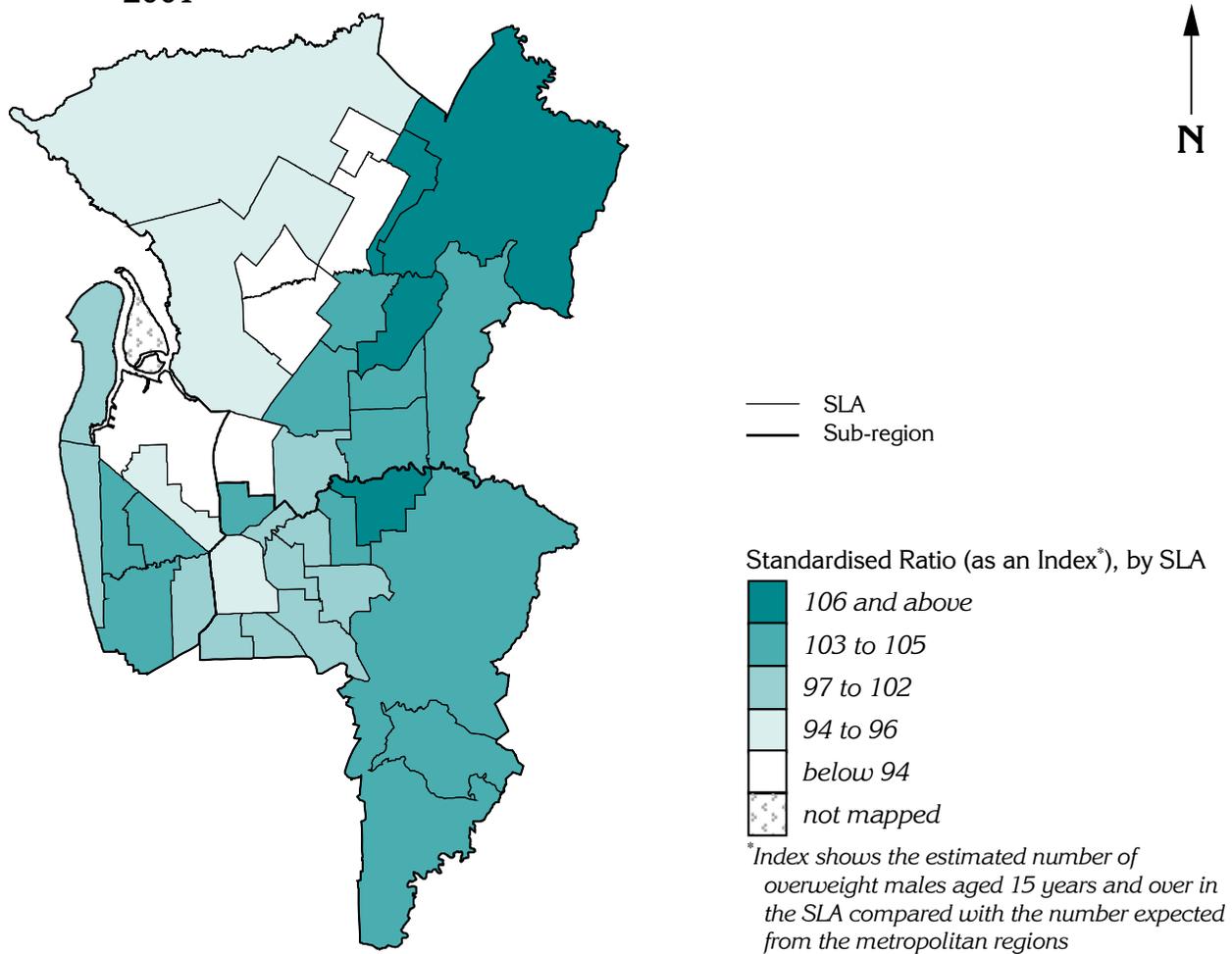


Table 50: Estimates of overweight (not obese) males aged 15 years and over, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	20,166	377.6	102**
Quintile 2	21,772	381.1	103**
Quintile 3	24,301	380.1	103**
Quintile 4	20,340	379.8	103**
Quintile 5: most disadvantaged areas	19,934	326.7	88**
Rate ratio	..	0.87	0.87**
Northern	43,959	364.7	98**
Western	29,991	365.9	99*
Central East	32,564	376.1	102**
CNAHS	106,514	368.5	100
Southern	45,016	374.7	101*
Metropolitan regions	151,530	370.3	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated risk factor prevalence: Obese males

Estimated number of males aged 15 years and over who were assessed as being obese, based on reports of their height and weight in the 2001 NHS

Overview

Over consumption, or the consumption of more calories than are required to meet energy needs, is contributing to Australia's increase in obesity which in turn is a significant contributing factor in the development of many diseases⁶³. Obesity can in itself lead to high blood pressure and high blood cholesterol. Excess body weight, high blood pressure and high blood cholesterol can all contribute to the risk of heart disease and amplify each risk factor's effects if they occur together. Excess body fat also increases the risk of developing a range of health problems including type 2 diabetes, cardiovascular disease, high blood pressure, certain cancers, sleep apnoea, osteoarthritis, psychological disorders and social problems⁷².

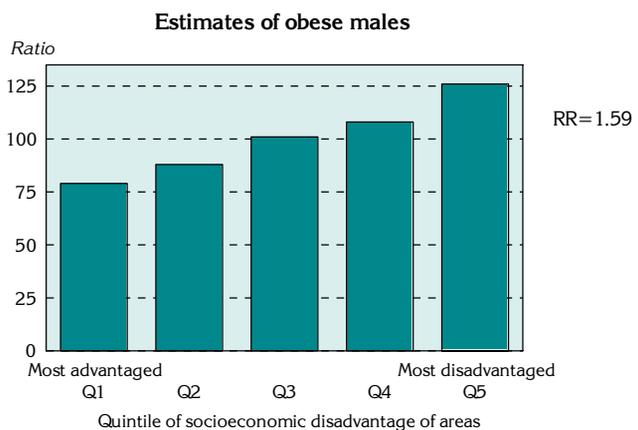
In 2001, it was estimated that there were 38,673 obese males in the region, one per cent more than expected (a standardised ratio (SR) of 101^{*}) (Table 52): however, there were notable variations in ratios across the region. Elevated SRs were mapped in the north and north-west with low SRs in the east and south-east (Map 51), generally following the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

Playford - Elizabeth had over one third more obese males than expected (an SR of 139^{**}, 1,642 males). The Salisbury SLAs of - Inner North (with an SR of 137^{**}, 1,595 males), - Central (133^{**}, 1,786) and Balance (127^{**}, 373) all had highly elevated SRs; similarly, Port Adelaide Enfield - Inner (127^{**}, 1,237) and - Port (119^{**}, 1,532). Playford - West (124^{**}, 514), - West Central (123^{**}, 720) and - East Central (111^{**}, 971) and Charles Sturt - Inner West (111^{**}, 1,366) also had elevated ratios.

Large numbers of obese males were estimated for the SLAs of Salisbury - South-East (1,825 males, an SR of 106^{*}), Port Adelaide Enfield - Coast (1,566, 107^{**}) and - East (1,510, 103), Tea Tree Gully - South (1,563, 93^{**}), West Torrens - West (1,472, 105) and Charles Sturt - North East (1,336, 103).

The lowest ratios, with fewer obese males than expected were estimated for Adelaide (an SR of 72^{**}, 809 males), Burnside - South-West (75^{**}, 771) and - North-East (76^{**}, 765), Norwood Payneham and St Peters - West (77^{**}, 683), Unley - East (78^{**}, 730) and - West (79^{**}, 661), Adelaide Hills - Central (81^{**}, 514) and - Ranges (82^{**}, 445), Walkerville (81^{**}, 278), Prospect (85^{**}, 821) and Charles Sturt - Coastal (89^{**}, 1,452).

There was a distinct socioeconomic pattern associated with the distribution of obese males, with 58% more obese males in the most disadvantaged areas than in the most advantaged quintile.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 50: Estimates of obese males aged 15 years and over, CNAHS, 2001

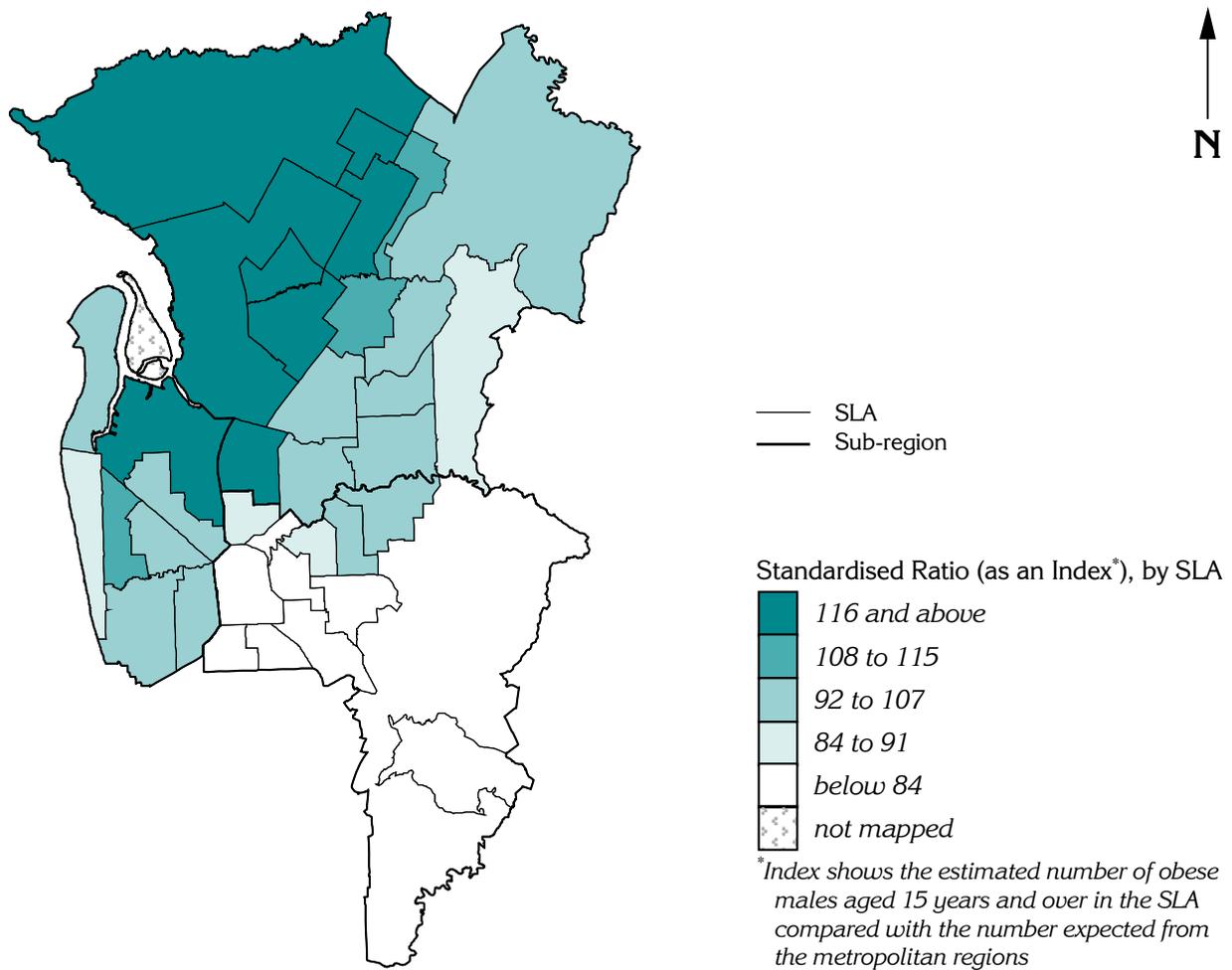


Table 51: Estimates of obese males aged 15 years and over, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	5,605	105.1	79**
Quintile 2	6,750	116.8	88**
Quintile 3	8,456	133.9	101
Quintile 4	7,641	142.9	108**
Quintile 5: most disadvantaged areas	10,221	166.7	126**
Rate ratio	..	1.59	1.59**
Northern	18,138	147.9	112**
Western	11,155	138.3	104**
Central East	9,380	109.3	83**
CNAHS	38,673	133.8	101*
Southern	15,498	129.0	97**
Metropolitan regions	54,171	132.4	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated risk factor prevalence: Overweight (not obese) females

Estimated number of females aged 15 years and over who were assessed as being overweight, based on reports of their height and weight in the 2001 NHS

Overview

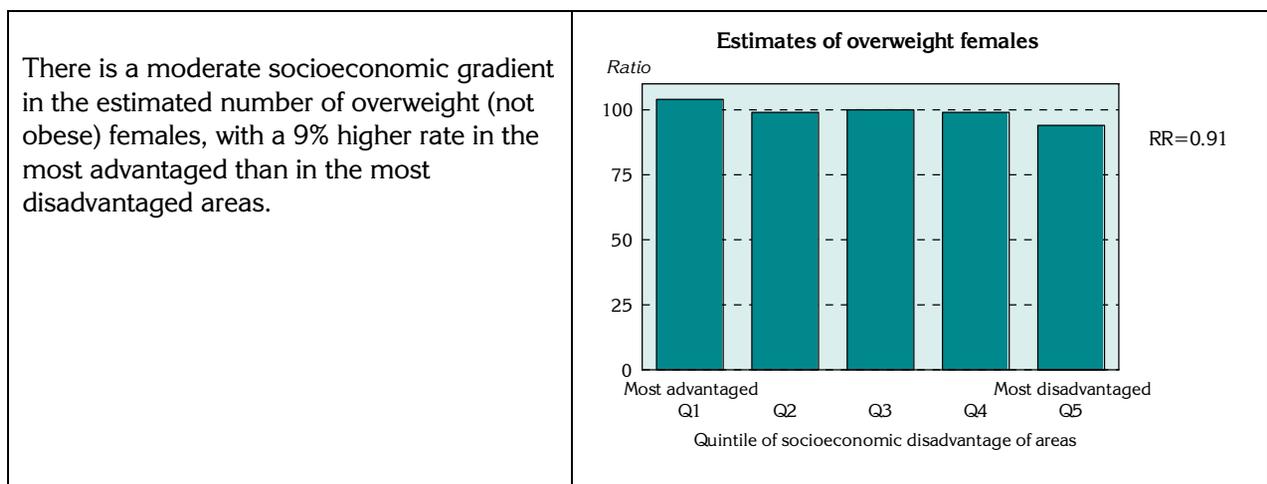
Each increment in a person’s body weight above their optimal level is associated with an increase in the risk of ill health. Overweight arises through an energy imbalance over a sustained period of time. While many factors may influence a person’s weight, weight gain is essentially due to the energy intake from the diet being greater than the energy expended through physical activity. The energy imbalance need only be minor for weight gain to occur, and some people, due to genetic and biological factors, may be more likely to gain weight than others ⁷². Overweight is associated with higher mortality and morbidity, and those who are already overweight have a higher risk of becoming obese.

In 2001, there were an estimated 63,362 overweight (not obese) females in the region, one percent fewer than expected (a standardised ratio (SR) of 99**) (Table 51). SLAs with elevated ratios were located in the north-east and south-east of the region (Map 50).

None of the SLAs had highly elevated ratios: those with ratios above 100 included Adelaide Hills - Central (an SR of 108**, 1,101 females) and - Ranges (107*, 839), Burnside - South-West (107**, 2,042), Playford - Hills (105, 219), Burnside - North-East (105*, 1,987), Walkerville (104, 683), Unley - West (104, 1,505), Tea Tree Gully - Hills (103, 1,039) and West Torrens - West (103, 2,669).

Large numbers of overweight females were estimated for the SLAs of Charles Sturt - Coastal (2,846 females, an SR of 101), Tea Tree Gully - South (2,801, 100), Salisbury - South-East (2,751, 100), Port Adelaide Enfield - Coast (2,415, 101) and - East (2,373, 97) and Campbelltown - East (2,250, 97).

The lowest ratios, with fewer overweight females than expected, were estimated for Port Adelaide Enfield - Port (an SR of 89**, 1,940 females), Salisbury Balance (91, 346), Adelaide (92**, 1,238), Playford - West Central (92*, 815), Salisbury - Inner North (94*, 1,587), Port Adelaide Enfield - Inner (94*, 1,623) and Playford - Elizabeth (95*, 2,050)



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 51: Estimates of overweight (not obese) females aged 15 years and over, CNAHS, 2001

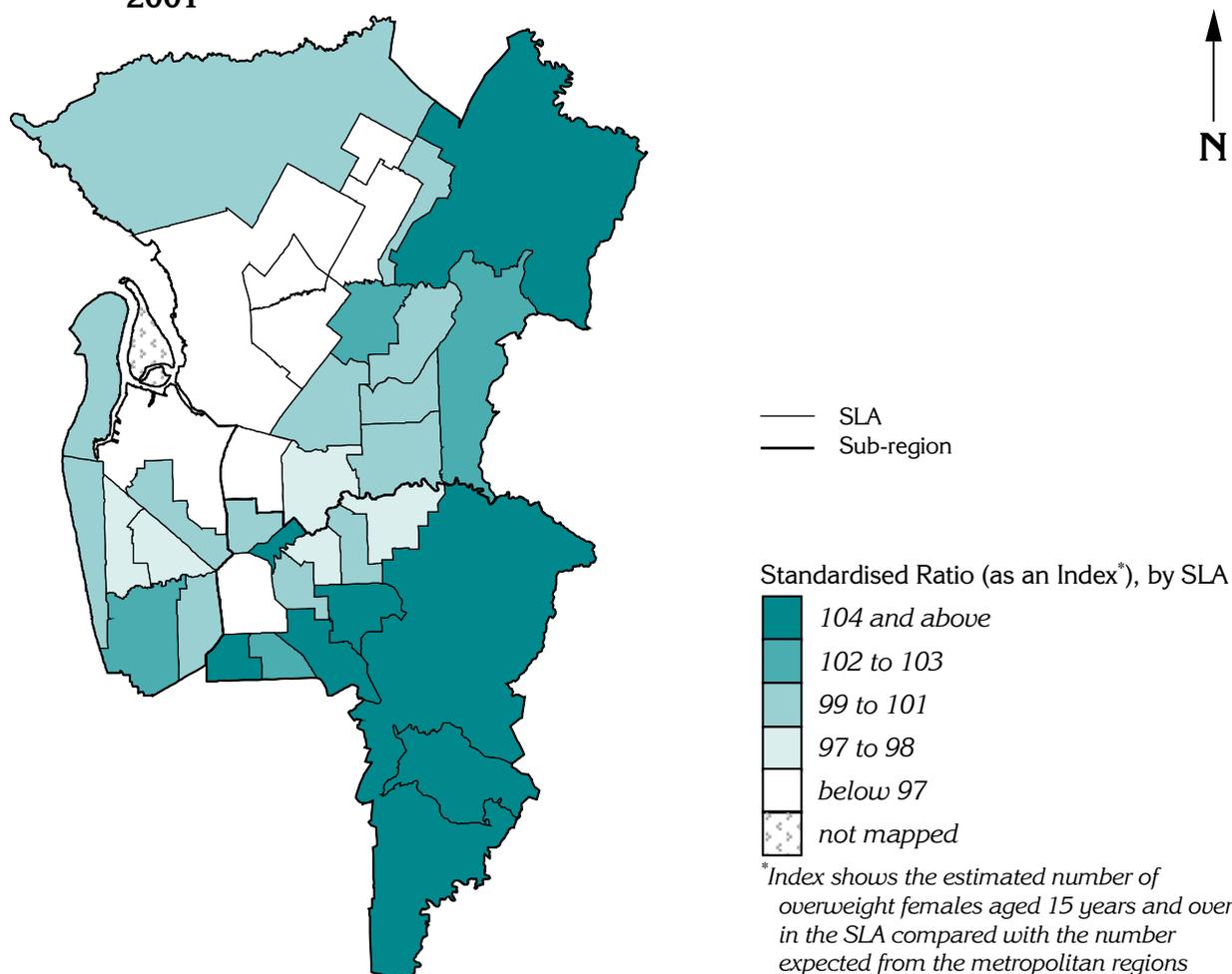


Table 52: Estimates of overweight (not obese) females aged 15 years and over, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	12,759	214.3	104**
Quintile 2	11,993	203.8	99
Quintile 3	14,523	206.4	100
Quintile 4	11,566	203.3	99
Quintile 5: most disadvantaged areas	12,520	194.2	94**
Rate ratio	..	0.91	0.91**
Northern	25,415	202.3	98**
Western	18,104	202.7	98*
Central East	19,843	208.5	102*
CNAHS	63,362	204.3	99*
Southern	27,650	210.2	102**
Metropolitan regions	91,012	206.1	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated risk factor prevalence: Obese females

Estimated number of females aged 15 years and over who were assessed as being obese, based on reports of their height and weight in the 2001 NHS

Overview

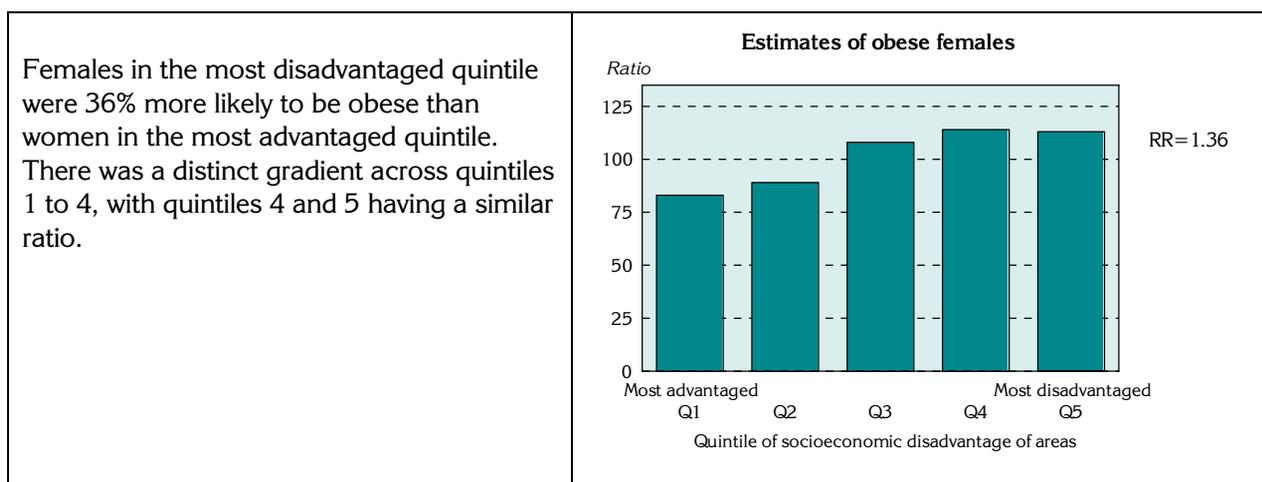
Over consumption, or the consumption of more calories than are required to meet energy needs, is contributing to Australia's increase in obesity which in turn is a significant contributing factor in the development of many diseases⁶³. Obesity can in itself lead to high blood pressure and high blood cholesterol. Excess body weight, high blood pressure and high blood cholesterol can all contribute to the risk of heart disease and amplify each risk factor's effects if they occur together. Excess body fat also increases the risk of developing a range of health problems including type 2 diabetes, cardiovascular disease, high blood pressure, certain cancers, sleep apnoea, osteoarthritis, psychological disorders and social problems⁷².

In 2001, Central Northern had an estimated 44,104 females considered to be obese, two per cent more than expected from the metropolitan rates (a standardised ratio (SR) of 102**) (Table 53). Elevated ratios were estimated for parts of the north and west, with low ratios in the east (Map 52), generally reflecting the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

The most highly elevated ratios were calculated for Charles Sturt - Inner West (an SR of 122**, 1,782 females), Playford - West Central (119**, 755), Charles Sturt - Inner East (117**, 1,470), Playford - Elizabeth (117**, 1,648), Campbelltown - West (116**, 1,330), Charles Sturt - North-East (114**, 1,659), West Torrens - East (113**, 1,570) and - West (113**, 1,871), Salisbury - Inner North (113**, 1,415), - South-East (112**, 2,162) - North-East (110**, 1,384) and - Central (110**, 1,639), Playford - West (111**, 496), and Port Adelaide Enfield - Inner (111**, 1,221), - East (110**, 1,789) and - Coast (110**, 1,809).

Large numbers of overweight and obese females were estimated for Tea Tree Gully - South (1,816 females, an SR of 95*), Charles Sturt - Coastal (1,718, 92**), Campbelltown - East (1,560, 96) and Port Adelaide Enfield - Port (1,543, 108**).

A large number of SLAs had low ratios of obese females. Adelaide had the lowest ratio with nearly one quarter fewer obese females than expected (an SR of 75**, 668 females), Adelaide Hills - Ranges (77**, 447) and - Central (80**, 586), Burnside - South-West (80**, 1,002) and - North-East (81**, 1,004), Walkerville (81**, 339), Unley - East (84**, 959) and - West (85**, 838), Tea Tree Gully - North (85**, 1,256) and - Hills (88**, 634), Norwood Payneham and St Peters - West (87**, 902) and Playford - Hills (87, 138).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 52: Estimates of obese females aged 15 years and over, CNAHS, 2001

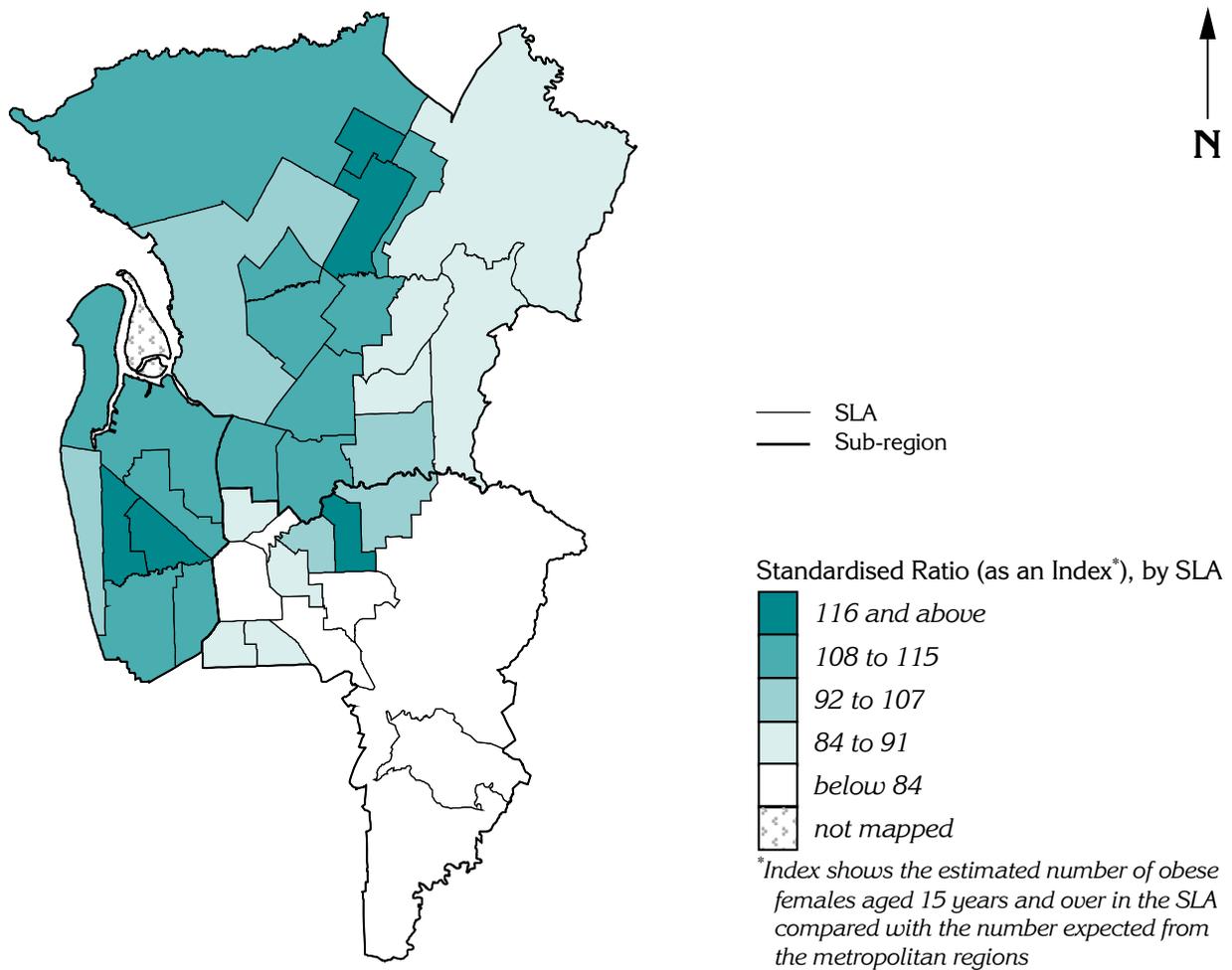


Table 53: Estimates of obese females aged 15 years and over, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	6,850	115.9	83**
Quintile 2	7,561	125.3	89**
Quintile 3	10,435	150.8	108**
Quintile 4	9,083	159.5	114**
Quintile 5: most disadvantaged areas	10,176	157.7	113**
Rate ratio	..	1.36	1.36**
Northern	19,081	147.1	105**
Western	13,422	154.7	110**
Central East	11,601	123.9	88**
CNAHS	44,104	142.2	102**
Southern	17,751	134.9	96**
Metropolitan regions	61,855	140.0	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated risk factor prevalence: Current smokers

Estimated number of people aged 18 years and over who reported in the 2001 NHS being a smoker

Overview

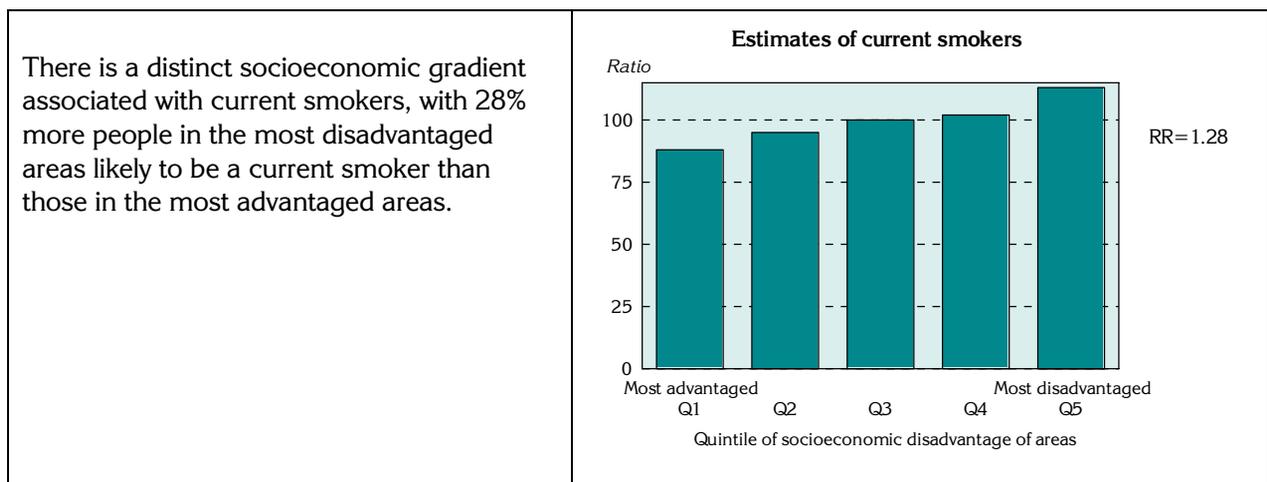
Tobacco is the largest single cause of death and disease in Australia; and half of all regular smokers who commenced smoking as teenagers will be killed by their habit. Over 20% of adults and 25% of adolescents aged 12 to 17 in Australia in 2004 smoked at least weekly ⁷³. Smokers who consume more than 40 cigarettes per day have mortality rates between two and three times that of non-smokers; and tobacco smoking has been estimated to cost \$12.7 billion a year in health care, lost productivity and other costs ⁷⁴.

In the Central Northern region, there were an estimated 141,295 current smokers, a standardised ratio (SR) of 100 (Table 54). Elevated SRs were mapped in the north and outer north, with below average rates of current smokers in the city and to the east, south-east and north-east (Map 53), generally following the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

Both Playford West Central (with an SR of 124^{**}, 2,768 people) and - Elizabeth (124^{**}, 5,473) had almost one-quarter more current smokers than expected from the metropolitan regions' rate. Other SLAs with elevated ratios included Salisbury - Inner North (an SR of 115^{**}, 5,248 people), - Central (111^{**}, 5,615), Balance (105, 1,185) and - North-East (105^{**}, 4,397), Port Adelaide Enfield - Inner (110^{**}, 3,942), - Port (109^{**}, 5,064) and - Coast (107^{**}, 5,551) and Playford - West (107^{**}, 1,593) and - East Central (105^{**}, 3,638).

Relatively large numbers of smokers were estimated for the SLAs of Salisbury - South-East (6,570 people, an SR of 104^{**}), Tea Tree Gully - South (5,994, 98), Charles Sturt - Coastal (5,539, 98), Port Adelaide Enfield - East (5,424, 100), West Torrens - West (5,035, 99), Charles Sturt - North East (5,024, 104^{**}) and Tea Tree Gully - Central (5,018, 100).

A number of SLAs in the region had low estimated numbers of smokers, most typically those SLAs with high socioeconomic status. The lowest ratios, with around 15% fewer smokers than expected, included the SLAs of Burnside - North-East (an SR of 84^{**}, 3,050 people), Walkerville (84^{**}, 1,024) and Burnside - South-West (85^{**}, 3,113). There were also relatively low ratios in Unley - East (87^{**}, 3,170), Adelaide Hills - Central (88^{**}, 1,998) and - Ranges (90^{*}, 1,646), Adelaide (88^{**}, 3,385), Norwood Payneham and St Peters - West (90^{**}, 3,178), Unley - West (91^{**}, 2,904), Campbelltown - East (91^{**}, 4,590) and - West (94^{**}, 3,288), Prospect (93^{**}, 3,471), Norwood Payneham and St Peters - East (94^{**}, 2,766) and Tea Tree Gully - North (95^{**}, 4,637).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 53: Estimates of current smokers aged 18 years and over, CNAHS, 2001

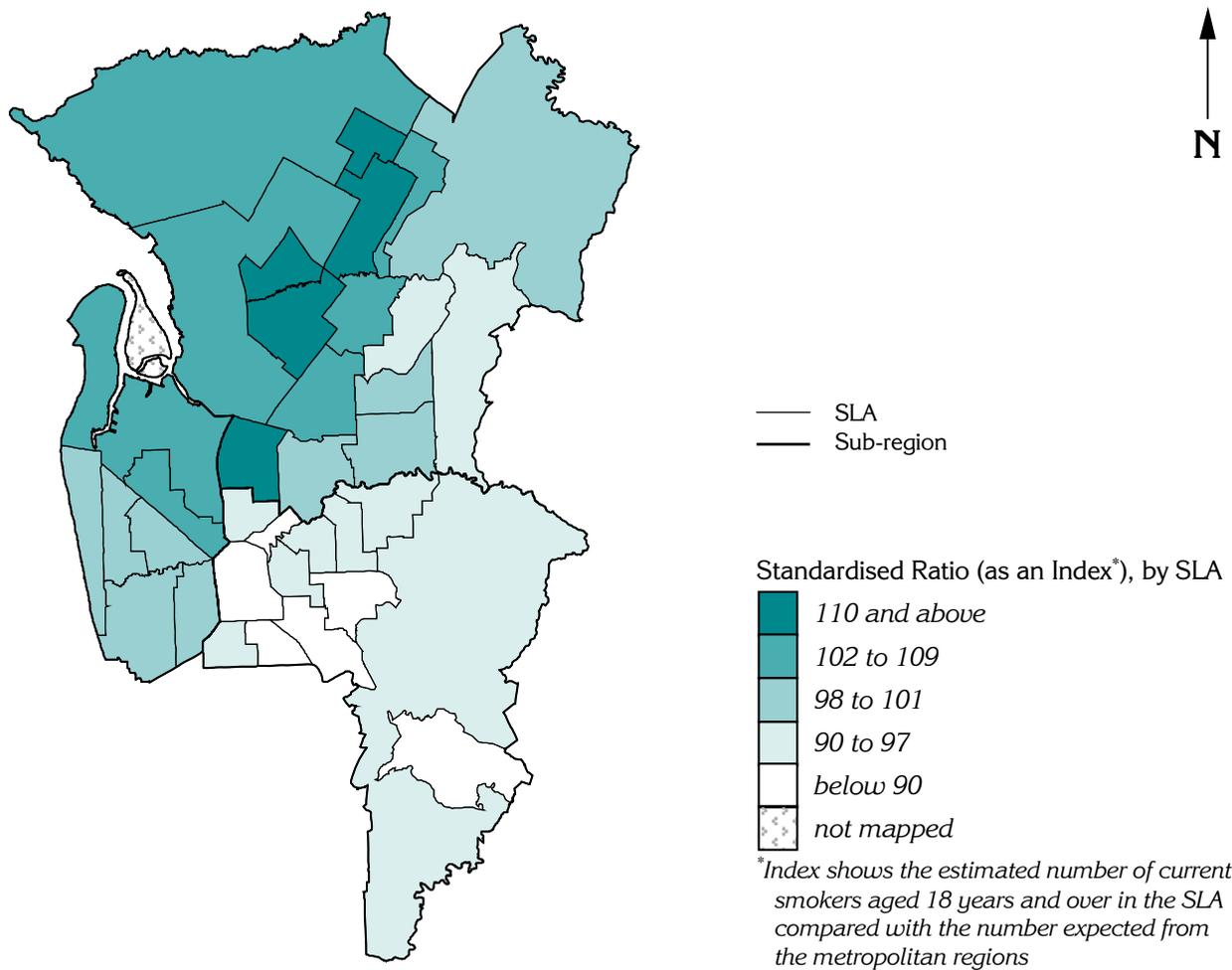


Table 54: Estimates of current smokers aged 18 years and over, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	22,826	218.5	88**
Quintile 2	26,641	233.8	95**
Quintile 3	31,106	247.2	100
Quintile 4	26,404	252.0	102**
Quintile 5: most disadvantaged areas	34,319	278.7	113**
Rate ratio	..	1.28	1.28**
Northern	64,245	261.7	106**
Western	39,466	251.7	102**
Central East	37,584	221.3	89**
CNAHS	141,295	247.0	100
Southern	58,288	248.0	100
Metropolitan regions	199,583	247.3	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated risk factor prevalence: Physical inactivity

Estimated number of people aged 15 years and over who did not exercise in the two weeks prior to interview in the 2001 NHS

Overview

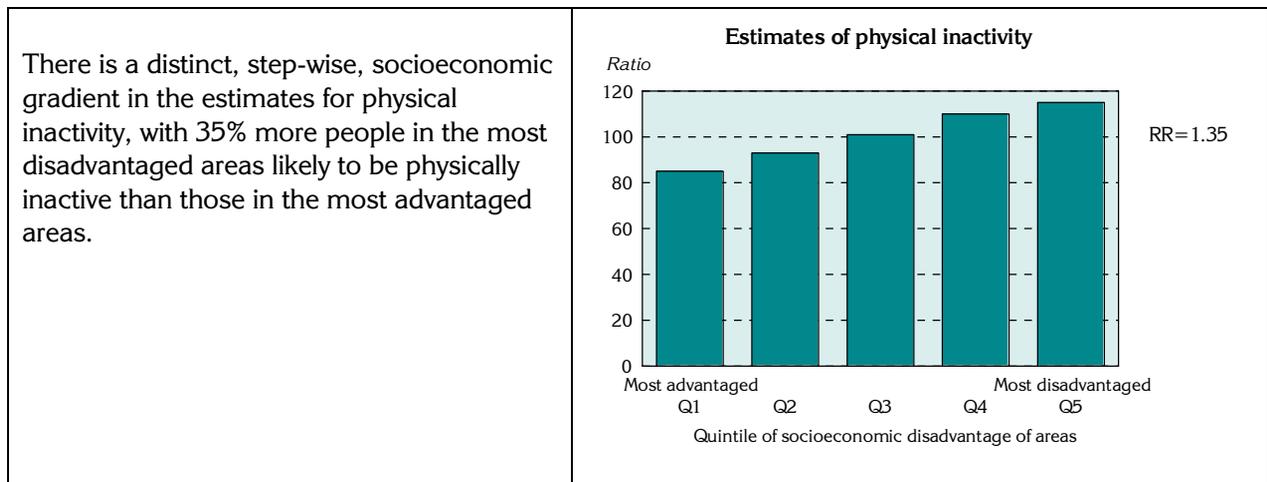
Physical inactivity is defined as those aged 15 years and over who did not exercise in the two weeks prior to interview for the 2001 NHS, through sport, recreation or fitness (including walking). Physical inactivity as a risk factor has been estimated to cause the second highest burden of premature death and illness in Australia, after tobacco smoking⁶³.

In Central Northern, 192,153 people were estimated as being physically inactive (a standardised ratio (SR) of 101**) (Table 55): however, there were notable variations in ratios across the region. Highly elevated ratios were mapped in a band of SLAs running from the north-west to the outer north, with low ratios in the city and adjacent SLAs to the east, south and south-east (Map 54), generally following the pattern of socioeconomic disadvantage seen in Map 23 (page 113).

Highly elevated ratios were mapped in the SLAs of Playford - West (an SR of 126**, 2,397 people), Port Adelaide Enfield - Port (121**, 7,810), Salisbury Balance (122**, 1,548) and - Inner North (120**, 6,305) and - Central (119**, 7,647). Other SLAs with elevated SRs included Charles Sturt - North East (113**, 7,311), Playford - West Central (112**, 3,059) and - East Central (112**, 4,523), Salisbury - South-East (111**, 9,077) and - North-East (110**, 5,813), Port Adelaide Enfield - Inner (111**, 5,655) and Charles Sturt - Inner West (110**, 7,046).

There were estimated to be large numbers of physically inactive people in the SLAs of Tea Tree Gully - South (8,047 people, an SR of 97**), Port Adelaide Enfield - East (7,622, 105**) and - Coast (7,467, 104**), West Torrens - West (7,326, 97**), Campbelltown - East (6,776, 100), Playford - Elizabeth (6,759, 108**) and West Torrens - East (6,496, 104**).

Low ratios were estimated for the SLAs of Adelaide (an SR of 79**, 3,723 people), Burnside - South-West (82**, 4,519), Norwood Payneham and St Peters - West (83**, 3,813), Walkerville (83**, 1,558), Adelaide Hills - Central (84**, 2,536), Unley - East (85**, 4,266) and - West (85**, 3,626), Burnside - North East (86**, 4,675), Adelaide Hills - Ranges (87**, 2,105) and Charles Sturt - Coastal (90**, 7,489).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 54: Estimates of physical inactivity, people aged 15 years and over, CNAHS, 2001

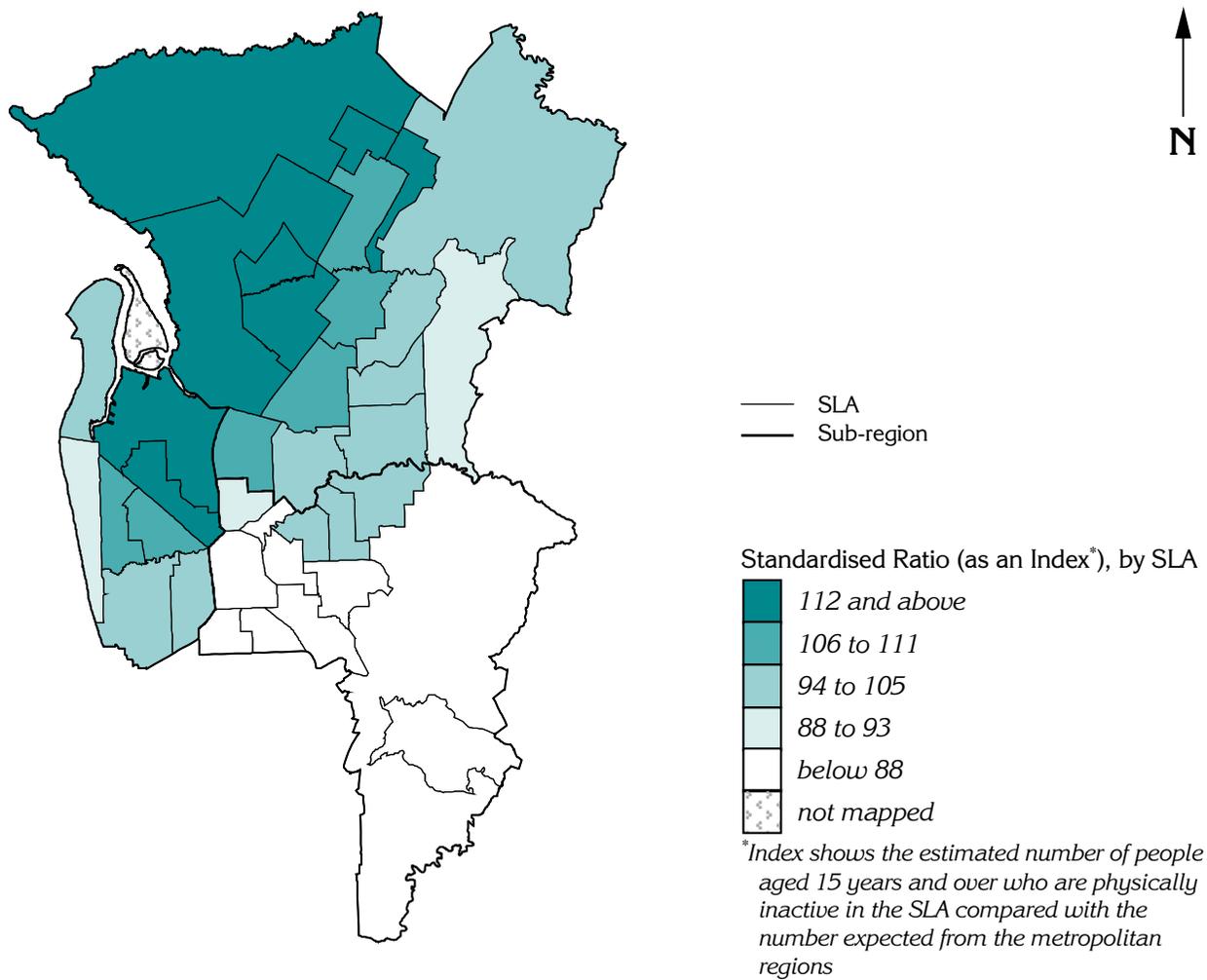


Table 55: Estimates of physical inactivity, people aged 15 years and over, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	30,544	270.3	85**
Quintile 2	34,066	295.2	93**
Quintile 3	43,289	322.1	101**
Quintile 4	38,159	348.8	110**
Quintile 5: most disadvantaged areas	46,094	365.9	115**
Rate ratio		1.35	1.35**
Northern	83,602	341.3	107**
Western	57,149	333.9	105**
Central East	51,402	282.3	89**
CNAHS	192,153	321.2	101**
Southern	78,107	309.1	97**
Metropolitan regions	270,260	317.6	100

*Rate per 1,000 population

* indicates statistical significance: see page 19

Estimated risk factor prevalence: High health risk due to alcohol consumption

Estimated number of people aged 18 years and over who have a high health risk due to alcohol consumption as reported in the 2001 NHS

Overview

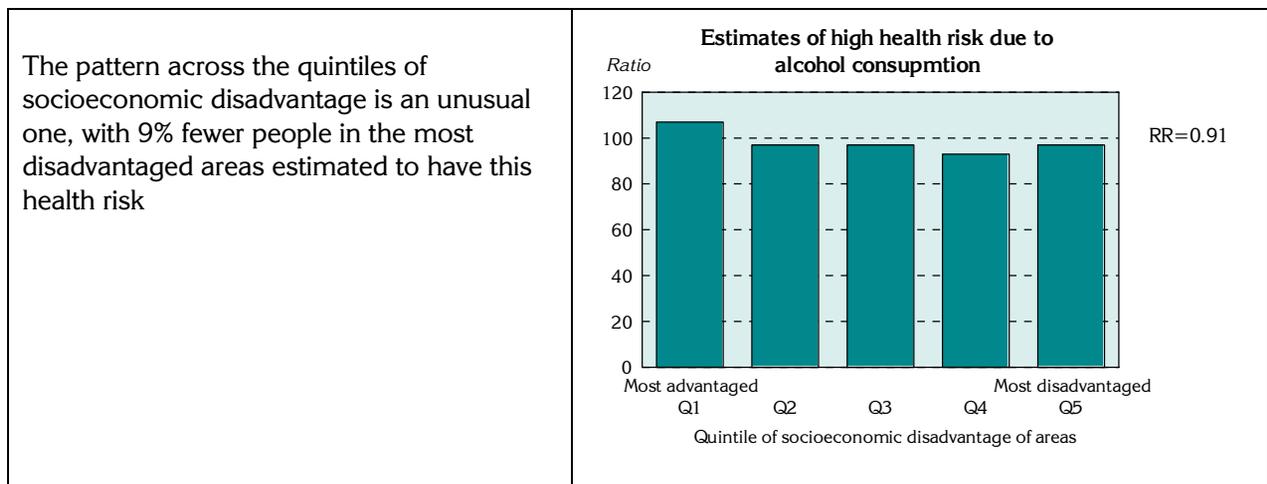
The 2001 NHS also collected information on alcohol consumption, presented here as estimates of those at 'high health risk' due to alcohol consumed – defined as a daily consumption of more than 75 ml (three standard drinks) for males and 50 ml (two standard drinks) for females. Excessive alcohol consumption is a major risk factor for morbidity and mortality⁶³.

Central Northern had two per cent fewer people estimated as having a high health risk due to alcohol consumed than expected from the metropolitan rates (a standardised ration (SR) of 98^{**}, 22,151 people) (Table 56). Elevated SRs were mapped in SLAs scattered throughout the region (many in outer areas, as well as some adjacent to the city), with low SRs in the north-east and across much of the west and parts of the outer north (Map 55).

Within this region, there were highly elevated ratios in Playford - Elizabeth (an SR of 119^{**}, 824 people), - West Central (118^{**}, 401) and - Hills (113, 93), Norwood Payneham and St Peters - West (116^{**}, 632), Unley - West (113^{**}, 576) and - East (109^{*}, 627), Port Adelaide Enfield - Coast (109^{*}, 916), Adelaide Hills - Ranges (107, 332) and - Central (106, 397), Walkerville (106, 213) and Burnside - South-West (106, 637).

Large estimated numbers were calculated for Charles Sturt - Coastal (974 people, an SR of 103), Salisbury - South-East (966, 95), Tea Tree Gully - South (952, 96) and - Central (817, 103), Port Adelaide Enfield - East (816, 95) and West Torrens - West (774, 94) and - East (763, 102).

A number of SLAs in this region had low ratios of health risk due to alcohol consumption. These included Campbelltown - East (an SR of 80^{**}, 650 people) and - West (83^{**}, 460), Charles Sturt - Inner West (83^{**}, 607) and - North East (84^{**}, 652), Port Adelaide Enfield - Port (85^{**}, 629), Salisbury Balance (86, 148) and Charles Sturt - Inner East (88^{**}, 570).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 55: Estimates of high health risk due to alcohol consumption, people aged 18 years and over, CNAHS, 2001

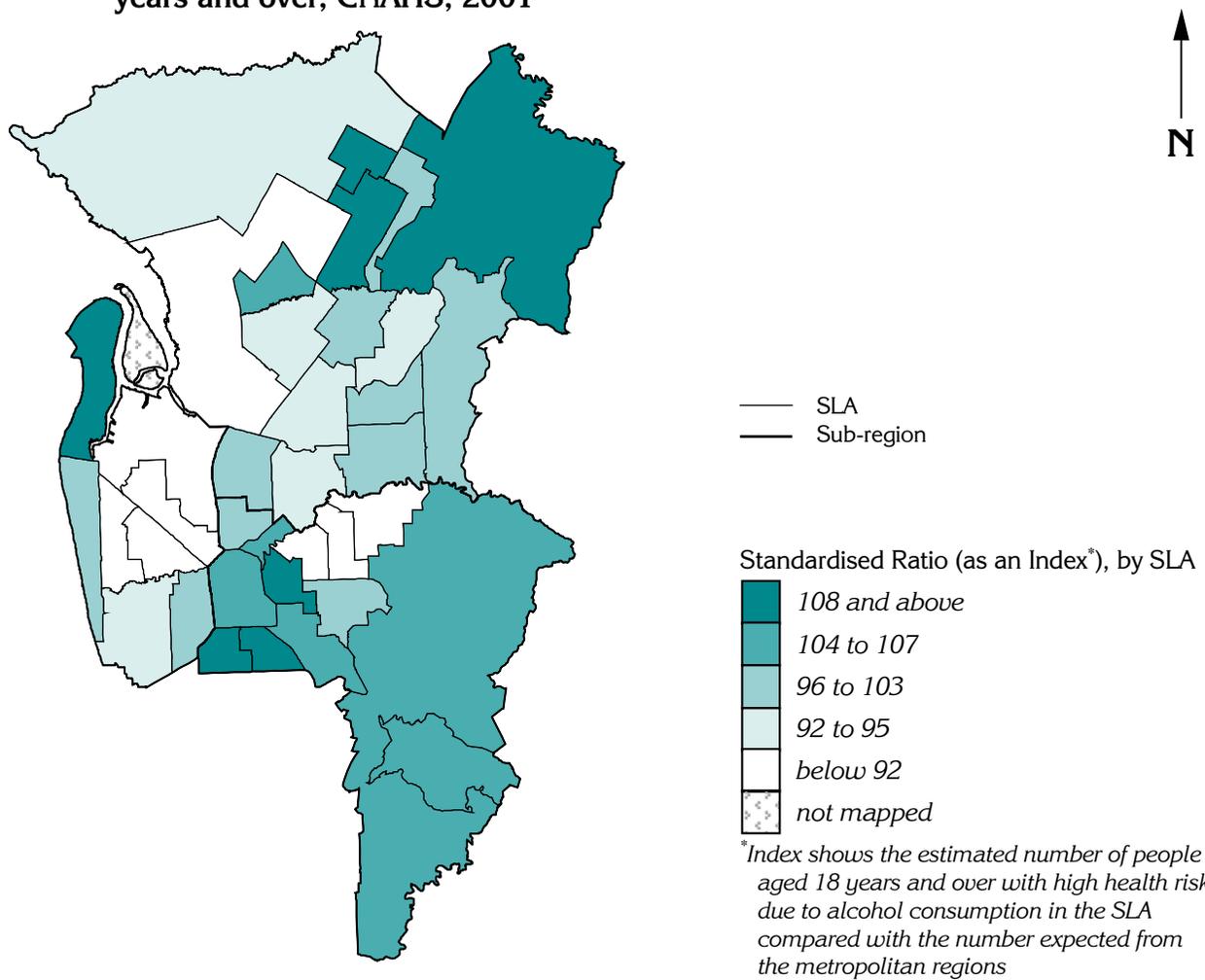


Table 56: Estimates of high health risk due to alcohol consumption, people aged 18 years and over, CNAHS, 2001

Area	Number	Rate*	Standardised ratio
CNAHS			
Quintile 1: most advantaged areas	4,488	42.4	107**
Quintile 2	4,334	38.3	97*
Quintile 3	4,834	38.5	97
Quintile 4	3,853	36.7	93**
Quintile 5: most disadvantaged areas	4,642	38.5	97
Rate ratio		0.91	0.91**
Northern	9,554	39.4	100
Western	5,885	37.3	94**
Central East	6,712	39.6	99
CNAHS	22,151	38.9	98**
Southern	9,780	41.3	104**
Metropolitan regions	31,931	39.6	100

* Rate per 1,000 population

* indicates statistical significance: see page 19

Cancer Incidence: All cancers

Cancer incidence is defined as the number of cases first notified for a given population during a specific time period: data from 1998 to 2002

Overview

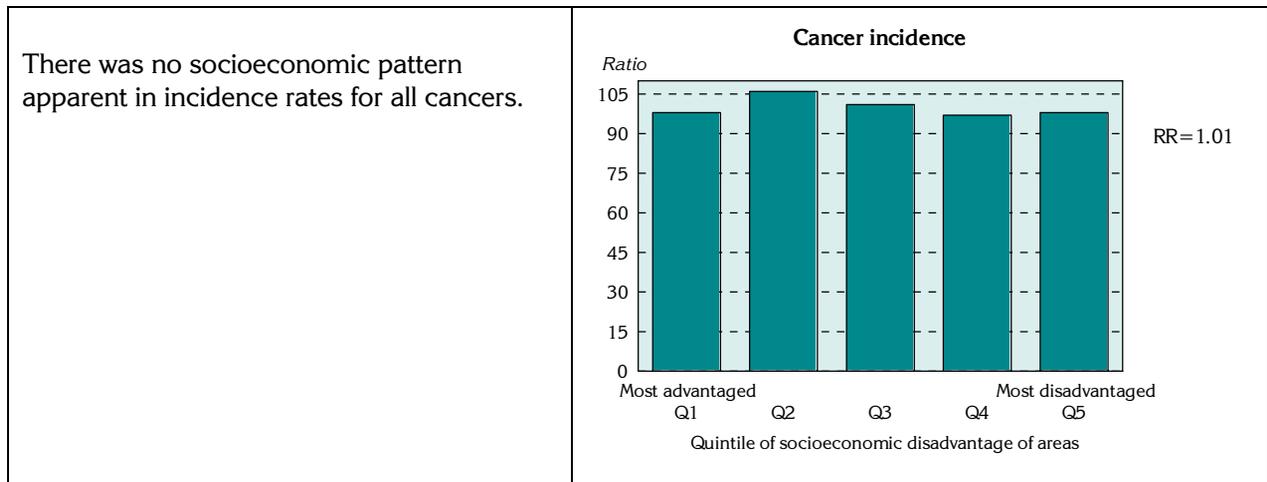
Cancer is a diverse group of diseases in which some of the body's cells become defective, begin to multiply out of control, can invade and damage the tissue around them, and may also spread (metastasise) to other parts of the body to cause further damage⁶³. Numerous factors increase a person's risk of developing cancer including ageing, tobacco smoking and alcohol consumption⁶³.

There were 19,112 new cases of cancer in Central Northern over the five years from 1998 to 2002 (Table 57). There is a relatively flat distribution across the region, with elevated rates showing no particular geographic pattern (Map56).

Salisbury - Inner North had 25% more cases than expected (a standardised incidence ratio (SIR) of 125**, 425 cases). There were also elevated standardised incidence ratios in Port Adelaide Enfield - Coast (an SIR of 117**, 871 cases), Adelaide (115**, 367), Tea Tree Gully - Central (111**, 564), West Torrens - East (109*, 731) and Prospect (107*, 512).

Large numbers of new cases were recorded for people in Charles Sturt - Coastal (983 cases, an SIR of 103), West Torrens - West (932, 99), Tea Tree Gully - South (793, 100), Port Adelaide Enfield - East (776, 103), Charles Sturt - Inner West (746, 97), Port Adelaide Enfield - Port (724, 99), Salisbury - South-East (721, 99), Playford - Elizabeth (677, 102), Charles Sturt - North-East (688, 96), Campbelltown - East (669, 103), Burnside - South-West (655, 104) and - North-East (640, 95) and Port Adelaide Enfield - Inner (626, 100).

The lowest ratios were recorded in the SLAs of Playford - Hills (an SIR of 72*, 39 new cases), Salisbury Balance (75*, 51) and Salisbury - Central (80*, 431), Playford - West (82*, 124), Campbelltown - West (89*, 571) and Norwood Payneham and St Peters - West (89*, 427). Other SLAs with ratios below the State average were Charles Sturt - Inner East (90**, 618), Norwood Payneham and St Peters - East (91*, 516), Burnside - North-East (95, 640), Tea Tree Gully - Hills (93, 260) and Walkerville (94, 220).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 56: Cancer incidence, CNAHS, 1998 to 2002

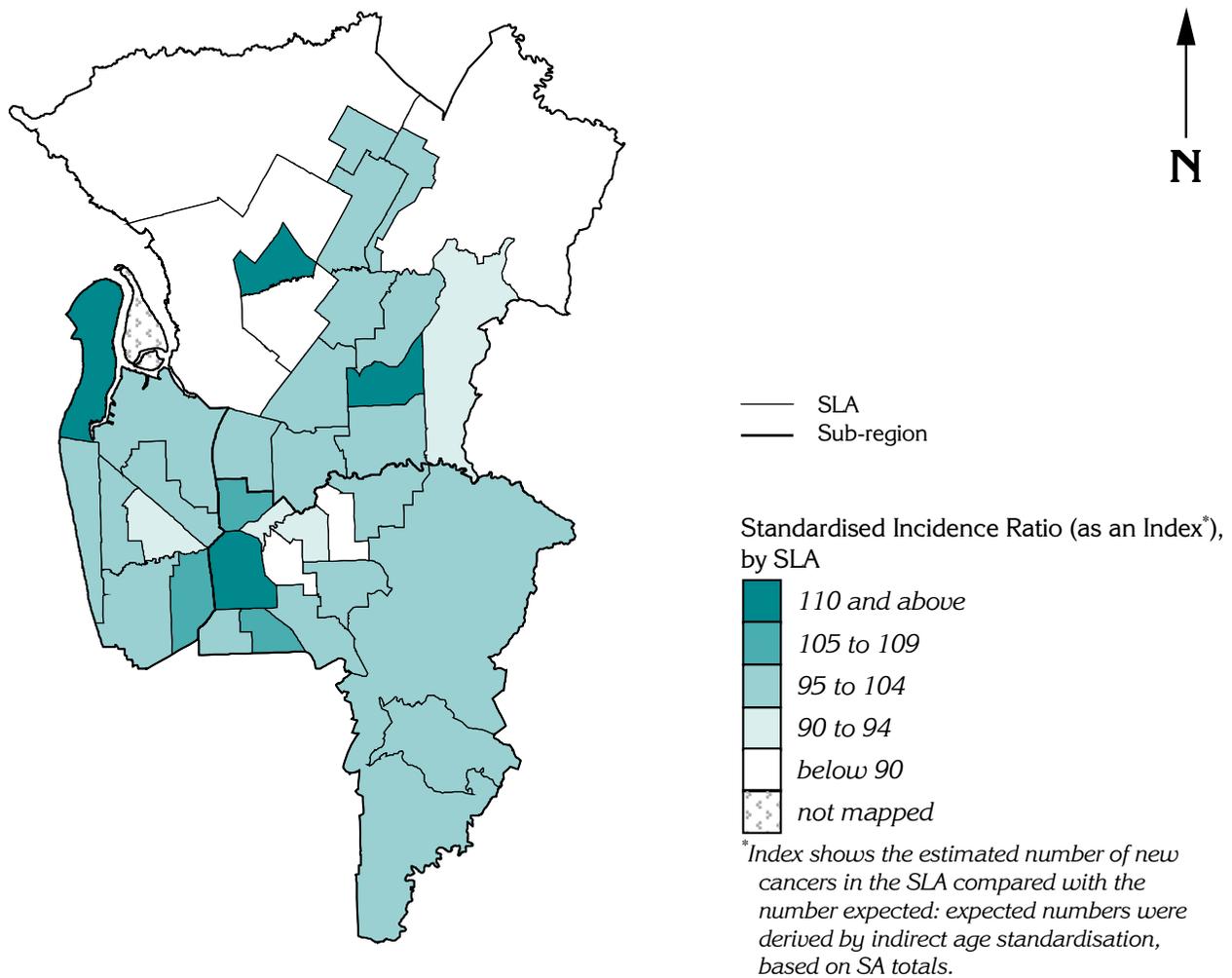


Table 57: Cancer incidence, CNAHS, 1998 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	3,689	98
Quintile 2	3,448	106**
Quintile 3	4,696	101
Quintile 4	3,422	97*
Quintile 5: most disadvantaged areas	3,855	98
Rate ratio	..	1.01
Northern	6,793	100
Western	6,294	101
Central East	6,025	99
CNAHS	19,112	100
Southern	8,524	103*
Metropolitan regions	27,636	101
State total	38,085	100

* indicates statistical significance: see page 19

Cancer incidence: Lung cancer

Incidence of lung cancer among people aged 29 years and over: data from 1998 to 2002

Overview

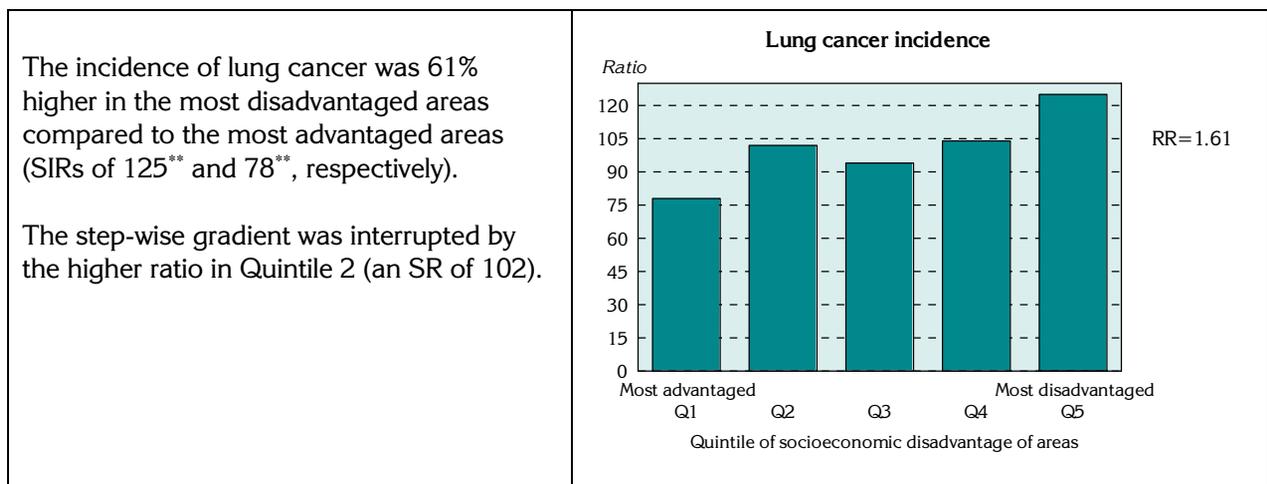
Tobacco smoking is the commonest cause of lung cancer. Although overall rates of smoking are declining, the rate of lung cancer is still increasing due to the lag time, from the exposure to tobacco to the onset of lung cancer. There has been a decline in lung cancer in males following reduced smoking rates since the 1970s. The same trend has not been observed for females. Other causes of lung cancer include occupational exposures such as asbestos, radiation and other agents. The survival rate for lung cancer after five years is estimated at 12%. The population groups most at risk include people in low socioeconomic areas, Aboriginal and Torres Strait Islander females and males born overseas (excluding Asian born), particularly those born in the UK and Southern Europe ⁷⁵.

There were 1,779 new cases of lung cancer in Central Northern from 1998 to 2002 (an SIR of 100) (Table 58). The SLAs with the most highly elevated standardised incidence ratios (SIRs) of lung cancer (Map 57) were located in the city, through the north-west and inner north, and in the outer north, generally following the pattern of socioeconomic disadvantage shown by the IRSD (Map 23, page 113).

The most highly elevated ratio, with nearly twice the expected number of cases, was in Salisbury - Inner North (an SIR of 198^{**}, 53 cases). There were also highly elevated ratios in Playford - West Central (an SIR of 138^{*}, 27 cases), Adelaide (138^{*}, 39), Port Adelaide Enfield - Coast (126^{*}, 88), Playford - East Central (133, 30), Port Adelaide Enfield - Port (126^{*}, 90), Salisbury - North-East (125, 48), Playford - Elizabeth (121, 78) and Port Adelaide Enfield - Inner (121, 76).

Relatively large numbers of new cases of lung cancer were recorded in West Torrens - West (82 cases, an SIR of 88), Charles Sturt - Coastal (78, 85) and Charles Sturt - Inner West (74, 98), Salisbury - South-East (73, 114), West Torrens - East (68, 106) and Tea Tree Gully - South (63, 88).

SLAs with fewer new cases of lung cancer than expected included Playford - West (eight cases, an SIR of 63), Norwood Payneham and St Peters - East (36, 64^{**}), Burnside - North-East (42, 66^{**}), Unley - East (32, 67^{*}), Walkerville (16, 70), Adelaide Hills - Ranges (12, 72), Campbelltown - West (46, 73^{*}), Burnside - South-West (44, 74^{*}) and Adelaide Hills - Central (19, 82).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 57: Incidence of lung cancer, people aged 20 years and over, CNAHS, 1998 to 2002

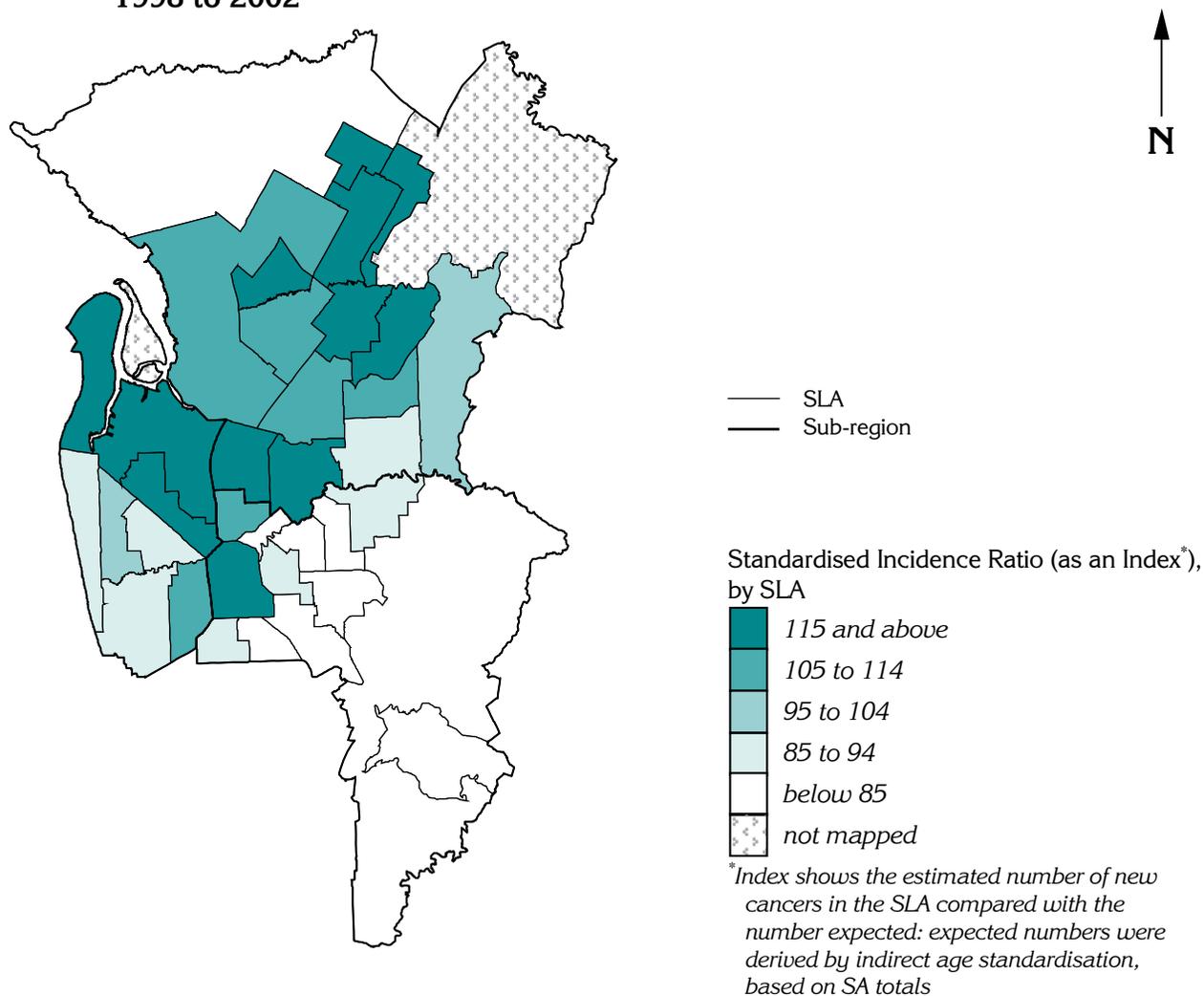


Table 58: Incidence of lung cancer, people aged 20 years and over, CNAHS, 1998 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	268	78**
Quintile 2	298	102
Quintile 3	412	94
Quintile 4	345	104
Quintile 5: most disadvantaged areas	456	125**
Rate ratio	..	1.61**
Northern	701	116**
Western	616	103
Central East	462	82**
CNAHS	1,779	100
Southern	777	100
Metropolitan regions	2,556	100
State total	3,527	100

* indicates statistical significance: see page 19

Cancer incidence: Female breast cancer

Incidence of breast cancer for women aged 30 years and over: data from 1998 to 2002

Overview

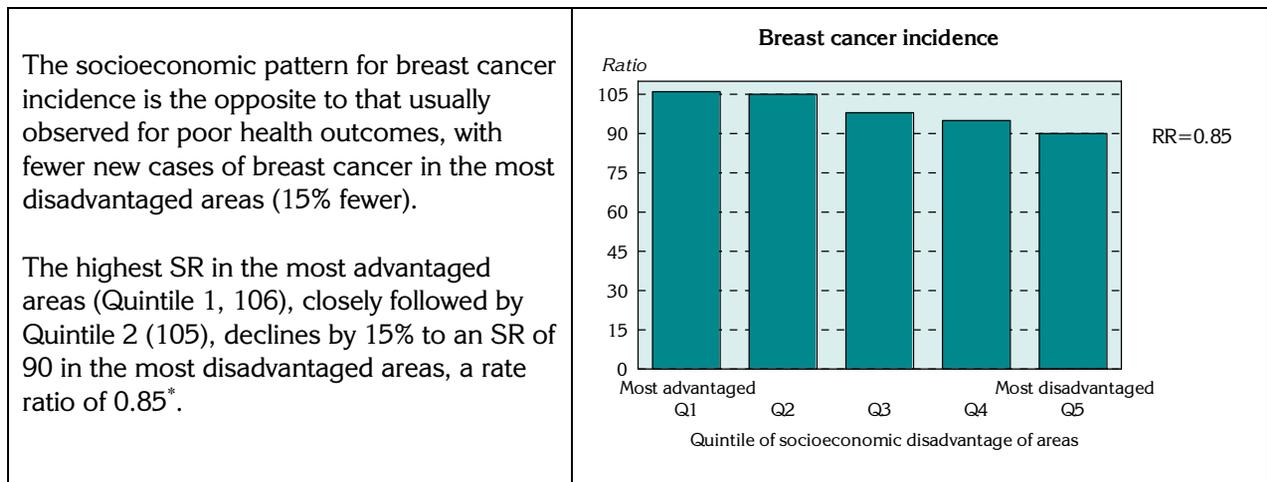
Breast cancer is the most commonly diagnosed cancer, and is also the commonest cause of cancer death in women in Australia. The incidence of breast cancer increases with age. Women of high socioeconomic status are at greater risk of breast cancer than women of low socioeconomic status with possible reasons including differences in reproductive factors, lifestyle factors, and greater numbers of higher educated women attending mammography screening. Other factors implicated in the development of breast cancer include family history, parity, length of menstrual cycle, breast feeding, diethylstilbestrol use during pregnancy, infertility, spontaneous and induced abortion, radiation exposure, physical activity, stress, height, alcohol consumption, smoking and dietary factors^{76, 77}. The five-year survival rate for breast cancer is 78%⁷⁵.

There were 2,472 new cases of breast cancer in Central Northern (an SIR of 99) (Table 59). The overall pattern suggests higher incidence of breast cancer in areas of higher socioeconomic status (Map 58).

Unlike other patterns of disease mapped in this atlas, many of the most highly elevated ratios of breast cancer were mapped in the advantaged SLAs. Walkerville had the highest standardised incidence ratio (SIR), with 32% more cases than expected from the State rates (an SIR of 132, 40 cases), followed by Burnside - South-West (120, 98), Unley - West (115, 67) and - East (114, 74), Tea Tree Gully - North (114, 66) and - Central (112, 88), and Port Adelaide Enfield - Inner (112, 80).

There were a large number of new cases of breast cancer in West Torrens - West (115 cases, an SIR of 104), Tea Tree Gully - South (113, 104) and Port Adelaide Enfield - Coast (103, 104).

The SLAs with the lowest ratios were Playford - West (an SIR of 36**, eight cases), Salisbury Balance (41*, five), Playford - Hills (56, five), Salisbury - Central (75*, 55), Charles Sturt - North-East (71**, 80), Playford - East Central (82, 34), Charles Sturt - Inner East (83, 66), Norwood Payneham and St Peters - West (83, 52), Campbelltown - East (83, 79), Playford - West Central (84, 26) and Norwood Payneham and St Peters - East (88, 60).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 58: Incidence of female breast cancer, 30 years and over, CNAHS, 1998 to 2002

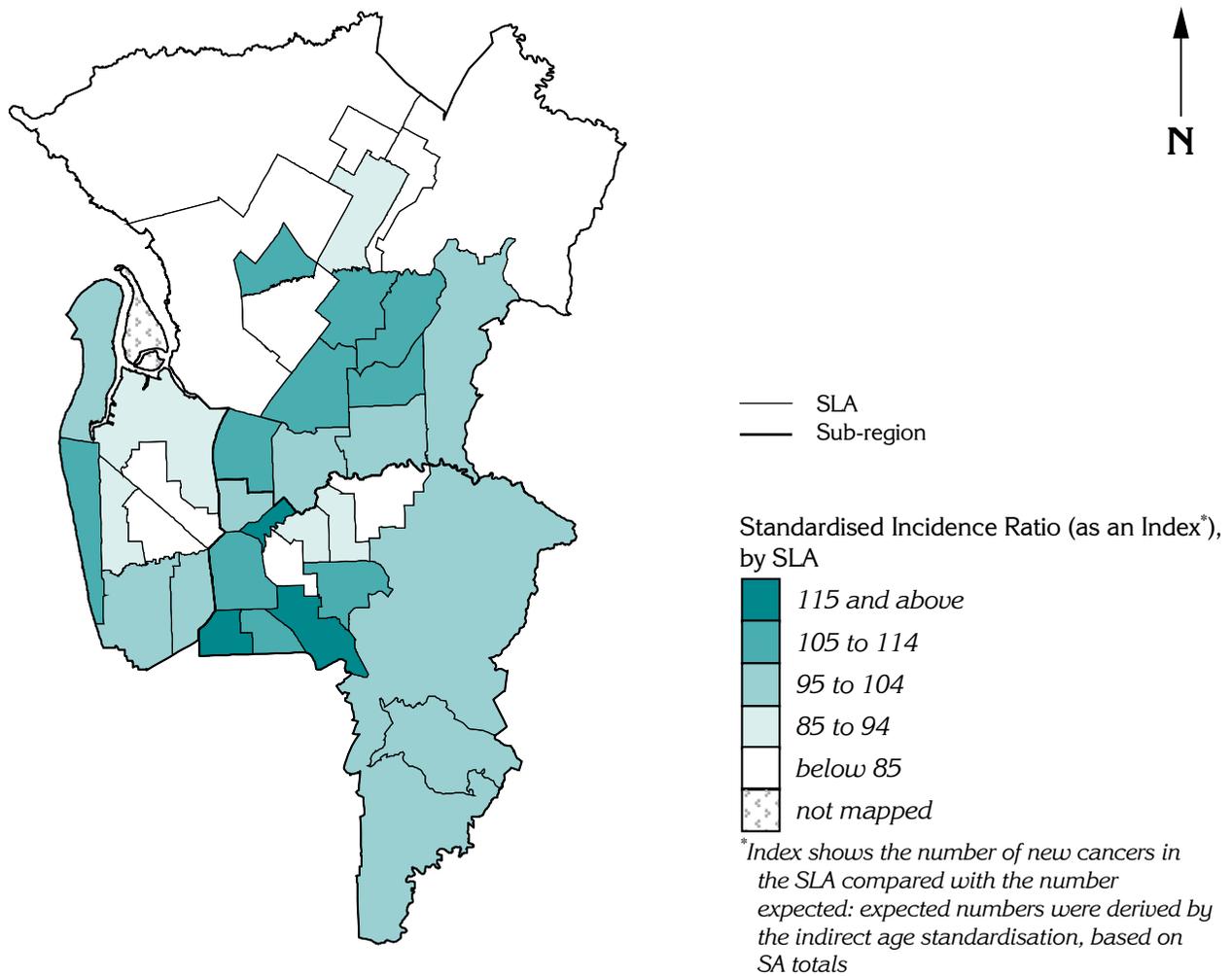


Table 59: Incidence of female breast cancer, CNAHS, 1998 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	541	106
Quintile 2	473	105
Quintile 3	572	98
Quintile 4	437	95
Quintile 5: most disadvantaged areas	450	90*
Rate ratio	..	0.85*
Northern	934	98
Western	734	96
Central East	804	102
CNAHS	2,472	99
Southern	1,187	109**
Metropolitan regions	3,659	102
State total	4,938	100

* indicates statistical significance: see page 19

Cancer incidence: Prostate cancer

Incidence of prostate cancer for males aged 50 years and over: data from 1998 to 2002

Overview

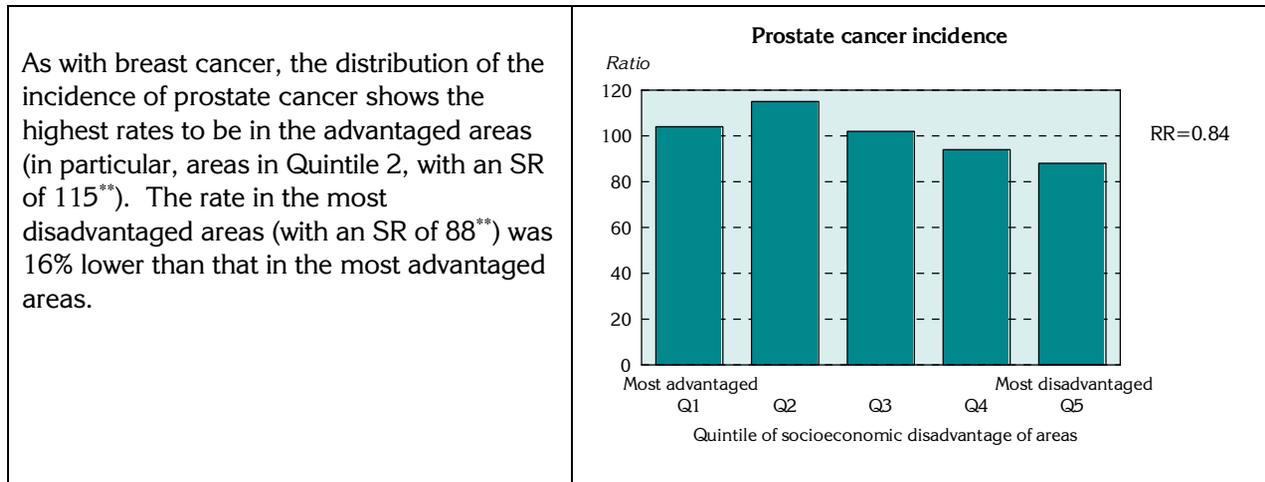
Apart from non-melanoma skin cancer, cancer of the prostate is the most commonly diagnosed cancer among South Australian males; and it is the second commonest cause of cancer deaths in South Australian men ⁷⁸. The incidence of prostate cancer increases with age. At the present time, the exact cause of prostate cancer is not known; therefore active prevention is not possible. Prostate cancer has been associated with Western-style high fat diets, alcohol, smoking, occupational exposure to cadmium and rubber, urban residence and a positive family history of the disease ⁷⁸.

There were 2,511 new cases of prostate cancer in Central Northern in 1998-2002 (100) (Table 60). The SLAs with the most highly elevated ratios were largely concentrated in the more advantaged SLAs of the east, the north-east and north-west, although some of these also had lower incidence (Map 59).

Very highly elevated ratios, with over one third more cases than expected from the State rates, were recorded in Port Adelaide Enfield - Coast (an SIR of 144^{**}, 136 cases), Salisbury - Inner North (138^{*}, 53) and Adelaide Hills - Ranges (131, 32). There were also highly elevated ratios in Tea Tree Gully - Central (an SIR of 130^{*}, 80 cases), Campbelltown - East (125^{*}, 101), Tea Tree Gully - Hills (122, 40), Adelaide (119, 50), Burnside - South-West (117, 93) and - North-East (116, 101) and Tea Tree Gully - North (115, 43) and Prospect (113, 66).

There were large numbers of new cases of prostate cancer recorded for men in Charles Sturt - Coastal (134 cases, an SIR of 100), West Torrens - West (119, 89), Tea Tree Gully - South (114, 108), Port Adelaide Enfield - East (109, 107), West Torrens - East (100, 109), Charles Sturt - Inner West (97, 91), - Inner East (87, 89) and - North-East (87, 89).

The SLAs with ratios below the State average were Unley - West (an SIR of 69^{*}, 34 cases), Salisbury - Central (71^{*}, 50), Norwood Payneham and St Peters - East (77, 57), Salisbury - South-East (78^{*}, 75), Port Adelaide Enfield - Inner (81, 73), Norwood Payneham and St Peters - West (81, 47), Salisbury Balance (83, six) and Port Adelaide Enfield - Port (84, 87).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 59: Incidence of prostate cancer, males aged 50 years and over, CNAHS, 1998 to 2002

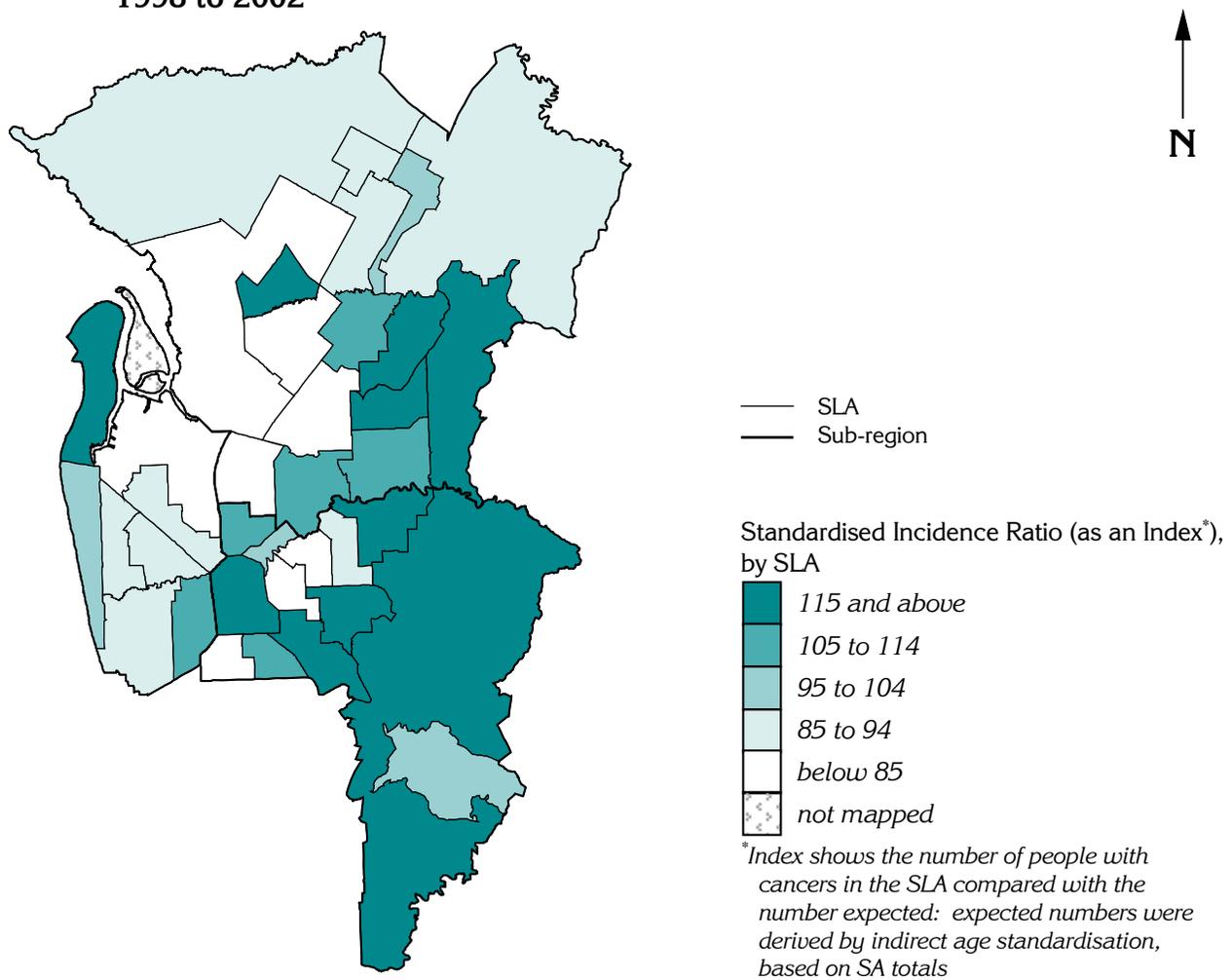


Table 60: Incidence of prostate cancer, males aged 50 years and over, CNAHS, 1998 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	486	104
Quintile 2	474	115**
Quintile 3	645	102
Quintile 4	445	94
Quintile 5: most disadvantaged areas	461	88**
Rate ratio	..	0.84**
Northern	865	99
Western	848	99
Central East	798	102
CNAHS	2,511	100
Southern	1,122	103
Metropolitan regions	3,633	101
State total	5,118	100

* indicates statistical significance: see page 19

Premature mortality: Infant deaths

Infant mortality rate (IMR) – infant deaths (deaths before 12 months of age) per 1,000 live births: data for 1999 to 2002

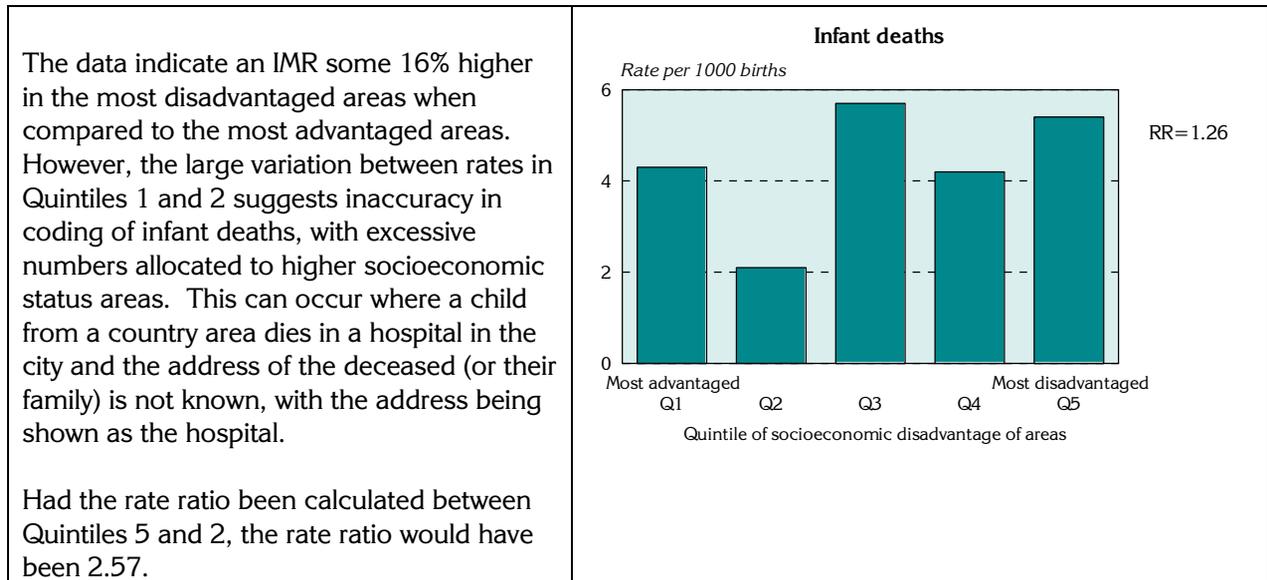
Overview

Death in infancy represents the earliest indicator of premature mortality. Most infant deaths occur in the first four weeks of life, from conditions originating in the perinatal period . These conditions include spontaneous preterm labour, infections, hypertension, haemorrhage and maternal conditions affecting the newborn. Congenital abnormalities and Sudden Infant Death Syndrome (SIDS) account for many of the remaining deaths ⁷⁹. Following a national Reducing the Risks Campaign, which commenced in 1991, there has been a dramatic fall in the overall number of SIDS deaths, but a less substantial decline for Indigenous SIDS deaths.

Due to the small numbers of deaths at an SLA level, SLAs have been aggregated to the larger areas used to present the Burden of Disease (BoD) estimates, presented later in this section: these are referred to as BoD areas (Map 60). In Central Northern region, there were 161 infant deaths, 4.5 infant deaths per 1,000 live births (Table 61). The map shows high and low rates occurring across the region, with no clear pattern other than the generally higher rates in the outer north: the small numbers of infant deaths across the eastern suburbs causing the rates not to be calculated (despite reasonable numbers of births) suggests the rates here are low (Map 60).

There was considerable variation in IMRs within this region, with the highest IMR recorded for Salisbury - Central (an IMR of 10.8, 16 deaths). The SLAs of Port Adelaide Enfield - Inner (with an IMR of 8.4, nine deaths), Unley - West (7.5, five deaths), Tea Tree Gully - South (6.9, ten deaths), Playford - East Central (6.6, eight deaths), Playford - Elizabeth (6.5, ten) and Port Adelaide Enfield - Coast (6.5, eight) all had high infant mortality rates.

In contrast to Salisbury - Central which had the highest IMR, Salisbury - South-East had the lowest in the region (an IMR of 2.9, although a small number of five deaths). Other SLAs with low IMRs included Tea Tree Gully - North (3.5, five deaths), Charles Sturt - North-East (3.6, five) and Salisbury - Inner North (3.8, six).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 60: Infant deaths, CNAHS, 1999 to 2002

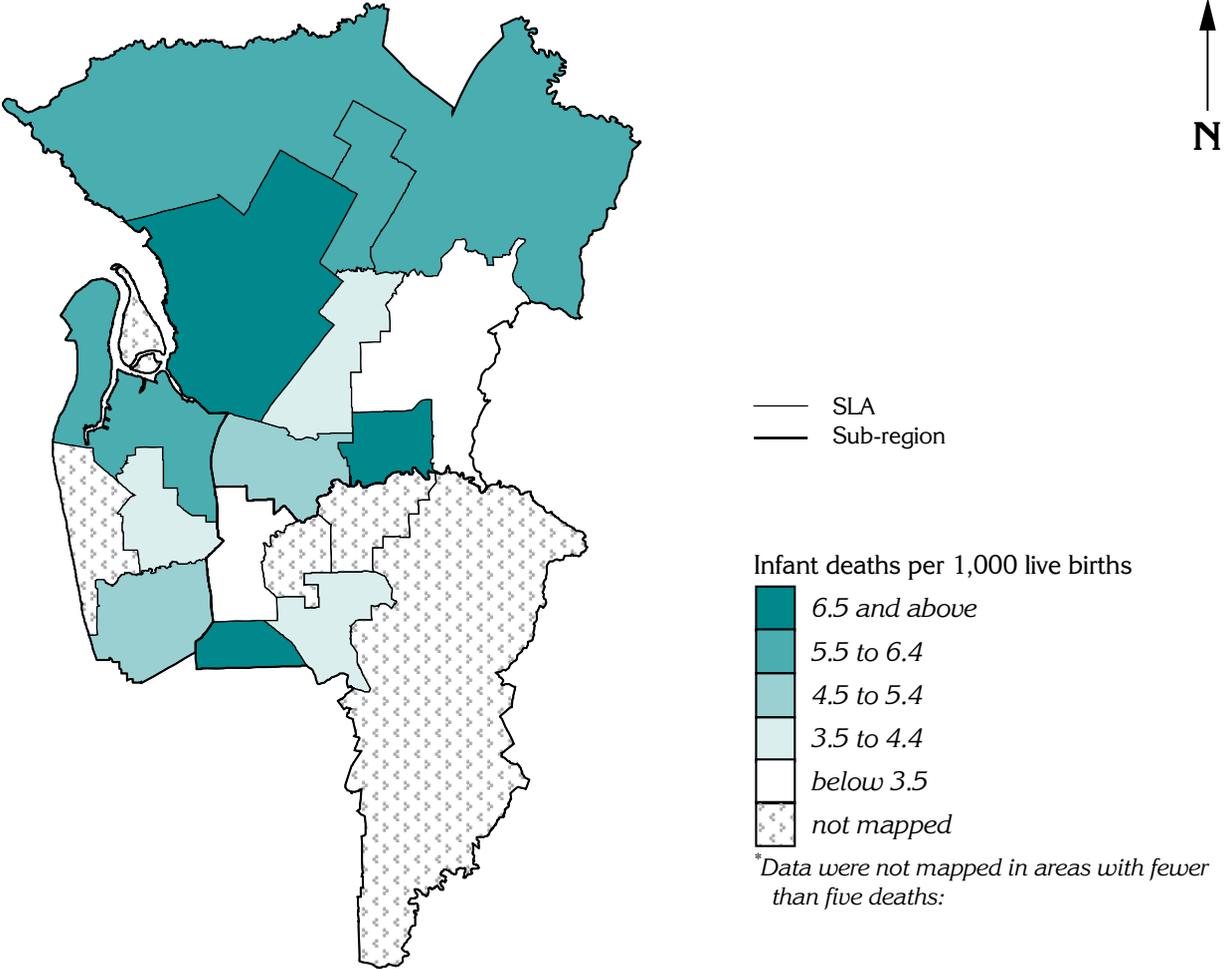


Table 61: Infant deaths, CNAHS, 1999 to 2002

Area	Number	Rate ¹
CNAHS		
Quintile 1: most advantaged areas	24	4.3
Quintile 2	13	2.1
Quintile 3	43	5.7
Quintile 4	27	4.2
Quintile 5: most disadvantaged areas	54	5.4
Rate ratio	..	1.26
Northern	90	5.1
Western	40	4.4
Central East	31	3.5
CNAHS	161	4.5
Southern	64	4.5
Metropolitan regions	226	4.5
State total	329	4.5

¹per 1000 live births

Premature mortality: Deaths of males aged 15 to 64 years

Male deaths at ages 15 to 64 years: data for 1999 to 2002

Overview

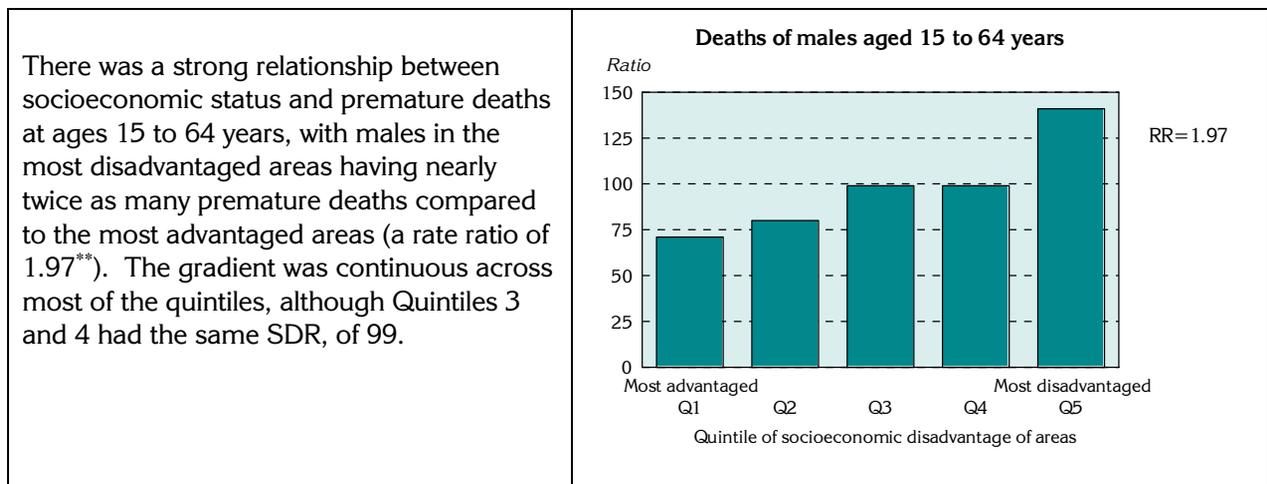
Deaths before 65 years of age are clearly premature, given the life expectancy of males South Australian males of 77.5 years over this period. Malignant neoplasms (cancer), diseases of the circulatory system and the combined external causes of accidents, poisonings and violence were the main causes of premature death for males. Males most likely to die prematurely include Aboriginal and Torres Strait Islander men; those who are homeless, or who live in sheltered accommodation or low cost boarding houses; those earning low incomes; and those who are unemployed ⁸⁰.

The standardised death ratio (SDR) for 15 to 64 year old males was two per cent lower than expected in the Central Northern region, with an SDR of 98 and (2,611 deaths) (Table 62). The pattern of SDRs at the SLA level (Map 61) is consistent with the pattern of socioeconomic disadvantage seen in Map 23 (page 113).

Several SLAs had ratios elevated by more than 30 per cent, including Playford - West Central (an SDR of 187^{**}, 76 deaths) Port Adelaide Enfield - Port (169^{**}, 143), Salisbury Balance (165^{*}, 22), Playford - Elizabeth (158^{**}, 131), Port Adelaide Enfield - Coast (139^{**}, 135), Port Adelaide Enfield - Inner (135^{**}, 82), Adelaide (135^{**}, 76) and Charles Sturt - North-East (130^{**}, 107).

Large numbers of deaths were recorded for males in Salisbury - South-East (118 deaths, an SDR of 91), Port Adelaide Enfield - East (111, 114), Salisbury - Central (107, 116) and Tea Tree Gully - South (103, 80^{*}).

A number of SLAs had ratios in the lowest range, including Tea Tree Gully - Hills (an SDR of 41^{**}, 22 deaths), Adelaide Hills - Ranges (43^{**}, 17), Adelaide Hills - Central (50^{**}, 26), Burnside - North East (61^{**}, 50), Playford - East Central (61^{**}, 35), Tea Tree Gully - North (66^{**}, 54), Tea Tree Gully - Central (68^{**}, 67), Walkerville (73, 20), Unley - West (75, 43), Charles Sturt - Coastal (76^{**}, 90) and Campbelltown - East (77^{*}, 81).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 61: Deaths of males aged 15 to 64 years, CNAHS, 1999 to 2002

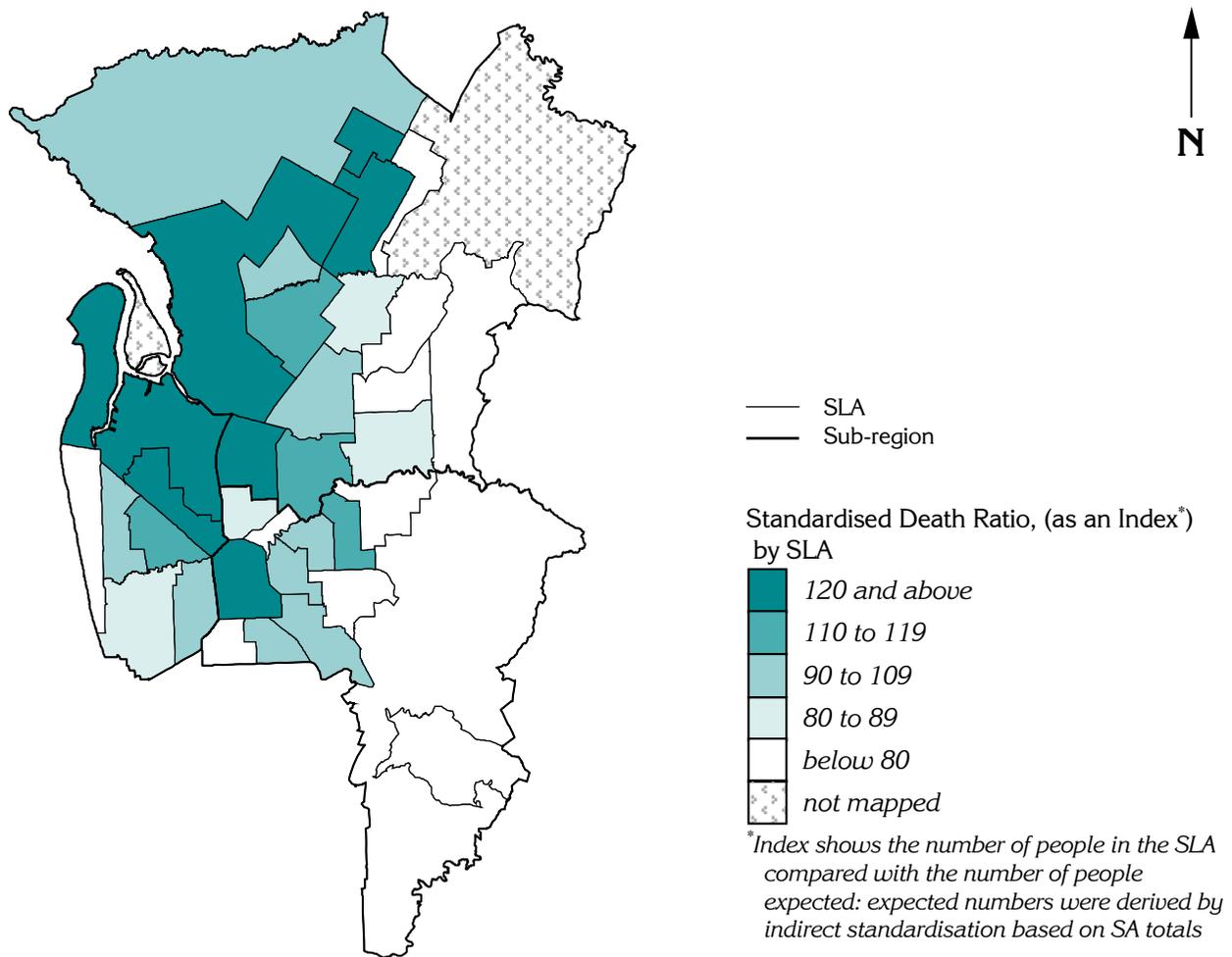


Table 62: Deaths of males aged 15 to 64 years, CNAHS, 1999 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	371	71**
Quintile 2	421	80**
Quintile 3	576	99
Quintile 4	497	99
Quintile 5: most disadvantaged areas	746	141**
Rate ratio	..	1.97**
Northern	1,110	98
Western	814	112**
Central East	687	86
CNAHS	2,611	98
Southern	977	88**
Metropolitan regions	3,609	96**
State total	5,295	100

* indicates statistical significance: see page 19

Premature mortality: Deaths of females aged 15 to 64 years

Female deaths at ages 15 to 64 years: data for 1999 to 2002

Overview

Deaths before 65 years of age are clearly premature, given the life expectancy of females South Australian males of 82.7 years over this period. As for males, cancer was the main cause of premature death for females, followed by diseases of the circulatory system and the combined causes of accidents, poisonings and violence. Females most likely to die prematurely include Aboriginal and Torres Strait Islander women; single mothers; those earning low incomes; and those who were unemployed ⁸¹.

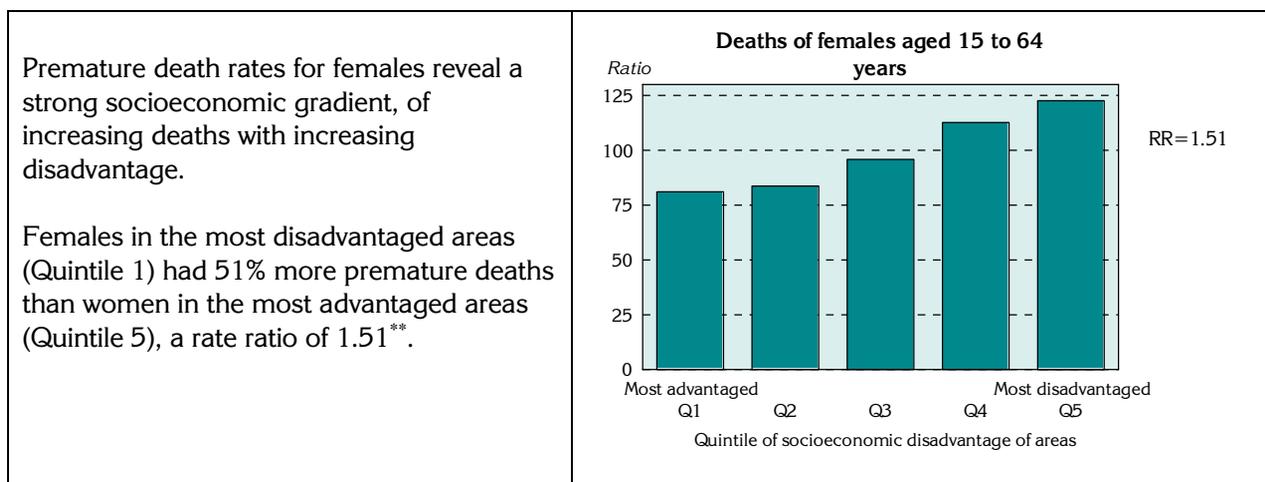
There were 1,541 premature female deaths in the Central Northern region, one per cent fewer deaths than expected from the State rates (Table 63). The pattern of standardised death ratios (SDRs) at the SLA level (Map 62) is generally consistent with the pattern of socioeconomic disadvantage seen in Map 23 (page 113).

Despite having a regional SDR which is close to average, there is considerable variation throughout the region, from 70% more premature deaths than expected from the State rates in Playford - West Central (an SDR of 170**, 39 deaths), to 56% fewer in Adelaide Hills Ranges (44**, ten deaths).

There were also elevated ratios in the SLAs of Playford - Elizabeth (an SDR of 146**, 75 deaths), Unley - East (140*, 53), Port Adelaide Enfield - Inner (138*, 51), Port Adelaide Enfield - East (124, 71), Salisbury - South-East (124*, 88), Campbelltown - West (122, 47), Salisbury - Central (120, 63), Port Adelaide Enfield - Port (119, 57) and Charles Sturt - Inner East (118, 50).

SLAs with the lowest ratios in the region included Burnside - North-East (an SDR of 48**, 24 deaths), Tea Tree Gully - North (63*, 29), Burnside - South-West (71*, 32), West Torrens - West (73*, 43), Tea Tree Gully - Central (74*, 43), Adelaide Hills - Central (74, 21), Norwood Payneham and St Peters - East (77, 26) and Salisbury Balance (79, seven).

There were large numbers of premature deaths in the SLAs of Tea Tree Gully - South (72 deaths, an SDR of 96), Charles Sturt - Coastal (68 deaths, 92), Port Adelaide Enfield - Coast (63 deaths, 107), Port Adelaide Enfield - Port (57 deaths, 119) and Campbelltown - East (55 deaths, 82).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 62: Deaths of females aged 15 to 64 years, CNAHS, 1999 to 2002

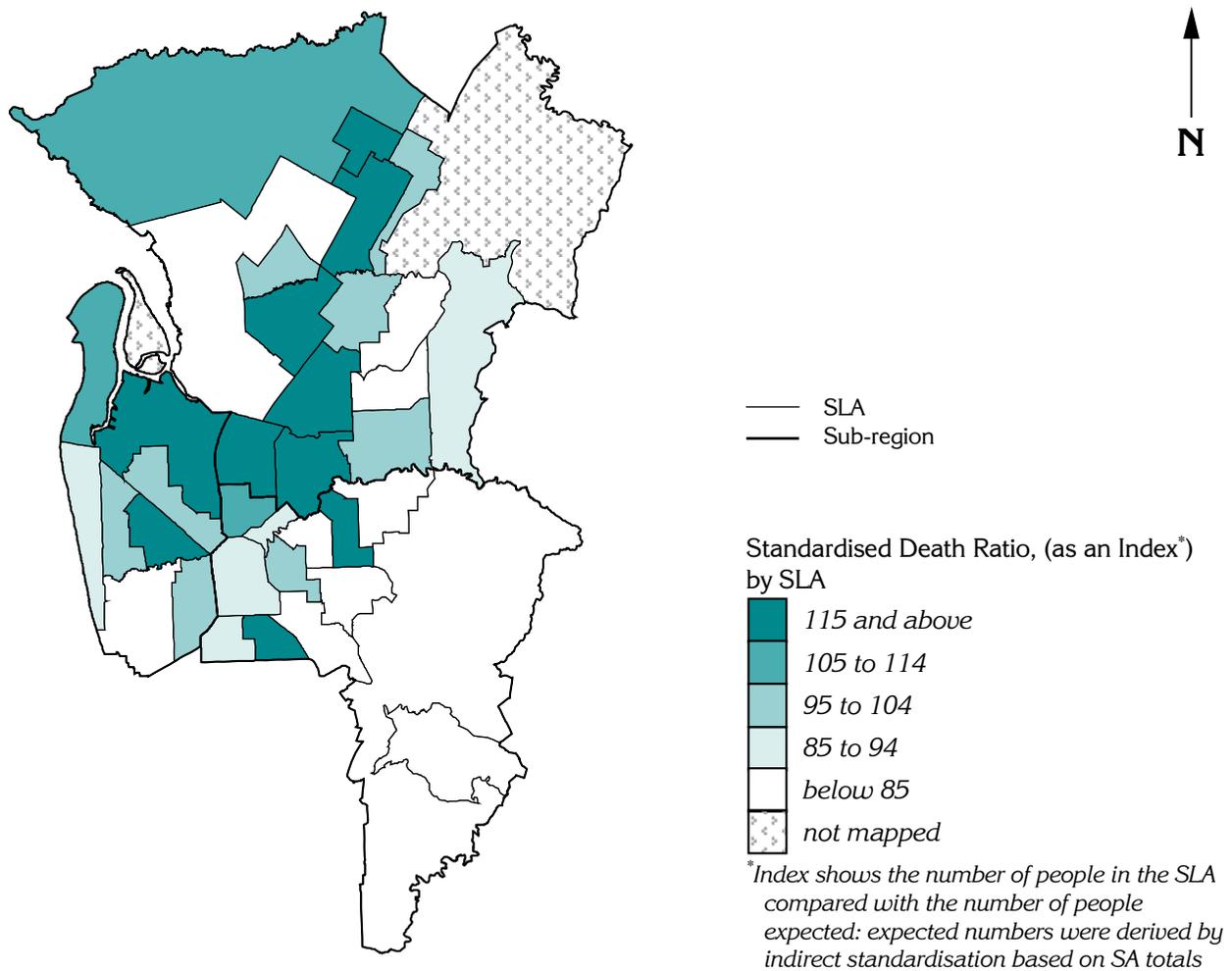


Table 63: Deaths of females aged 15 to 64 years, CNAHS, 1999 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	253	81**
Quintile 2	255	84**
Quintile 3	328	96
Quintile 4	324	113*
Quintile 5: most disadvantaged areas	381	123**
Rate ratio	..	1.51**
Northern	704	107
Western	428	99
Central East	409	87**
CNAHS	1,541	99
Southern	586	89**
Metropolitan regions	2,137	96
State total	3,061	100

* indicates statistical significance: see page 19

Avoidable mortality

Mortality from avoidable causes at ages 0 to 74 years: data for 1999 to 2002

Overview

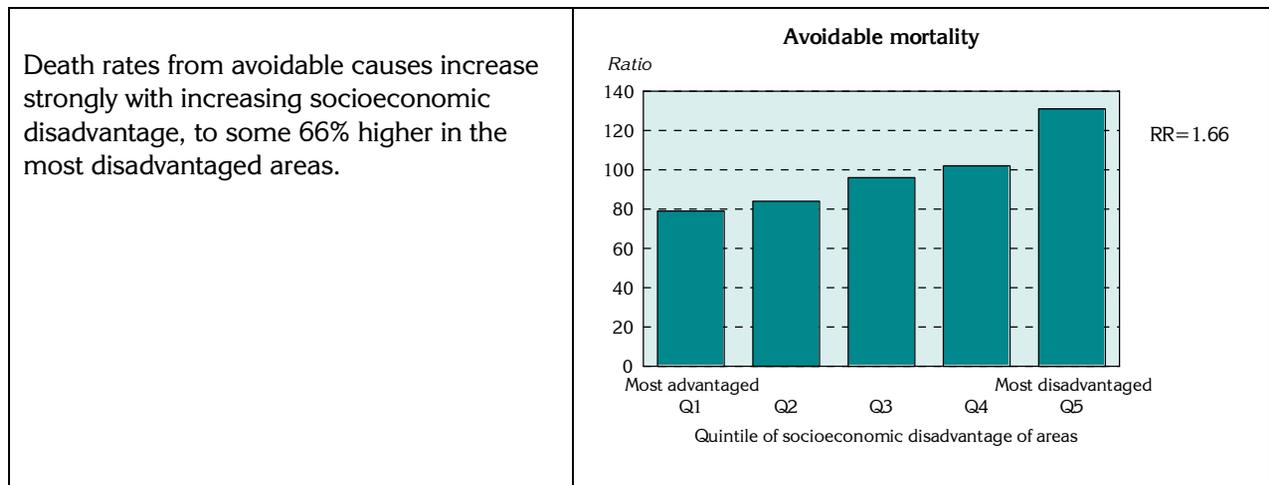
One approach to assessing the quality of health care in terms of clinical outcomes has been to identify deaths that should not have occurred, given the availability of health care interventions. The largest contributors to these deaths are cancers and cardiovascular diseases (around one third each), unintentional and intentional injuries (15% each) and respiratory diseases (six per cent). Details of the conditions included are on the PHIDU website www.publichealth.gov.au.

Residents of Central Northern had 5,644 deaths from avoidable causes, one per cent fewer than expected from the State rates (Table 64). The pattern of standardised ratios (SRs) at the SLA level (Map 63) is consistent with the pattern of socioeconomic disadvantage seen in Map 23 (page 113).

A number of SLAs had highly elevated ratios, with the highest being in Playford - West Central, where there were 64% more avoidable deaths than expected (an SR of 164**, 133 deaths). Playford - Elizabeth had 44% more avoidable deaths than expected (an SR of 144**, 307 deaths), with other high ratios in Port Adelaide Enfield - Port (132**, 275) and - Inner (130**, 214); Charles Sturt - North-East (127**, 250), Adelaide (122*, 114), Salisbury - Central (121**, 213), Salisbury Balance (121, 32) and Port Adelaide Enfield - Coast (120**, 261).

There were large numbers of avoidable deaths in Salisbury - South-East (276 deaths, an SR of 114*), Port Adelaide Enfield - East (247, 105), Tea Tree Gully - South (227, 92), Charles Sturt - Inner West (206, 92), Charles Sturt - Inner East (201, 104), West Torrens - East (195, 104), Campbelltown - West (171, 96).

A number of SLAs in Central Northern had fewer avoidable deaths than expected from the State rates. These included Playford Hills (an SR of 37**, seven deaths), Adelaide Hills - Ranges (55**, 37), Tea Tree Gully - Hills (61**, 58), Burnside - North-East (65**, 121), Walkerville (66**, 42), Adelaide Hills - Central (67**, 58), Tea Tree Gully - North (70**, 97) and - Central (72**, 128), West Torrens - West (78**, 202), Unley - West (79**, 93), Campbelltown - East (79**, 169) and Charles Sturt - Coastal (79**, 214).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 63: Avoidable mortality, CNAHS, 1999 to 2002

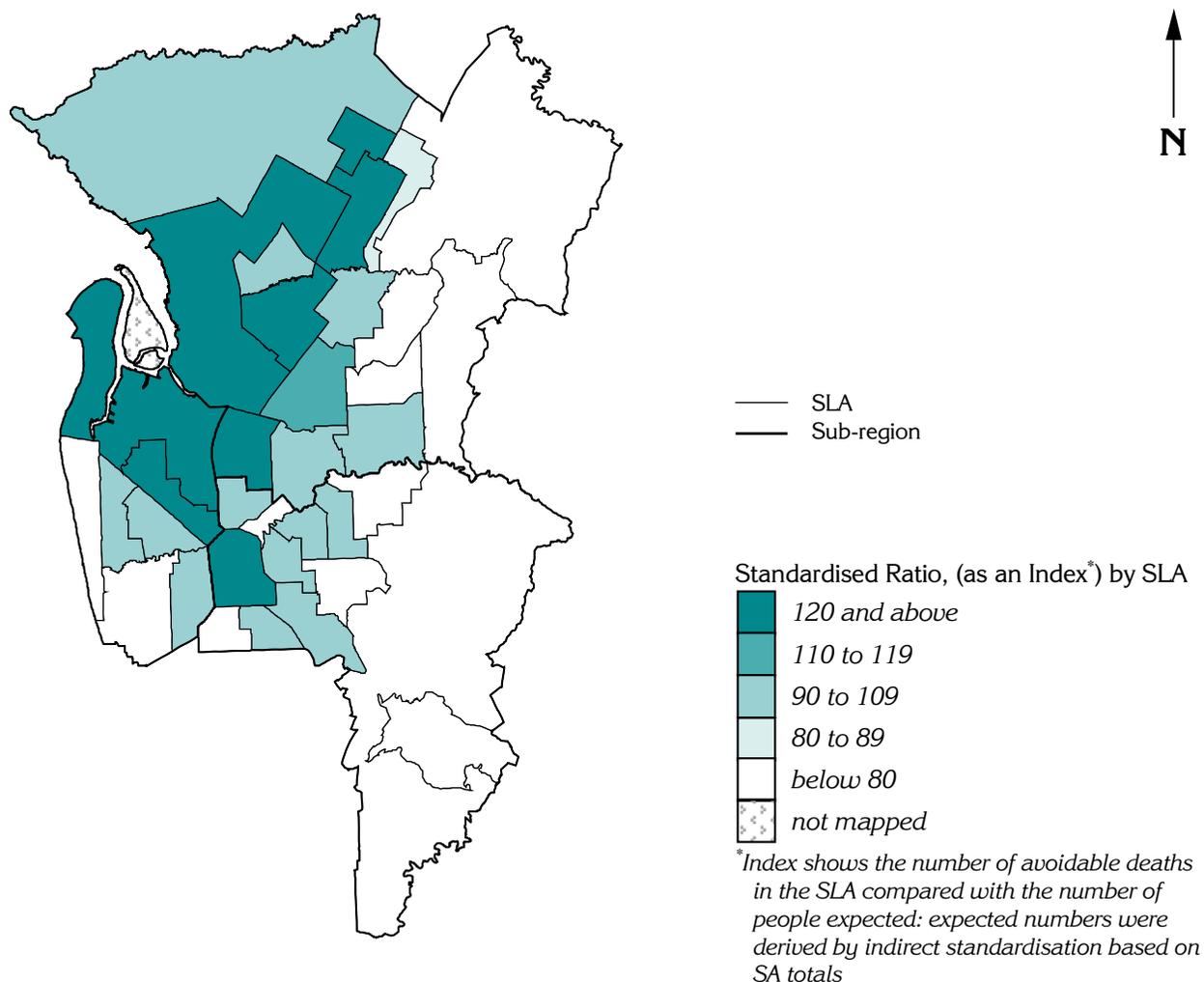


Table 64: Avoidable mortality, CNAHS, 1999 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	833	79**
Quintile 2	857	84**
Quintile 3	1,271	96
Quintile 4	1,129	102
Quintile 5: most disadvantaged areas	1,554	131**
Rate ratio		1.66**
Northern	2,352	104*
Western	1,804	103
Central East	1,488	88**
CNAHS	5,644	99
Southern	2,088	86**
Metropolitan regions	7,765	96**
State total	11,345	100

* indicates statistical significance: see page 19

Health-Adjusted Life Expectancy: Males

Number of years a newborn male can expect to live in good health, if current population trends of disease and disability persist: data for 1999 to 2002

Overview

***Health-adjusted life expectancy (HALE) is an indicator of the number of years a newborn can expect to live in good health, if current population trends of disease and disability persist. HALE is useful in making comparisons over time, as it takes into account changes in the extent of disability within the population*⁸².**

Introduction

The burden of disease methods combine information on deaths and non-fatal (disease and injury) outcomes, to provide two broad summary measures of population health, namely health expectancies and health gaps (DH 2004). Health expectancies can be expressed as health adjusted life expectancy (HALE). This is calculated as the expected number of years to be lived in what might be termed the equivalent of 'full health' (Mathers et al. 2000).

Disability adjusted life years (DALYs) are the most frequently used measure for calculating health gaps. DALYs reflect life years lost from a range of diseases and injuries, using a range of assumptions about the severity and duration of mental or physical disability. DALYs comprise two components: Mortality is the amount of years of life lost (YLL) and morbidity is the amount of years lost to disability (YLD). Thus, one DALY represents one full year of healthy life lost from the disease and disability free ideal (DH 2005). The South Australian Burden of Disease Study applied these techniques to describe the average amount of ill health and premature death occurring in the South Australian population during the period 1999-2001. A selection of these data has been included in this section.

Data limitations

The impact on local area rates of the location of special-purpose nursing homes and other types of supported accommodation³ is of particular relevance for the burden of disease estimates, which are not limited by age.

This is no more evident than in the City of Unley. In Unley, the unexpectedly low estimates of Health-Adjusted Life Expectancy and relatively high rate of Years of Life Lost (see below) are likely to reflect the location of such facilities, in particular the Julia Farr Centre, which provides accommodation for people with a disability, including people with acquired brain injury, or a degenerative neurological or physical disorder: this increases the mortality rate.

Areas mapped

The areas mapped for the estimates in this section, referred to as Burden of Disease areas, are groupings of SLAs as the number of cases at the SLA level is often too small to be reliable.

The HALE for males in Central Northern was 69.7 years, with a variation of 7.4 years between Burden of Disease areas within the region (Table 65). The SLAs with the lowest HALEs were located in the north-west and outer north (Map 64).

The Burden of Disease areas with the highest HALE scores in the region were in Tea Tree Gully - Central/ Hills/ North (73.1 years), Tea Tree Gully - South (71.7 years), Campbelltown (71.3 years) and Burnside (71.0 years).

Males in Playford - West Central/ Elizabeth had the lowest HALEs in the region being four years lower than the regional HALE (65.7 years). There were also low HALEs in Port Adelaide Enfield - Coast/ Port/ Unincorporated Western (66.9 years) and Port Adelaide Enfield - East/ Inner (67.1 years).

Note: The data have not been shown by quintile of socioeconomic disadvantage of area as there were too few areas to allocate to the five groups.

³ For example, accommodation used by people with psychiatric conditions (hostels, boarding houses, shelters); community houses for those with an intellectual disability.

Map 64: Health-Adjusted Life Expectancy, males, CNAHS, 1999 to 2002

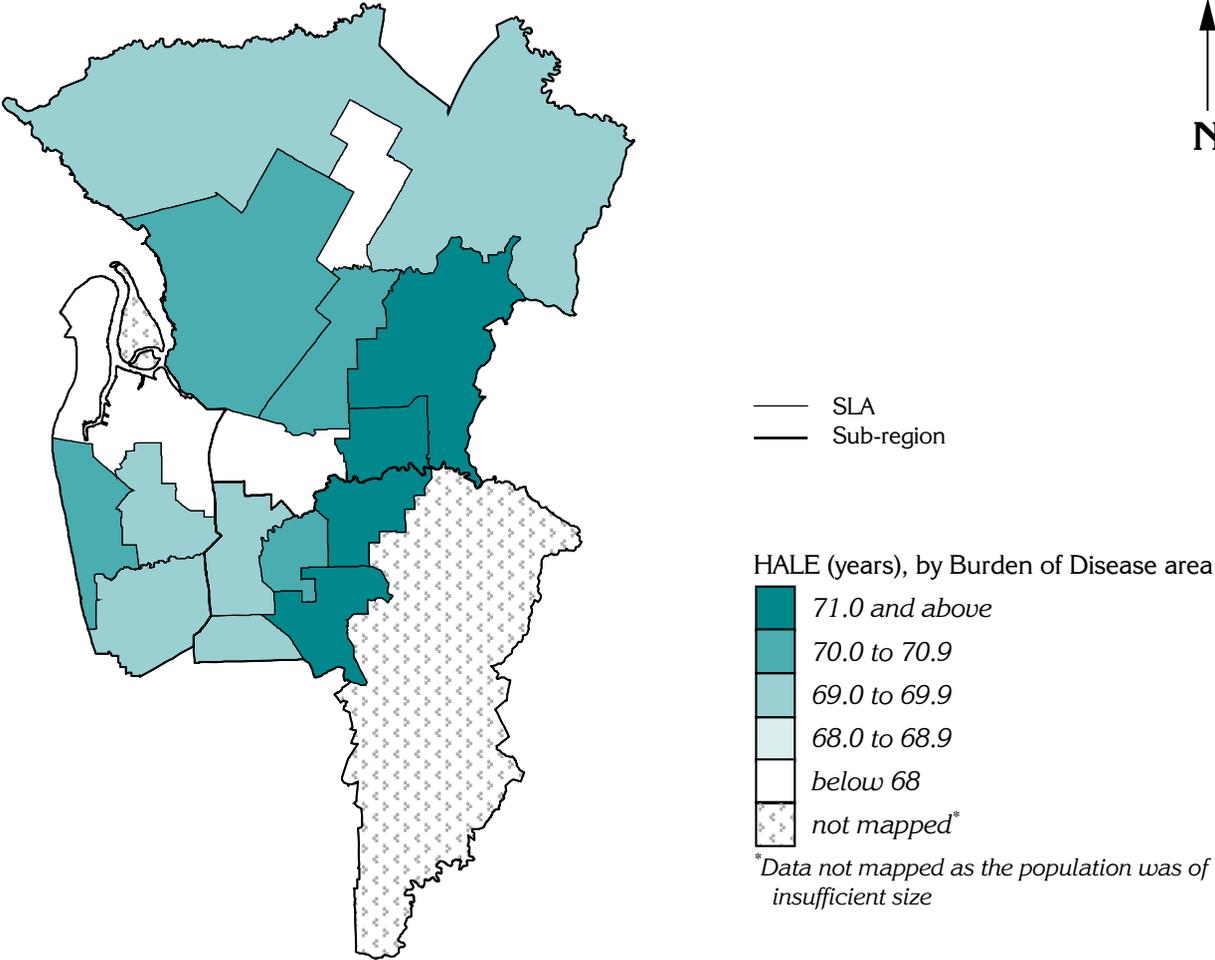


Table 65: Health-Adjusted Life Expectancy, males, CNAHS, 1999 to 2002

Area	HALE (years)
CNAHS	69.7
Southern	70.4
Metropolitan regions	69.9
State total	69.8

Health-Adjusted Life Expectancy: Females

Number of years a newborn female can expect to live in good health, if current population trends of disease and disability persist: data for 1999 to 2002

Overview

Health-adjusted life expectancy (HALE) is an indicator of the number of years a newborn can expect to live in good health, if current population trends of disease and disability persist. HALE is useful in making comparisons over time, as it takes into account changes in the extent of disability within the population⁸².

The notes on page 200 contain background information on the preparation of these estimates: readers should note in particular the notes as to the limitations of these area-level estimates.

Overall, HALE for Central Northern was 74.7 years (Table 66). The SLAs with the lowest HALEs were located in the north-west and outer north, and to the south, in Unley (see note on data limitations, page 202) (Map 65).

There was considerable variation in HALE between Burden of Disease areas in this region for females (as there was for males), with 6.5 years difference between the highest and lowest HALE calculations.

The highest HALE for females was calculated for the Tea Tree Gully - Central/ Hills/ North (78.2 years), followed by Burnside (77.2 years), West Torrens (76.8 years), the Playford SLAs of - East Central/ Hills/ West (76.1 years) and Campbelltown (76.1 years).

As was the case for males, the lowest HALEs in this region were for females living in Playford - West Central/ Elizabeth (71.7 years). Other low HALEs were found in Unley (72.2 years); Port Adelaide Enfield - East/ Inner (72.7 years); and Port Adelaide Enfield - Coast/ Port/ Unincorporated Western (73.2 years).

Note: The data have not been shown by quintile of socioeconomic disadvantage of area as there were too few areas to allocate to the five groups.

Map 65: Health-Adjusted Life Expectancy, females, CNAHS, 1999 to 2002

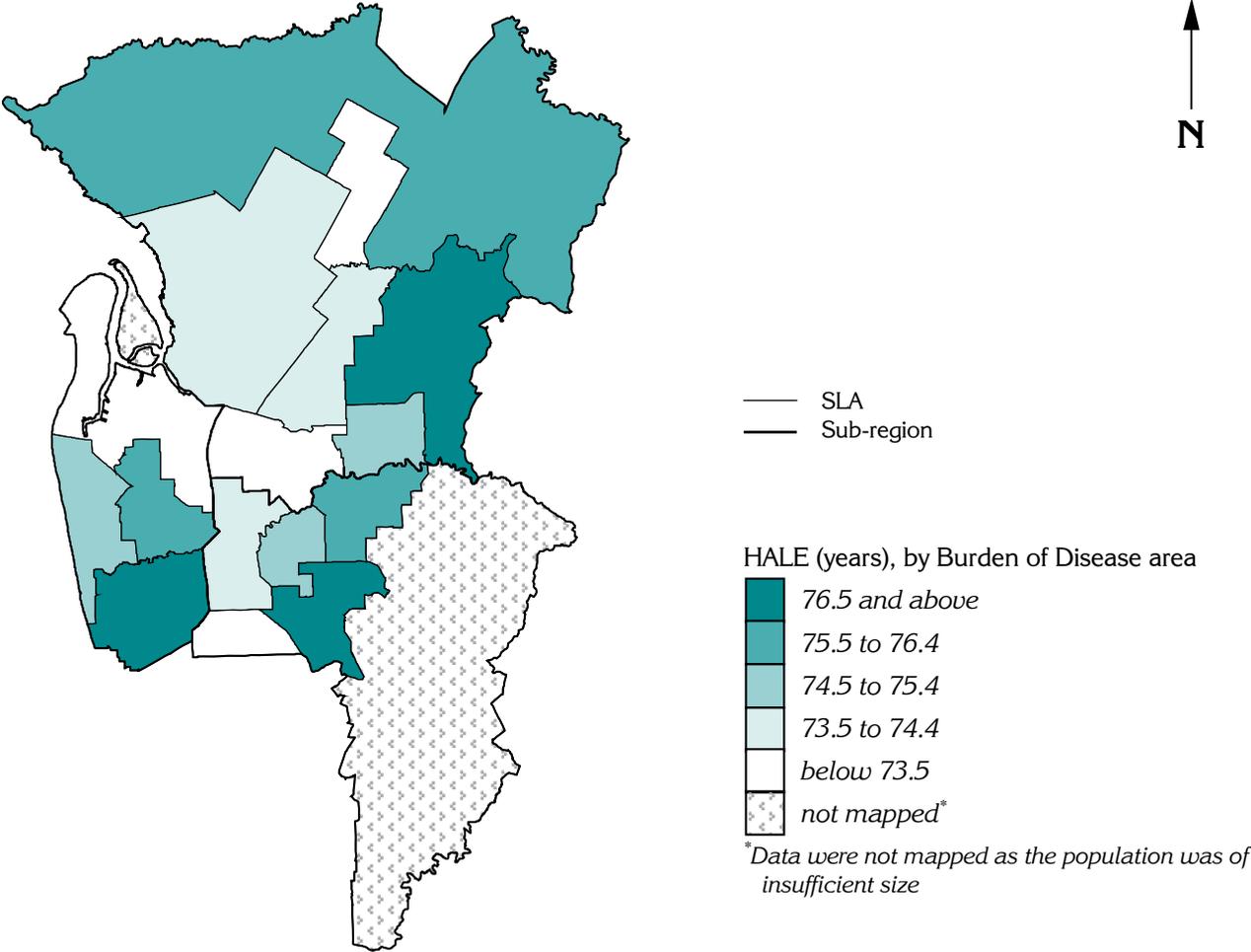


Table 66: Health-Adjusted Life Expectancy, females, CNAHS, 1999 to 2002

Area	HALE (years)
CNAHS	74.7
Southern	75.6
Metropolitan regions	75.0
State total	74.9

Source: Estimated from 2001 National Health Survey (NHS), ABS (unpublished)

Years of Life Lost: 0 to 74 years

Number of years of life lost due to death before 75 years of age: data for 1999 to 2002

Overview

One measure of the impact of premature death is the number of potential years of life lost as a result of death before a certain age, in this case, 75 years. This measure is calculated as the sum of all the years of life that could potentially have been lived had people not died before the age of 75 years. The total number of years of life lost (YLL) is calculated by assuming that people who died at 17 years of age would have otherwise lived to the age of 75 years (i.e. 75 minus 17 years), and that 58 years of life are lost. In this analysis, deaths included were of people aged from 0 to 74 years. The rates per 100,000 population, age standardised to the South Australian population, are expressed as an index with a base of 100.

The notes on page 200 contain background information on the preparation of these estimates: readers should note in particular the notes as to the limitations of these area-level estimates.

There were estimated to be 35,028 years of life lost for the population of the Central Northern region, this was the expected number of years for the population size and structure (with a standardised ratio (SR) of 100) (Table 67). The Burden of Disease areas with the most highly elevated ratios of years of life lost were located in the disadvantaged areas in the inner north, north-west and outer north (Map 66).

Playford - West Central/ Elizabeth had the most highly elevated ratio in the metropolitan regions with nearly 60% more years of life lost than expected (an SR of 157^{**}, 2,818 YLL). There were also highly elevated ratios in Port Adelaide Enfield - Coast/ Port/ Unincorporated Western (128^{**}, 3,280), Port Adelaide Enfield - East/ Inner (124^{**}, 2,912), Charles Sturt - Inner East/ North-East (110^{**}, 2,486) and Salisbury - Central/ Inner North/ Balance (109^{**}, 2,408).

There were also large numbers of years of life lost in Salisbury - North-East/ South-East (2,592 YLL, an SR of 101) and West Torrens (2,378, 91).

Tea Tree Gully - Central/ Hills/ North had the lowest ratio of all the Burden of Disease areas in South Australia, with 32% fewer years of life lost than expected (an SR of 68^{**}, 1,857 YLL). There were also lower than expected ratios in Burnside (an SR of 82^{**}, 1,695 YLL), Tea Tree Gully - South (85^{**}, 1,330), Charles Sturt - Coastal/ Inner West (86^{**}, 2,508), Campbelltown (88^{**}, 2,066) and Playford - East Central/ Hills/ West (89^{**}, 1,048).

Note: The data have not been shown by quintile of socioeconomic disadvantage of area as there were too few areas to allocate to the five groups.

Map 66: Years of Life Lost, 0 to 74 year olds, CNAHS, 1999 to 2002

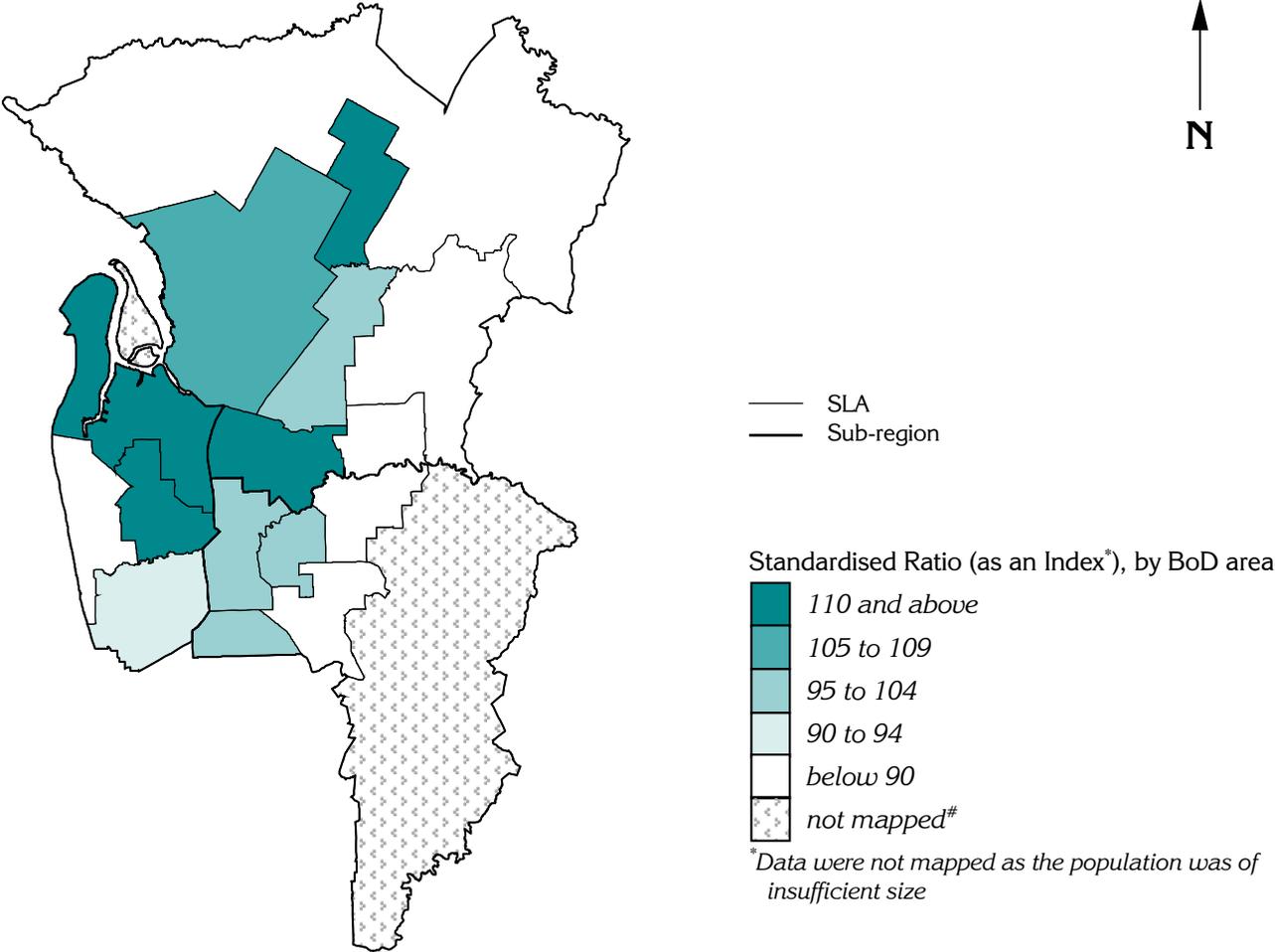


Table 67: Years of Life Lost, 0 to 74 year olds, CNAHS, 1999 to 2002

Area	Number	Standardised ratio
Northern	12,053	100
Western	15,139	106**
Central East	7,218	93**
CNAHS	35,028	100
Southern	13,300	89**
Metropolitan regions	48,328	97**
State total	69,898	100

* indicates statistical significance: see page 19

Years of Life Lost to Disability: 0 to 74 years

Number of years of life lost due to a disability: data for 1999 to 2002

Overview

The determination of years of life lost due to a disability are based on calculations of time lived in less than full health. The cause of the reduced level of health is used as a weighting so that, for example, poor health due to cancer contributes more to a year lost due to disability than does poor health due to a cold. The greatest proportion of years of life lost to disability (YLD) across all age groups in South Australia is due to mental disorders (26%). This is followed by nervous system and sense organ disorders (20%)⁴⁶. The rates per 100,000 population, age standardised to the South Australian population, are expressed as an index with a base of 100.

The notes on page 200 contain background information on the preparation of these estimates: readers should note in particular the notes as to the limitations of these area-level estimates.

It is estimated that 40,636 years of life were lost to disability for the population of the Central Northern region. This is the expected number of years based on the population size and structure (with a standardised ratio (SR) of 100) (Table 68). The BoD areas with the largest number of YLD were located in SLAs in the inner north, north-west and outer north of the region (Map 67).

Port Adelaide Enfield - East/ Inner had the most highly elevated ratio, with 25% more years of life lost to disability than expected from the State rates (an SR of 125^{**}, 3,196 YLD). There were also highly elevated rates in Playford - West Central/ Elizabeth (116^{**}, 2,406), and Port Adelaide Enfield – Coast/ Port/ Unincorporated Western (115^{**}, 3,323). Salisbury – Central/ Inner North/ Balance (105^{**}, 3,088), Salisbury - North-East/ South-East (105^{**}, 3,190), West Torrens (104^{*}, 2,941), Charles Sturt – Coastal/ Inner West (103, 3,174) and Charles Sturt - Inner East/ North-East (102, 2,551) all had slightly elevated ratios.

There were a large number of years of life lost to Disability in Tea tree Gully - Central, Hills, North (3,103 YLD, an SR of 90^{**}).

The lowest ratios, with fewer years lost to disability than expected from the State rates, were calculated for Tea Tree Gully - South (an SR of 82^{**}, 1,478 YLD), Norwood Payneham and St Peters (86^{**}, 1,539) and Burnside (87^{**}, 1,962).

Note: The data have not been shown by quintile of socioeconomic disadvantage of area as there were too few areas to allocate to the five groups.

Map 67: Years of Life Lost to Disability, 0 to 74 year olds, CNAHS, 1999 to 2002

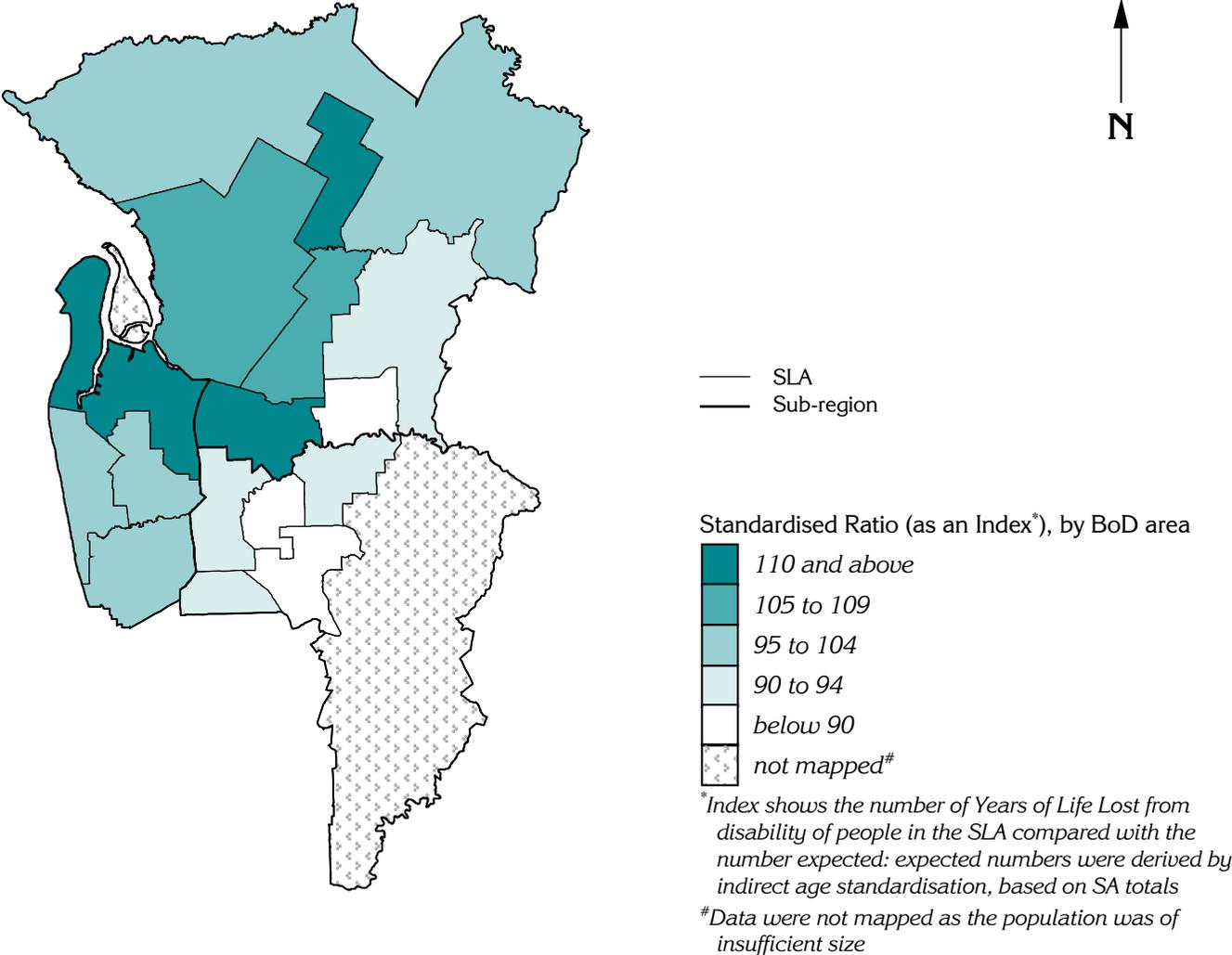


Table 68: Years of Life Lost to Disability, 0 to 74 year olds, CNAHS, 1999 to 2002

Area	Number	Standardised ratio
Northern	14,722	99
Western	16,725	107**
Central East	8,006	91**
CNAHS	40,636	100
Southern	16,444	96**
Metropolitan regions	57,080	99*
State total	80,201	100

* indicates statistical significance: see page 19

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INDICATORS: use of services

Topic	Indicator	Page
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Community health services: one to one clients

Clients of a community health centre funded by the Department of Health SA, 2001/02

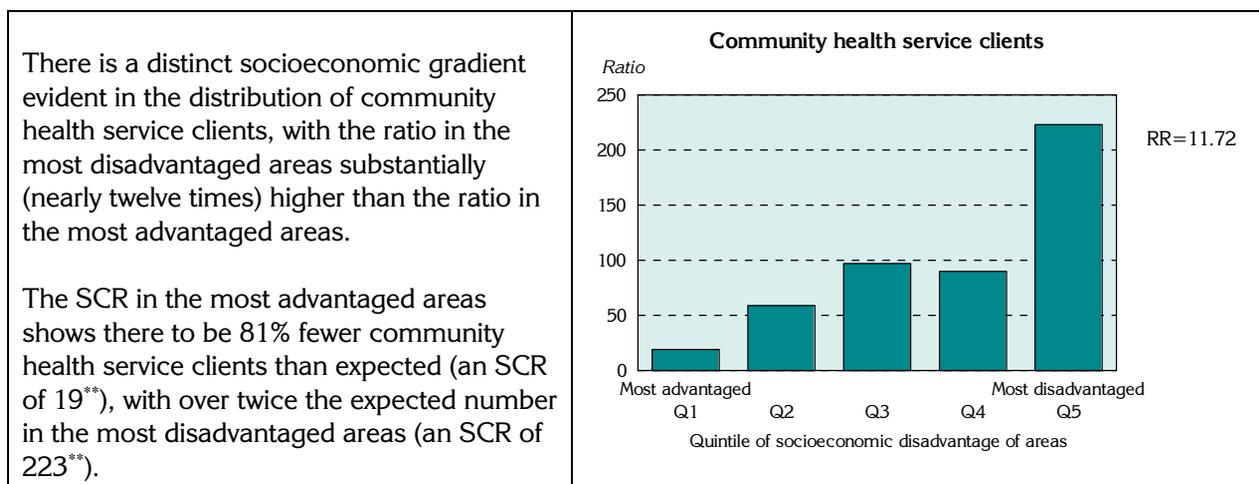
Overview

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).

There were 8,333 community health service clients who attended a community health centre or service in the Central Northern region in 2001/02, two per cent more than expected from the rates for the metropolitan regions (a standardised client ratio (SCR) of 102*) (Table 69). There is a marked separation between areas with high, and those with low, number of clients of community health services (Map 68), with ratios ranging from 542** in Port Adelaide Enfield - Port (1,480 clients) down to 5** in Adelaide Hills - Central (six clients). 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.

Highly elevated ratios were recorded in a number of SLAs in the region. Charles Sturt - North-East (an SCR of 324*, 902 clients) had over three times the expected number of community health clients; Charles Sturt - Inner East (118*, 276) and - Inner West (112*, 291) also had elevated SCRs. In addition to Port Adelaide Enfield - Port (with an SCR of 542**), the SLAs of Port Adelaide Enfield - Coast (259**, 782) and - Inner (150**, 319) also had very highly elevated SCRs. The majority of Playford SLAs had highly elevated ratios, including Playford - Elizabeth (an SCR of 154**, 42 clients), - West (148**, 209), - East Central (131**, 275) and - Hills (117, 35). Salisbury - Central (116**, 345) and - Inner North (114*, 310) also had elevated SCRs.

A large number of SLAs in Central Northern had very low SCRs with fewer community health service clients than expected. In addition to Adelaide (with 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 and 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).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 68: Community health service clients (one-to-one), CNAHS, 2001/02

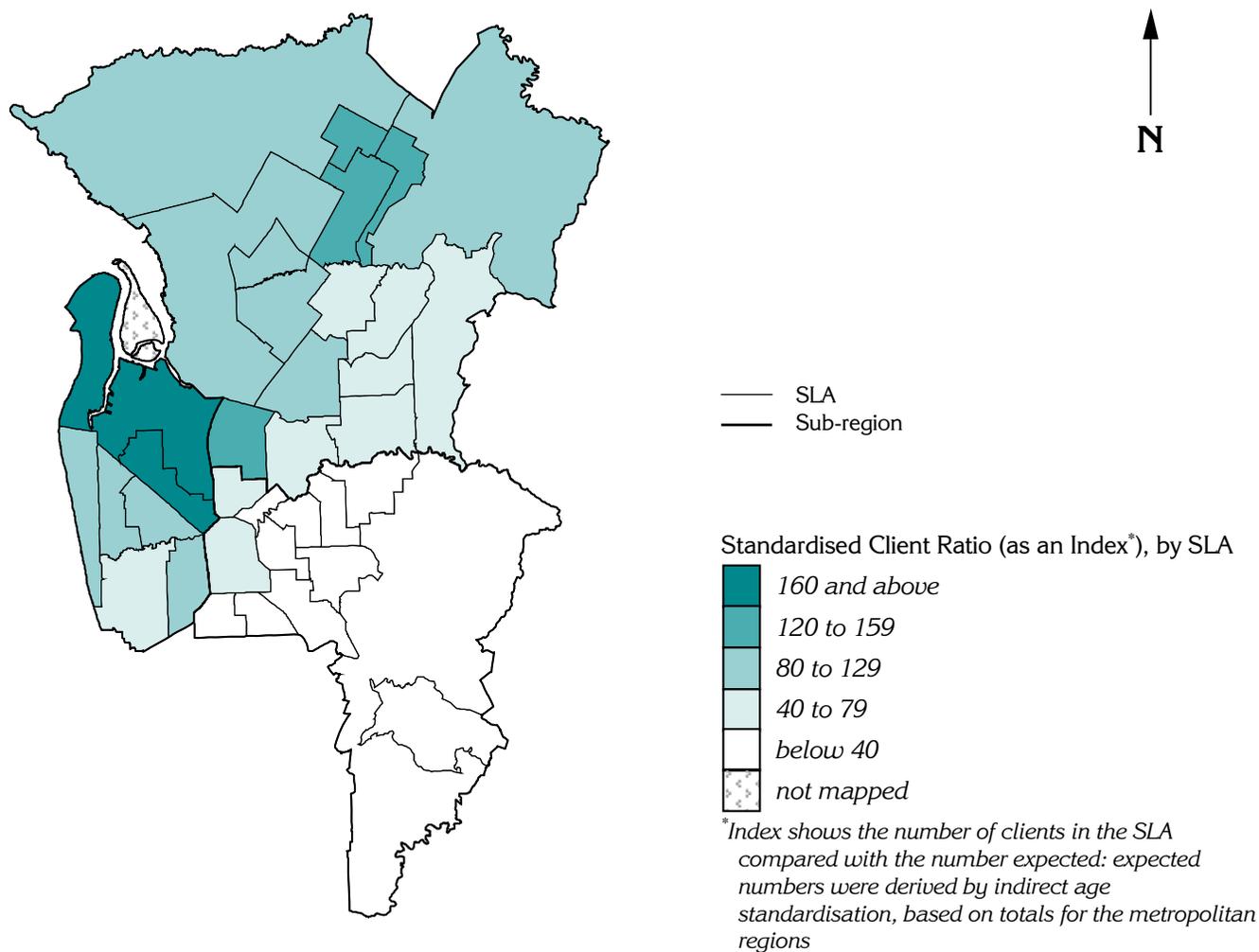


Table 69: Community health service clients (one-to-one), CNAHS, 2001/02

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	282	19**
Quintile 2	923	59**
Quintile 3	1,746	97
Quintile 4	1,330	90**
Quintile 5: most disadvantaged areas	4,053	223**
Rate ratio	..	11.72**
Northern	3,307	94**
Western	4,465	200**
Central East	561	24**
CNAHS	8,333	102*
Southern	3,370	99
Metropolitan regions	11,703	100

* indicates statistical significance: see page 19

Community mental health services: one to one clients

Clients of a community mental health centre funded by the Department of Health SA, 1999/2000

Overview

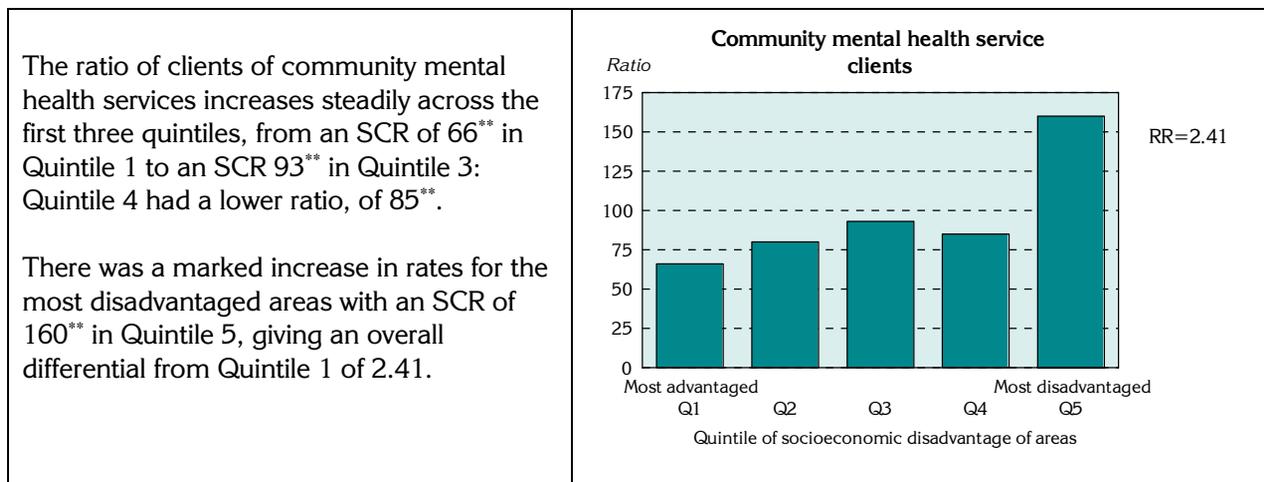
Mental Health Community Services offer a wide range of assistance and programmes, ranging from acute crisis intervention and assessment, formal case management, rehabilitation and recovery programmes and peer / carer support networks.

There were two per cent fewer community mental health service clients than expected in Central Northern (a standardised client ratio (SCR) of 98, with 6,823 clients) (Table 70). As noted for community health services (above), there is again a marked separation between areas with high, and those with low, numbers of community mental health service clients (Map 69).

There was wide variation in the number of clients between SLAs, with nearly two and a half times more clients than expected in Playford - Elizabeth (an SCR of 244**, 528 clients), but just over quarter the number expected in Adelaide Hills - Central (27**, 29). There were high rates and large numbers of clients in Port Adelaide Enfield - Inner (199**, 368), 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 and St Peters - West (119*, 217) and Salisbury - Inner North (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), Burnside - 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).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 69: Community mental health service clients (one-to-one), CNAHS, 1999/00

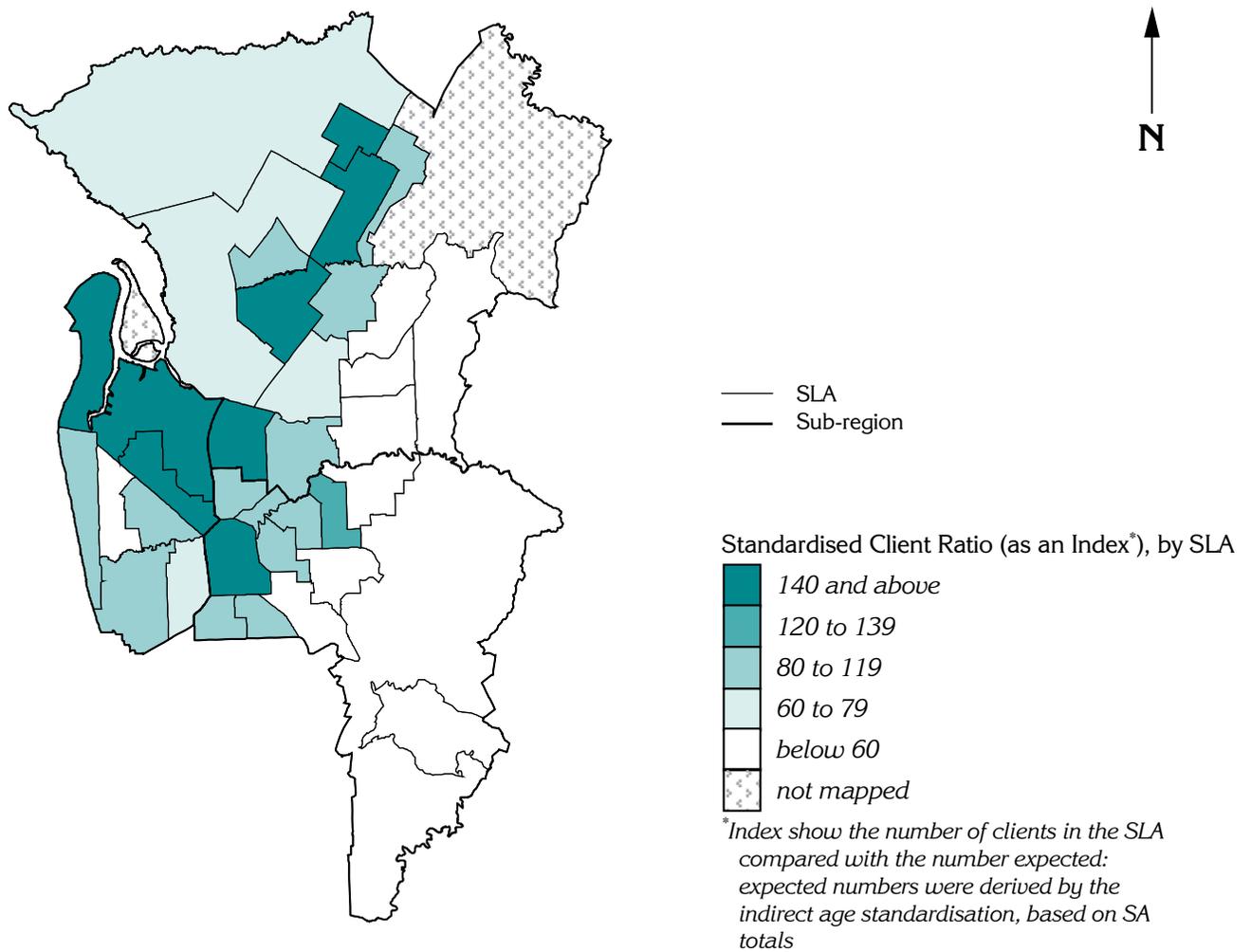


Table 70: Community mental health service clients (one-to-one), CNAHS, 1999/00

Area	Number of clients	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	879	66**
Quintile 2	1,068	80**
Quintile 3	1,442	93**
Quintile 4	1,064	85**
Quintile 5: most disadvantaged areas	2,370	160**
Rate ratio	..	2.41**
Northern	2,947	103**
Western	2,127	108**
Central East	1,749	83**
CNAHS	6,823	98
Southern	2,681	94**
Metropolitan regions	9,504	97**
State total	13,419	100

* indicates statistical significance: see page 19

Child and Adolescent Mental Health Service: one to one clients

Clients of the Child and Adolescent Mental Health Service: data from 2001 to 2003

Overview

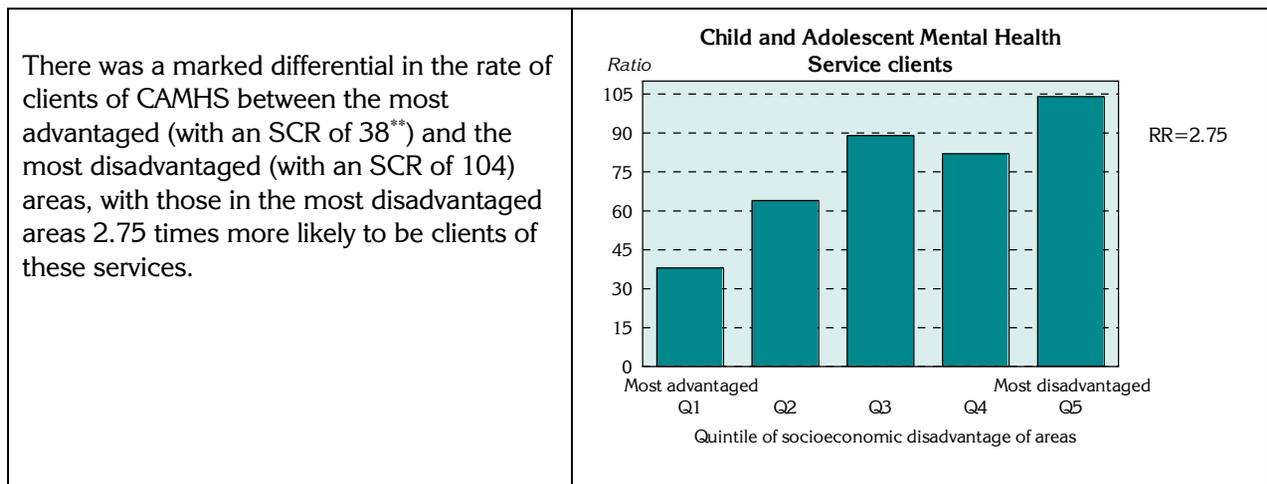
The Child and Adolescent Mental Health Service (CAMHS) provides a confidential counselling service for children and young people and their families. Services are provided by child and family specialists including psychologists, psychiatrists, social workers, nurses, occupational therapists and speech pathologists who are experienced in helping children with emotional, behavioural or mental health difficulties

There were 22% fewer CAMHS clients than expected in Central Northern (a standardised client ratio (SCR) of 78**, 4,866 clients) (Table 71). 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 70).

The SLAs in this region with elevated ratios included Port Adelaide Enfield - Coast (an SCR of 160**, 368 clients), 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**), - Inner North (213, 76**) and Charles Sturt - Coastal (189, 88).

A large number of 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 and St Peters - West (31**, 36), Adelaide (34**, 20), Unley - West (37**, 43), Adelaide Hills - Central (48**, 60).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 70: Child and Adolescent Mental Health Service clients (one-to-one), CNAHS, 2001 to 2003

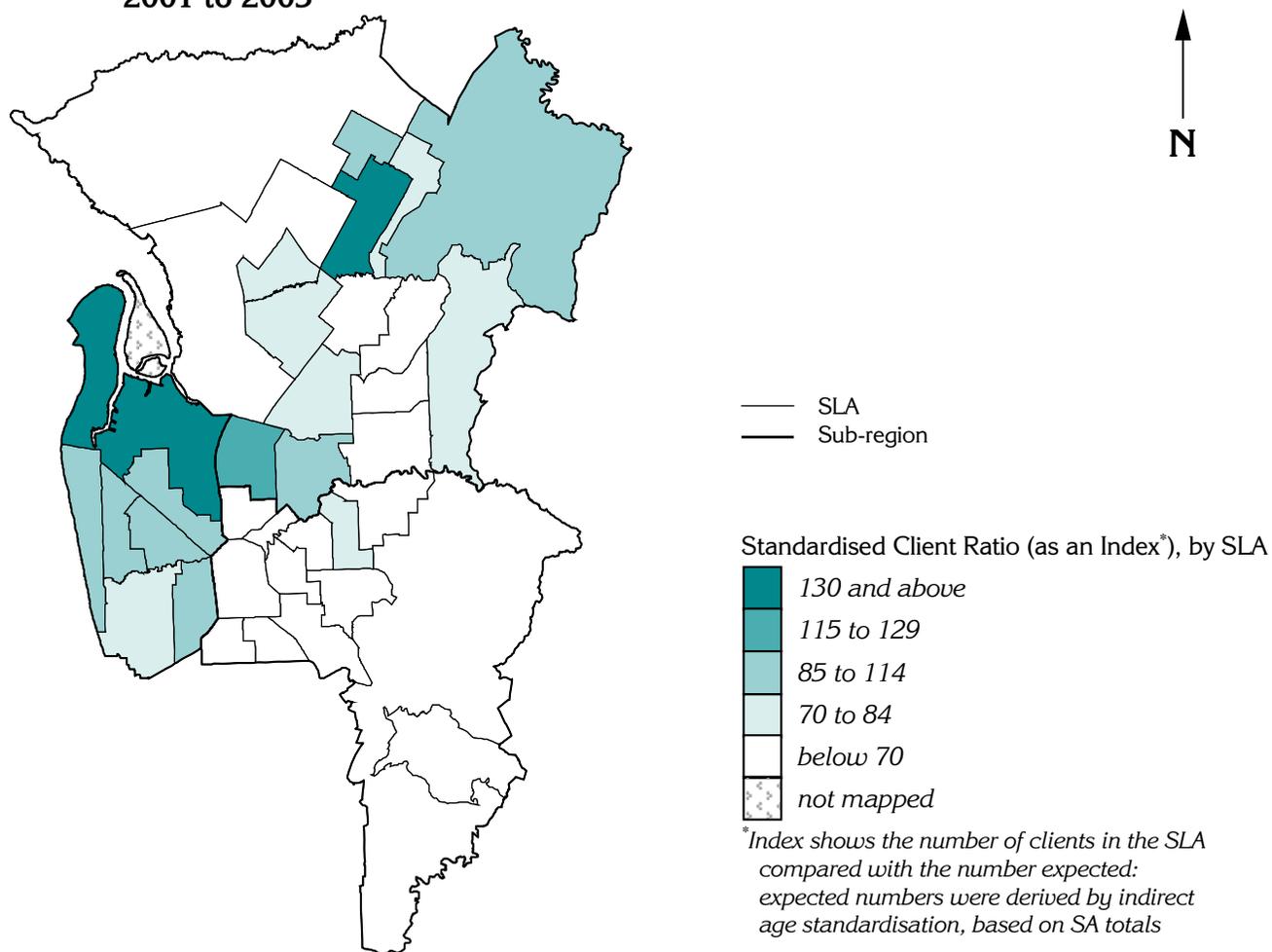


Table 71: Child and Adolescent Mental Health Service clients (one-to-one), CNAHS, 2001 to 2003

Area	Number of clients	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	425	38**
Quintile 2	755	64**
Quintile 3	1141	89**
Quintile 4	921	82**
Quintile 5: most disadvantaged areas	1625	104
Rate ratio	..	2.75**
Northern	2,498	81**
Western	1,664	110**
Central East	703	43**
CNAHS	4,866	78**
Southern	2,623	93**
Metropolitan regions	7,489	83**
State total	13,013	100

* indicates statistical significance: see page 19

Department for Families and Communities: clients

Clients of the Department for Families and Communities: data from 2001 to 2002

Overview

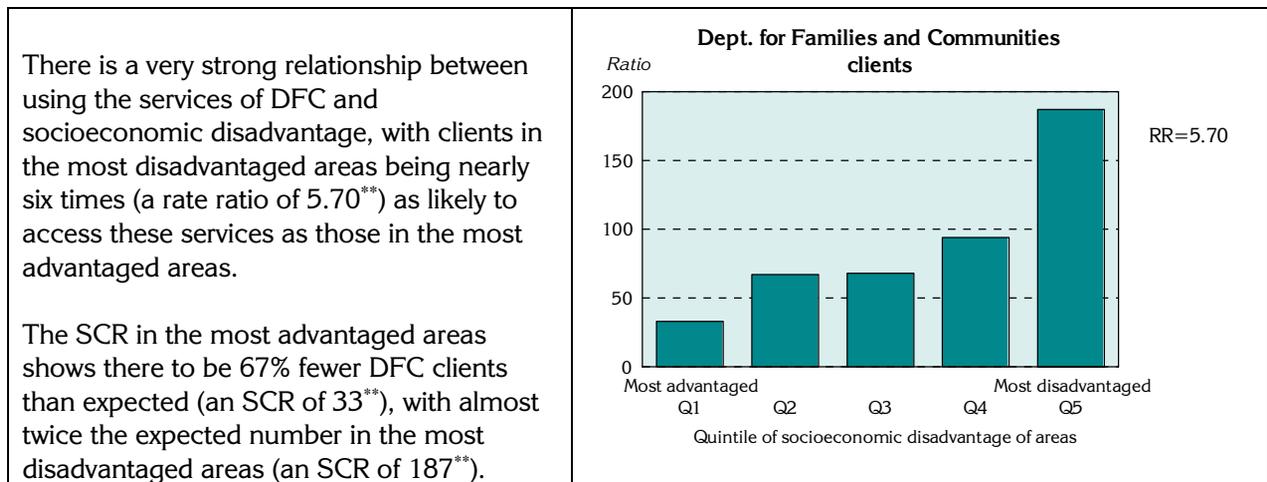
The Department for Families and Communities (DFC) offers a range of services to people in the community, including emergency financial assistance, individual and family support, counselling (e.g. personal, financial), crisis care (including after hours care) and child protection.

Despite having a low overall standardised client ratio (SCR) of 94** (28,615 clients) (Table 72), there was considerable variation in the region, with the number of clients ranging from over three times, to fewer than one fifth, the number expected from the State rates. SLAs with highly elevated ratios were located in parts of the inner north, north-west and outer north, and in the city of Adelaide (Map 71): SLAs with more clients than expected are some of the most disadvantaged in the region (see Map 23, page 113). The elevated SCR 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.

The SLA with the most highly elevated ratio (more than three times the expected number of clients) was 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 for the SLAs of Adelaide (268**, 1,334), Port Adelaide Enfield - Inner (215**, 1,600) and - Port (203**, 2,020). Elevated SCRs were also mapped in Salisbury - Central (137**, 1,665) and - Inner North (130**, 1,578), Charles Sturt - North-East (125**, 1,261) and Port Adelaide Enfield - East (112**, 1,207).

Large numbers of clients were also recorded for the SLAs of Salisbury - South-East (1,305 clients, an SCR of 93*), Port Adelaide Enfield - Coast (1,064, 98) and Salisbury - North-East (908, 94).

A majority of the SLAs in this region had extremely low ratios. Those that had less than half the expected number of clients include 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), Tea Tree Gully - Hills (32**, 157), Walkerville (38**, 93), Unley - East (39**, 284), Tea Tree Gully - Central (48**, 553) and - North (49**, 604).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 71: Department for Families and Communities' clients, CNAHS, 2001 to 2002

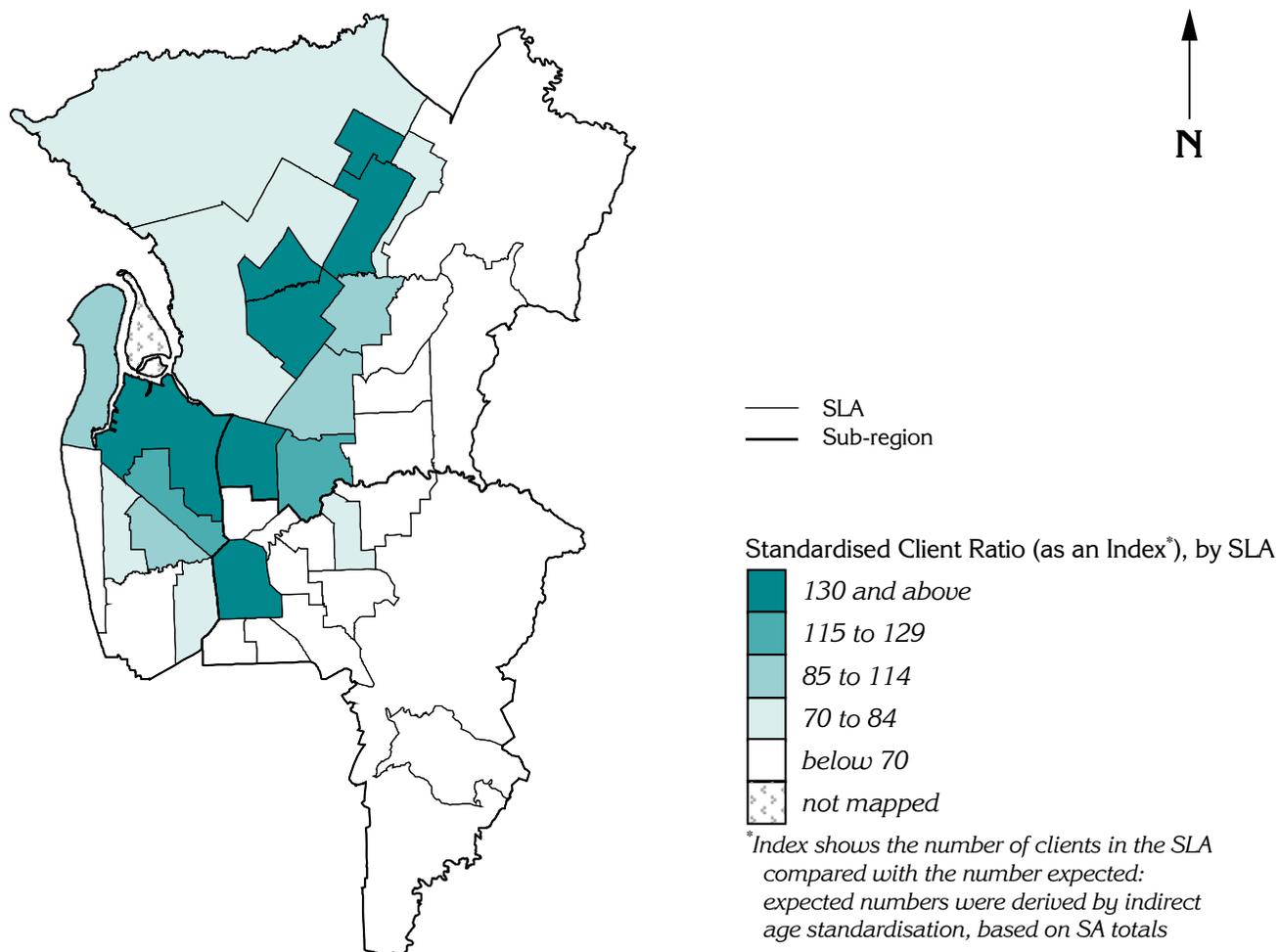


Table 72: Department for Families and Communities' clients, CNAHS, 2001 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	1,771	33**
Quintile 2	3,884	67**
Quintile 3	4,404	68**
Quintile 4	5,167	94**
Quintile 5: most disadvantaged areas	13,389	187**
Rate ratio	..	5.70**
Northern	16,552	117**
Western	7,623	98
Central East	4,440	53**
CNAHS	28,615	94**
Southern	9,363	73**
Metropolitan regions	37,978	88**
State total	60,158	100

* indicates statistical significance: see page 19

Domiciliary care service: clients

Number of clients in 2003

Overview

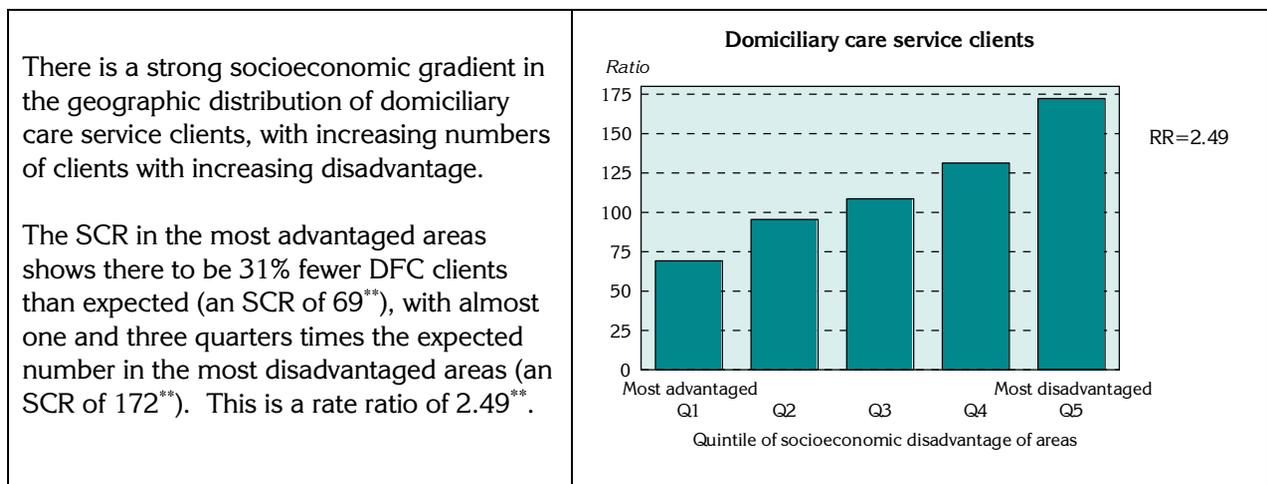
Domiciliary care service clients receive a range of support services which are either centre-based (e.g. podiatry) or are provided in the home, and without which clients are at risk of institutionalisation.

There were 15% more clients than expected in Central Northern (a standardised client ratio (SCR) of 115**, 7,521 clients) (Table 73). The geographic distribution of clients (Map 72) shows a strong divide between areas with larger than expected numbers of clients and those with fewer than expected numbers, and is highly consistent with the pattern of socioeconomic disadvantage shown in Map 23 on page 113.

SLAs with the most highly elevated ratios, with more than twice the expected number of clients, were Playford - West Central (an SCR of 237**, 138 clients) and Playford - Elizabeth (231**, 534). There were also highly elevated ratios in Port Adelaide Enfield - Port (an SCR of 172**, 426 clients), Port Adelaide Enfield - 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), Charles Sturt - Inner West (125**, 328), Salisbury - South-East (121**, 262), Port Adelaide Enfield - Coast (119**, 299) and Norwood Payneham and St Peters - East (115**, 254).

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

A number of SLAs had low SCRs: Adelaide Hills - Ranges (an SCR of 23**, 13 clients), 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 (82, 59).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 72: Domiciliary care service clients, CNAHS, 2003

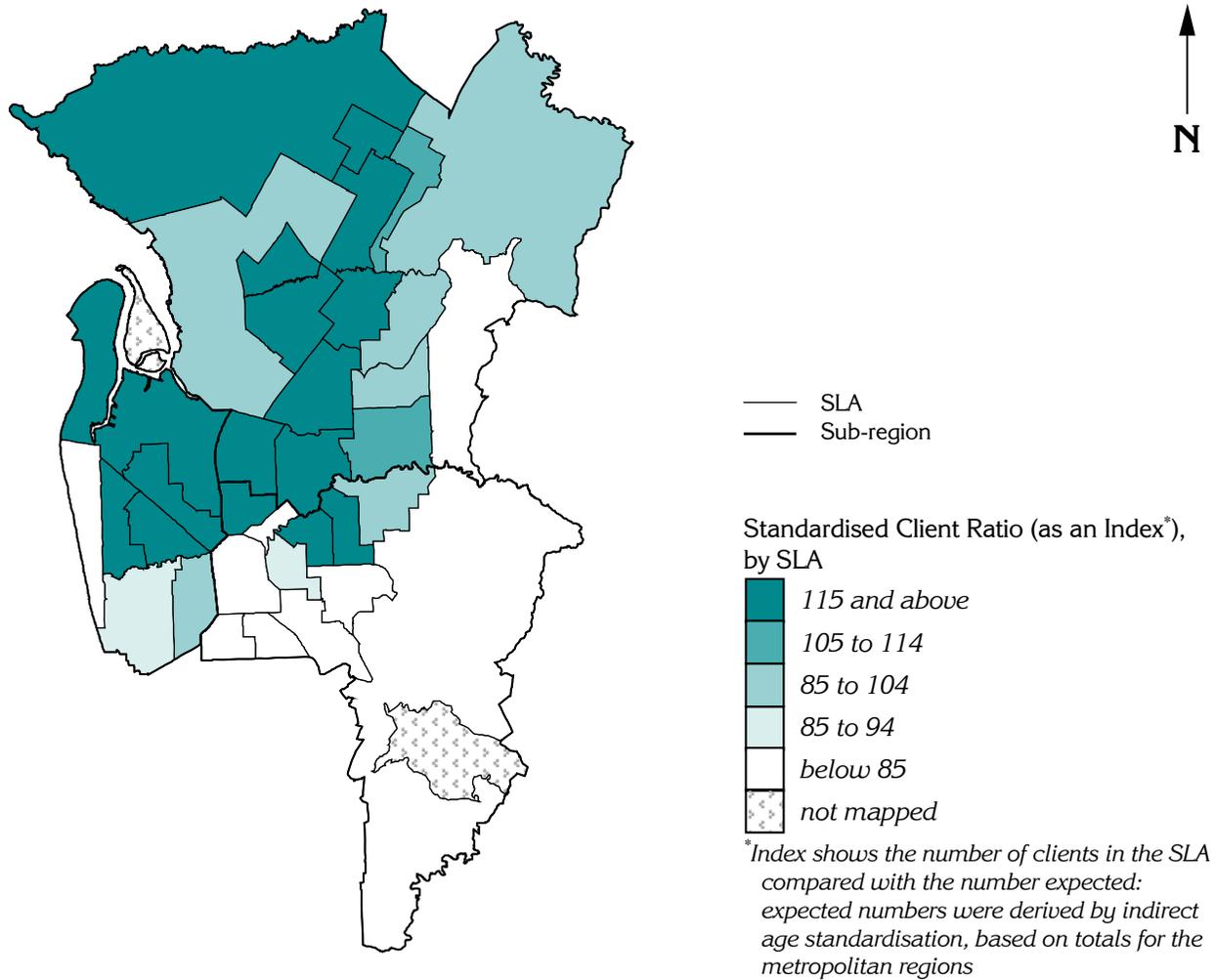


Table 73: Domiciliary care service clients, CNAHS, 2003

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	940	69**
Quintile 2	1,041	96
Quintile 3	1,798	109**
Quintile 4	1,503	131**
Quintile 5: most disadvantaged areas	2,239	172**
Rate ratio	..	2.49**
Northern	3,024	142**
Western	2,514	115**
Central East	1,983	89**
CNAHS	7,521	115**
Southern	2,127	72**
Metropolitan regions	9,661	100
State total	..	..

* indicates statistical significance: see page 19

Home nursing: Royal District Nursing Service clients

Number of clients in 2003/04

Overview

The Royal District Nursing Service provides nursing care at home or in a nursing centre. Services focus on the needs of older persons who are frail or who have a chronic or degenerative illness and need nursing care to remain in the community; people of any age who need care immediately following their discharge from hospital, or need palliative care; people of any age who have a disability and who need nursing assistance to manage their health care needs; and people aged under 65 years with a degenerative or chronic condition and who with nursing care are able to remain in the community.

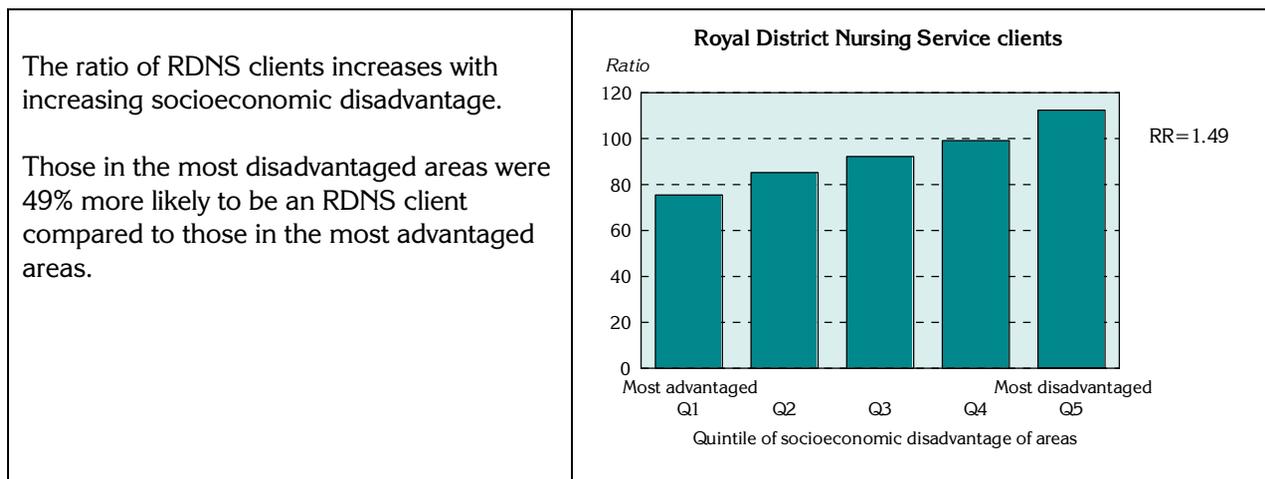
Data were not mapped for the SLA of Adelaide, because clients who contact Healthcare Access (the RDNS call centre) can choose to remain anonymous, resulting in their suburb being recorded as Adelaide. Further, all homeless clients seen by RDNS are allocated to the SLA of Adelaide. There were 901 RDNS clients attributed to the SLA of Adelaide (a standardised client ratio (SCR) of 510**).

Excluding the large number of clients recorded for Adelaide, there were seven per cent fewer clients in the Central Northern region than expected from the metropolitan rates (an SCR of 93**, 8,867 clients) (Table 74): this is ratio understates the true situation, as it excludes clients who live in the SLA of Adelaide, whether housed or homeless. The most highly elevated SCRs were in the northern and western SLAs, with relatively low ratios to the east, south and outer south-east and north-east of the city (Map 73).

The SLA with the most highly elevated ratio (other than Adelaide) was Salisbury - Inner North (an SCR of 133**, 226), with elevated ratios also in Playford - West Central (an SCR of 128**, 127 clients), 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 (105, 356) and Charles Sturt - North-East (105, 382).

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

There were low ratios in a number of SLAs, including 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) and Playford - Hills (79, 18).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 73: Royal District Nursing Service clients, CNAHS, 2003/04

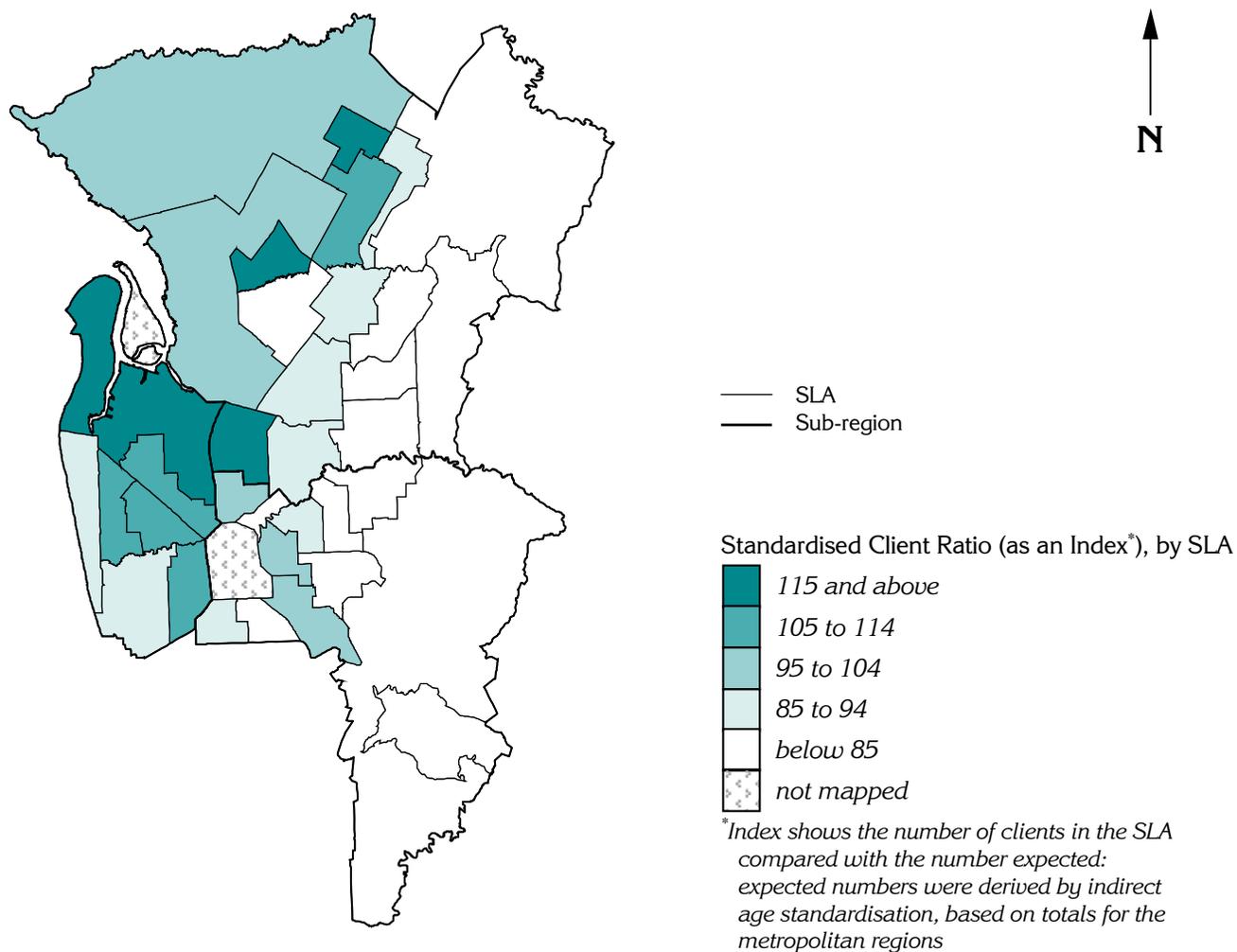


Table 74: Royal District Nursing Service Clients, CNAHS, 2003/04

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	1504	75**
Quintile 2	1277	85**
Quintile 3	2206	92**
Quintile 4	1688	99
Quintile 5: most disadvantaged areas	2193	112*
Rate ratio	..	1.49**
Northern	3,126	93**
Western	3,307	106**
Central East	2,434	79**
CNAHS	8,867	93**
Southern	4,334	100
Metropolitan regions	14,102	100

* indicates statistical significance: see page 19

Meals on Wheels: clients

Number of clients in 2003

Overview

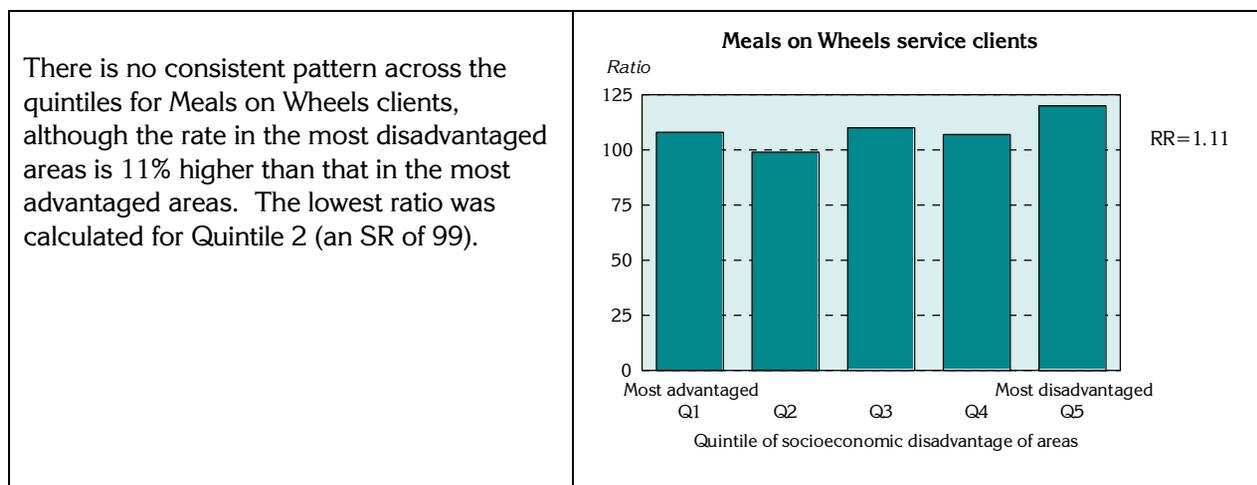
Each weekday approximately 5,000 meals are delivered to homes throughout South Australia, by people from a pool of 10,000 volunteers. Meals are prepared in 31 kitchens owned and operated by Meals on Wheels Incorporated.

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.

Central Northern had a relatively large number of Meals on Wheels clients (2,541 clients). However, there were eight per cent fewer clients in the region (a standardised client ratio (SCR) of 109**) than expected from the metropolitan rates (Table 75). The geographic distribution of clients (Map 74) is different from that in the two previous maps, with the highest rates found in a number of outer eastern and inner SLAs, as well as throughout the north-western suburbs.

Two SLAs in this region had 25% more clients than expected, these were Adelaide Hills - Ranges (an SCR of 125, 26 clients) and Salisbury - Inner North (an SCR of 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 and St Peters - East (116, 118), Charles Sturt - North-East (113, 125), West Torrens - East (113, 115), West Torrens - West (113, 185), Charles Sturt - Coastal (112, 166) and Charles Sturt - Inner East (111, 112).

No Meals on Wheels clients were recorded in Salisbury Balance. Several SLAs had fewer clients than expected: these included Campbelltown - East (an SCR of 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).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 74: Meals on Wheels service clients, CNAHS, 2003

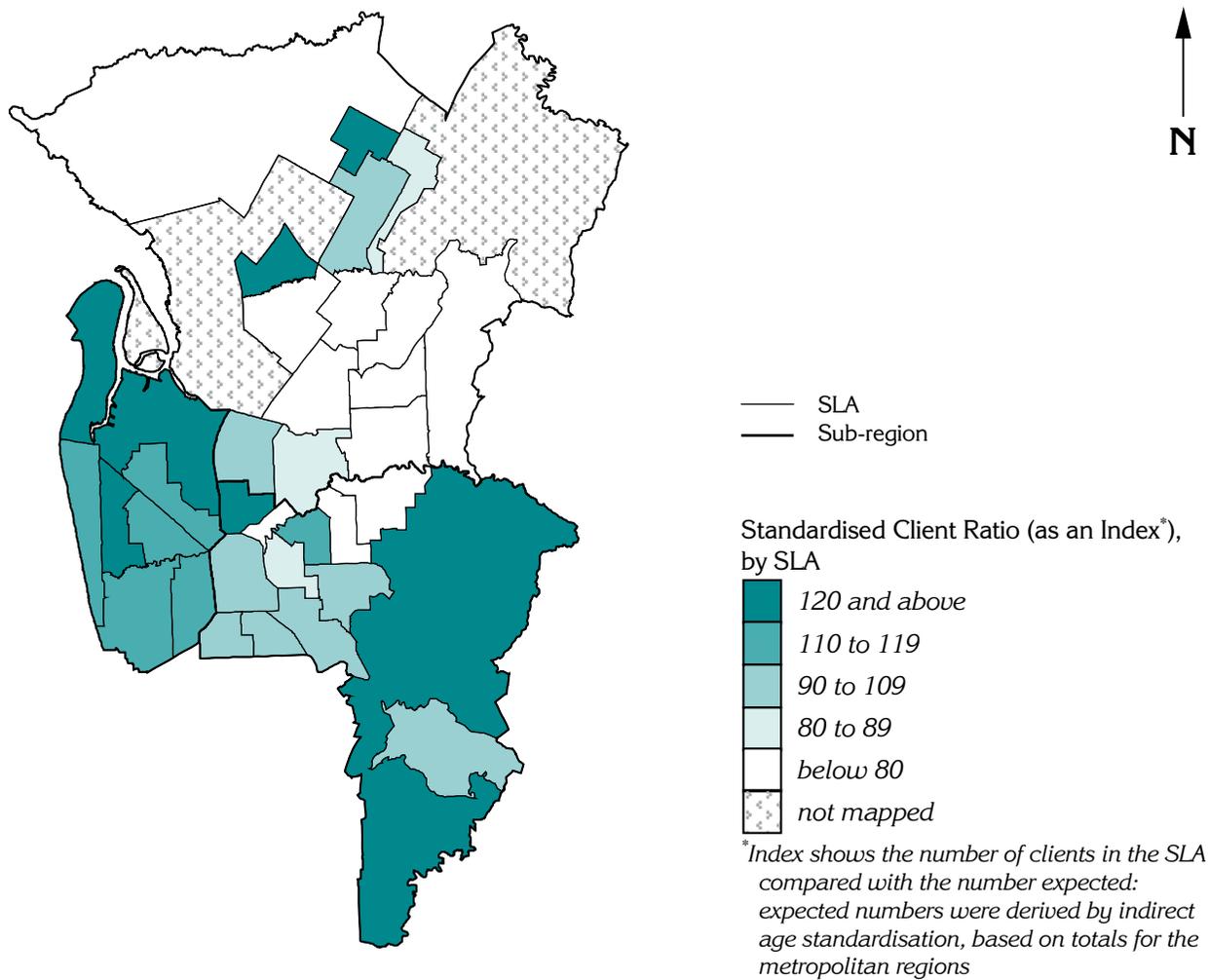


Table 75: Meals on Wheels service clients, CNAHS, 2003

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	547	108
Quintile 2	373	99
Quintile 3	667	110**
Quintile 4	414	107
Quintile 5: most disadvantaged areas	540	120**
Rate ratio	..	1.11
Northern	568	82**
Western	1,110	139**
Central East	863	103
CNAHS	2,541	109**
Southern	1,465	137**
Metropolitan regions	4,085	118**

* indicates statistical significance: see page 19

Screening: Breast screening participation

Participation in screening through BreastScreen SA: data from 2001 to 2002

Overview

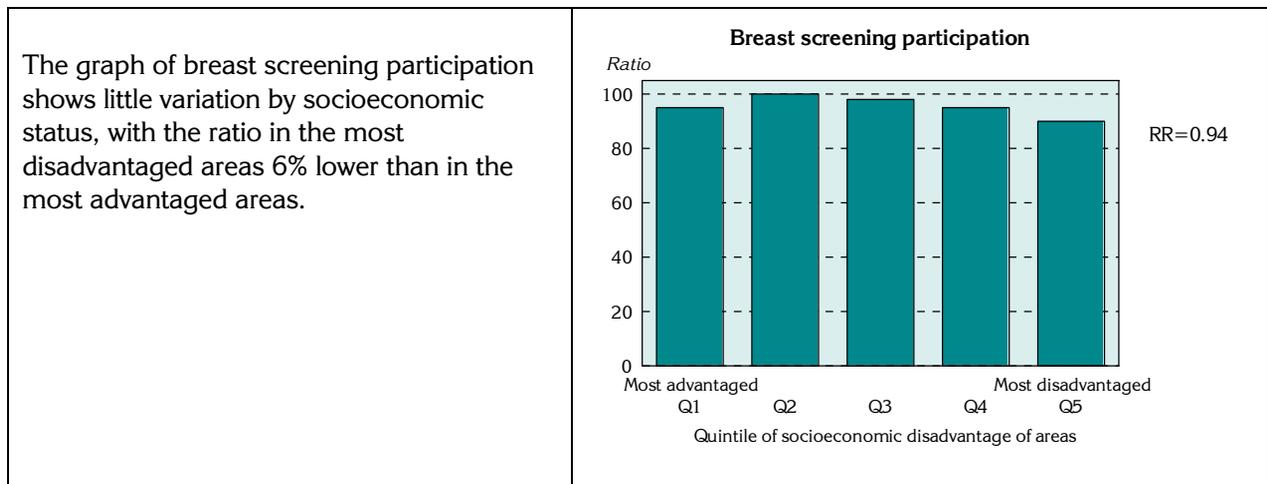
Breast cancer is a significant public health issue, and, given current knowledge, is not preventable. Therefore, the aim should be early detection and treatment of breast cancers⁸³. BreastScreen SA is the South Australian component of BreastScreen Australia, the national breast cancer screening program. The program provides a free screening mammography service on a state-wide basis, with fixed and mobile clinics

The data shown are the number of attendances for breast screening at any of the six clinics in Metropolitan Adelaide (or the three mobile clinics operating across the State), by females living in the Central Northern region. In any two year period, a small number of women have annual screens (about 7.5% per year). The service primarily targets women aged 50 to 69, who accounted for over three quarters (77.6%) of the screenings undertaken in 2001 and 2002. Details of breast cancers detected through screening are on page 226.

The 24 month participation rate in Central Northern was six per cent lower than expected (a standardised participation ratio (SPR) of 96**, 49,793 participants) (Table 76). There is no clear socioeconomic pattern in the geographic distribution of women participating in this screening program (Map 75), with the highest standardised ratios (SRs) mapped in a number of SLAs adjacent to the city centre (alongside SLAs with the lowest ratios), as well as in the outer north.

The only elevated level of participation of statistical significance was recorded for women in Playford - East Central (an SPR of 107*, 946 participants). SLAs with large numbers of women participating included Charles Sturt - Coastal (2,624), Salisbury - South-East (2,535, 96*), Tea Tree Gully - South (2477, 95*), and Campbelltown - East (2,182, 99).

SLAs with notably fewer women attending than expected from the State rates included Playford - Hills (an SPR of 72**, 134 women), Salisbury - Central (78**, 1,334), Playford - Elizabeth (86**, 1,527) and Salisbury Balance (86**, 209),



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 75: Breast screening participation, females aged 50 to 69 years, CNAHS, 2001 to 2002

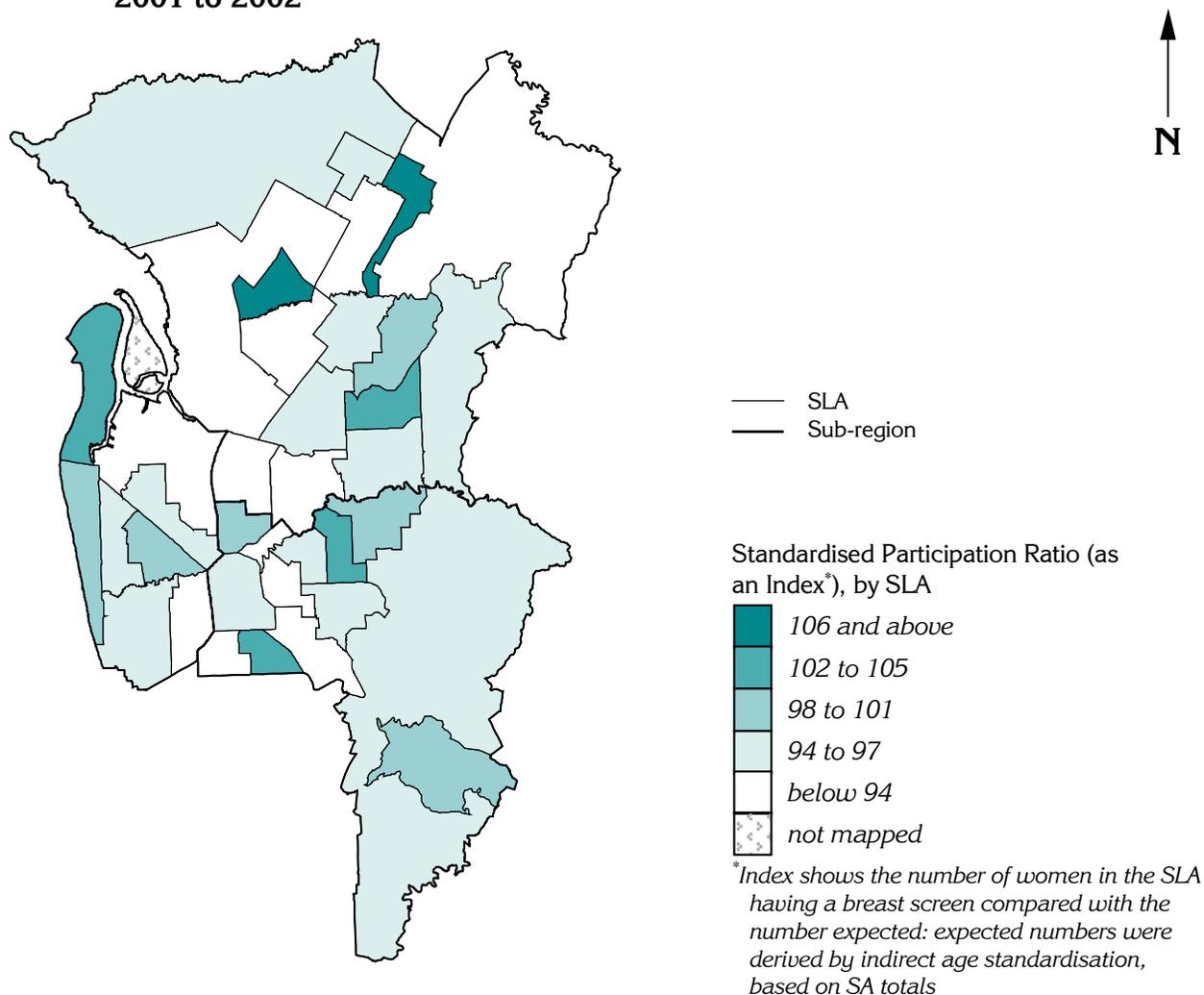


Table 76: Breast screening participation, females aged 50 to 69 years, CNAHS, 2001 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	9,973	95**
Quintile 2	9,881	100
Quintile 3	11,408	98*
Quintile 4	9,690	95**
Quintile 5: most disadvantaged areas	8,841	90**
Rate ratio	..	0.94**
Northern	20,229	94**
Western	14,137	96**
Central East	15,426	97**
CNAHS	49,793	96**
Southern	23,285	104**
Metropolitan regions	73,078	98**
State total	103,781	100

* indicates statistical significance: see page 19

Screening: Breast screening outcomes

Cancers found for women participating in screening through BreastScreen SA: data from 2001 to 2002

Overview

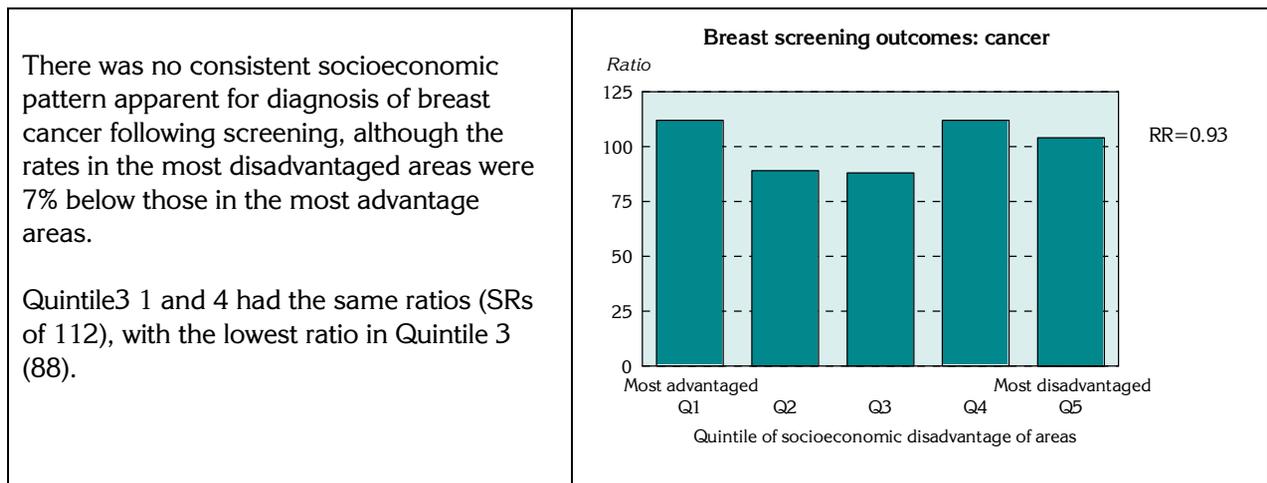
The data presented here are of women diagnosed with breast cancer as a result of screening through the BreastScreen SA Program. Although there is no apparent socioeconomic pattern associated with diagnosis of cancer, there is some evidence to suggest that the prognosis at diagnosis may differ due to variation in the early detection of breast cancer ⁸⁴.

Central Northern had 318 women diagnosed with breast cancer following screening, the number expected from the State rates (an SR of 100) (Table 77). As seen for screening participation (above), there is no clear socioeconomic pattern in the geographic distribution of women diagnosed with breast cancer through screening (Map 76), with the highest standardised ratios (SRs) mapped in a number of SLAs adjacent to the city centre (alongside SLAs with the lowest ratios), as well as in the outer north.

Over twice the expected number of women from Unley - West were diagnosed with breast cancer following screening (an SR of 214^{**}, 14 women), with a similarly highly elevated ratio in Unley - East (173^{*}, 14). None of the other elevated ratios were of statistical significance.

None of the ratios below average were of statistical significance.

The SLA of Salisbury - South East (20 women, an SR of 129) was the only area with more cases of breast cancer found through screening over this two year period.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 76: Breast screening outcomes: cancer, females aged 50 to 69 years, CNAHS, 2001 to 2002

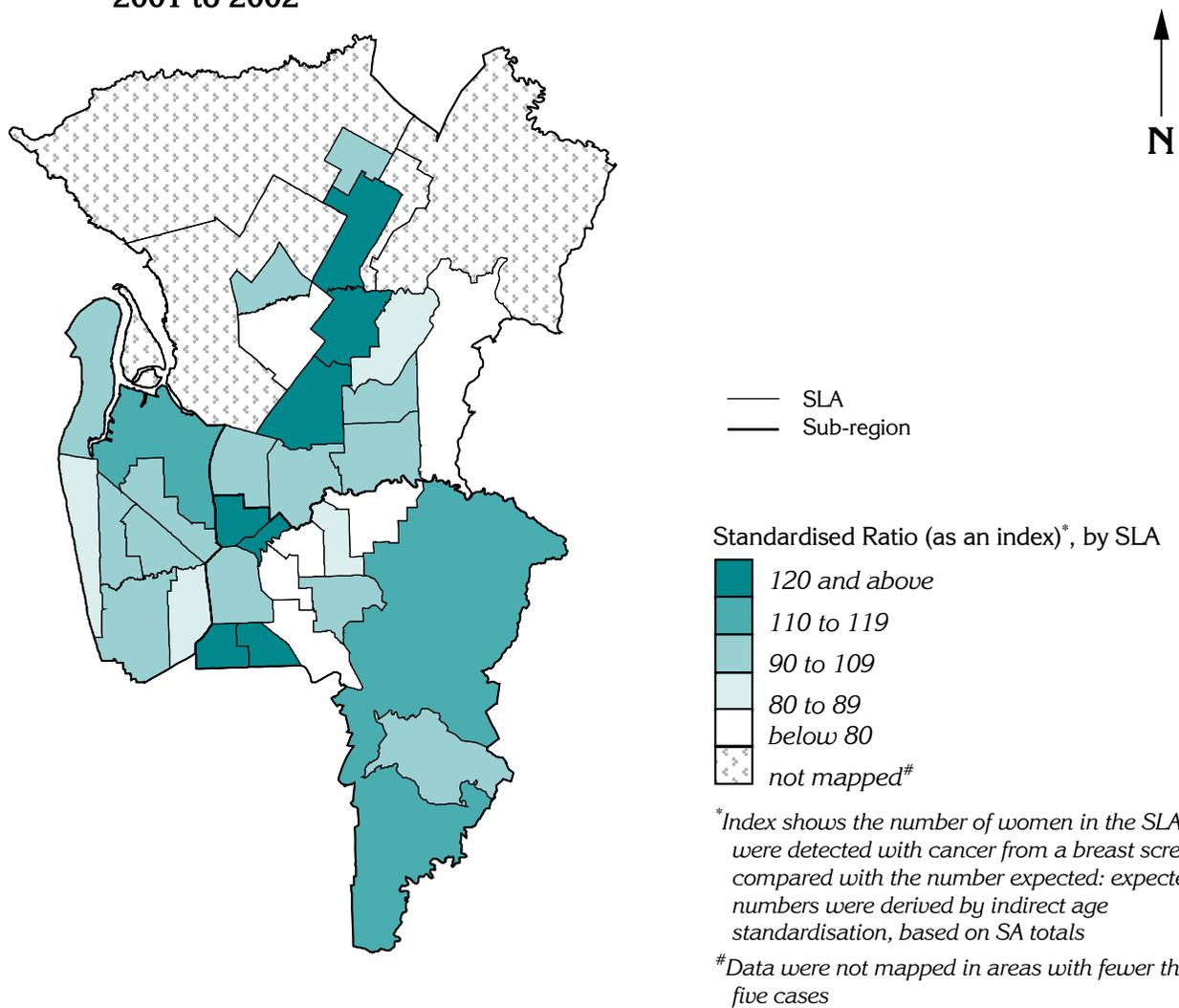


Table 77: Breast screening outcomes: cancer, females aged 50 to 69 years, CNAHS, 2001 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	70	112
Quintile 2	55	89
Quintile 3	64	88
Quintile 4	69	112
Quintile 5: most disadvantaged areas	59	104
Rate ratio	..	0.93
Northern	130	101
Western	89	98
Central East	99	102
CNAHS	318	100
Southern	146	100
Metropolitan regions	464	100
State total	659	100

Screening: Cervical screening participation

Participation in screening for cervical cancer: data from 2001 to 2002

Overview

Cervical cancer is one of the most preventable and curable of all cancers. It is the eighteenth most common cancer 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 early⁸⁵. In 1991, Australia adopted an 'organised approach' to preventing cervical cancer, the National Cervical Screening Program, which recommends and encourages all women under 70 years of age who have ever been sexually active to have Pap smears every two years. The key outcome 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.

Details of the age of women participating in cervical screening tests in 2001 and 2002, together with data on outcomes of screening, are on page 230.

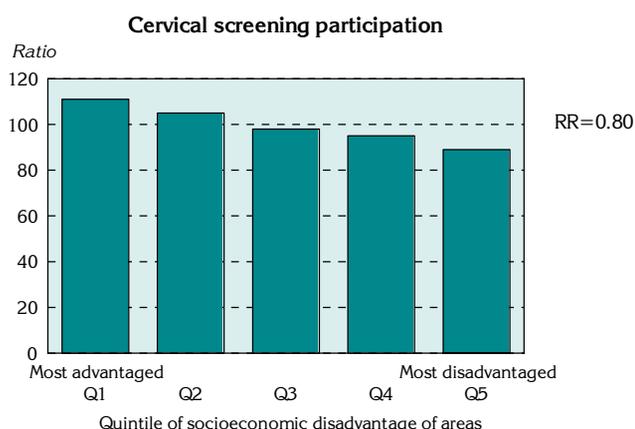
The standardised participation ratio (SPR) for Central Northern was close to average, being one per cent lower than expected from the State rates (an SPR of 99**, 136,931 women) (Table 78). The most highly elevated ratios were located in the city and a number of near-city SLAs, as well as in the east and outer east and south-east, with below average ratios throughout the inner north, north-west and outer north (Map 77).

Adelaide had the most highly elevated SPR with over 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 Burnside - North-East (114**, 4,317) and - South-West (111**, 4,091).

Large numbers of women participating in cervical screening were from the SLAs of Salisbury - South-East (6,446 women, an SPR of 101), Tea Tree Gully - South (6,275, 104*), Charles Sturt - Coastal (5,795, 102) and Campbelltown - East (5,314, 103).

All of the Playford SLAs had low participation ratios. Playford - Elizabeth had the lowest (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) and - Port (90**, 3,930) also had low participation ratios.

There is a clear socioeconomic gradient in participation rates for cervical screening, with the highest ratio in the most advantaged areas and the lowest (20% lower, a rate ratio of 0.80**) in the most disadvantaged areas.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 77: Cervical screening participation, females aged 20 to 69 years, CNAHS, 2001 to 2002

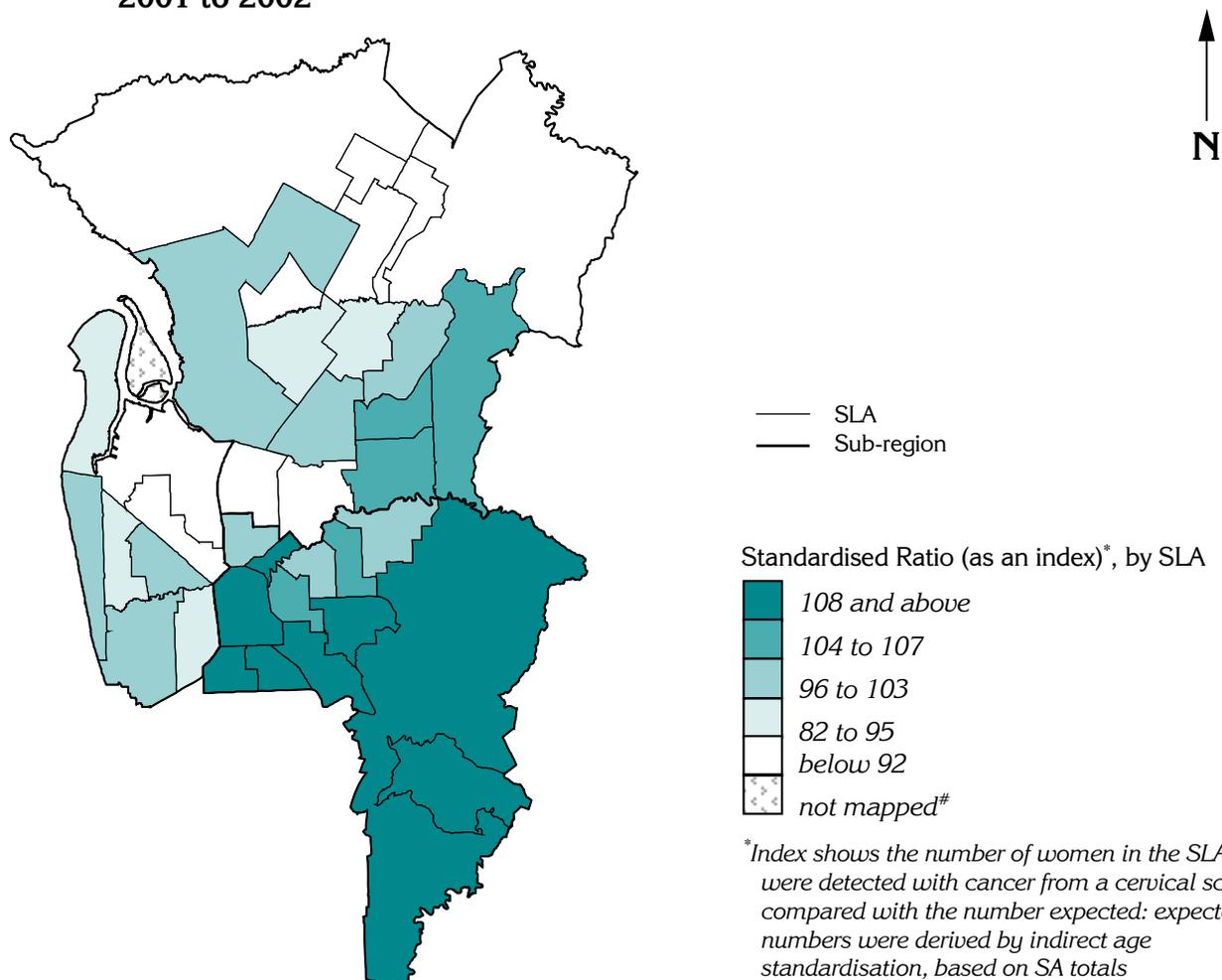


Table 78: Cervical screening participation, females aged 20 to 69 years, CNAHS, 2001 to 2002

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	29,213	111**
Quintile 2	28,377	105**
Quintile 3	29,569	98**
Quintile 4	24,000	95**
Quintile 5: most disadvantaged areas	25,769	89**
Rate ratio	..	0.80**
Northern	56,337	94**
Western	35,666	95**
Central East	44,926	110**
CNAHS	136,931	99**
Southern	59,501	103**
Metropolitan regions	196,432	100
State total	266,634	100

* indicates statistical significance: see page 19

Screening: Cervical screening outcomes

Outcomes of screening for cervical cancer: data from 2001 to 2002

Overview

The data presented here are of women diagnosed with an abnormality as a result of cervical screening: the data include both possible and definite abnormalities. The data are presented as being either a high grade or a low grade abnormality.

Women participating in cervical screening were spread relatively evenly across the age groups from 25 to 49 years, with proportions dropping off to younger and older ages (Table 79). The distribution of women assessed as having a high grade abnormality (0.03% of women screened) was concentrated in fewer age groups, with two thirds being between the ages of 20 and 39 years. Those assessed as having a low grade abnormality (1.7% of women screened) were most predominant at younger ages.

Table 79: Cervical abnormalities detected through screening, by age, CNAHS, 2001 to 2002

Age (years)	Screened		Abnormalities (%)		
	No	%	High grade	Low grade	Total
15-19	10,331	3.6	4.2	9.7	8.8
20-24	25,393	9.0	14.7	20.8	19.8
25-29	30,583	10.8	20.0	16.6	17.2
30-34	35,950	12.7	20.2	12.1	13.5
35-39	36,423	12.9	10.9	9.3	9.5
40-44	36,006	12.7	6.9	8.6	8.3
45-49	31,076	11.0	6.4	7.3	7.1
50-54	26,587	9.4	5.2	6.1	6.0
55-59	19,597	6.9	3.0	4.2	4.0
60-64	14,425	5.1	1.3	2.4	2.2
65-69	10,594	3.7	2.3	1.6	1.7
70 and over	6,240	2.2	2.0	1.1	1.1
Total:					
%	..	100.0	100.0	100.0	100.0
No.	283,205	..	948	4,721	5,645

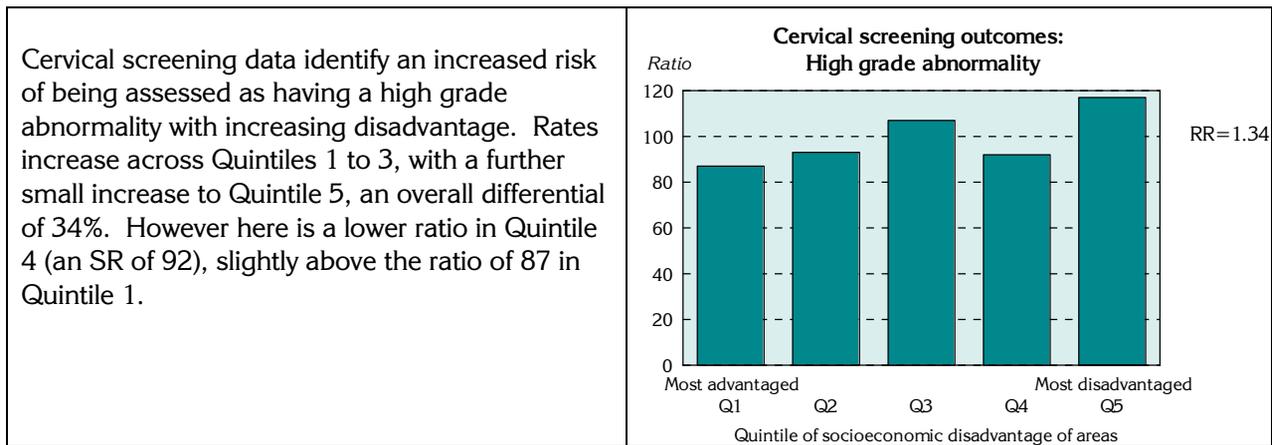
High grade abnormalities

SLAs with elevated ratios for the detection of high grade abnormalities (Map 78a) generally followed the pattern of socioeconomic disadvantage shown in Map 23, page 113.

Over 2001 and 2002, 875 women were assessed as having a high grade abnormality (a standardised ratio (SR) of 99). Elevated ratios were mapped in a number of SLAs including Port Adelaide Enfield - Coast (an SR of 155**, 45 women) and - Inner (144, 28), Playford - Elizabeth (151*, 34), - West Central (141, 18) and - East Central (123, 24), and Unley - West (138, 33).

Other than those mentioned above, the largest numbers of females assessed as having a high grade abnormality were from Tea Tree Gully - South (37 women, an SR of 94), Salisbury - South-East (36, 88), West Torrens - West (34, 107), and Port Adelaide Enfield - East (33, 106).

Adelaide Hills - Ranges had the lowest SR in the metropolitan regions, with nearly half the expected number of high grade abnormalities (an SR of 54, six women). This was followed by Norwood Payneham and St Peters - West (70, 18), Tea Tree Gully - Hills (70, eleven), Adelaide Hills - Central (74, 12), Campbelltown - West (74, 16) and -East (74, 24). None of these ratios were statistically significant.



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

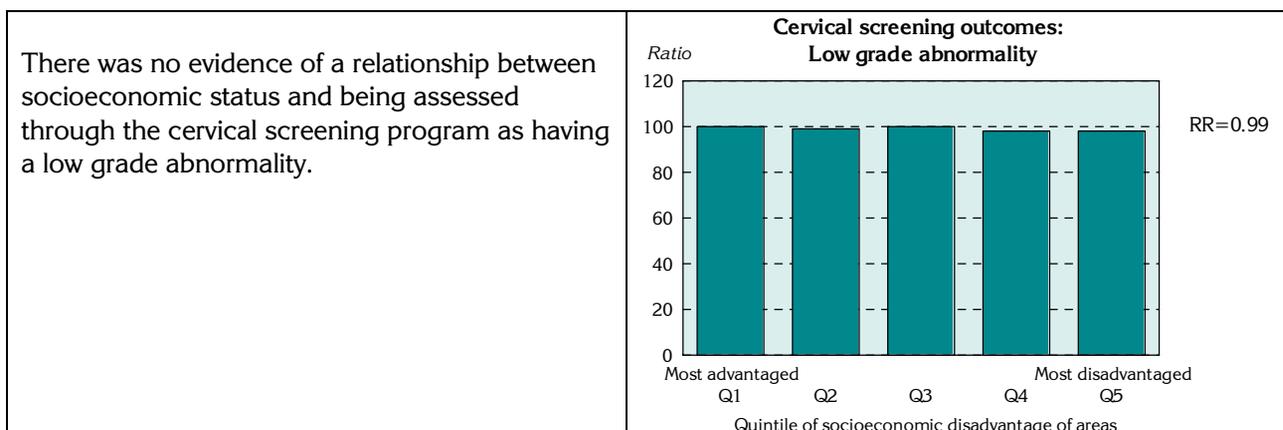
Low grade abnormalities

The geographic distribution of ratios across SLAs is similar to that for high grade abnormalities, although the highest ratios are generally not as high, and the lowest are not as low (Map 78b).

There were 4,199 women assessed as having a low grade abnormality in Central Northern, one per cent fewer than expected from the State rates, a standardised ratio (SR) of 99. Elevated ratios were mapped in the SLAs of Unley - West (an SR of 121*, 140 women), Adelaide (112, 138), West Torrens - East (111, 152) and - West (108, 164), Tea Tree Gully - Hills (109, 82) and - Central (107, 172), Port Adelaide Enfield - Inner (109, 100) and Campbelltown - West (107, 112).

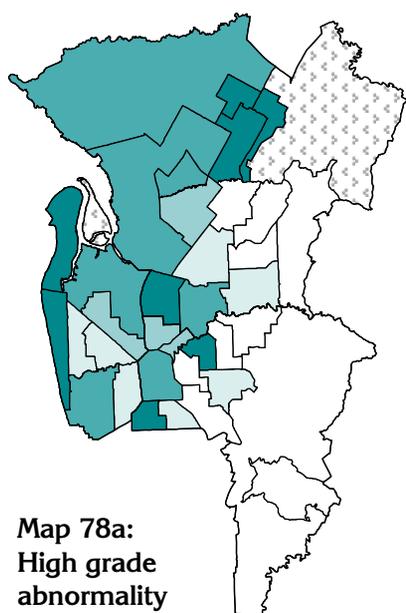
Large numbers of female residents in the following SLAs were diagnosed as having a low grade abnormality: Salisbury - South-East (192 women, 98), Tea Tree Gully - South (184, 97) and - Central (172, 107), West Torrens - West (108, 164) and - East (111, 152), Charles Sturt - Coastal (157, 93), and Campbelltown - 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 (82, 75), Salisbury Balance (80, 27) and Adelaide Hills - Central (88, 73) and - Ranges (88, 53).

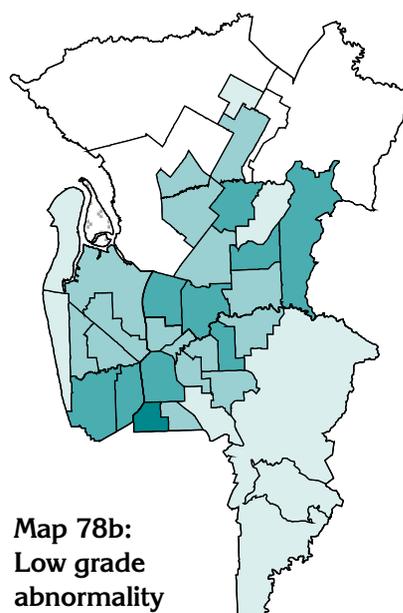


Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 78: Cervical screening outcomes, females aged 20 to 69 years, CNAHS, 2001 to 2002

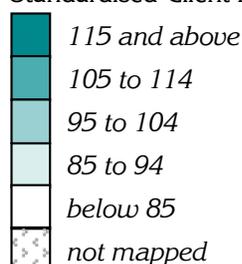


**Map 78a:
High grade
abnormality**



**Map 78b:
Low grade
abnormality**

Standardised Client Ratio (as an Index^{*}), by SLA



^{*}Index shows the number of women in the SLA with possible or definite abnormalities from a cervical screen compared with the number expected: expected numbers were derived by indirect age standardisation, based on SA totals

[#]Data were not mapped in areas with fewer than five cases

— SLA
— Sub-region

Table 80: Cervical screening outcomes, females aged 20 to 69 years, CNAHS, 2001 to 2002

Area	High grade abnormality		Low grade abnormality	
	Number	Standardised ratio	Number	Standardised ratio
CNAHS				
Quintile 1: most advantaged areas	159	87	890	100
Quintile 2	169	93	877	99
Quintile 3	203	107	907	100
Quintile 4	141	92	719	98
Quintile 5: most disadvantaged areas	203 ^{**}	117	806	98
Rate ratio	..	1.34^{**}	..	0.99
Northern	377	102	1,731	98
Western	242	106	1,070	99
Central East	257	90	1,398	100
CNAHS	875	99	4,199	99
Southern	397	107	1,970	109^{**}
Metropolitan regions	1,273	102	6,170	102
State total	1,683	100	8,105	100

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General medical practitioners: Population per GP

Population per estimated full-time work load equivalent general medical practitioner, 2002/03

Overview

The full-time workload equivalent (FWE*) provides a measure of the supply of GPs and the level of their activity in each SLA.

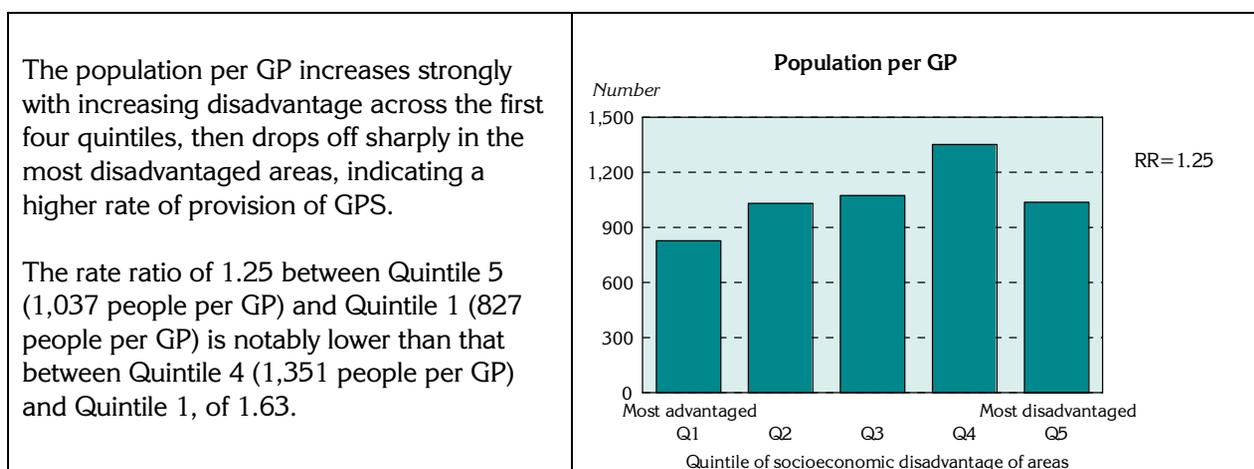
When using these data, readers should be mindful that people living in an SLA with a high rate of population per GP (low level of provision) may use a GP in an adjacent area with a lower rate of population per GP (high level of provision). In some cases, this may be quite close to their home; in others, 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.

In the Central Northern region, there were 1,039 people per GP, with 739 FWE GPs (Table 81). The overall impression from Map 79 is one 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.

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 and 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 and St Peters - East (714, 22.5), West Torrens - East (752, 31.7), Charles Sturt - Inner East (757, 28.4) and - North-East (786, 32.9).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

*The FWE value is calculated for each GP location by dividing the GP's total Medicare billing (Schedule fee value of services provided during the reference period) by the mean billing of full-time doctors in that derived major speciality for the reference period. Thus, a GP earning 20% more than the mean billing of full-time doctors is shown as 1.2 FWE.

Map 79: Population per GP, CNAHS, 2002/03

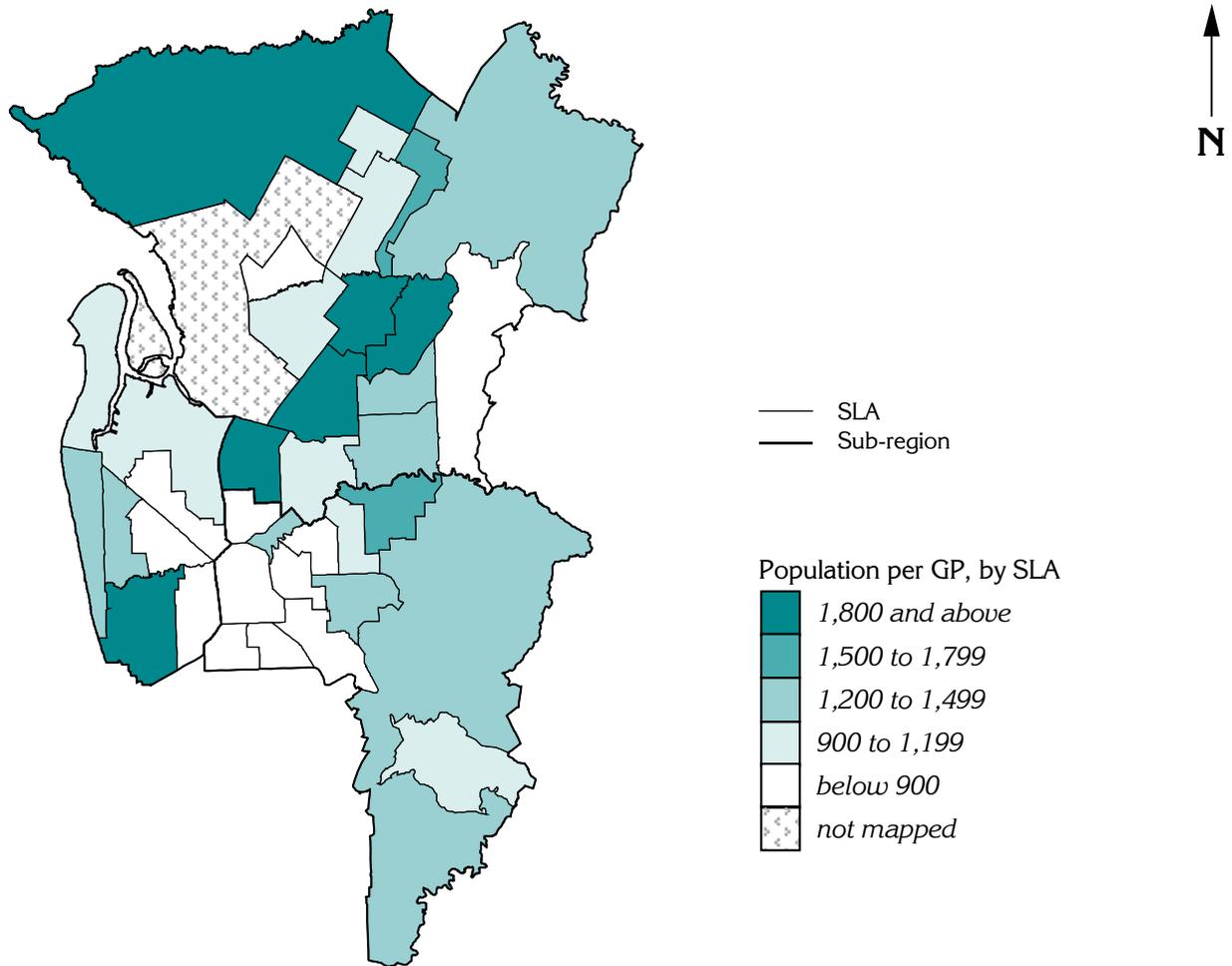


Table 81: Population per GP, CNAHS, 2002/2003

Area	Population per GP	FWE
CNAHS		
Quintile 1: most advantaged areas	827	173.2
Quintile 2	1,031	141.7
Quintile 3	1,074	157.6
Quintile 4	1,351	104.0
Quintile 5: most disadvantaged areas	1,037	162.5
Rate ratio	1.25	1.25
Northern	1,340	249
Western	1,028	205
Central East	784	285
CNAHS	1,039	739.0
Southern	1,234	265.8
Metropolitan regions	1,090	1,004.8
State total	1,126	1,350.4

General medical practitioner services: male patients

Consultations with general medical practitioners: Unreferred attendances under Medicare for services provided by general and vocationally registered practitioners (not specialist medical practitioners), delivered at a surgery or clinic, a patient's home, or an institution: data from 2002/03

Overview

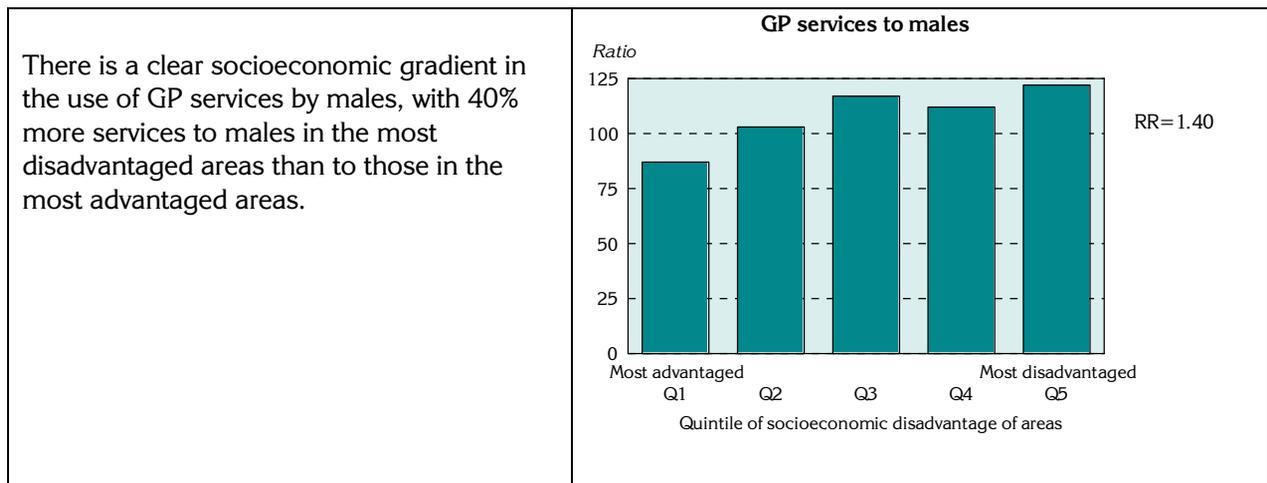
General practitioners offer a wide range of primary health care services and are the 'front line' of the Australian health care system. In metropolitan regions, low socioeconomic (SES) groups consult general practitioners more frequently than high SES groups⁸⁶. The primary reason is their poorer health and hence greater medical need (however, distributional, operational and financial factors associated with the provision of general practice services are also important).

There were 1,622,154 GP services to males in the Central Northern region, 9 per cent more than expected from the State rates, given the age profile of males in the region (a standardised ratio (SR) of 109**) (Table 82). At the SLA level there is a marked separation between areas with high, and those with low, use of GP services by males (Map 80), closely following the pattern of socioeconomic disadvantage shown in Map 23, page 113.

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), Port Adelaide Enfield - Port (137**, 70,664) and Playford - Elizabeth (133**, 68,178). There were also elevated ratios in Charles Sturt - North-East (an SR of 129**, 65,680), Adelaide (127**, 34,777), Salisbury - Central (126**, 65,507), Playford - West Central (125**, 30,299), Port Adelaide Enfield - East (121**, 59,112), Playford - West (120**, 19,600), Salisbury - South-East (118**, 77,505), Charles Sturt - Inner East (118**, 52,142) and West Torrens - East (115**, 54,668).

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

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



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 80: GP services to males, CNAHS, 2002/03

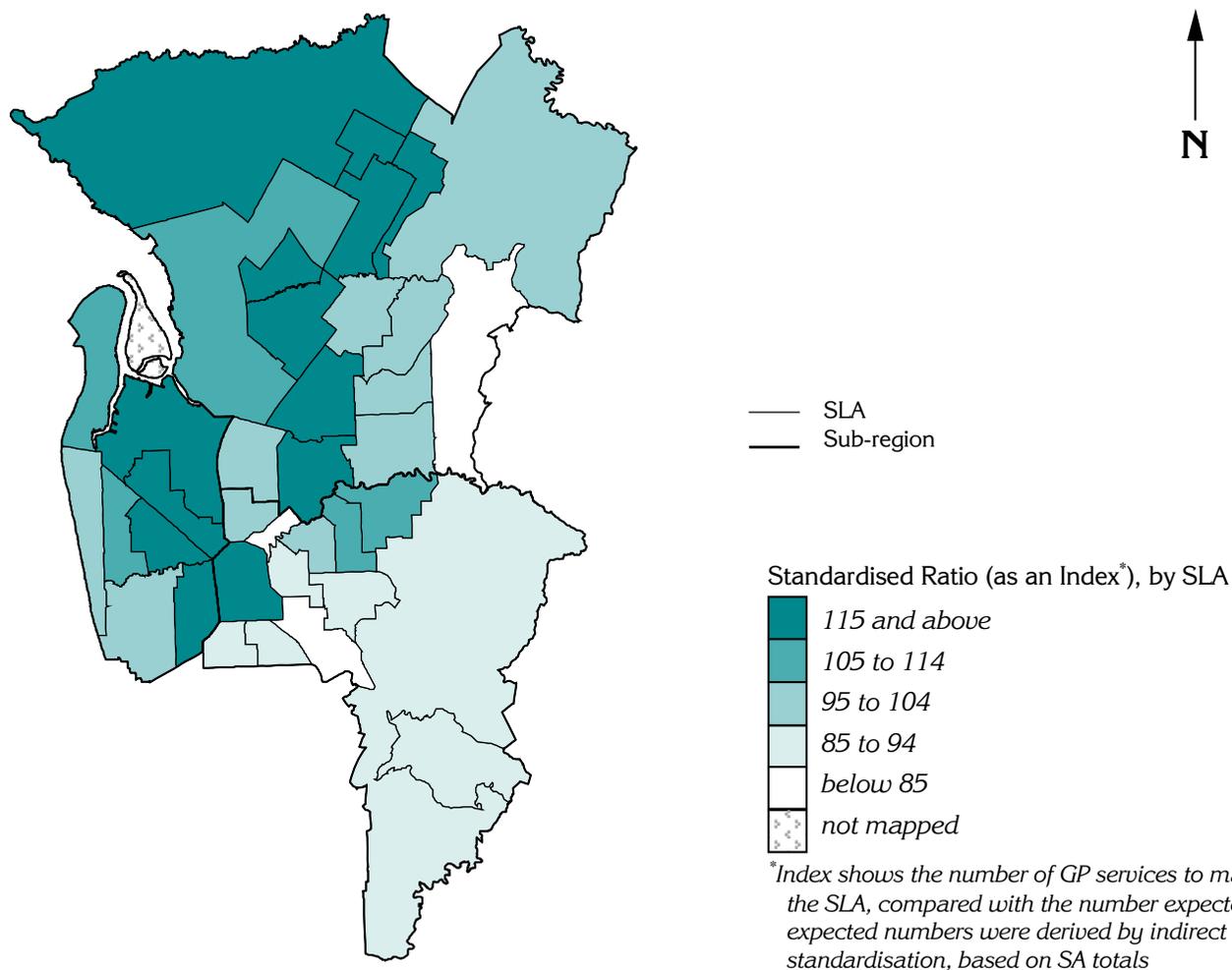


Table 82: GP services to males, CNAHS, 2002/03

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	233,278	87**
Quintile 2	288,812	103**
Quintile 3	372,465	117**
Quintile 4	311,321	112**
Quintile 5: most disadvantaged areas	416,206	122**
Rate ratio	..	1.40**
Northern	715,247	110**
Western	494,813	121**
Central East	412,022	96**
CNAHS	1,622,082	109**
Southern	618,008	97**
Metropolitan regions	2,240,090	106**
State total	2,993,485	100

* indicates statistical significance: see page 19

General medical practitioner services: female patients

Consultations with general medical practitioners: Unreferred attendances under Medicare: data from 2002/03

Overview

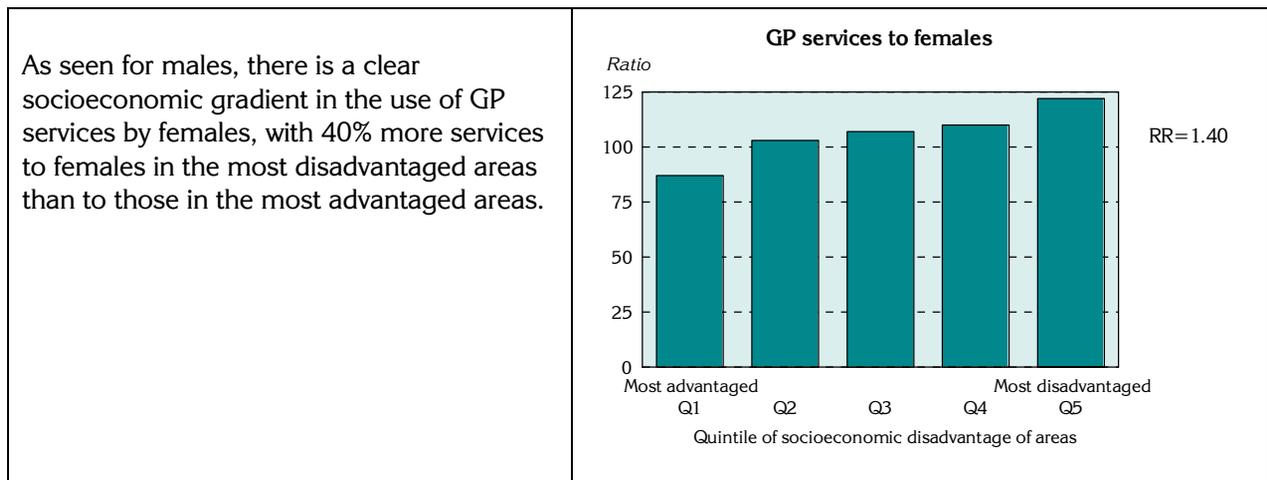
General practitioners offer a wide range of primary health care services and are the ‘front line’ of the Australian health care system. In metropolitan regions, low socioeconomic (SES) groups consult general practitioners more frequently than high-SES groups⁸⁶. The primary reason is their poorer health and hence greater medical need (however, distributional, operational and financial factors associated with the provision of general practice services are also important).

There were six per cent more GP services provided to females in the Central Northern region than expected (106**, 2,330,668) (Table 83), with a marked separation between areas with high, and those with low, use of GP services by females (Map 81), closely following the pattern of socioeconomic disadvantage shown in Map 23, page 113.

The most highly elevated standardised ratio (SR) was recorded for women in Salisbury - Inner North, with 44% more services than expected from the State rates (an SR of 144**, 86,277 services). There were also elevated SRs in Adelaide (139**, 50,182), Playford - East Central (132**, 62,413), Playford - West Central (129**, 41,474), Port Adelaide Enfield - Port (127**, 95,531), Playford - Elizabeth (125**, 93,288), Salisbury - Central (120**, 89,300), Salisbury - South-East (119**, 109,813), Port Adelaide Enfield - Coast (119**, 97,717), Playford - West (118**, 24,277), Charles Sturt - North-East (116**, 87,027) and Salisbury Balance (113**, 14,702).

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

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



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 81: GP services to females, CNAHS, 2002/03

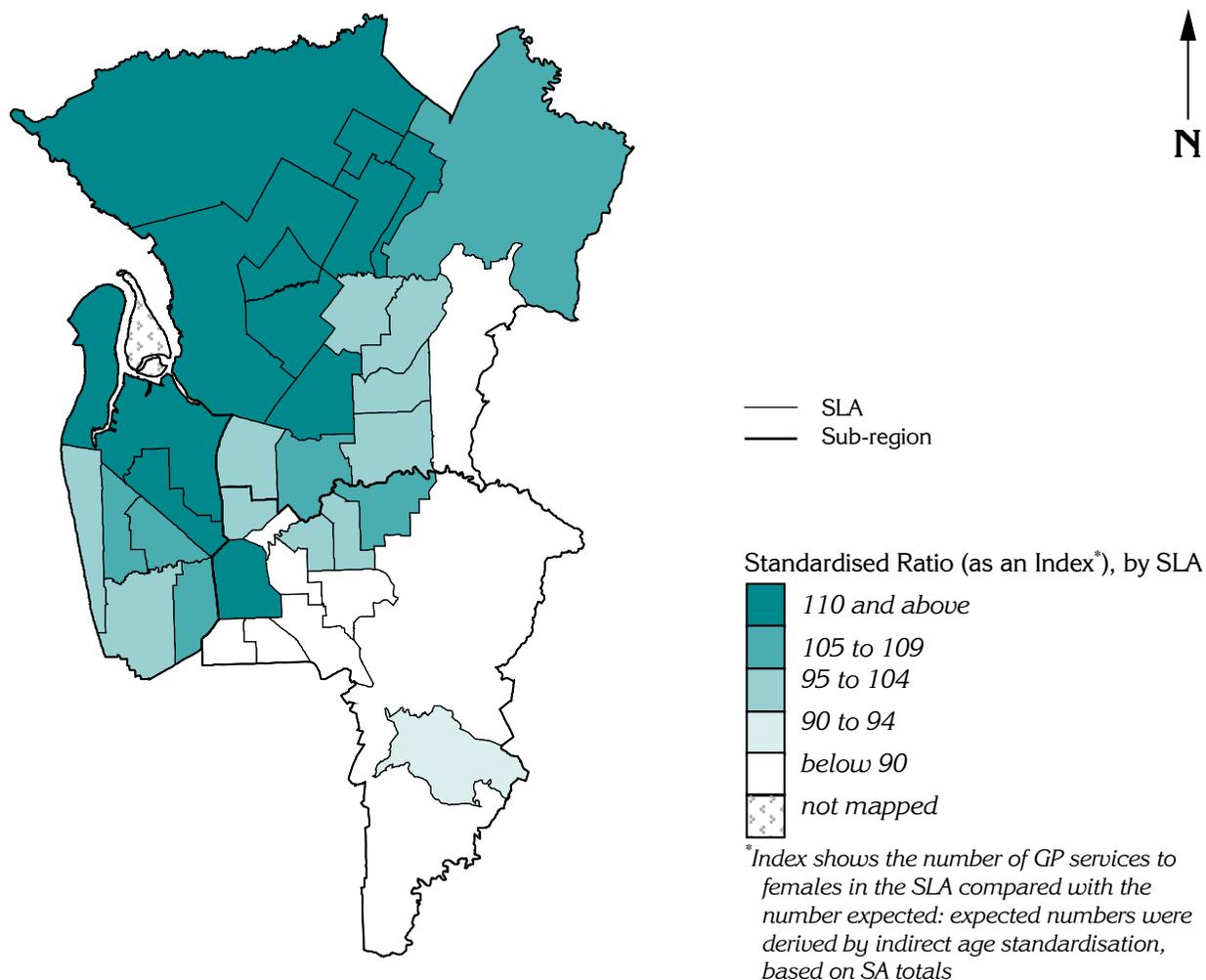


Table 83: GP services to females, CNAHS, 2002/03

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	373,130	87**
Quintile 2	418,832	103**
Quintile 3	536,568	107**
Quintile 4	435,052	110**
Quintile 5: most disadvantaged areas	567,003	122**
Rate ratio	..	1.40**
Northern	1,005,256	113**
Western	686,964	109**
Central East	638,365	95**
CNAHS	2,330,668	107**
Southern	928,426	99**
Metropolitan regions	3,259,011	104**
State total	4,283,072	100

* indicates statistical significance: see page 19

Accident and Emergency department attendances

Attendances at Accident and Emergency Departments of public acute hospitals in Adelaide (excl. Modbury Hospital), 2000/01

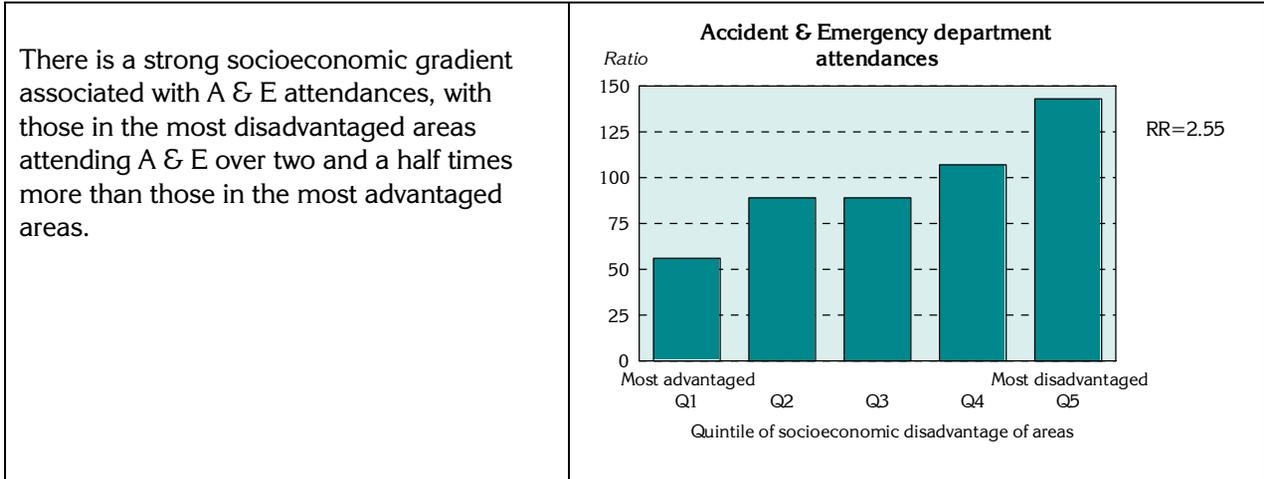
Overview

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.

There were slightly fewer A & E attendances recorded for residents of the Central Northern region than were expected from the State rates (an SR of 98** and 202,008 attendances) (Table 84). The distribution of A & E attendances shows the highest standardised ratios (SRs) were largely located in SLAs in the north-western and northern parts of the region, as well as in the city (Map 82).

The number of A & E attendances in the SLA of Playford - Elizabeth was twice the number expected (an SR of 200**), and the highest number of attendances of any SLA in the region (14,176 attendances). Highly elevated ratios were also recorded in the SLAs of Adelaide (an SR of 163**), Playford - West Central (153**), Salisbury - Inner North (150**), and Salisbury - Central (141**), 10,388).

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



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 82: Accident and Emergency attendances, CNAHS, 2000/01

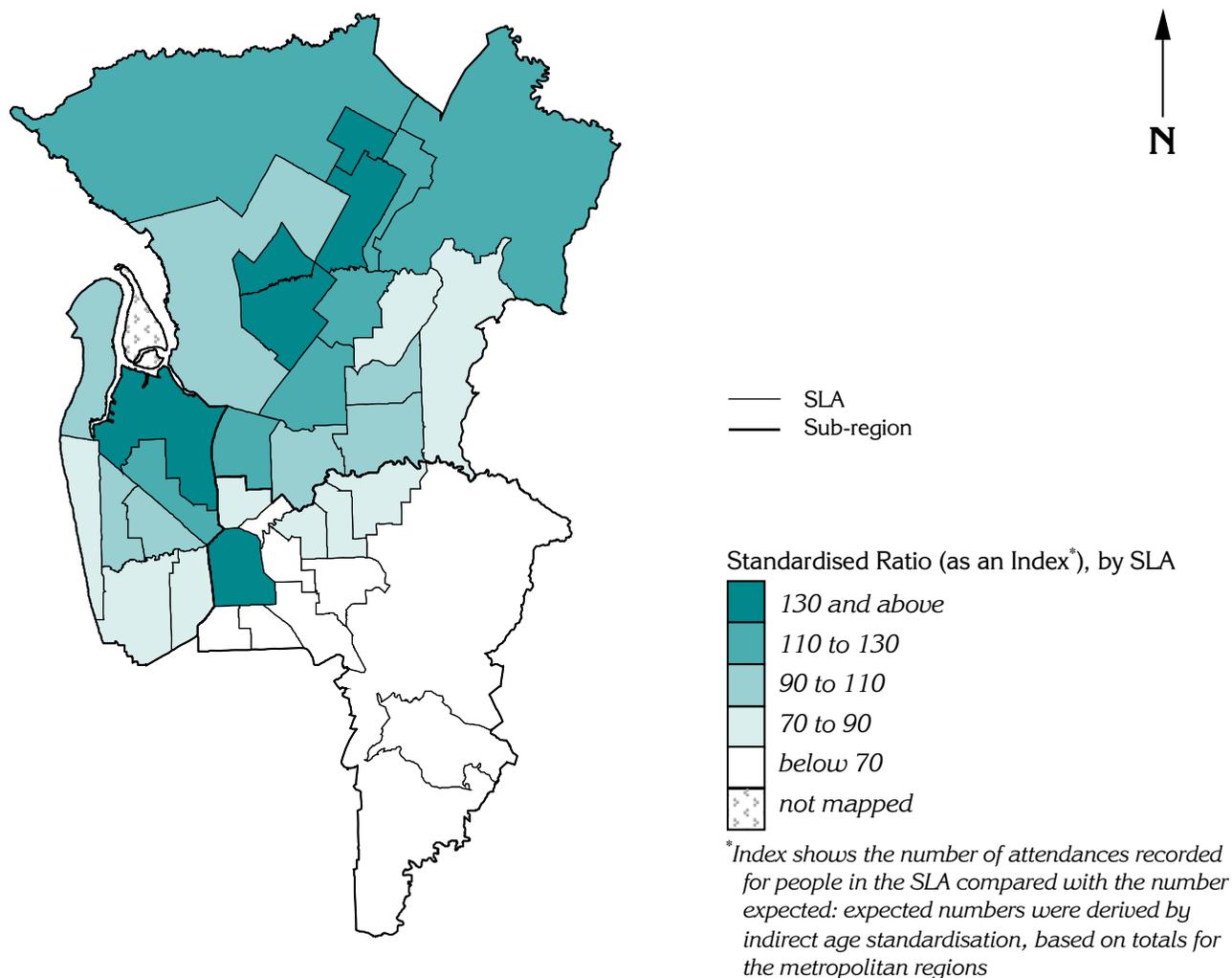


Table 84: Accident and Emergency attendances, CNAHS, 2000/01

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	21,102	56**
Quintile 2	34,154	89**
Quintile 3	40,998	89**
Quintile 4	40,401	107**
Quintile 5: most disadvantaged areas	65,353	143**
Rate ratio	..	2.55**
Northern	105,662	119**
Western	55,731	98**
Central East	40,615	68**
CNAHS	202,008	98**
Southern	92,639	106**
Metropolitan regions	294,648	101**
State total	..	..

* indicates statistical significance: see page 19

Outpatient department attendances

Attendances at outpatient departments of public acute hospitals in Adelaide (excl. Modbury Hospital): includes consultations with specialist medical practitioners and other providers, including those providing physical therapies, dietary advice, etc: data from 2003/04

The data for outpatient departments have been estimated to account for incomplete coverage of the OACIS dataset, from which the details of the patient's SLA and age was obtained. Consultations with both specialist medical practitioners and allied health professionals are included in these data.

Overview

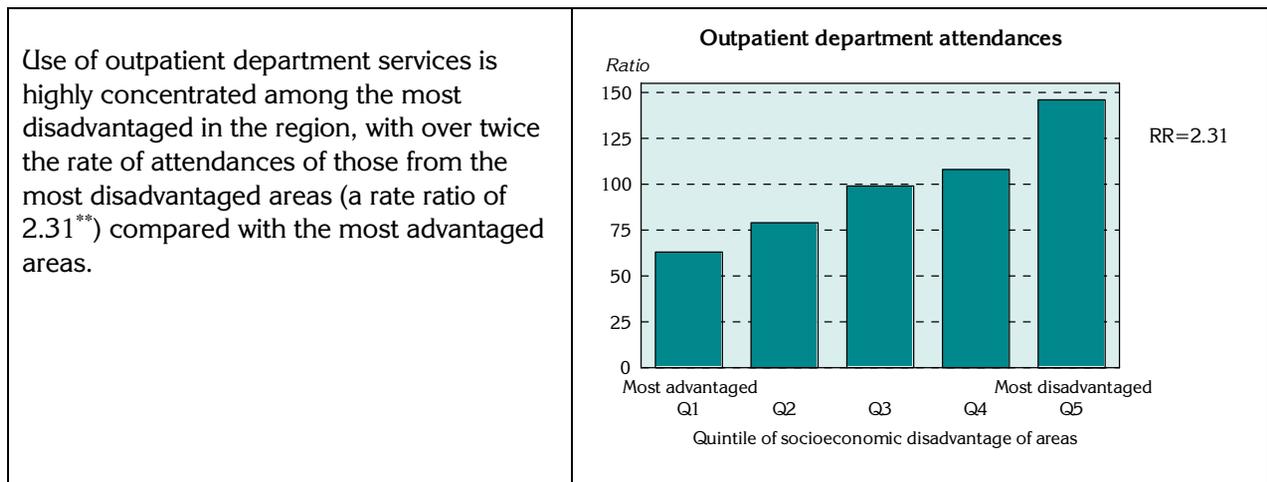
Outpatient departments of public hospitals provide an important range of specialist medical and non-medical (allied) health services to the population, in particular to the most disadvantaged groups who do not have private health insurance and therefore have limited access to these services operating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

Residents of Central Northern had 684,436 outpatient attendances in 2003/04 (a standardised ratio (SR) of 100) (Table 85). The SLAs with the most highly elevated standardised ratios (SRs) for outpatient department attendances were situated in a number of western, north-western and inner northern SLAs, and in the outer north, with very low ratios in the east (Map 83).

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), - West Central (156**, 15,032), and Charles Sturt - North-East (151**, 35,624) all had over 50% more attendances than expected. There were also elevated ratios in Salisbury - Inner North (an SR of 146**, 25,924 attendances), Port Adelaide Enfield - Coast (137**, 35,128), Charles Sturt - Inner East (132**, 27,546), Salisbury - Central (131**, 29,380), Port Adelaide Enfield - Inner (122**, 23,494), Playford - East Central (121**, 17,555), West Torrens - East (121**, 26,726) and Charles Sturt - Inner West (120**, 29,049).

Large numbers of attendances were also recorded for people in the SLAs of Salisbury - South-East (29,608 attendances, 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 (an SR of 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).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 83: Outpatient department attendances, CNAHS, 2003/04

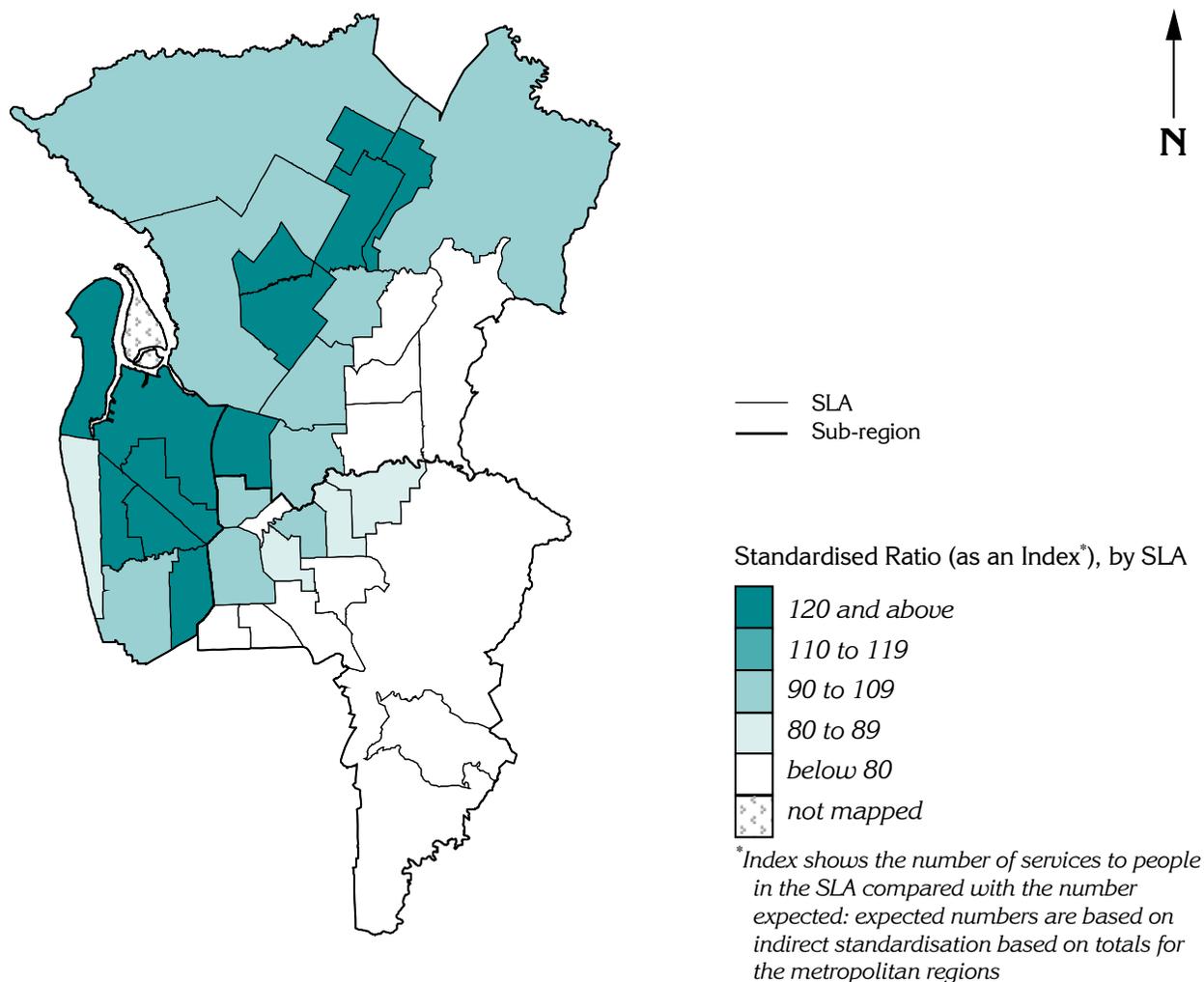


Table 85: Outpatient department attendances, CNAHS, 2003/04

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	82,319	63**
Quintile 2	98,339	79**
Quintile 3	156,542	99*
Quintile 4	135,679	108**
Quintile 5: most disadvantaged areas	211,557	146**
Rate ratio	..	2.31**
Northern	283,572	103**
Western	248,951	124**
Central East	151,213	73**
CNAHS	684,436	100
Southern	296,842	101
Metropolitan regions	981,278	100

* indicates statistical significance: see page 19

Consultations⁴ with specialist medical practitioners: in outpatient departments

Consultations with specialist medical practitioners in outpatient departments of public acute hospitals in Adelaide (excl. Modbury Hospital): data from 2003/04. The data shown here include consultations with a specialist medical practitioner at an outpatient department of a public acute hospital. The data have been adjusted to account for incomplete coverage of the source dataset, as noted for the previous indicator.

Overview

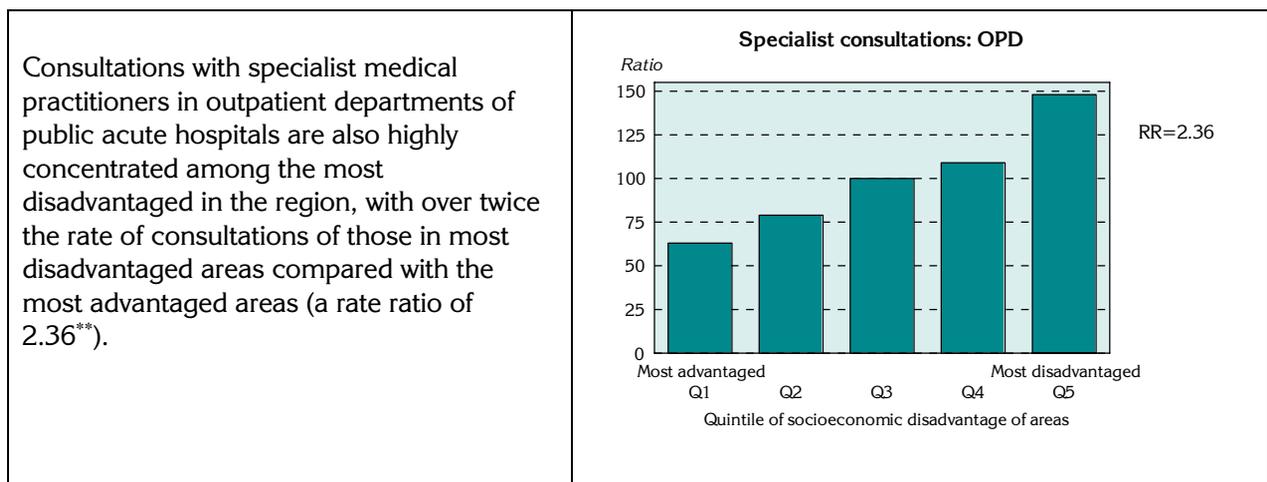
Outpatient departments of public hospitals provide an important range of specialist medical services to the population, in particular to the most disadvantaged groups, who do not have private health insurance and therefore have limited access to these services operating in private practice.

There were 619,881 consultations with specialists in hospital outpatient departments in 2003 to 2004 (a standardised ratio (SR) of 101**) (Table 86). The most highly elevated ratios for specialist consultations in outpatient departments were located in the west, north-west and outer-north of the region, with low ratios from the city centre to the east, north-east and south-east (Map 84). This pattern was consistent with the pattern of socioeconomic disadvantage shown in Map 23 (page 113).

Port Adelaide Enfield - Port had 73% more consultations than expected (an SR of 173**, 37,352 consultations). Other SLAs with highly elevated ratios included Playford - Elizabeth (158**, 33,076) and - West Central (158**, 33,076), Charles Sturt - North-East (153**, 32,411), Salisbury - Inner North (147**, 23,528), Port Adelaide Enfield - Coast (139**, 32,095), Charles Sturt - Inner East (134**, 2,5067), Salisbury - Central (134**, 27,047), Port Adelaide Enfield - Inner (124**, 21,279), Charles Sturt - Inner West (122**, 26,516), West Torrens - East (122**, 24,038) and Playford - East Central (122**, 15,931).

Large numbers of specialist consultations in outpatient departments were recorded for residents of Salisbury - South-East (27,269 consultations, an SR of 103**), West Torrens - West (24,320, 92), Port Adelaide Enfield - East (23,356, 97**), Salisbury - North-East (15,339, 95**), Prospect (13,923, 92**) and Norwood Payneham and St Peters - East (13,817, 93**).

SLAs with approximately half the number of consultations expected included Adelaide Hills - Central (an SR of 45**, 4,309 consultations), Tea Tree Gully - Hills (49**, 4,613) and Burnside - North-East (52**, 9,757). Low ratios were also calculated for Walkerville (an SR of 54**, 3,412 consultations), 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), Unley - East (71**, 11,560) and - West (78**, 10,487).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

⁴ A 'consultation' may include a number of services eg. an examination, minor surgical procedures, etc.
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* indicates statistical significance: see page 19

Map 84: Specialist medical consultations in outpatient departments, CNAHS, 2003/04

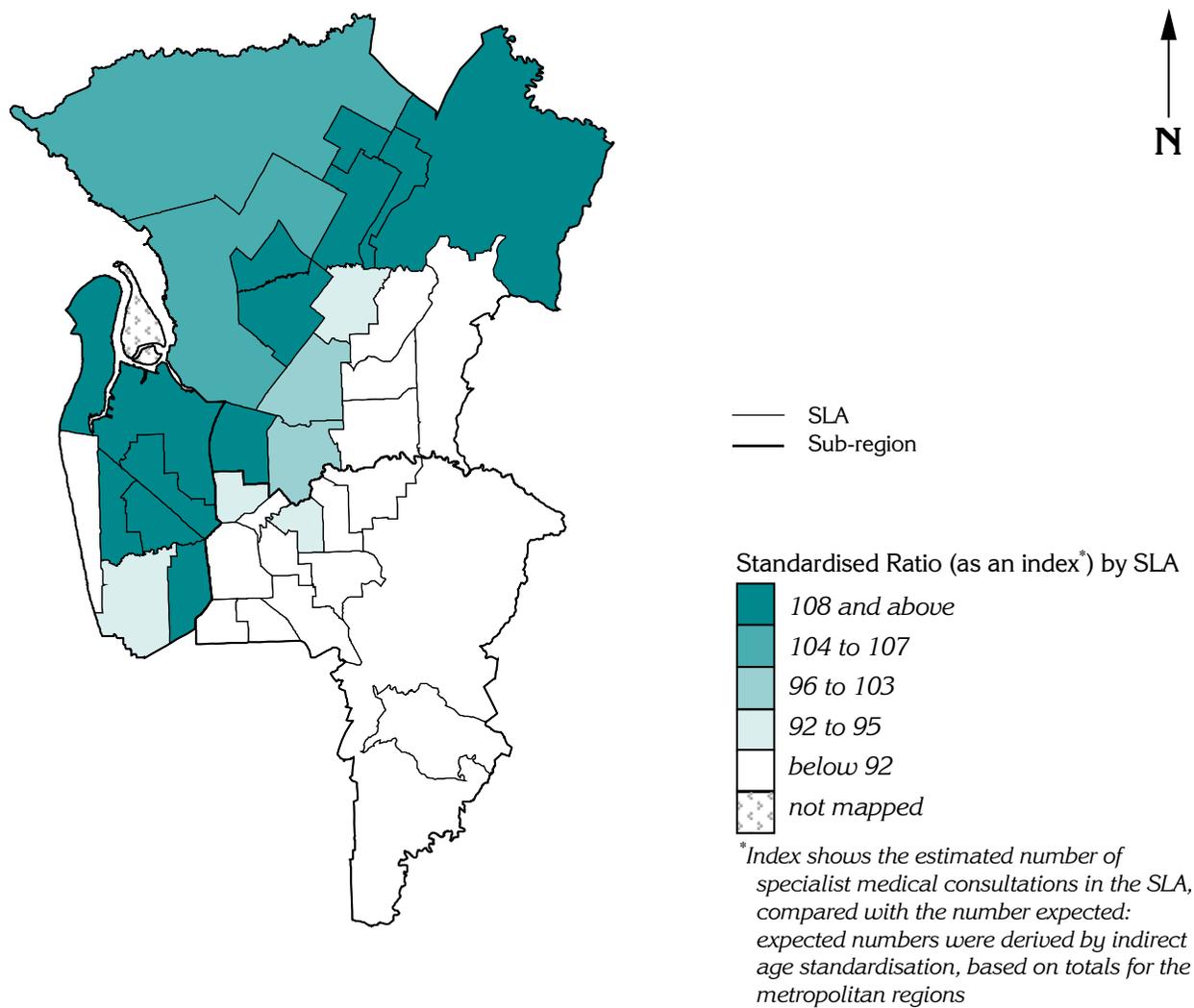


Table 86: Specialist medical consultations in outpatient departments, CNAHS, 2003/04

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	73,120	63**
Quintile 2	88,963	79**
Quintile 3	141,426	100
Quintile 4	123,898	109**
Quintile 5: most disadvantaged areas	192,474	148**
Rate ratio	..	2.36**
Northern	258,355	104**
Western	225,953	126**
Central East	135,573	73**
CNAHS	619,881	101**
Southern	264,896	100
Metropolitan regions	884,777	101

* indicates statistical significance: see page 19

Consultations⁵ with specialist medical practitioners: under Medicare

Consultations with specialist medical practitioners, billed through Medicare, 2000/01. The data shown here include consultations with a specialist medical practitioner, in the private practitioner's rooms (whether at a hospital, or not), billed through Medicare Australia (formerly HIC).

Overview

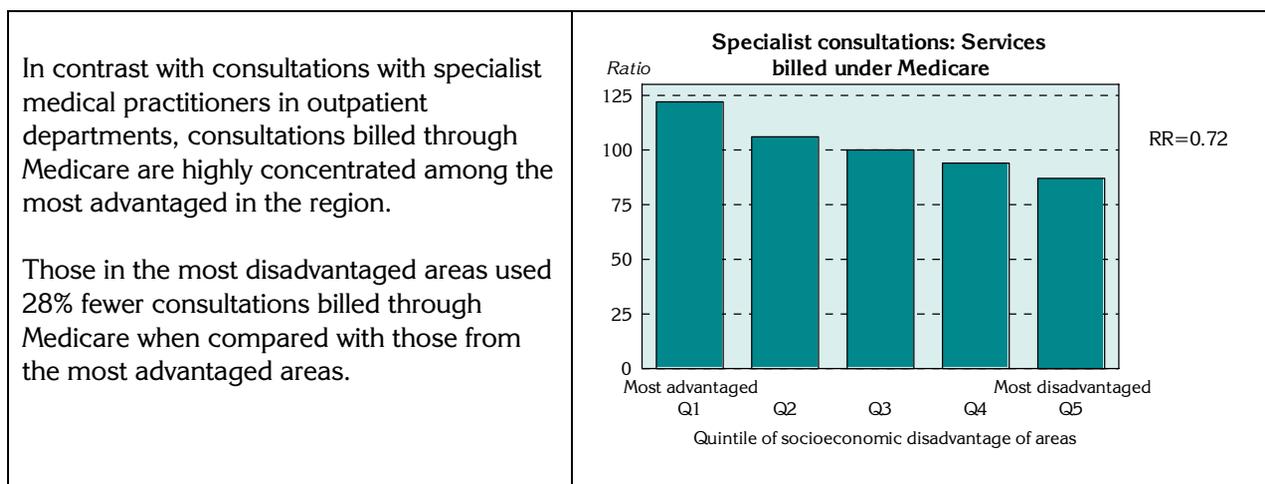
Specialist medical practitioners in private practice provide a wide range of health services to the population.

In 2000/01, 881,104 consultations with specialist medical practitioners were billed through Medicare for residents of the Central Northern region, a standardised ratio (SR of 101) (Table 87). Private consultations were concentrated in a band of SLAs across Adelaide, comprising the higher socioeconomic status SLAs (Map 85).

The most highly elevated ratios, with approximately one-third more specialist consultations under Medicare than expected, included Adelaide (an SR of 133**, 20,441 consultations, possibly including consultations for which the patient address was not accurately recorded), Burnside - South-West (133**, 34,151), Unley - East (132**, 29,813), Walkerville (131**, 11,506) and Norwood Payneham and St Peters - West (131**, 26,625). There were also highly elevated ratios in Burnside - North-East (an SR of 127**, 33,511 consultations), Unley - West (118**, 22,658), Prospect (117**, 24,910), Adelaide Hills - Central (112**, 15,853), Charles Sturt - Coastal (110**, 42,529) and Norwood Payneham and St Peters - East (110**, 22,193).

Large numbers of specialist consultations under Medicare were mapped in 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**), Charles Sturt - Inner West (31,134, 103**), Port Adelaide Enfield - Coast (29,383, 90**), West Torrens - East (28,329, 103**), Charles Sturt - Inner East (26,458, 102**), Tea Tree Gully - Central (25,886, 91**) and - North (25,627, 96**).

SLAs with fewer specialist consultations under Medicare than expected included Salisbury Balance (an SR of 74**, 4,390 consultations), Port Adelaide Enfield - Port (76**, 22,879), - Inner (85**, 19,880) and - East (87**, 29,533), Playford - Hills (85**, 2,654) and - Elizabeth (87**, 25,316), Charles Sturt - North-East (88**, 25,991) and Salisbury - Central (89**, 25,726).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

⁵ A 'consultation' may include a number of services eg. an examination, minor surgical procedures, etc. Variations in the number of services billed per patient are unlikely to affect these geographic comparisons.

Map 85: Specialist medical consultations under Medicare, CNAHS, 2000/01

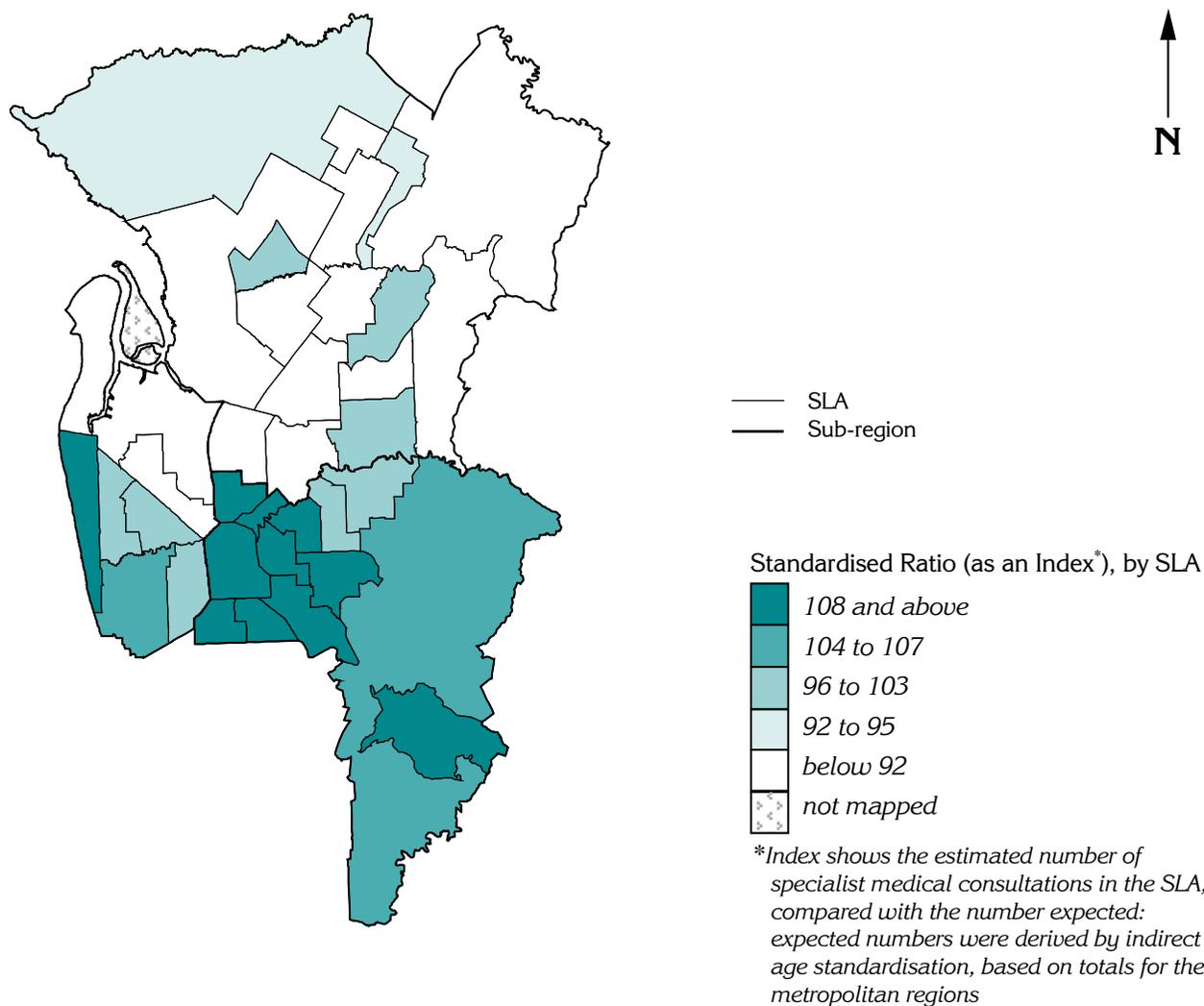


Table 87: Specialist medical consultations under Medicare, CNAHS, 2000/01

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	200,874	122**
Quintile 2	171,402	106**
Quintile 3	197,633	100
Quintile 4	151,581	94**
Quintile 5: most disadvantaged areas	159,613	87**
Rate ratio	..	0.72**
Northern	235,900	91**
Western	245,337	98**
Central East	309,867	119**
CNAHS	881,104	101
Southern	364,439	97
Metropolitan regions	1,245,554	100

* indicates statistical significance: see page 19

Consultations⁶ with specialist medical practitioners: in outpatient departments and under Medicare

Consultations with specialist medical practitioners in outpatient departments of public acute hospitals (excl. Modbury) in Adelaide and consultations with specialist medical practitioners in their private practice (whether at a hospital, or not). Data from 2003/04 (outpatient departments) and 2000/01 (Medicare)

Overview

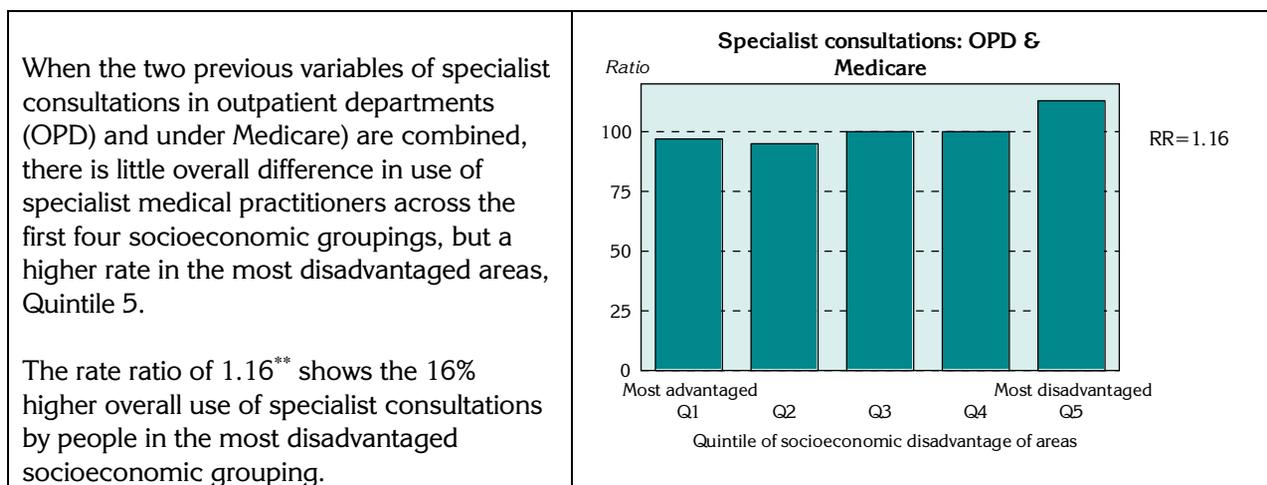
These data provide an overview of the combined delivery of services to the population by specialist medical practitioners.

There was a total of 1,500,985 specialist medical practitioner consultations in Central Northern in 2003/04 (a standardised ratio (SR) of 101**) (Table 88). The SLAs with the most highly elevated ratios included those with greater socioeconomic disadvantage (Map 86), in contrast with the distribution of consultations billed through Medicare (Map 85). The contrasting pattern highlights the importance for the disadvantaged of access to specialists through public hospitals.

The most highly elevated ratio was in Salisbury - Inner North, with 20% more consultations than expected from the State rates (an SR of 120**, 47,521 consultations): these would include numbers of homeless and other indigent people. Other SLAs with elevated ratios included Playford - West Central (118**, 25,050) and - Elizabeth (117**, 58,392), Port Adelaide Enfield - Port (117**, 60,231), 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**, 52,367), Port Adelaide Enfield - Coast (110**, 61,478) and Norwood Payneham and St Peters - West (110**, 38,145).

Relatively large numbers of consultations were provided to people living in Charles Sturt - Coastal (66,683, 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 low ratios throughout Tea Tree Gully with 26% fewer consultations than expected in Tea Tree Gully - Hills (an SR of 74**, 17,214) followed by - Central (80**, 37,962), - North (82**, 36,829), and - South (84**, 53,906). There were also low ratios in Adelaide Hills - Central (85**, 20,162), Salisbury Balance (86**, 8,561), Adelaide Hills - Ranges (86**, 15,959) and Port Adelaide Enfield - East (91**, 52,889).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

⁶ A 'consultation' may include a number of services eg. an examination, minor surgical procedures, etc. Variations in the number of services per patient billed under Medicare are unlikely to affect these geographic comparisons.

Map 86: Specialist medical consultations in outpatient departments (2003/04) and under Medicare (2000/01), CNAHS

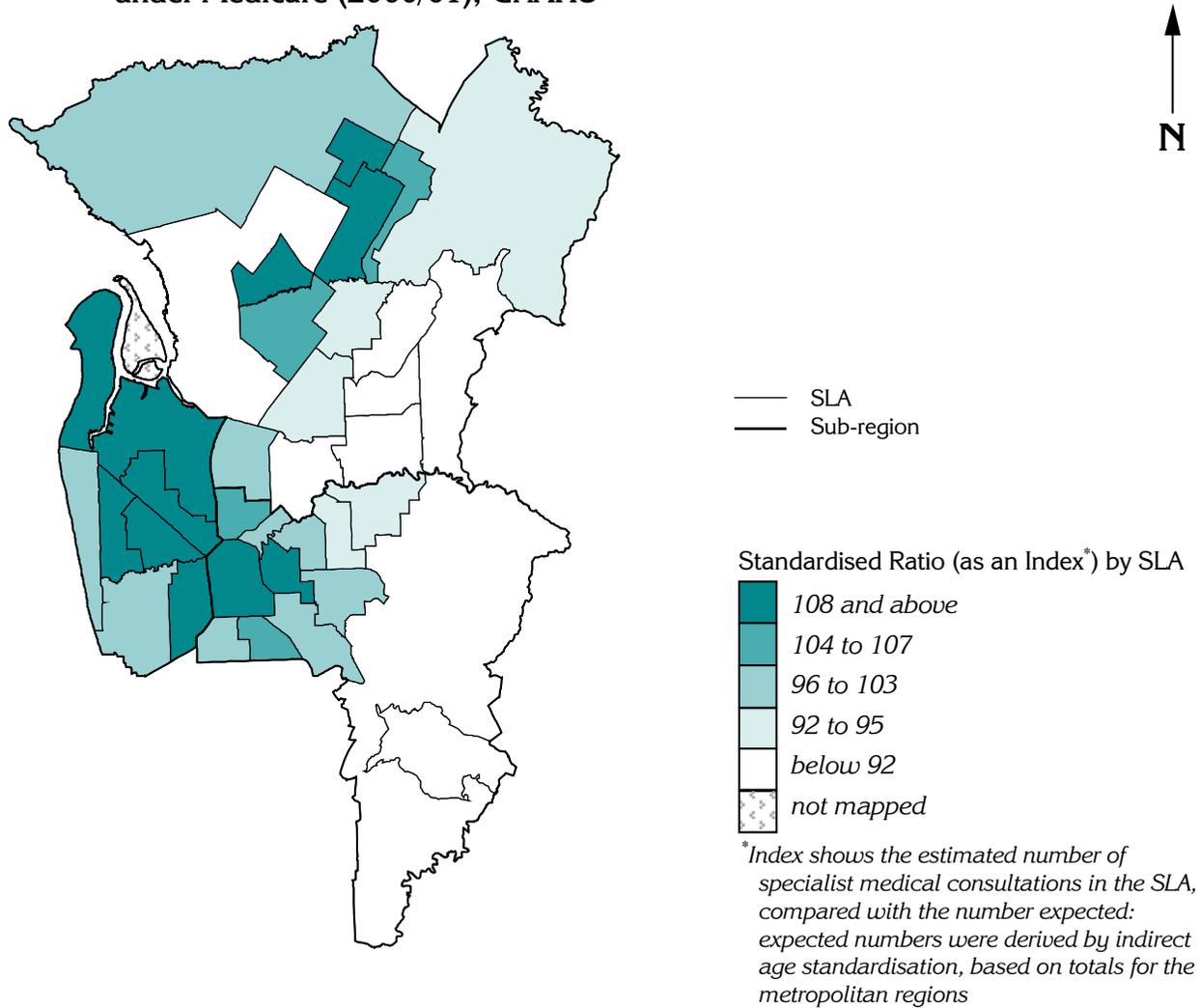


Table 88: Specialist medical consultations in outpatient departments (2003/04) and under Medicare (2000/01), CNAHS

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	273,994	97**
Quintile 2	260,365	95**
Quintile 3	339,059	100
Quintile 4	275,479	100
Quintile 5: most disadvantaged areas	352,087	113**
Rate ratio	..	1.16**
Northern	584,255	96**
Western	471,290	109**
Central East	445,440	100
CNAHS	1,500,985	101**
Southern	296,842	99
Metropolitan regions	2,130,321	100

* indicates statistical significance: see page 19

Access to private health services: Private health insurance

Estimated number of people with private health insurance cover, June 2001

Overview

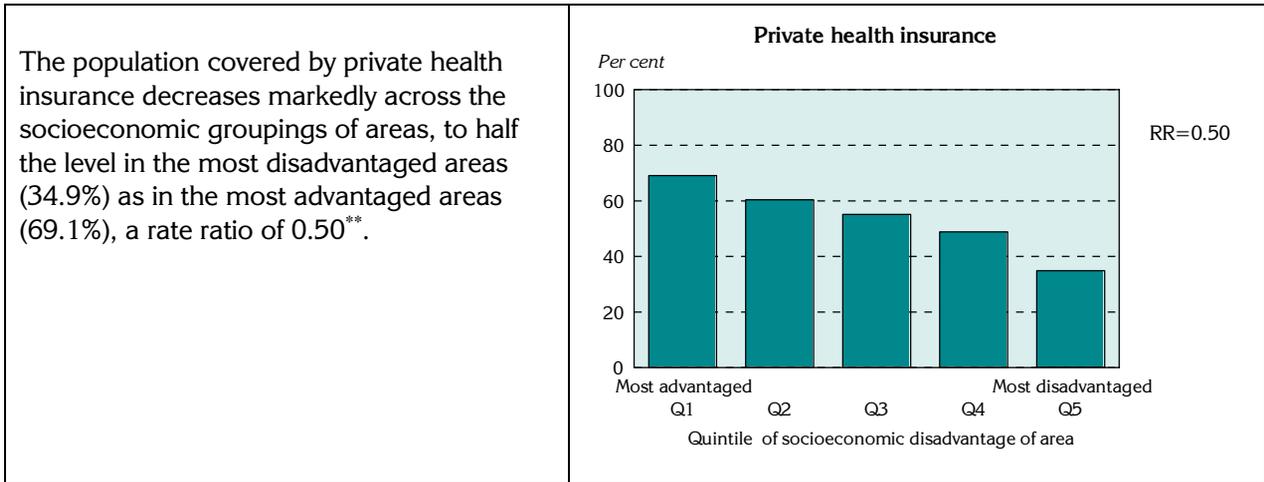
Having private health insurance increases the range of health services that can be accessed, both in-hospital services and services provided by medical and dental practitioners, psychologists, physiotherapists etc.

There were 393,238 people with private health insurance in Central Northern, 53.1% of the population in the region (Table 89). The highest rates of private health insurance coverage were generally in the more advantaged SLAs to the east and south-east of the city (Map 87).

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 proportions 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 insured residents 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 cover were Playford - Elizabeth (30.0%, 8,152 people), Port Adelaide Enfield - Port (31.0%, 7,791), Playford - West Central (32.4%, 4,098), Salisbury Balance (32.4%, 1,473), Salisbury - Central (36.3%, 9,781), Salisbury - Inner North (37.1%, 8,782), Adelaide (37.1%, 6,629), Port Adelaide Enfield - Inner (37.7%, 7,350) and Playford - East Central (38.0%, 6,017), Charles Sturt - North-East (40.0%, 9,715 people), Playford - West (41.2%, 3,251), Playford - Hills (41.5%, 1,111) and Port Adelaide Enfield - East (43.0%, 11,718).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 87: Private health insurance, CNAHS, June 2001

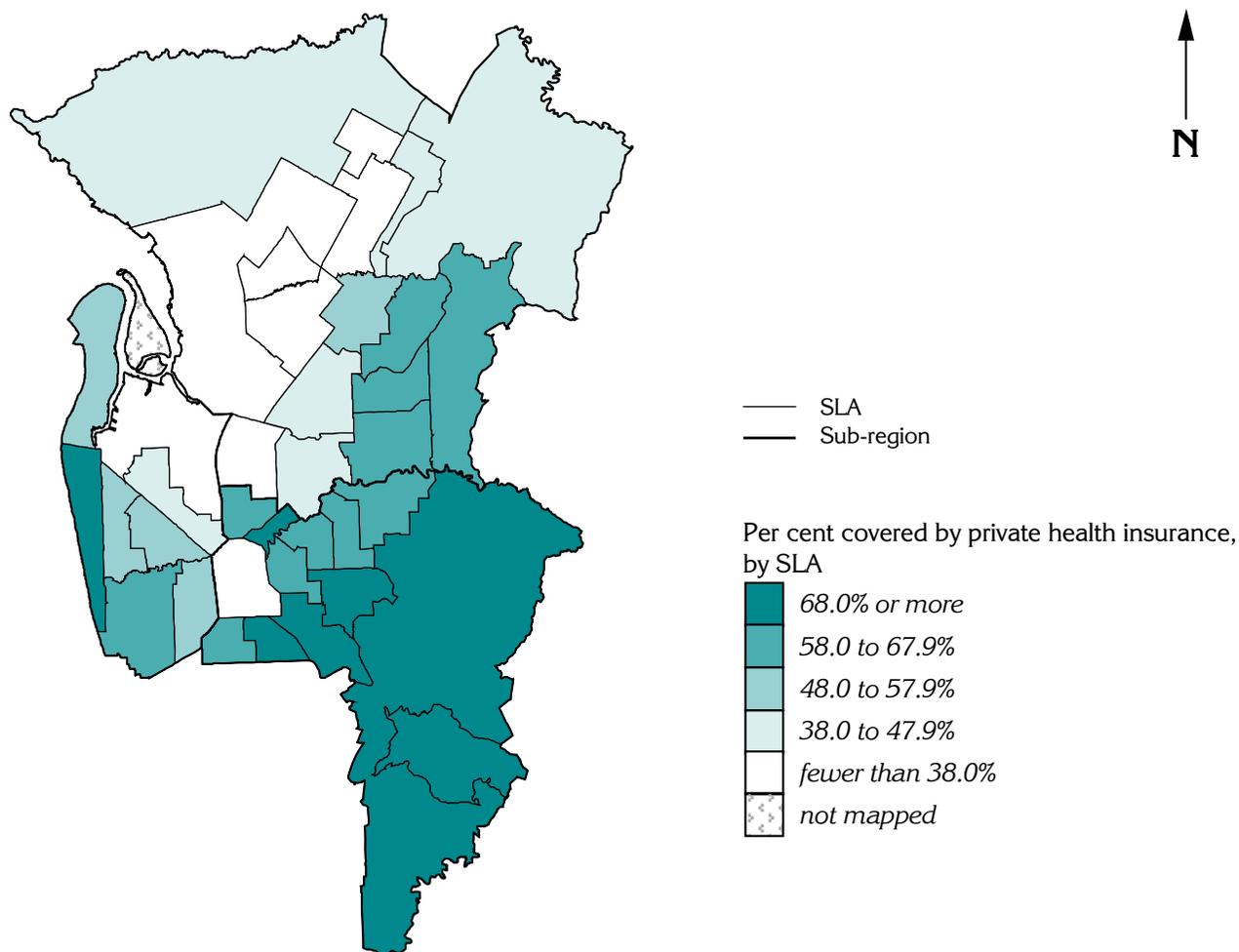


Table 89: Private health insurance, CNAHS, June 2001

Area	Number	Per cent
CNAHS		
Quintile 1: most advantaged areas	94617	69.1
Quintile 2	87009	60.4
Quintile 3	88808	55.1
Quintile 4	65662	48.8
Quintile 5: most disadvantaged areas	57142	34.9
Rate ratio	..	0.50**
Northern	148,175	46.4
Western	104,420	51.5
Central East	140,644	64.4
CNAHS	393,238	53.1
Southern	179,967	57.4
Metropolitan regions	573,205	54.4
State total	754,551	51.4

Source: Senate Community Affairs Legislation Committee, Answers To Estimates Questions On Notice, Health And Ageing Portfolio, Supplementary Budget Estimates 2002-2003, 21 November 2002, Question: E02-060

* indicates statistical significance: see page 19

Hospital admissions: admissions of people to public acute and private hospitals

Admission to public acute and private hospitals (including same day centres) in South Australia of residents of the CNAHS: includes same day admissions, other than for renal dialysis: data from 2003/04

Overview

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.

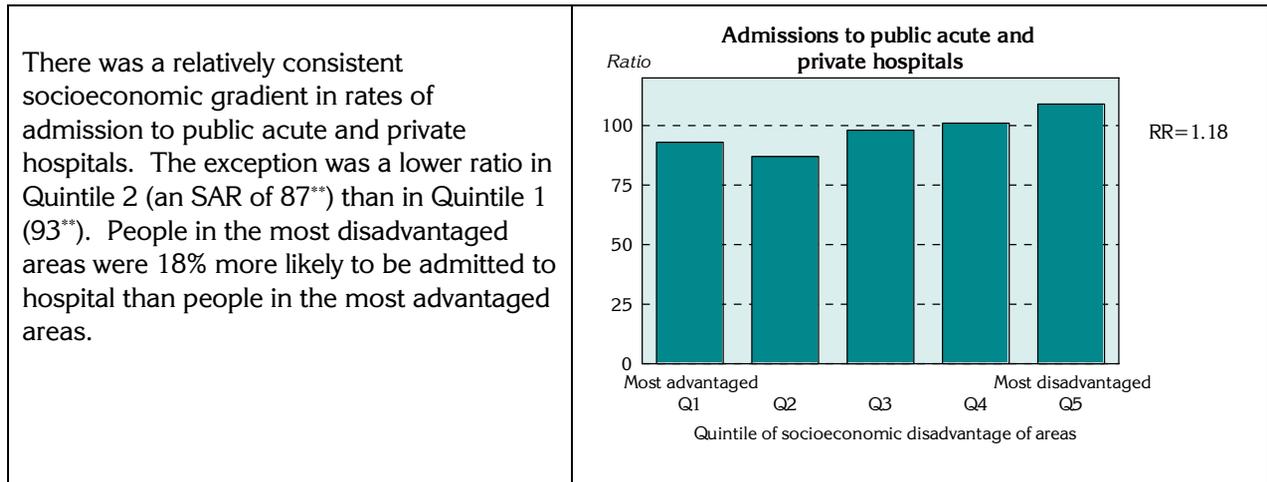
The rate of admissions of the population of the Central Northern region was two per cent lower than expected (a standardised admission ratio (SAR) of 98**), with 255,027 admissions (Table 90). The most highly elevated ratios were located in the outer SLAs of the north, east and west (Map 88).

The near-average ratio for the region is comprised of both very high and very low ratios, ranging from an SAR of 162** (1,435 admissions) for residents of Playford - Hills, to an SAR of 70** (4,529 admissions) for those in Prospect; this is a wide range, from 62% above to 30% below average.

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

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

In addition to the lowest SAR, in Prospect (70**, 4,529 admissions), low ratios were also found for people in Playford - East Central (an SAR of 73**, 4,070 admissions), 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 and St Peters - West (89**, 5,515).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 88: Admissions of people to public acute and private hospitals, CNAHS, 2003/04

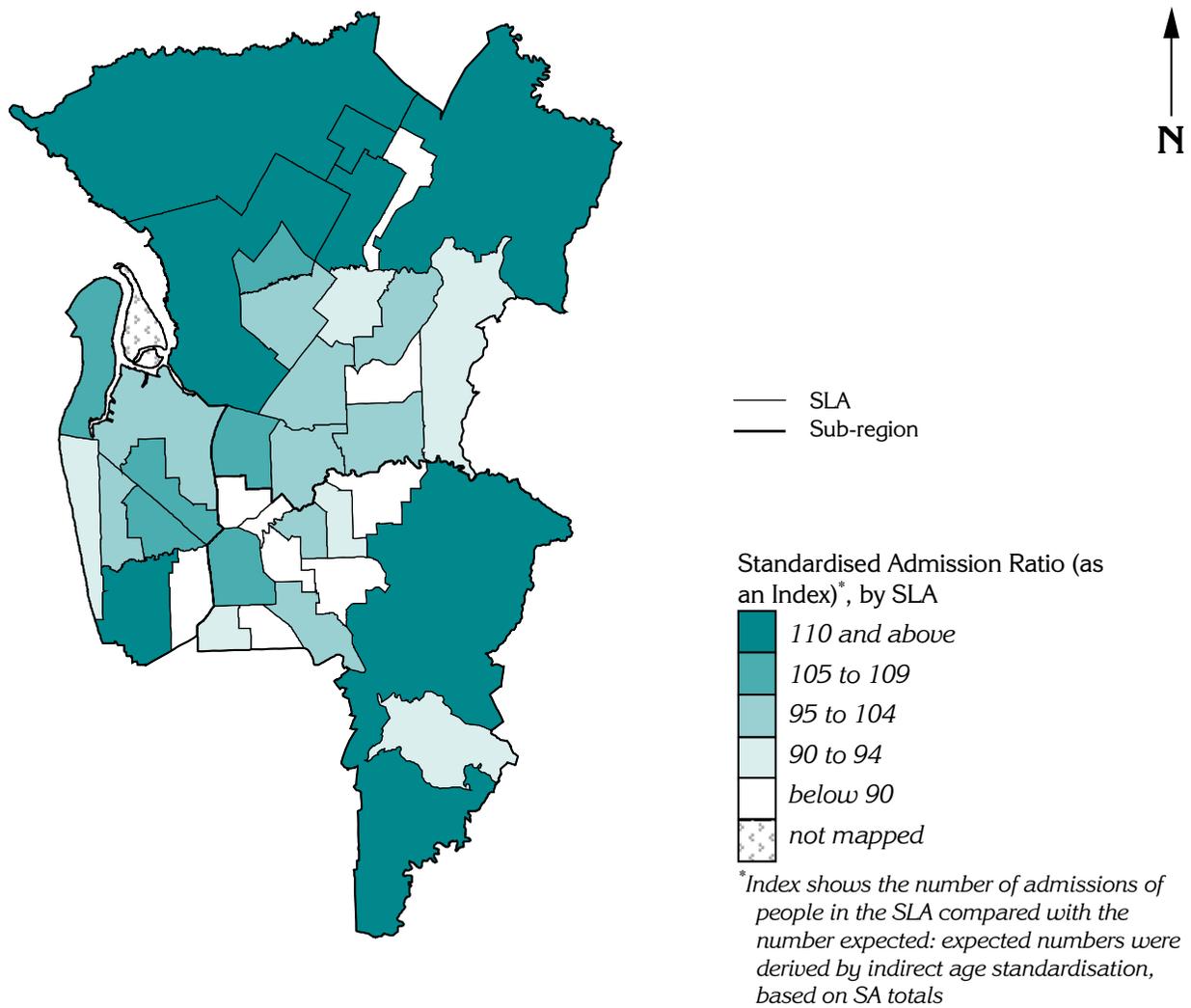


Table 90: Admissions of people to public acute and private hospitals, 2003/04

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	46,176	93**
Quintile 2	41,740	87**
Quintile 3	58,500	98**
Quintile 4	48,614	101**
Quintile 5: most disadvantaged areas	59,997	109**
Rate ratio	..	1.18**
Northern	106,297	101**
Western	77,313	102**
Central East	71,417	90**
CNAHS	255,027	98**
Southern	113,114	101**
Metropolitan regions	368,141	99**
State total	514,985	100

* indicates statistical significance: see page 19

Hospital admissions: admissions of people to public acute hospitals

Admission to public acute hospitals in South Australia of residents of the CNAHS: includes same day admissions, other than for renal dialysis: data from 2003/04

Overview

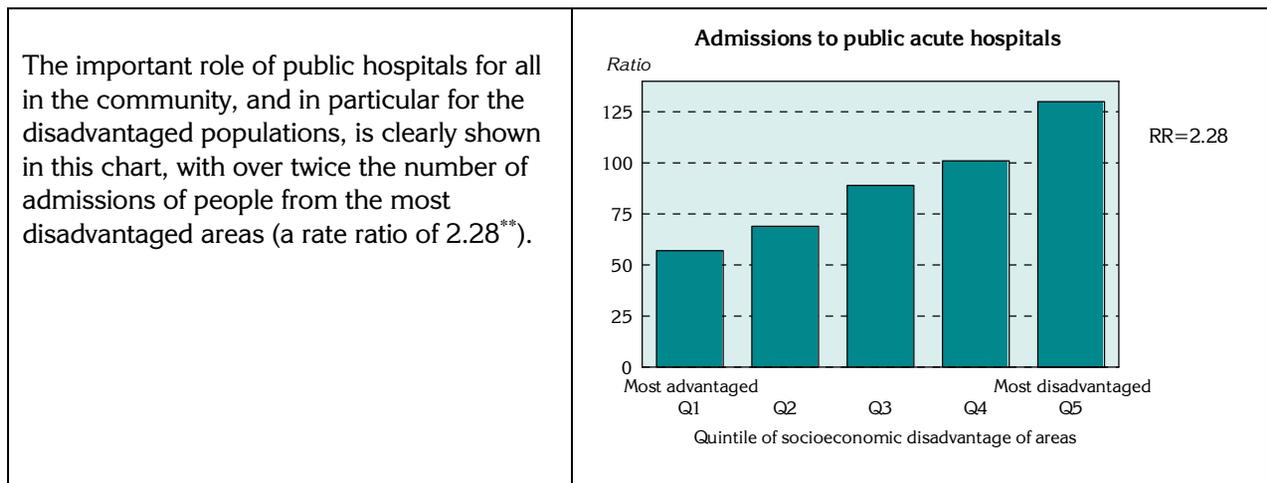
Patients are usually admitted to public acute hospitals either as an emergency or as a booked admission. Emergency admission patients are admitted through the A & E Department. These are seriously injured or ill patients who need immediate treatment. Most patients come into public acute hospitals as a booked admission, either as a day patient or an inpatient.

Residents of the Central Northern region had ten per cent fewer public acute hospital admissions than expected from the State rates (a standardised admission ratio (SAR) of 90**, 150,520) (Table 91). This near-average ratio is comprised of both highly elevated and very low ratios, over a range from 79% above average (Salisbury Balance) to 61% below average (Burnside - North-East). The map (Map 89) shows a striking separation between areas with the highest and those with the lowest ratios. Just as striking is a comparison with the map of socioeconomic disadvantage (Map 23, page 113).

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



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 89: Admissions of people to public acute hospitals, CNAHS, 2003/04

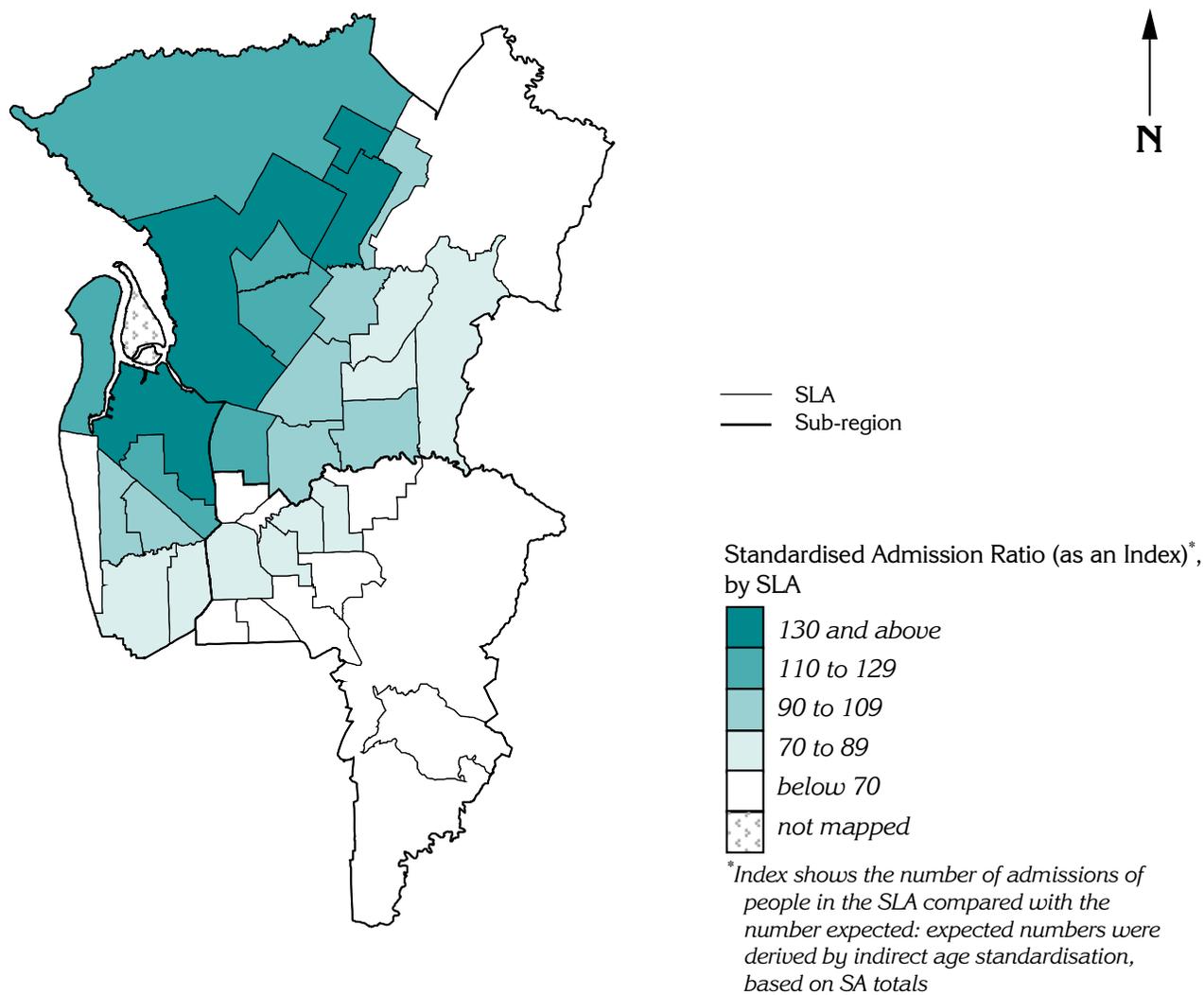


Table 91: Admissions of people to public acute hospitals, 2003/04

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	18,023	57**
Quintile 2	21,227	69**
Quintile 3	34,016	89**
Quintile 4	30,931	101
Quintile 5: most disadvantaged areas	46,323	130**
Rate ratio	..	2.28**
Northern	71,716	106**
Western	47,251	97**
Central East	31,553	63**
CNAHS	150,520	90**
Southern	63,240	88**
Metropolitan regions	213,760	90**
State total	329,441	100

* indicates statistical significance: see page 19

Hospital admissions: admissions of people to private hospitals

Admission to private hospitals in South Australia of residents of the CNAHS: includes same day admissions, other than for renal dialysis: data from 2003/04

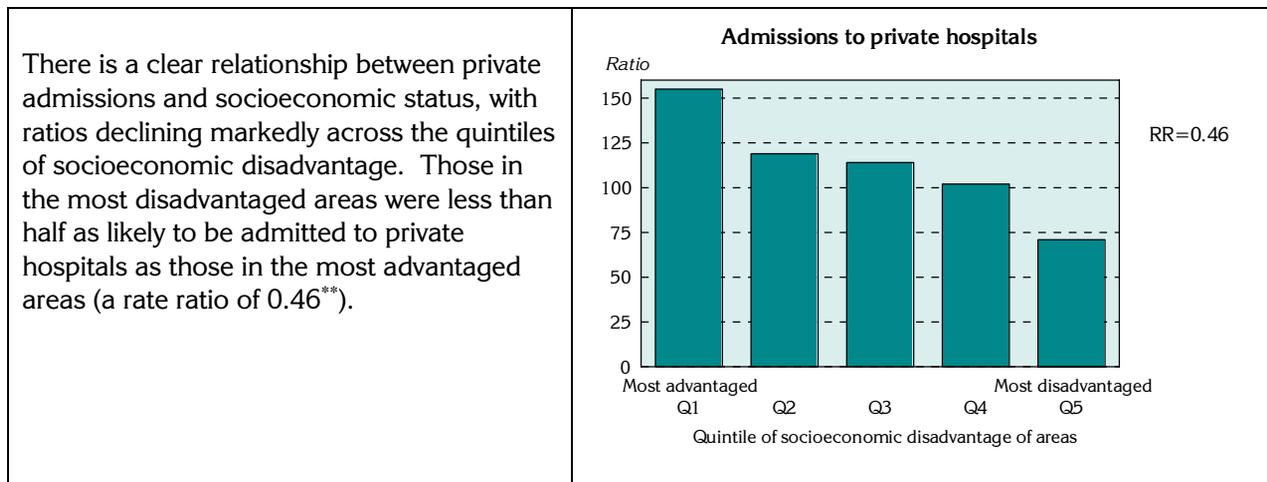
Overview

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.

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) (Table 92). The highest rate of use of private hospitals was mapped (Map 90) in one SLA in the outer north-east (Playford - Hills), in the city and adjacent inner SLAs, as well as throughout SLAs to the east, south-east and outer west.

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 admissions). Other SLAs with very highly to highly elevated ratios included Adelaide Hills - Ranges (237**, 2,781), Burnside - South-West (175**, 5,095), West Torrens - West (171**, 6,898), Adelaide Hills - Central (161**, 2,426), Unley - West (152**, 3,186), Burnside - North-East (147**, 4,332) and Walkerville (147**, 1,454). Highly elevated ratios were also mapped in Charles Sturt - Coastal (an SAR of 135**, 5,806 admissions), Norwood Payneham and St Peters - East (134**, 3,035), Unley - East (133**, 3,318), Adelaide (132**, 2,218), Salisbury Balance (125**, 732), Norwood Payneham and St Peters - West (122**, 2,701), Campbelltown - East (120**, 4,088), Tea Tree Gully - North (120**, 3,219) and - Hills (119**, 1,772), 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 (an SAR of 26**, 327 admissions). Other SLAs with low SARs included Playford - East Central (an SAR of 38**, 718 admissions), 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).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 90: Admissions of people to private hospitals, CNAHS, 2003/04

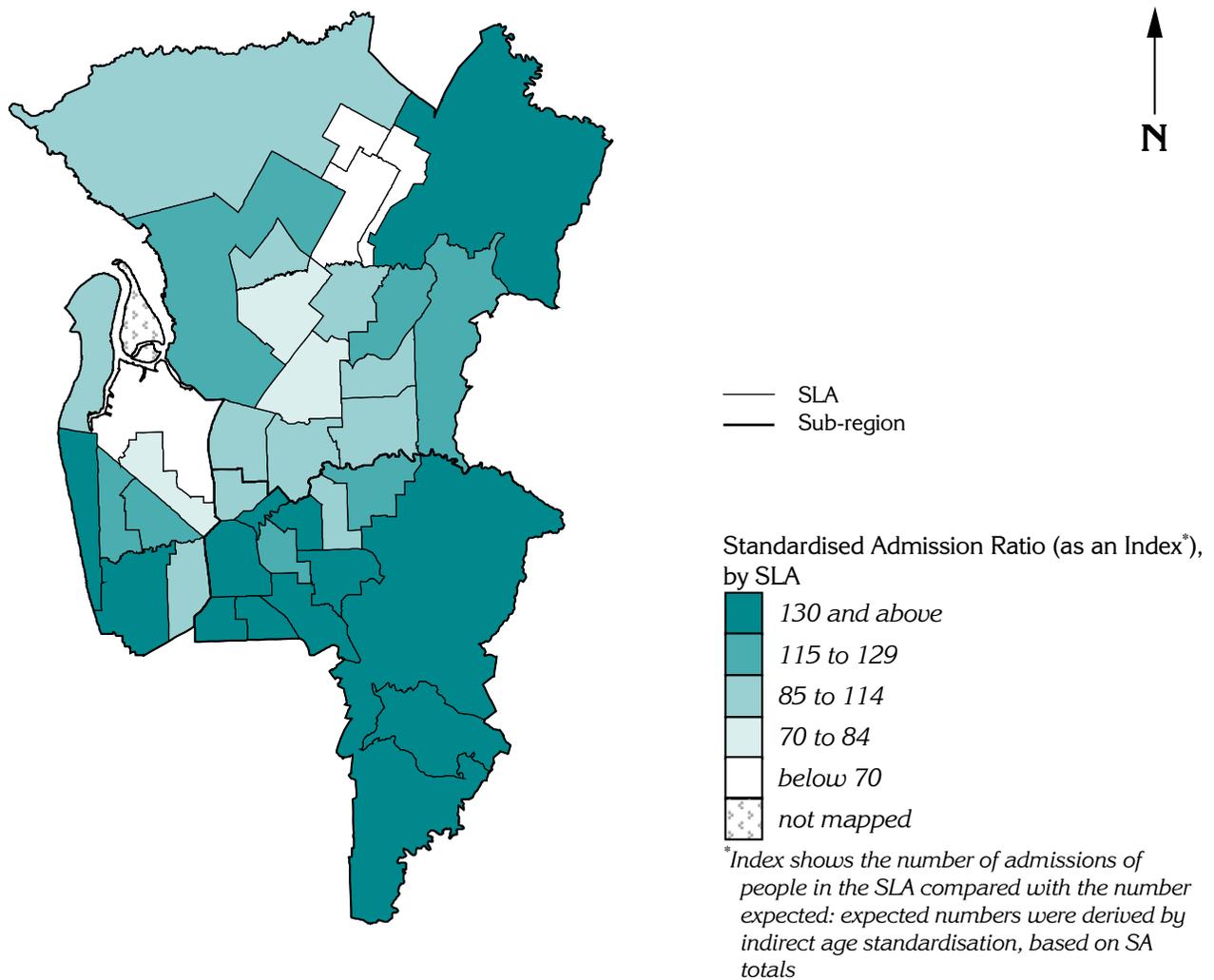


Table 92: Admissions of people to private hospitals, CNAHS, 2003/04

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	28,153	155**
Quintile 2	20,513	119**
Quintile 3	24,484	114**
Quintile 4	17,683	102**
Quintile 5: most disadvantaged areas	13,674	71**
Rate ratio	..	0.46**
Northern	34,581	93**
Western	30,062	109**
Central East	39,864	139**
CNAHS	104,507	112**
Southern	49,874	123**
Metropolitan regions	154,381	115**
State total	185,544	100

* indicates statistical significance: see page 19

Hospital Admissions: admissions of males

Admission to hospital of male residents of the CNAHS: includes same day admissions, other than for renal dialysis: data from 2003/04

Overview

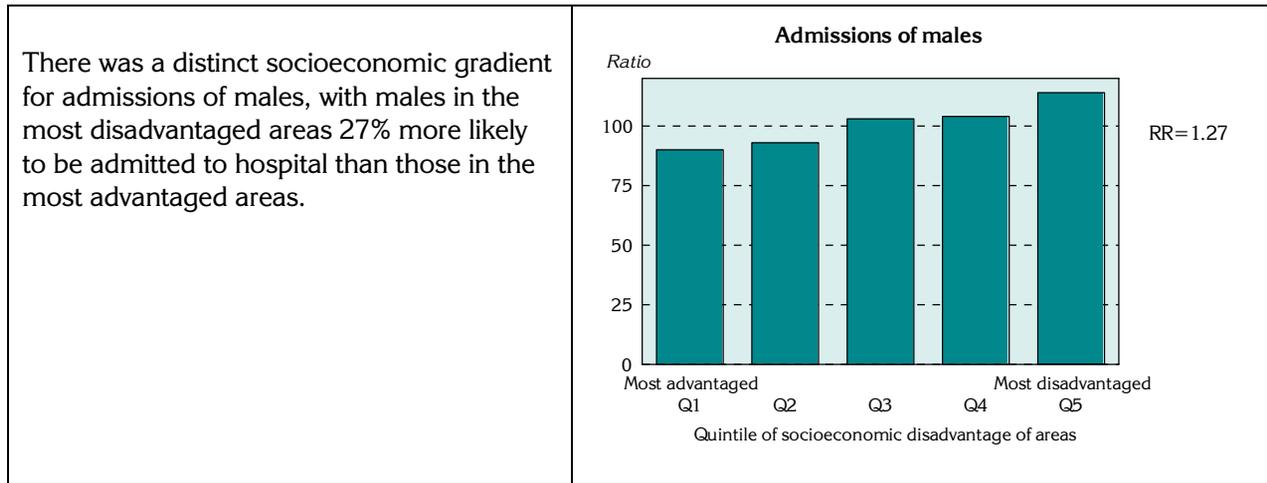
See note to earlier variables.

There were 134,863 admissions of males living in Central Northern, two per cent fewer than expected from the State rates (a standardised admission ratio (SAR) of 101**) (Table 93). SARs in the region ranged from 41% above to 30% below the State average. There was no consistent pattern of high rates of male admissions to hospital in the Central Northern region. The most highly elevated ratios were mapped in a number of SLAs, generally in outer areas (Map 91).

The most highly elevated ratios were in Salisbury Balance (an SAR of 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 an SAR of (70**, 1,710 admissions), Prospect (71**, 1,974), West Torrens - East (79**, 2,934), 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).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 91: Admissions of males, CNAHS, 2003/04

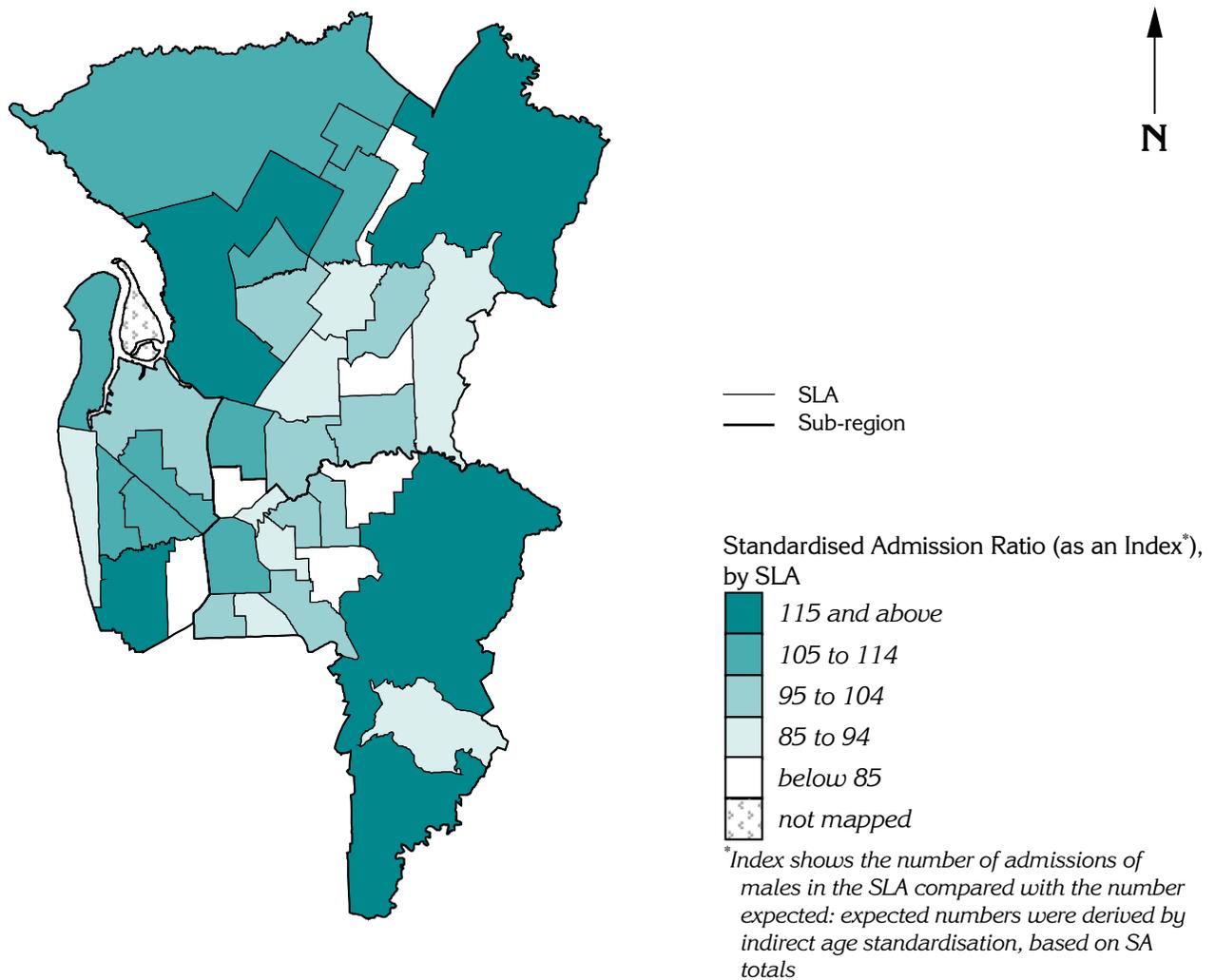


Table 93: Admissions of males, CNAHS, 2003/04

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	20,136	93**
Quintile 2	18,742	87**
Quintile 3	26,206	99
Quintile 4	21,663	100
Quintile 5: most disadvantaged areas	26,257	107**
Rate ratio		1.15
Northern	46,591	99**
Western	35,077	103**
Central East	31,336	91**
CNAHS	113,004	98**
Southern	50,201	101
Metropolitan regions	163,205	99**
State total	232,461	100

* indicates statistical significance: see page 19

Hospital Admissions: admission of females

Admission to hospital of female residents of the CNAHS: includes same day admissions, other than for renal dialysis: data from 2003/04

Overview

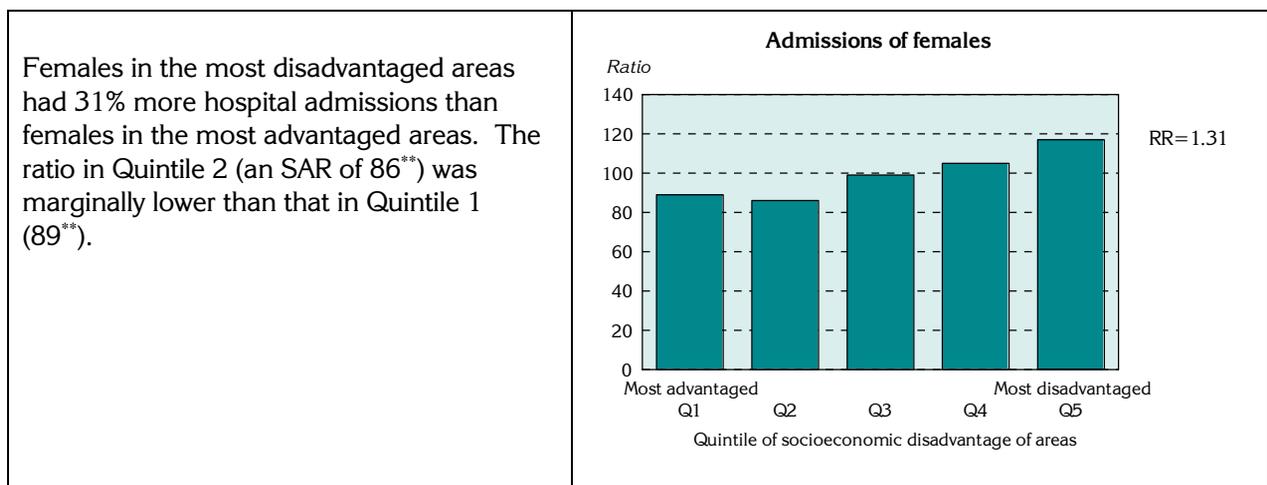
See note to earlier variables.

There were 155,846 admissions of females from the Central Northern region, two per cent fewer than expected (an SAR of 100) (Table 94). SARs in the region ranged from a highly elevated 83% above the State average, to 30% below. The most highly elevated ratios for admissions of females were mapped in the outer SLAs of the region, in the east, west and north. Below average ratios were mapped in the north-east and inner city SLAs (Map 92).

The most highly elevated ratio was in Playford - Hills (an SAR of 183**, 851 admissions), followed by Salisbury Balance (178**, 1,636), Adelaide Hills - Ranges (127**, 2,117), Playford - Elizabeth (124**, 6,025) and Playford - West Central (116**, 2,306). SLAs with 10% 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, an SAR of 101), Salisbury - South-East (6,181, 99), Port Adelaide Enfield - East (5,932, 105**), Charles Sturt - Coastal (5,744, 91**) and Charles Sturt - North-East (5,331, 107**).

A number of SLAs in the region had fewer admissions of females than expected from the State rates, including Prospect (70**, 2,555), Playford - East Central (an SAR of 76**, 2,360 admissions), 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 and St Peters - West (88**, 3,189) and Unley - East (88**, 3,667).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 92: Admission of females, CNAHS, 2003/04

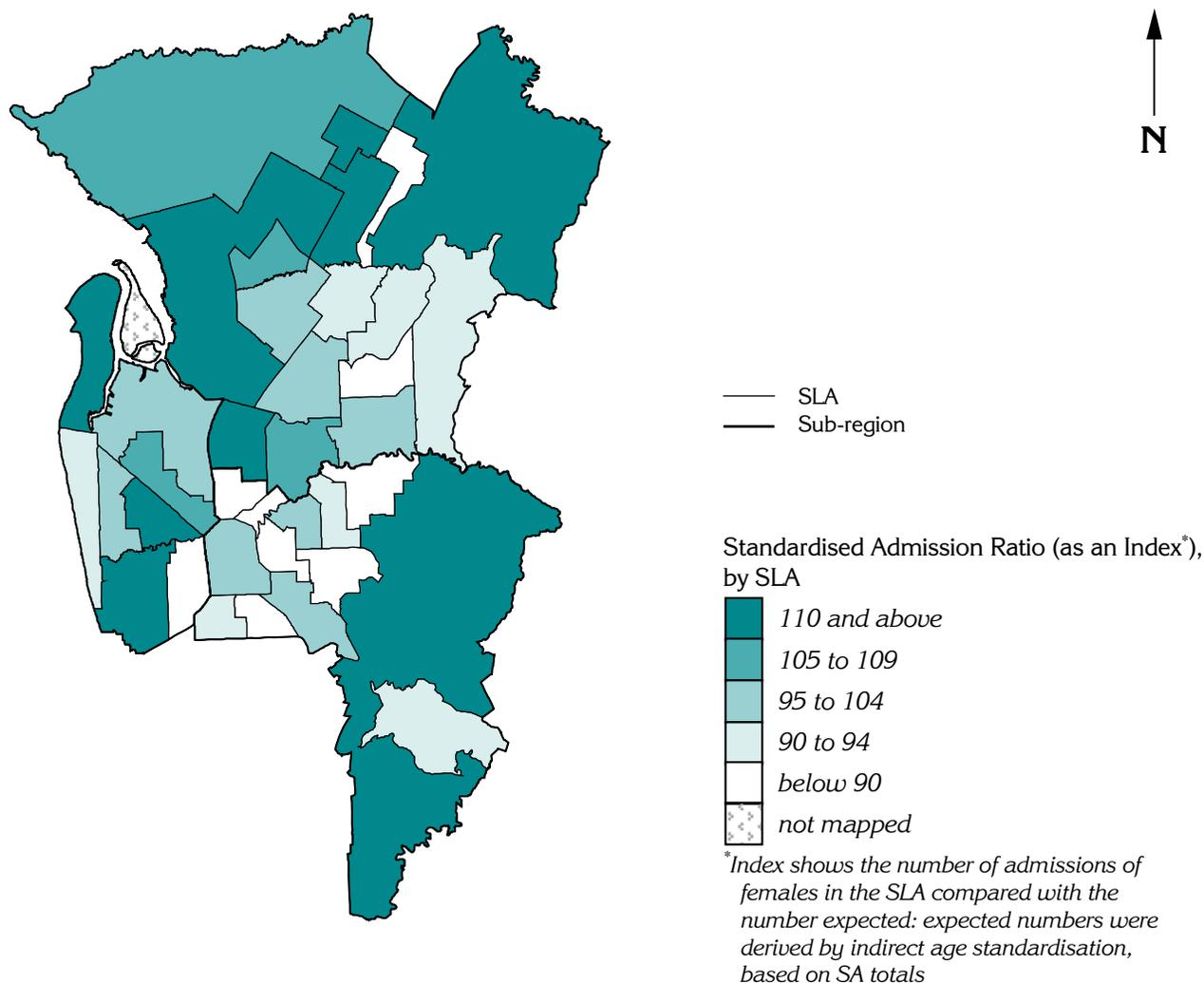


Table 94: Admission of females, CNAHS, 2003/04

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	26,040	93**
Quintile 2	22,998	87**
Quintile 3	32,294	97**
Quintile 4	26,951	102**
Quintile 5: most disadvantaged areas	33,740	111**
Rate ratio		1.20
Northern	59,706	103**
Western	42,236	101
Central East	40,081	90**
CNAHS	142,023	98**
Southern	62,913	101*
Metropolitan regions	204,936	99**
State total	282,524	100

* indicates statistical significance: see page 19

Hospital Admissions: admissions for myringotomy

Admission of children, living in the CNAHS, for a myringotomy: data from 2003/04

Overview

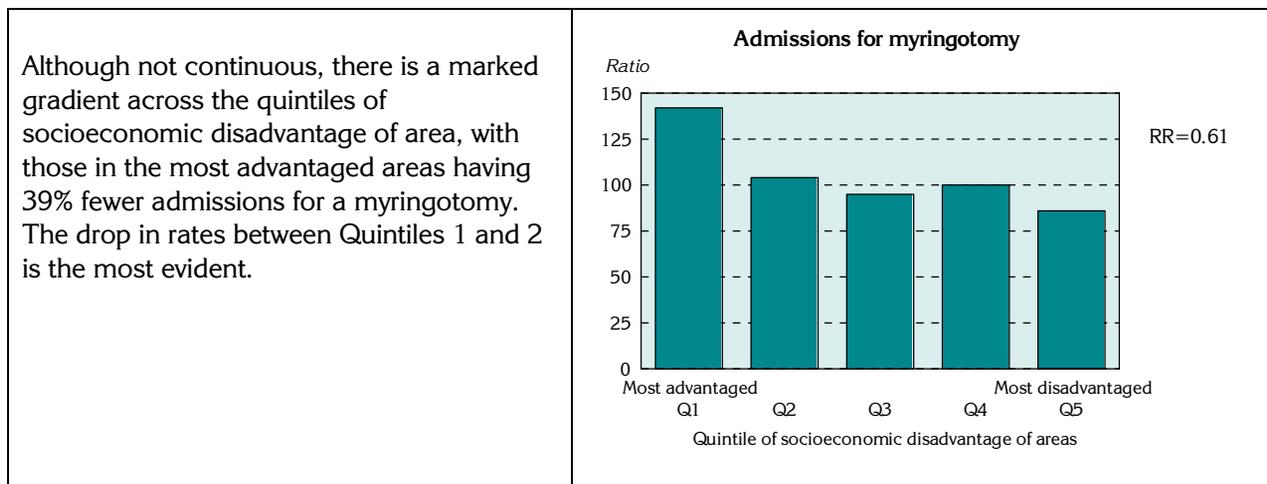
A myringotomy (incision into the eardrum, or tympanic membrane) is usually performed to relieve pressure and allow for drainage of fluid in the middle ear. Ventilation is maintained by putting a small tube (or grommet) into the incision.

The 1,434 admissions for myringotomy of children from Central Northern was slightly above the State average, a standardised admission ratio (SAR) of 103 (Table 95). A number of SLAs had highly elevated ratios: these were generally located in the outer north, as well as in a number of SLAs adjacent to the city, and to the east and south-east (Map 93).

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), Prospect (123, 41), Norwood Payneham and St Peters - East (116, 28), Tea Tree Gully - South (116, 66), 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 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, 8), Port Adelaide Enfield - Coast (86, 44) and Campbelltown - West (89, 28).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 93: Admissions of children aged 0 to 9 years for a myringotomy, CNAHS, 2003/04

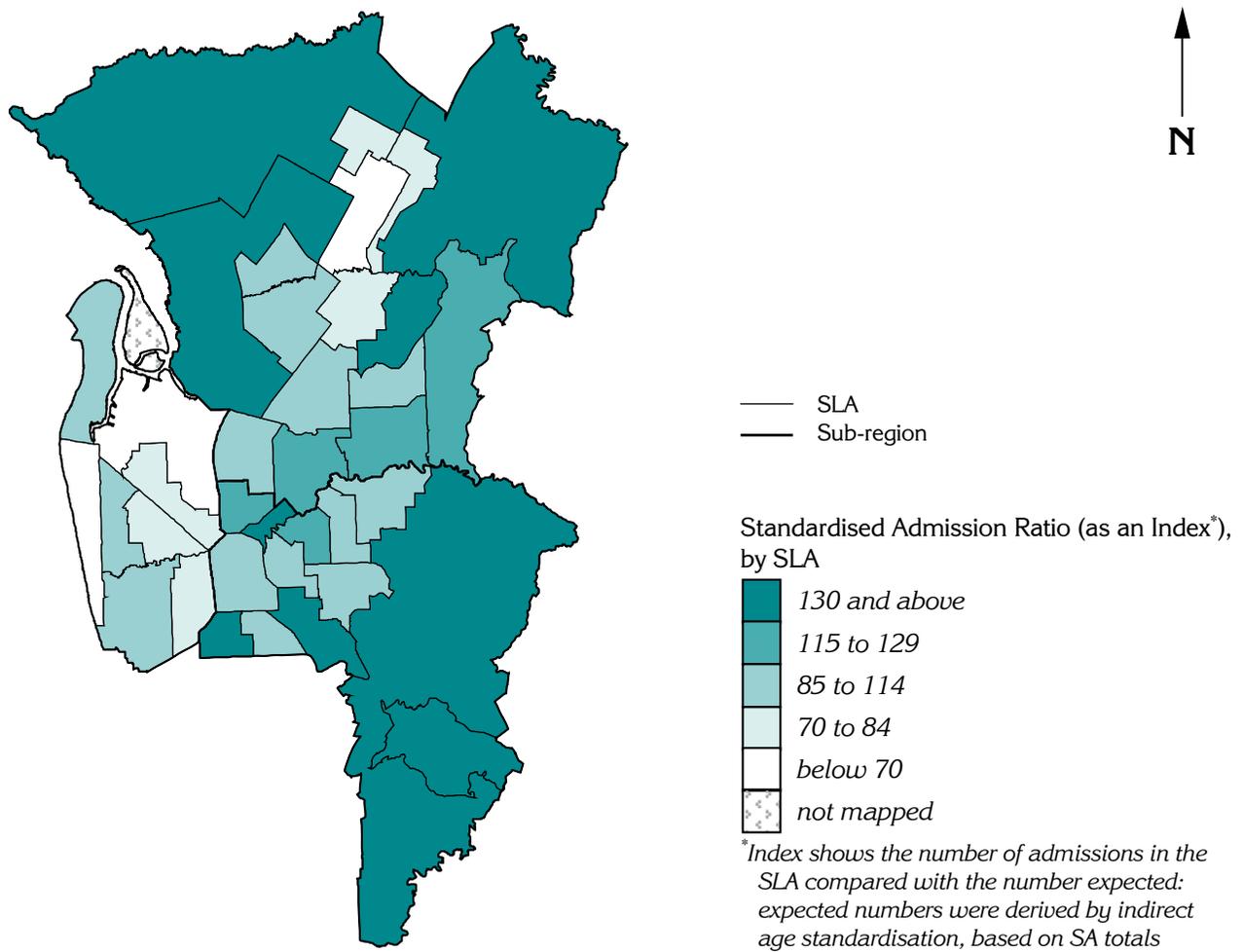


Table 95: Admissions of children aged 0 to 9 years for a myringotomy, CNAHS, 2003/04

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	313	142**
Quintile 2	256	104
Quintile 3	285	95
Quintile 4	260	100
Quintile 5: most disadvantaged areas	320	86**
Rate ratio	..	0.61**
Northern	749	105
Western	280	80**
Central East	405	121**
CNAHS	1,434	103
Southern	659	112**
Metropolitan regions	2,093	106*
State total	2,854	100

* indicates statistical significance: see page 19

Hospital Admissions: Admissions for Caesarean section

Admission of females aged 15 to 44 years, living in the CNAHS, for a Caesarean section: data from 2003/04

Overview

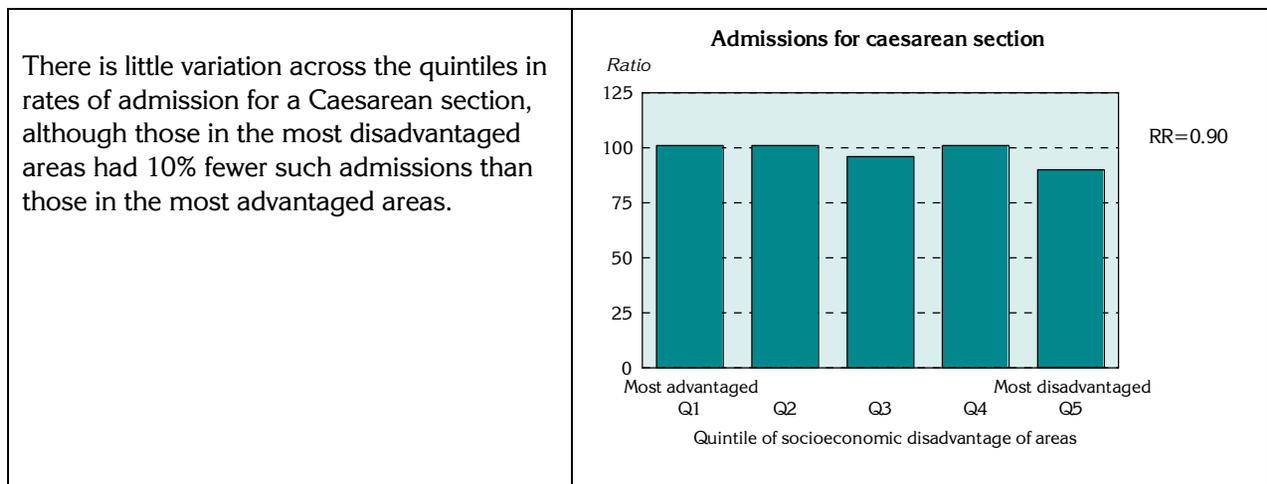
A Caesarean section is a surgical procedure where an incision (a cut) is made through the abdomen and uterus to deliver the baby. A Caesarean section is usually performed when it is safer for the mother or the baby than a vaginal delivery or a vaginal delivery is not possible. In other cases, a woman 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 ⁸⁷.

There were fewer admissions for Caesarean section, than expected from the State rates, in Central Northern (a standardised admission ratio (SAR) of 97, 2,600 admissions) (Table 96). None of the ratios was highly elevated, with the highest ratios primarily in SLAs located to the south-east of the city and in the northern suburbs (Map 94).

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 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 (an SAR of 65**, 58 admissions), Walkerville (80, 13), Norwood Payneham and St Peters - East (80, 44), Playford - Hills (80, 12), Charles Sturt - North-East (87, 99), Salisbury Balance (88, 42), Playford - West Central (88, 53) and - West (89, 26) and Port Adelaide Enfield - Inner (89, 73).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 94: Admissions of females aged 15 to 44 years for a Caesarean section, CNAHS, 2003/04

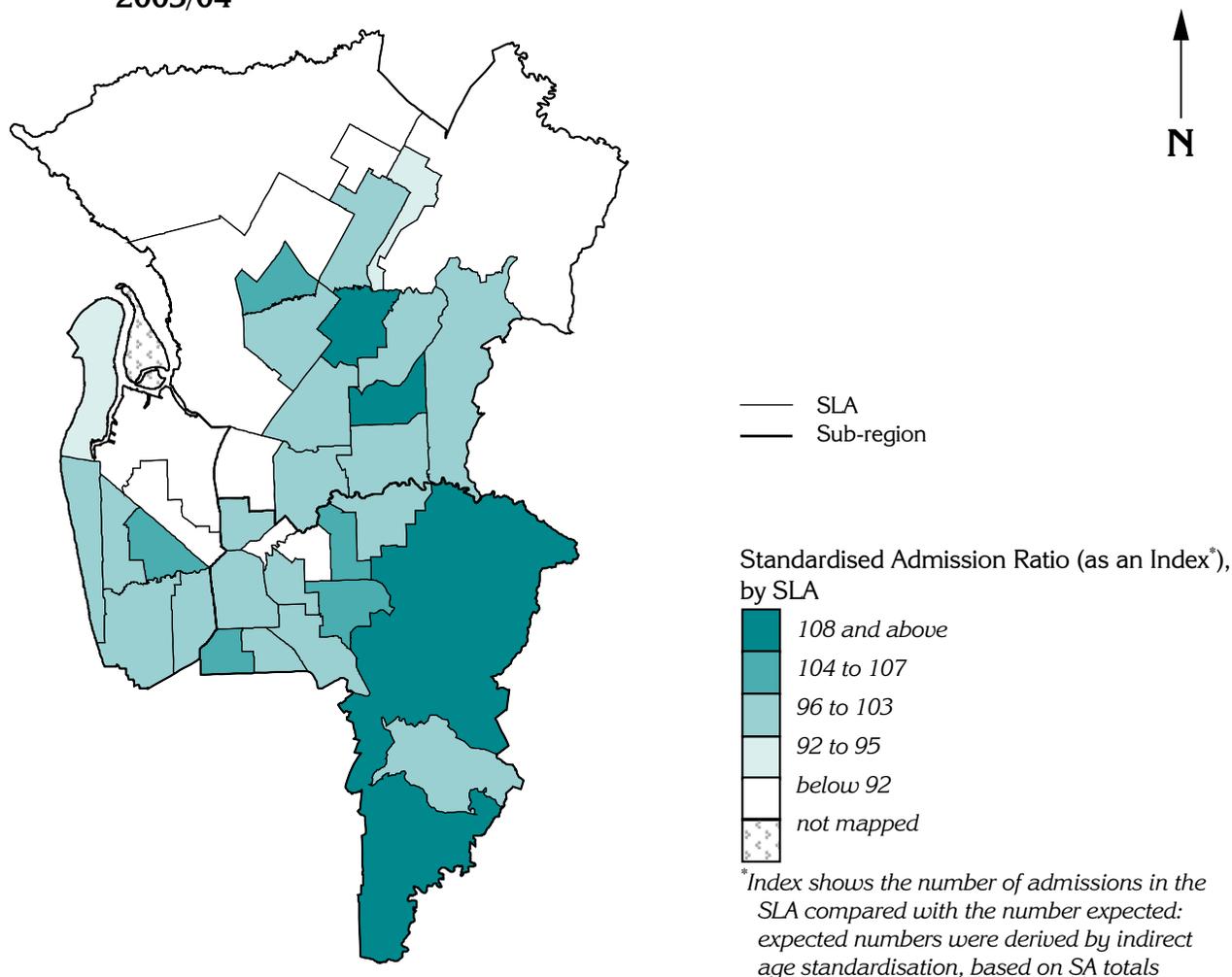


Table 96: Admissions of females aged 15 to 44 for a Caesarean section, CNAHS, 2003/04

Area	Number of admissions	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	467	101
Quintile 2	458	101
Quintile 3	547	96
Quintile 4	498	101
Quintile 5: most disadvantaged areas	630	90*
Rate ratio	..	0.90
Northern	1,256	98
Western	630	92**
Central East	714	100
CNAHS	2,600	97
Southern	1,181	113**
Metropolitan regions	3,781	101
State total	5,167	100

* indicates statistical significance: see page 19

Hospital Admissions: Admissions for a hysterectomy

Admission of females aged 15 to 44 years, living in the CNAHS, for a hysterectomy: data from 2003/04

Overview

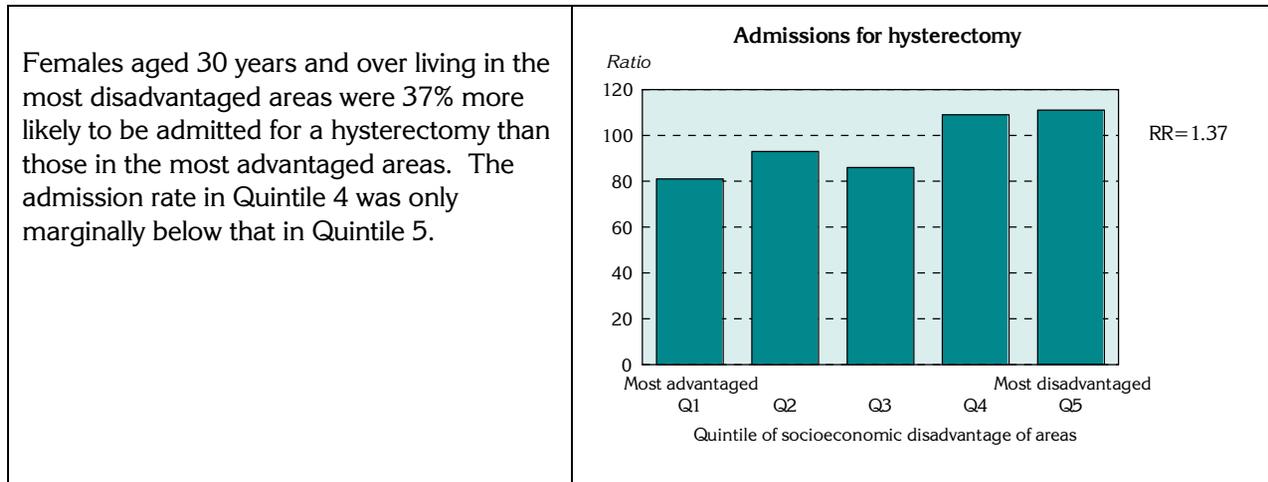
A hysterectomy is a surgical procedure to remove a woman’s uterus (or womb) and the cervix. Hysterectomies may be performed through a vaginal (37%) or abdominal (45%) incision (cut) or using laparoscopic (keyhole) surgery (18%)⁸⁸.

The SAR was lower than expected in Central Northern, with five per cent fewer admissions (a standardised admission ratio (SAR) of 95, 1,337 admissions). The majority of the outer northern SLAs were elevated (Map 95). The northern sub-region had a much higher SAR (117^{**}) compared to the other subregions (87^{**} in western and 77^{**} in eastern) (Table 97).

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 a hysterectomy were recorded for Port Adelaide Enfield - Coast (58 admissions, an SAR of 103), Tea Tree Gully - North (56, 105), Salisbury - Central (48, 99) and Campbelltown - East (48, 92).

A large number of SLAs in this region had fewer admissions for a hysterectomy than expected from the State rates. These included Prospect (51^{**}, 18), West Torrens - East (57^{**}, 23), Burnside - North-East (60^{**}, 26), Norwood Payneham and 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, 10), Norwood Payneham and 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).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 95: Admissions of females aged 30 years and over for a hysterectomy, CNAHS, 2003/04

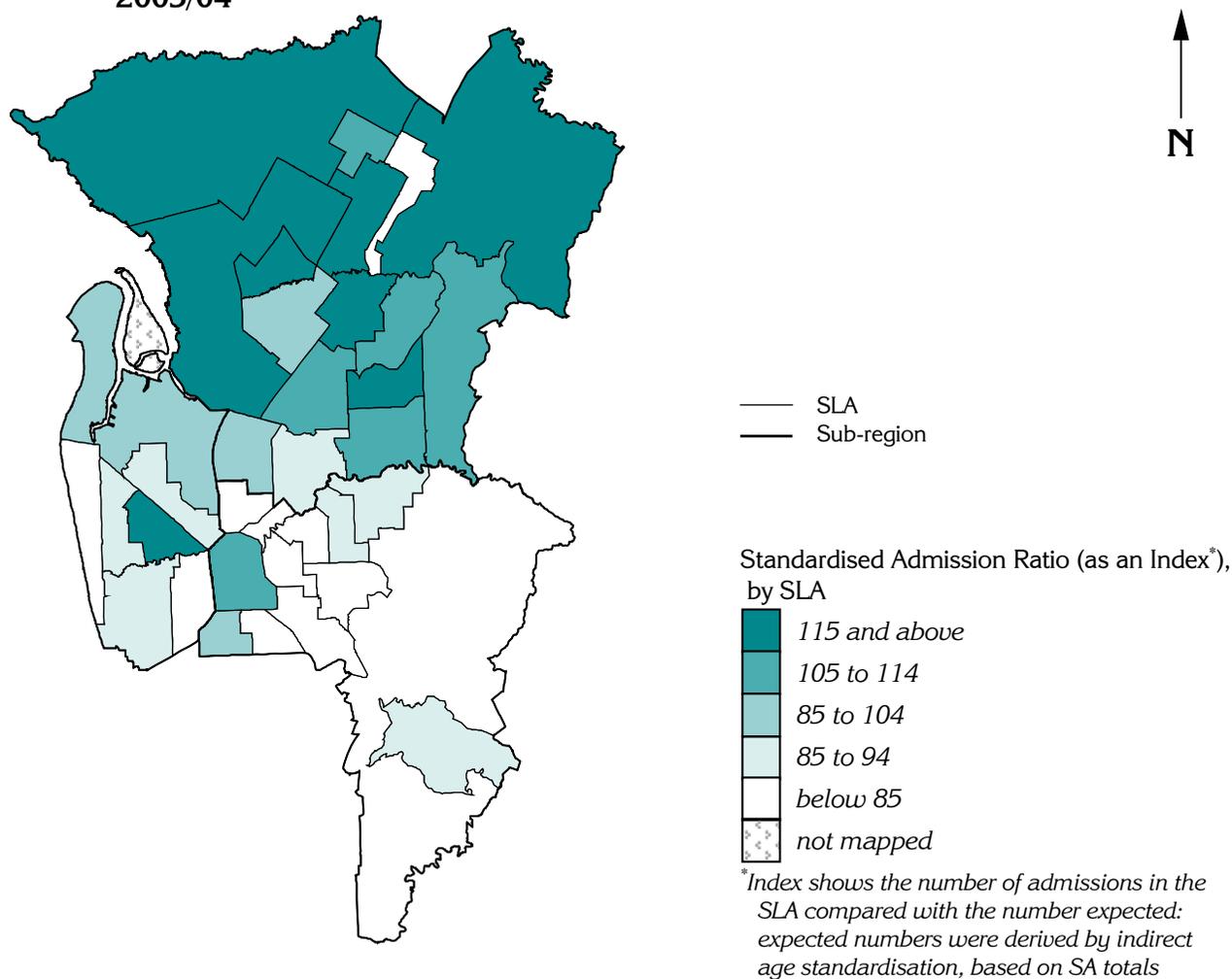


Table 97: Admissions of females aged 30 years and over for a hysterectomy, CNAHS, 2003/04

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	226	81**
Quintile 2	253	93
Quintile 3	263	86*
Quintile 4	278	109
Quintile 5: most disadvantaged areas	317	111
Rate ratio	..	1.37**
Northern	673	113**
Western	342	88**
Central East	322	76**
CNAHS	1,337	95
Southern	648	104
Metropolitan regions	1,985	98
State total	2,795	100

* indicates statistical significance: see page 19

Hospital booking lists: People waiting for more than six months

People from the CNAHS on a booking list for elective surgery at public acute hospital who have been waiting for more than six months, June 2004

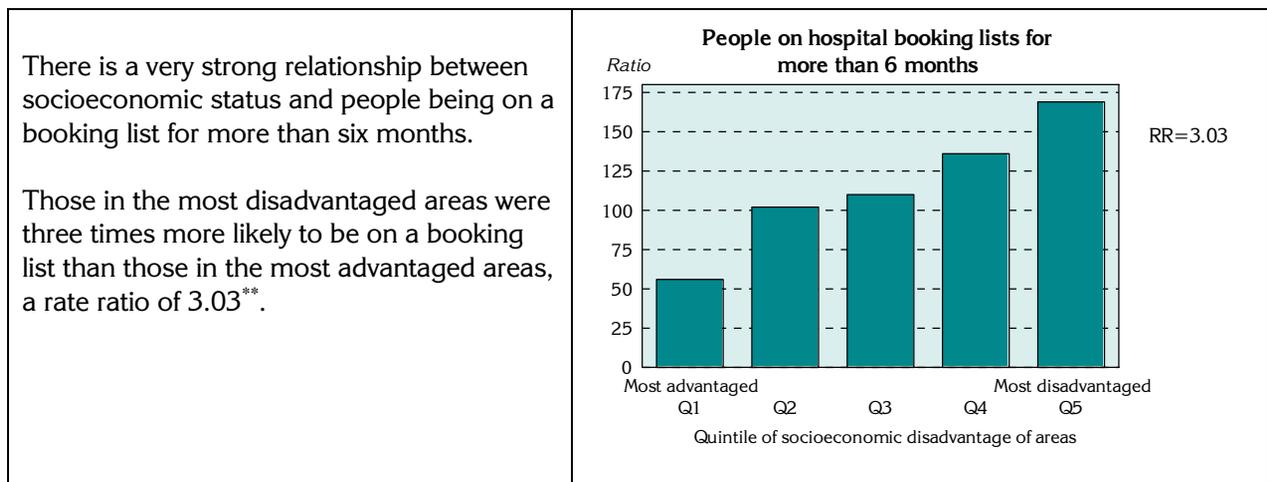
Overview

Each of the major metropolitan public acute hospitals 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 list of more than one hospital.

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 (SR) of 115**) (Table 98). The map (Map 96) and the correlation analysis shows there is a very strong association at the SLA level between being on a booking list for more than six months, and socioeconomic disadvantage. 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, people in the Salisbury SLAs of - South-East and - Central were 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.

Highly elevated ratios were recorded for people in the outer northern SLAs of Playford - Elizabeth (an SR195**, 114 people), Salisbury - South-East (191**, 153), Salisbury - Central (188**, 113), Playford - West Central (184**, 47), Playford - East Central (140*, 56), Salisbury - 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 (an SR of 168**, 103 people), - 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 (an SR of 35**, ten people), Burnside - North-East (40**, 21), Burnside - South-West (42**, 21), Unley - East (42**, 20), Adelaide Hills - Ranges (50*, 11), Walkerville (56, 10) and Norwood Payneham and St Peters - West (67*, 28).



Note: In the chart, Q1 to Q5 are groupings of areas (quintiles), where Q1 represents the most socioeconomically advantaged 20% of the population and Q5 represents the most socioeconomically disadvantaged 20%.

Map 96: Hospital booking lists: People waiting for more than six months, CNAHS, 30 June, 2004

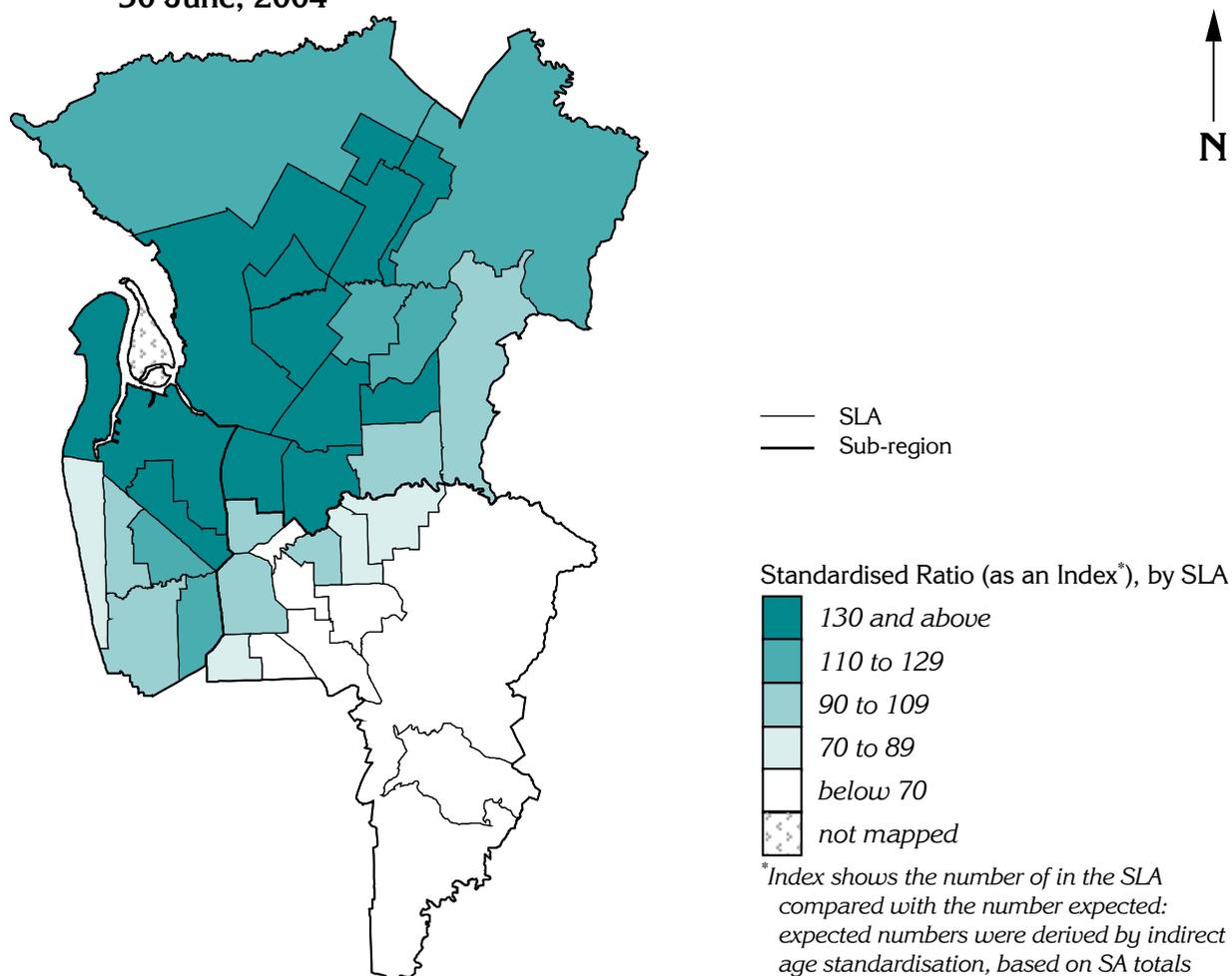


Table 98: Hospital booking lists: People waiting for more than six months, CNAHS, 30 June, 2004

Area	Number	Standardised ratio
CNAHS		
Quintile 1: most advantaged areas	187	56**
Quintile 2	341	102
Quintile 3	444	110
Quintile 4	451	136
Quintile 5: most disadvantaged areas	637	169**
Rate ratio	..	3.03**
Northern	1,097	148**
Western	604	118**
Central East	359	67**
CNAHS	2,060	115**
Southern	963	127**
Metropolitan regions	3,055	118**
State total	3,519	100

* indicates statistical significance: see page 19

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CORRELATION ANALYSIS

A correlation analysis has been undertaken to illustrate the extent of association at the SLA level between the indicators of demography, socioeconomic status, health status and use of services.

Description

Correlation is the degree to which one variable is statistically associated with another. The correlation coefficient is a measure of the strength of this association. When high values for one variable are matched by high values for the other (or when low values are matched by low values), then they are positively correlated. Where the interdependence is inverse (ie. high values for one are matched by low values for the other), the two variables are negatively correlated.

Methods

The Pearson product-moment correlation (r) has been used in this analysis to indicate the degree of correlation between pairs of variables. Pearson correlation coefficients range from +1 (complete positive correlation) through 0 (complete lack of correlation) to -1 (complete negative correlation). As a general rule, correlations of plus or minus 0.5 or above are considered to be of meaningful statistical significance (referred to in the text as 'strong'). Correlations of plus or minus 0.71 or above are of substantial statistical significance, because this higher value represents at least 50 per cent shared variation (r^2 greater than or equal to 0.5): these are referred to as being 'very strong' correlations.

Correlation coefficients were calculated by comparing the value (expressed as a percentage or as a standardised ratio) for each variable in each SLA with the value of each of the other variables. Correlation coefficients are generally referred to as being, for example, 'a correlation of low income families with the *paired* variable of hospital admissions of females'. However, to promote ease of reading where many correlation coefficients are quoted in the text, the word 'paired' has been omitted. For similar reasons the symbol used to indicate a correlation coefficient (r) has been omitted.

The results of the correlation analysis are shown in the following tables: coefficients of from 0.5 to 0.7 and from 0.71 to 1 (both positive and negative) are highlighted in the tables.

The indicators of infant mortality and the Burden of Disease are not included as they were not calculated for SLAs. Two indicators of high socioeconomic status have also been included: high income families and managers and administrators, and professionals.

Results

The results of the correlation analysis for SLAs in the Central Northern Area Health Service Region show strong or very strong associations between a number of the demographic, health status and health service utilisation indicators (Table 99). Generally, indicators within separate sections of the atlas tended to be correlated more often with each other. This is to be expected, as the indicators are grouped according to themes and the sections are based on these themes. However, there were also many strong or very strong correlations between the sections.

In addition to very strong correlations between many of the demographic and socioeconomic indicators, there were strong or very strong correlations with: perinatal outcomes; premature and avoidable mortality; community based services; home and community care; GP services; and Accident and Emergency and outpatient department attendances.

In addition, premature and avoidable mortality were strongly or very strongly correlated with income support payments and the perinatal indicators. Participation in cervical screening, GP services (to females and, in particular, males) and admissions to public acute hospitals were also very strongly or strongly correlated with income support payments and perinatal indicators.

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Table 99: Correlation matrix for SLAs in the CNAHS

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37	V38	V39		
V1	1.00	0.83	-0.09	-0.62	0.87	0.65	0.47	-0.59	0.54	0.48	0.81	-0.76	-0.65	-0.53	-0.79	-0.73	-0.71	0.53	-0.19	-0.53	-0.01	0.39	0.01	-0.24	-0.53	-0.64	0.66	0.35	0.76	0.42	0.60	0.70	0.67	0.23	0.71	0.05	0.00	0.29	0.09	V1	
V2	0.83	1.00	-0.17	-0.75	0.81	0.32	0.13	-0.29	0.21	0.17	0.57	-0.52	-0.38	-0.24	-0.64	-0.56	-0.48	0.20	-0.32	-0.76	-0.22	0.10	-0.36	-0.62	-0.18	-0.32	0.43	0.01	0.55	0.09	0.36	0.44	0.47	-0.05	0.51	0.09	-0.12	0.07	0.18	V2	
V3	-0.09	-0.17	1.00	-0.37	-0.25	0.05	-0.20	0.19	0.04	0.15	-0.03	0.18	-0.12	-0.35	0.06	0.16	-0.11	0.05	-0.25	0.48	-0.15	-0.06	0.45	0.14	0.15	0.03	-0.16	-0.09	-0.08	0.04	-0.10	0.02	0.08	0.12	-0.03	-0.50	0.07	-0.34	-0.60	V3	
V4	-0.62	-0.75	-0.37	1.00	-0.44	-0.10	0.19	-0.01	0.01	0.01	-0.33	0.31	0.17	0.23	0.46	0.30	0.37	-0.05	0.47	0.43	0.32	0.17	0.18	0.65	-0.07	0.08	-0.37	0.22	-0.25	0.11	-0.12	-0.23	-0.28	0.08	-0.35	0.02	0.12	0.12	0.15	V4	
V5	0.87	0.81	-0.25	-0.44	1.00	0.68	0.56	-0.64	0.62	0.59	0.80	-0.69	-0.71	-0.52	-0.78	-0.76	-0.71	0.63	-0.19	-0.56	-0.03	0.53	-0.06	-0.14	-0.53	-0.67	0.55	0.46	0.85	0.54	0.70	0.67	0.65	0.31	0.75	-0.11	0.04	0.30	0.09	V5	
V6	0.65	0.32	0.05	-0.10	0.68	1.00	0.86	-0.84	0.94	0.85	0.86	-0.68	-0.91	-0.77	-0.66	-0.70	-0.73	0.91	0.12	-0.06	0.29	0.87	0.36	0.47	-0.80	-0.92	0.52	0.78	0.84	0.83	0.79	0.73	0.76	0.61	0.70	-0.33	0.20	0.37	-0.16	V6	
V7	0.47	0.13	-0.20	0.19	0.56	0.86	1.00	-0.97	0.94	0.82	0.82	-0.74	-0.87	-0.73	-0.66	-0.77	-0.71	0.85	0.41	0.05	0.53	0.87	0.41	0.57	-0.95	-0.94	0.51	0.91	0.80	0.87	0.88	0.70	0.57	0.68	0.72	-0.17	0.37	0.63	-0.09	V7	
V8	-0.59	-0.29	0.19	-0.01	-0.64	-0.84	-0.97	1.00	-0.92	-0.77	-0.91	0.87	0.89	0.74	0.77	0.85	0.78	-0.82	-0.36	0.09	-0.48	-0.78	-0.33	-0.38	0.97	0.95	-0.62	-0.85	-0.85	-0.82	-0.92	-0.72	-0.62	-0.63	-0.81	0.11	-0.33	-0.65	0.05	V8	
V9	0.54	0.21	0.04	0.01	0.62	0.94	0.94	-0.92	1.00	0.91	0.87	-0.71	-0.96	-0.84	-0.69	-0.76	-0.78	0.92	0.26	0.08	0.43	0.90	0.46	0.55	-0.89	-0.97	0.46	0.89	0.86	0.92	0.89	0.77	0.69	0.74	0.77	-0.35	0.31	0.51	-0.25	V9	
V10	0.48	0.17	0.15	0.01	0.59	0.85	0.82	-0.77	0.91	1.00	0.77	-0.55	-0.90	-0.86	-0.64	-0.70	-0.78	0.87	0.11	0.14	0.31	0.85	0.61	0.61	-0.75	-0.86	0.40	0.88	0.84	0.96	0.82	0.77	0.65	0.78	0.74	-0.54	0.38	0.42	-0.39	V10	
V11	0.81	0.57	-0.03	-0.33	0.80	0.86	0.82	-0.91	0.87	0.77	1.00	-0.90	-0.93	-0.80	-0.89	-0.89	-0.89	0.81	0.13	-0.24	0.31	0.71	0.27	0.15	-0.87	-0.94	0.65	0.73	0.92	0.77	0.90	0.80	0.78	0.61	0.90	-0.15	0.26	0.50	-0.11	V11	
V12	-0.76	-0.52	0.18	0.31	-0.69	-0.68	-0.74	0.87	-0.71	-0.55	-0.90	1.00	0.75	0.66	0.90	0.88	0.81	-0.66	-0.15	0.31	-0.26	-0.56	-0.10	-0.01	0.84	0.82	-0.74	-0.65	-0.83	-0.63	-0.84	-0.69	-0.63	-0.47	-0.88	-0.12	-0.28	-0.59	-0.06	V12	
V13	-0.65	-0.38	-0.12	0.17	-0.71	-0.91	-0.87	0.89	-0.96	-0.90	-0.93	0.75	1.00	0.90	0.79	0.82	0.84	-0.89	-0.15	0.03	-0.33	-0.84	-0.42	-0.39	0.86	0.96	-0.48	-0.82	-0.90	-0.87	-0.89	-0.80	-0.73	-0.68	-0.84	0.36	-0.33	-0.47	0.30	V13	
V14	-0.53	-0.24	-0.35	0.23	-0.52	-0.77	-0.73	0.74	-0.84	-0.86	-0.80	0.66	0.90	1.00	0.74	0.76	0.80	-0.81	0.02	-0.09	-0.17	-0.73	-0.54	-0.40	0.74	0.82	-0.43	-0.76	-0.80	-0.82	-0.78	-0.67	-0.63	-0.65	-0.81	0.49	-0.53	-0.37	0.53	V14	
V15	-0.79	-0.64	0.06	0.46	-0.78	-0.66	-0.66	0.77	-0.69	-0.64	-0.89	0.90	0.79	0.74	1.00	0.91	0.87	-0.67	0.13	0.38	-0.06	-0.55	-0.13	0.05	0.72	0.77	-0.66	-0.63	-0.89	-0.66	-0.84	-0.78	-0.75	-0.63	-0.49	-0.92	0.11	-0.36	-0.49	0.03	V15
V16	-0.73	-0.56	0.16	0.30	-0.76	-0.70	-0.77	0.85	-0.76	-0.70	-0.89	0.88	0.82	0.76	0.91	1.00	0.87	-0.75	-0.05	0.29	-0.20	-0.66	-0.23	-0.09	0.80	0.83	-0.68	-0.76	-0.90	-0.74	-0.92	-0.71	-0.64	-0.53	-0.92	0.14	-0.49	-0.56	0.14	V16	
V17	-0.71	-0.48	-0.11	0.37	-0.71	-0.73	-0.71	0.78	-0.78	-0.78	-0.89	0.81	0.84	0.80	0.87	0.87	1.00	-0.74	-0.10	0.03	-0.31	-0.62	-0.44	-0.19	0.77	0.84	-0.60	-0.74	-0.88	-0.80	-0.88	-0.78	-0.69	-0.70	-0.87	0.21	-0.36	-0.46	0.29	V17	
V18	0.53	0.20	0.05	-0.05	0.63	0.91	0.85	-0.82	0.92	0.87	0.81	-0.66	-0.89	-0.81	-0.67	-0.75	-0.74	1.00	0.06	0.03	0.23	0.90	0.42	0.53	-0.78	-0.89	0.55	0.87	0.84	0.88	0.83	0.63	0.67	0.66	0.77	-0.41	0.41	0.41	-0.31	V18	
V19	-0.19	-0.32	-0.25	0.47	-0.19	0.12	0.41	-0.36	0.26	0.11	0.13	-0.15	-0.15	0.02	0.13	-0.05	-0.10	0.06	1.00	0.47	0.93	0.21	0.26	0.41	-0.45	-0.31	0.01	0.33	-0.03	0.22	0.24	0.09	-0.05	0.37	-0.04	0.33	-0.03	0.45	-0.09	V19	
V20	-0.53	-0.76	0.48	0.43	-0.56	-0.06	0.05	0.09	0.08	0.14	-0.24	0.31	0.03	-0.09	0.38	0.29	0.03	0.03	0.47	1.00	0.50	0.09	0.66	0.67	-0.05	0.01	-0.29	0.19	-0.31	0.18	-0.10	-0.11	-0.19	0.37	-0.27	-0.22	0.18	0.04	-0.55	V20	
V21	-0.01	-0.22	-0.15	0.32	-0.03	0.29	0.53	-0.48	0.43	0.31	0.31	-0.26	-0.33	-0.17	-0.06	-0.20	-0.31	0.23	0.93	0.50	1.00	0.35	0.40	0.48	-0.59	-0.49	0.11	0.47	0.14	0.40	0.40	0.29	0.14	0.58	0.14	0.20	0.06	0.49	-0.21	V21	
V22	0.39	0.10	-0.06	0.17	0.53	0.87	0.87	-0.78	0.90	0.85	0.71	-0.56	-0.84	-0.73	-0.55	-0.66	-0.62	0.90	0.21	0.09	0.35	1.00	0.36	0.66	-0.76	-0.86	0.41	0.89	0.76	0.88	0.77	0.58	0.57	0.67	0.61	-0.35	0.43	0.40	-0.24	V22	
V23	0.01	-0.36	0.45	0.18	-0.06	0.36	0.41	-0.33	0.46	0.61	0.27	-0.10	-0.42	-0.54	-0.13	-0.23	-0.44	0.42	0.26	0.66	0.40	0.36	1.00	0.69	-0.43	-0.41	0.16	0.55	0.26	0.60	0.35	0.37	0.23	0.66	0.28	-0.41	0.38	0.25	-0.54	V23	
V24	-0.24	-0.62	0.14	0.65	-0.14	0.47	0.57	-0.38	0.55	0.61	0.15	-0.01	-0.39	-0.40	0.05	-0.09	-0.19	0.53	0.41	0.67	0.48	0.66	0.69	1.00	-0.46	-0.44	-0.01	0.68	0.21	0.66	0.32	0.22	0.16	0.61	0.10	-0.40	0.38	0.22	-0.36	V24	
V25	-0.53	-0.18	0.15	-0.07	-0.53	-0.80	-0.95	0.97	-0.89	-0.75	-0.87	0.84	0.86	0.74	0.72	0.80	0.77	-0.78	-0.45	-0.05	-0.59	-0.76	-0.43	-0.46	1.00	0.94	-0.56	-0.86	-0.78	-0.82	-0.89	-0.72	-0.61	-0.71	-0.78	0.07	-0.37	-0.70	0.11	V25	
V26	-0.64	-0.32	0.03	0.08	-0.67	-0.92	-0.94	0.95	-0.97	-0.86	-0.94	0.82	0.96	0.82	0.77	0.83	0.84	-0.89	-0.31	0.01	-0.49	-0.86	-0.41	-0.44	0.94	1.00	-0.57	-0.87	-0.88	-0.88	-0.91	-0.79	-0.73	-0.73	-0.82	0.22	-0.33	-0.56	0.20	V26	
V27	0.66	0.43	-0.16	-0.37	0.55	0.52	0.51	-0.62	0.46	0.40	0.65	-0.74	-0.48	-0.43	-0.66	-0.68	-0.60	0.55	0.01	-0.29	0.11	0.41	0.16	-0.01	-0.56	-0.57	1.00	0.51	0.62	0.46	0.60	0.37	0.36	0.32	0.64	0.08	0.22	0.38	0.03	V27	
V28	0.35	0.01	-0.09	0.22	0.46	0.78	0.91	-0.85	0.89	0.88	0.73	-0.65	-0.82	-0.76	-0.63	-0.76	-0.74	0.87	0.33	0.19	0.47	0.89	0.55	0.68	-0.86	-0.87	0.51	1.00	0.80	0.96	0.88	0.66	0.55	0.79	0.73	-0.32	0.53	0.57	-0.29	V28	
V29	0.76	0.55	-0.08	-0.25	0.85	0.84	0.80	-0.85	0.86	0.84	0.92	-0.83	-0.90	-0.80	-0.89	-0.90	-0.88	0.84	-0.03	-0.31	0.14	0.76	0.26	0.21	-0.78	-0.88	0.62	0.80	1.00	0.85	0.93	0.81	0.73	0.60	0.91	-0.26	0.31	0.42	-0.10	V29	
V30	0.42	0.09	0.04	0.11	0.54	0.83	0.87	-0.82	0.92	0.96	0.77	-0.63	-0.87	-0.82	-0.66	-0.74	-0.80	0.88	0.22	0.18	0.40	0.88	0.60	0.66	-0.82	-0.88	0.46	0.96	0.85	1.00	0.88	0.73	0.63	0.84	0.76	-0.42	0.44	0.49	-0.34	V30	
V31	0.60	0.36	-0.10	-0.12	0.70	0.79	0.88	-0.92	0.89	0.82	0.90	-0.84	-0.89	-0.78	-0.84	-0.92	-0.88	0.83	0.24	-0.10	0.40	0.77	0.35	0.32	-0.89	-0.91	0.60	0.88	0.93	0.88	1.00	0.75	0.64	0.72	0.89	-0.22	0.36	0.59	-0.19	V31	
V32	0.70	0.44	0.02	-0.23	0.67	0.73	0.70	-0.72	0.77	0.77	0.80	-0.69	-0.80	-0.67	-0.75	-0.71	-0.78	0.63	0.09	-0.11	0.29	0.58	0.37	0.22	-0.72	-0.79	0.37	0.66	0.81	0.73	0.75	1.00	0.74	0.60	0.77	-0.20	0.19	0.50	-0.05	V32	
V33	0.67	0.47	0.08	-0.28	0.65	0.76	0.57	-0.62	0.69	0.65	0.78	-0.63	-0.73	-0.63	-0.63	-0.64	-0.69	0.67	-0.0																						

Table 99: Correlation matrix for SLAs in the CNAHS ...cont

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37	V38	V39	
V40	-0.06	-0.20	0.19	0.00	-0.11	0.15	-0.03	0.05	0.03	0.05	-0.06	0.07	0.03	-0.06	0.08	0.08	0.09	0.26	-0.28	0.13	-0.29	0.14	0.10	0.21	0.08	0.02	0.34	0.09	-0.06	0.08	-0.09	-0.23	0.06	-0.01	-0.06	-0.38	0.05	-0.08	-0.18	V40
V41	0.56	0.28	0.38	-0.46	0.42	0.62	0.38	-0.44	0.54	0.54	0.62	-0.57	-0.59	-0.65	-0.58	-0.54	-0.66	0.66	-0.16	0.05	0.02	0.49	0.39	0.18	-0.46	-0.57	0.66	0.51	0.57	0.57	0.51	0.47	0.63	0.51	0.64	-0.28	0.29	0.18	-0.39	V41
V42	-0.36	-0.41	0.04	0.29	-0.34	-0.16	-0.31	0.38	-0.28	-0.28	-0.42	0.36	0.35	0.33	0.42	0.44	0.47	-0.07	-0.29	0.12	-0.40	-0.04	-0.24	0.15	0.38	0.36	-0.15	-0.18	-0.35	-0.22	-0.40	-0.45	-0.17	-0.31	-0.41	-0.14	-0.12	-0.31	0.12	V42
V43	-0.06	0.05	0.12	-0.26	-0.12	-0.24	-0.37	0.30	-0.32	-0.32	-0.23	0.17	0.27	0.16	0.14	0.17	0.29	-0.12	-0.36	-0.14	-0.43	-0.28	-0.21	-0.31	0.35	0.31	0.17	-0.30	-0.24	-0.31	-0.31	-0.34	-0.08	-0.31	-0.13	-0.08	-0.05	-0.25	-0.10	V43
V44	0.33	0.01	0.15	0.13	0.41	0.78	0.77	-0.69	0.83	0.81	0.65	-0.43	-0.78	-0.70	-0.42	-0.52	-0.65	0.74	0.33	0.32	0.51	0.75	0.64	0.68	-0.73	-0.80	0.23	0.74	0.63	0.79	0.64	0.68	0.59	0.79	0.56	-0.33	0.33	0.41	-0.41	V44
V45	0.39	0.06	-0.05	0.12	0.47	0.72	0.74	-0.67	0.72	0.70	0.59	-0.47	-0.68	-0.60	-0.51	-0.56	-0.56	0.74	0.08	0.02	0.21	0.70	0.43	0.52	-0.69	-0.69	0.33	0.71	0.67	0.69	0.66	0.58	0.43	0.50	0.57	-0.25	0.32	0.39	-0.12	V45
V46	0.32	-0.06	0.21	0.13	0.32	0.84	0.78	-0.70	0.84	0.79	0.64	-0.44	-0.78	-0.72	-0.41	-0.48	-0.59	0.82	0.28	0.32	0.46	0.77	0.59	0.70	-0.75	-0.80	0.29	0.76	0.59	0.78	0.63	0.60	0.57	0.70	0.50	-0.43	0.30	0.37	-0.39	V46
V47	0.27	0.10	-0.20	0.02	0.33	0.47	0.58	-0.57	0.57	0.54	0.53	-0.49	-0.54	-0.46	-0.45	-0.57	-0.55	0.56	0.43	0.11	0.60	0.60	0.30	0.35	-0.61	-0.63	0.39	0.67	0.51	0.63	0.65	0.44	0.37	0.67	0.55	-0.02	0.32	0.51	-0.29	V47
V48	0.19	-0.18	0.14	0.30	0.27	0.76	0.72	-0.60	0.77	0.82	0.51	-0.33	-0.68	-0.68	-0.34	-0.45	-0.50	0.77	0.13	0.30	0.27	0.82	0.59	0.79	-0.62	-0.69	0.20	0.81	0.59	0.83	0.61	0.52	0.57	0.70	0.46	-0.53	0.42	0.25	-0.40	V48
V49	0.40	0.17	-0.35	0.06	0.52	0.60	0.76	-0.76	0.70	0.60	0.66	-0.74	-0.62	-0.54	-0.67	-0.76	-0.66	0.72	0.21	-0.08	0.33	0.66	0.20	0.33	-0.74	-0.72	0.59	0.79	0.70	0.72	0.79	0.54	0.52	0.64	0.76	-0.05	0.47	0.61	-0.10	V49
V50	0.34	0.02	0.37	0.00	0.44	0.81	0.74	-0.66	0.87	0.91	0.66	-0.45	-0.85	-0.88	-0.52	-0.59	-0.67	0.88	0.03	0.30	0.21	0.85	0.60	0.66	-0.65	-0.79	0.30	0.81	0.70	0.87	0.70	0.59	0.59	0.70	0.63	-0.65	0.47	0.27	-0.56	V50
V51	0.56	0.22	-0.05	0.04	0.58	0.83	0.88	-0.85	0.87	0.83	0.81	-0.71	-0.86	-0.77	-0.68	-0.76	-0.69	0.83	0.23	-0.05	0.33	0.83	0.45	0.50	-0.85	-0.88	0.56	0.86	0.84	0.84	0.83	0.75	0.57	0.60	0.75	-0.22	0.40	0.47	-0.12	V51
V52	0.47	0.20	-0.41	0.16	0.43	0.60	0.67	-0.65	0.57	0.48	0.60	-0.58	-0.52	-0.29	-0.48	-0.53	-0.45	0.53	0.32	-0.17	0.40	0.56	0.24	0.32	-0.68	-0.66	0.56	0.61	0.56	0.56	0.54	0.59	0.49	0.45	0.51	0.17	0.23	0.45	0.30	V52
V53	-0.16	-0.26	-0.25	0.39	0.00	0.14	0.18	-0.06	0.13	0.27	-0.03	0.15	-0.02	0.00	0.10	-0.01	-0.03	0.29	0.03	0.21	0.08	0.32	0.31	0.48	-0.06	-0.10	0.21	0.34	0.06	0.32	0.05	-0.13	0.02	0.33	-0.01	-0.29	0.27	0.06	-0.08	V53
V54	0.01	-0.08	-0.10	0.02	-0.20	-0.06	-0.15	0.11	-0.22	-0.30	-0.16	0.04	0.24	0.15	0.17	0.18	0.26	-0.09	-0.11	-0.08	-0.20	-0.19	-0.17	-0.10	0.12	0.17	0.23	-0.21	-0.26	-0.27	-0.31	-0.33	-0.13	-0.41	-0.20	0.09	-0.03	-0.14	0.06	V54
V55	-0.09	-0.23	0.05	0.15	-0.15	0.10	-0.01	0.10	0.03	0.08	-0.09	0.20	0.03	0.12	0.17	0.21	0.15	0.11	-0.13	0.11	-0.08	0.13	0.08	0.25	0.05	0.03	-0.07	0.05	-0.09	0.07	-0.10	0.04	0.04	0.07	-0.16	-0.24	-0.09	0.02	0.03	V55
V56	-0.72	-0.53	0.37	0.18	-0.73	-0.65	-0.74	0.81	-0.67	-0.61	-0.81	0.84	0.69	0.56	0.84	0.89	0.76	-0.63	-0.13	0.37	-0.26	-0.58	-0.19	-0.08	0.77	0.77	-0.69	-0.71	-0.84	-0.67	-0.83	-0.74	-0.59	-0.48	-0.83	-0.07	-0.34	-0.56	-0.18	V56
V57	0.36	0.11	0.00	0.08	0.38	0.53	0.51	-0.45	0.54	0.66	0.49	-0.36	-0.54	-0.54	-0.48	-0.54	-0.48	0.56	-0.16	-0.03	-0.01	0.53	0.45	0.41	-0.47	-0.53	0.23	0.59	0.57	0.63	0.48	0.60	0.57	0.50	0.56	-0.38	0.52	0.40	-0.14	V57
V58	-0.34	-0.63	0.23	0.39	-0.38	0.06	0.04	0.05	0.05	0.03	-0.20	0.11	0.09	0.06	0.28	0.30	0.21	0.11	0.06	0.44	0.00	0.12	0.23	0.48	0.00	0.06	-0.06	0.12	-0.16	0.11	-0.09	-0.13	-0.07	0.07	-0.17	-0.06	-0.09	-0.07	0.01	V58
V59	0.19	0.35	-0.26	-0.16	0.19	-0.05	0.07	-0.14	-0.03	-0.11	0.13	-0.30	-0.04	-0.01	-0.28	-0.35	-0.11	0.00	-0.09	-0.38	-0.14	0.08	-0.40	-0.31	-0.09	-0.06	0.14	0.05	0.15	-0.06	0.17	0.08	0.02	-0.29	0.16	0.15	0.28	0.15	0.28	V59
V60	0.50	0.21	0.16	-0.17	0.43	0.67	0.71	-0.76	0.74	0.76	0.77	-0.70	-0.78	-0.82	-0.69	-0.77	-0.83	0.72	0.30	0.19	0.45	0.64	0.60	0.39	-0.78	-0.79	0.61	0.79	0.72	0.80	0.80	0.59	0.53	0.68	0.73	-0.24	0.45	0.51	-0.47	V60
V61	0.53	0.30	0.34	-0.36	0.44	0.61	0.57	-0.64	0.66	0.70	0.75	-0.65	-0.75	-0.85	-0.69	-0.74	-0.82	0.68	0.10	0.14	0.27	0.54	0.56	0.26	-0.66	-0.72	0.59	0.66	0.69	0.70	0.70	0.56	0.58	0.62	0.75	-0.33	0.49	0.36	-0.58	V61
V62	0.52	0.24	0.36	-0.25	0.51	0.72	0.68	-0.71	0.80	0.86	0.79	-0.68	-0.86	-0.93	-0.77	-0.77	-0.85	0.78	0.00	0.12	0.20	0.70	0.56	0.40	-0.72	-0.79	0.52	0.80	0.82	0.86	0.82	0.71	0.63	0.72	0.83	-0.46	0.51	0.35	-0.51	V62
V63	0.54	0.29	0.44	-0.31	0.52	0.70	0.61	-0.64	0.75	0.85	0.75	-0.58	-0.83	-0.92	-0.72	-0.72	-0.82	0.74	-0.10	0.08	0.09	0.64	0.59	0.36	-0.63	-0.73	0.46	0.72	0.80	0.81	0.75	0.70	0.64	0.64	0.77	-0.55	0.44	0.23	-0.51	V63
V64	0.49	0.20	0.27	-0.20	0.47	0.70	0.71	-0.74	0.80	0.82	0.79	-0.73	-0.84	-0.90	-0.78	-0.78	-0.85	0.78	0.09	0.13	0.28	0.72	0.51	0.41	-0.76	-0.81	0.54	0.83	0.80	0.86	0.83	0.69	0.60	0.76	0.84	-0.36	0.56	0.43	-0.48	V64
V65	0.51	0.21	-0.09	-0.01	0.55	0.76	0.83	-0.81	0.82	0.84	0.81	-0.69	-0.80	-0.72	-0.69	-0.77	-0.84	0.81	0.33	0.12	0.52	0.77	0.58	0.51	-0.84	-0.87	0.60	0.90	0.80	0.90	0.84	0.70	0.65	0.85	0.77	-0.21	0.45	0.54	-0.30	V65
V66	0.51	0.20	-0.09	0.00	0.55	0.76	0.83	-0.82	0.82	0.83	0.81	-0.70	-0.80	-0.72	-0.70	-0.78	-0.84	0.81	0.33	0.12	0.53	0.77	0.57	0.51	-0.85	-0.88	0.60	0.90	0.80	0.90	0.85	0.70	0.65	0.85	0.77	-0.20	0.46	0.54	-0.30	V66
V67	-0.67	-0.54	0.22	0.40	-0.67	-0.50	-0.60	0.72	-0.59	-0.42	-0.75	0.87	0.62	0.51	0.78	0.80	0.71	-0.51	-0.16	0.32	-0.30	-0.40	0.01	0.14	0.68	0.67	-0.57	-0.50	-0.69	-0.48	-0.77	-0.65	-0.53	-0.43	-0.81	-0.14	-0.18	-0.63	0.00	V67
V68	0.06	-0.19	0.07	0.31	0.12	0.51	0.51	-0.40	0.51	0.66	0.36	-0.13	-0.46	-0.44	-0.20	-0.28	-0.43	0.56	0.26	0.40	0.39	0.61	0.68	0.73	-0.46	-0.50	0.26	0.67	0.39	0.69	0.40	0.31	0.35	0.67	0.28	-0.35	0.40	0.14	-0.36	V68
V69	-0.60	-0.30	-0.26	0.28	-0.56	-0.72	-0.71	0.74	-0.80	-0.83	-0.82	0.69	0.85	0.86	0.75	0.80	0.91	-0.74	-0.18	-0.16	-0.42	-0.65	-0.65	-0.36	0.78	0.83	-0.50	-0.78	-0.79	-0.82	-0.83	-0.80	-0.67	-0.78	-0.82	0.32	-0.45	-0.50	0.46	V69
V70	0.28	0.35	0.03	-0.27	0.40	0.13	0.20	-0.24	0.27	0.28	0.35	-0.25	-0.34	-0.29	-0.35	-0.35	-0.43	0.13	0.00	-0.09	0.12	0.11	0.16	-0.14	-0.22	-0.27	0.08	0.14	0.33	0.23	0.32	0.38	0.23	0.41	0.38	-0.02	0.08	0.25	-0.21	V70
V71	0.64	0.34	0.11	-0.22	0.60	0.81	0.79	-0.82	0.86	0.76	0.87	-0.74	-0.88	-0.81	-0.72	-0.73	-0.80	0.74	0.22	0.01	0.44	0.67	0.39	0.30	-0.84	-0.89	0.44	0.68	0.76	0.74	0.78	0.78	0.69	0.70	0.77	-0.19	0.28	0.53	-0.31	V71
V72	-0.39	-0.02	-0.09	-0.03	-0.24	-0.71	-0.62	0.61	-0.63	-0.52	-0.56	0.52	0.59	0.55	0.41	0.41	0.41	-0																						

Table 99: Correlation matrix for SLAs in the CNAHS ...cont

	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57	V58	V59	V60	V61	V62	V63	V64	V65	V66	V67	V68	V69	V70	V71	V72	V73	V74	V75	V76	V77	V78	
V1	-0.06	0.56	-0.36	-0.06	0.33	0.39	0.32	0.27	0.19	0.40	0.34	0.56	0.47	-0.16	0.01	-0.09	-0.72	0.36	-0.34	0.19	0.50	0.53	0.52	0.54	0.49	0.51	0.51	-0.67	0.06	-0.60	0.28	0.64	-0.39	0.17	0.34	0.03	-0.17	0.40	0.68	V1
V2	-0.20	0.28	-0.41	0.05	0.01	0.06	-0.06	0.10	-0.18	0.17	0.02	0.22	0.20	-0.26	-0.08	-0.23	-0.53	0.11	-0.63	0.35	0.21	0.30	0.24	0.29	0.20	0.21	0.20	-0.54	-0.19	-0.30	0.35	0.34	-0.02	0.21	0.40	0.35	-0.12	0.50	0.38	V2
V3	0.19	0.38	0.04	0.12	0.15	-0.05	0.21	-0.20	0.14	-0.35	0.37	-0.05	-0.41	-0.25	-0.10	0.05	0.37	0.00	0.23	-0.26	0.16	0.34	0.36	0.44	0.27	-0.09	-0.09	0.22	0.07	-0.26	0.03	0.11	-0.09	0.05	0.02	-0.06	0.25	0.20	0.08	V3
V4	0.00	-0.46	0.29	-0.26	0.13	0.12	0.13	0.02	0.30	0.06	0.00	0.04	0.16	0.39	0.02	0.15	0.18	0.08	0.39	-0.16	-0.17	-0.36	-0.25	-0.31	-0.20	-0.01	0.00	0.40	0.31	0.28	-0.27	-0.22	-0.03	-0.15	-0.32	-0.36	-0.13	-0.54	-0.31	V4
V5	-0.11	0.42	-0.34	-0.12	0.41	0.47	0.32	0.33	0.27	0.52	0.44	0.58	0.43	0.00	-0.20	-0.15	-0.73	0.38	-0.38	0.19	0.43	0.44	0.51	0.52	0.47	0.55	0.55	-0.67	0.12	-0.56	0.40	0.60	-0.24	0.28	0.45	0.13	-0.33	0.41	0.64	V5
V6	0.15	0.62	-0.16	-0.24	0.78	0.72	0.84	0.47	0.76	0.60	0.81	0.83	0.60	0.14	-0.06	0.10	-0.65	0.53	0.06	-0.05	0.67	0.61	0.72	0.70	0.70	0.76	0.76	-0.50	0.51	-0.72	0.13	0.81	-0.71	0.13	0.14	-0.48	-0.22	0.11	0.76	V6
V7	-0.03	0.38	-0.31	-0.37	0.77	0.74	0.78	0.58	0.72	0.76	0.74	0.88	0.67	0.18	-0.15	-0.01	-0.74	0.51	0.04	0.07	0.71	0.57	0.68	0.61	0.71	0.83	0.83	-0.60	0.51	-0.71	0.20	0.79	-0.62	0.23	0.19	-0.46	-0.33	0.14	0.75	V7
V8	0.05	-0.44	0.38	0.30	-0.69	-0.67	-0.70	-0.57	-0.60	-0.76	-0.66	-0.85	-0.65	-0.06	0.11	0.10	0.81	-0.45	0.05	-0.14	-0.76	-0.64	-0.71	-0.64	-0.74	-0.81	-0.82	0.72	-0.40	0.74	-0.24	-0.82	0.61	-0.25	-0.24	0.40	0.27	-0.25	-0.82	V8
V9	0.03	0.54	-0.28	-0.32	0.83	0.72	0.84	0.57	0.77	0.70	0.87	0.87	0.57	0.13	-0.22	0.03	-0.67	0.54	0.05	-0.03	0.74	0.66	0.80	0.75	0.80	0.82	0.82	-0.59	0.51	-0.80	0.27	0.86	-0.63	0.29	0.26	-0.43	-0.31	0.22	0.80	V9
V10	0.05	0.54	-0.28	-0.32	0.81	0.70	0.79	0.54	0.82	0.60	0.91	0.83	0.48	0.27	-0.30	0.08	-0.61	0.66	0.03	-0.11	0.76	0.70	0.86	0.85	0.82	0.84	0.83	-0.42	0.66	-0.83	0.28	0.76	-0.52	0.28	0.28	-0.31	-0.38	0.21	0.74	V10
V11	-0.06	0.62	-0.42	-0.23	0.65	0.59	0.64	0.53	0.51	0.66	0.66	0.81	0.60	-0.03	-0.16	-0.09	-0.81	0.49	-0.20	0.13	0.77	0.75	0.79	0.75	0.79	0.81	0.81	-0.75	0.36	-0.82	0.35	0.87	-0.56	0.30	0.37	-0.24	-0.27	0.43	0.88	V11
V12	0.07	-0.57	0.36	0.17	-0.43	-0.47	-0.44	-0.49	-0.33	-0.74	-0.45	-0.71	-0.58	0.15	0.04	0.20	0.84	-0.36	0.11	-0.30	-0.70	-0.65	-0.68	-0.58	-0.73	-0.69	-0.70	0.87	-0.13	0.69	-0.25	-0.74	0.52	-0.19	-0.28	0.24	0.14	-0.42	-0.87	V12
V13	0.03	-0.59	0.35	0.27	-0.78	-0.68	-0.78	-0.54	-0.68	-0.62	-0.85	-0.86	-0.52	-0.02	0.24	0.03	0.69	-0.54	0.09	-0.04	-0.78	-0.75	-0.86	-0.83	-0.84	-0.80	-0.80	0.62	-0.46	0.85	-0.34	-0.88	0.59	-0.33	-0.34	0.31	0.31	-0.37	-0.83	V13
V14	-0.06	-0.65	0.33	0.16	-0.70	-0.60	-0.72	-0.46	-0.68	-0.54	-0.88	-0.77	-0.29	0.00	0.15	0.12	0.56	-0.54	0.06	-0.01	-0.82	-0.85	-0.93	-0.92	-0.90	-0.72	-0.72	0.51	-0.44	0.86	-0.29	-0.81	0.55	-0.31	-0.29	0.32	0.21	-0.37	-0.80	V14
V15	0.08	-0.58	0.42	0.14	-0.42	-0.51	-0.41	-0.45	-0.34	-0.67	-0.52	-0.68	-0.48	0.10	0.17	0.17	0.84	-0.48	0.28	-0.28	-0.69	-0.69	-0.77	-0.72	-0.78	-0.69	-0.70	0.78	-0.20	0.75	-0.35	-0.72	0.41	-0.27	-0.37	0.08	0.16	-0.53	-0.86	V15
V16	0.08	-0.54	0.44	0.17	-0.52	-0.56	-0.48	-0.57	-0.45	-0.76	-0.59	-0.76	-0.53	-0.01	0.18	0.21	0.89	-0.54	0.30	-0.35	-0.77	-0.74	-0.77	-0.72	-0.78	-0.69	-0.70	0.80	-0.28	0.80	-0.35	-0.73	0.41	-0.32	-0.36	0.11	0.28	-0.46	-0.86	V16
V17	0.09	-0.66	0.47	0.29	-0.65	-0.56	-0.59	-0.55	-0.50	-0.66	-0.67	-0.69	-0.45	-0.03	0.26	0.15	0.76	-0.48	0.21	-0.11	-0.83	-0.82	-0.85	-0.82	-0.85	-0.84	-0.84	0.71	-0.43	0.91	-0.43	-0.80	0.41	-0.38	-0.46	0.10	0.25	-0.49	-0.87	V17
V18	0.26	0.66	-0.07	-0.12	0.74	0.74	0.82	0.56	0.77	0.72	0.88	0.83	0.53	0.29	-0.09	0.11	-0.63	0.56	0.11	0.00	0.72	0.68	0.78	0.74	0.78	0.81	0.81	-0.51	0.56	-0.74	0.13	0.74	-0.64	0.16	0.13	-0.44	-0.25	0.11	0.80	V18
V19	-0.28	-0.16	-0.29	-0.36	0.33	0.08	0.28	0.43	0.13	0.21	0.03	0.23	0.32	0.03	-0.11	-0.13	-0.13	-0.16	0.06	-0.09	0.30	0.10	0.00	-0.10	0.09	0.33	0.33	-0.16	0.26	-0.18	0.00	0.22	-0.22	0.06	-0.02	-0.29	-0.27	-0.14	0.09	V19
V20	0.13	0.05	0.12	-0.14	0.32	0.02	0.32	0.11	0.30	-0.08	0.30	-0.05	-0.17	0.21	-0.08	0.11	0.37	-0.03	0.44	-0.38	0.19	0.14	0.12	0.08	0.13	0.12	0.12	0.32	0.40	-0.16	-0.09	0.01	-0.10	0.02	-0.14	-0.30	-0.02	-0.26	-0.10	V20
V21	-0.29	0.02	-0.40	-0.43	0.51	0.21	0.46	0.60	0.27	0.33	0.21	0.33	0.40	0.08	-0.20	-0.08	-0.26	-0.01	0.00	-0.14	0.45	0.27	0.20	0.09	0.28	0.52	0.53	-0.30	0.39	-0.42	0.12	0.44	-0.33	0.18	0.09	-0.30	-0.41	-0.01	0.27	V21
V22	0.14	0.49	-0.04	-0.28	0.75	0.70	0.77	0.60	0.82	0.66	0.85	0.83	0.56	0.32	-0.19	0.13	-0.58	0.53	0.12	0.08	0.64	0.54	0.70	0.64	0.72	0.77	0.77	-0.40	0.61	-0.65	0.11	0.67	-0.59	0.16	0.08	-0.47	-0.40	0.04	0.69	V22
V23	0.10	0.39	-0.24	-0.21	0.64	0.43	0.59	0.30	0.59	0.20	0.60	0.45	0.24	0.31	-0.17	0.08	-0.19	0.45	0.23	-0.40	0.60	0.56	0.56	0.59	0.51	0.58	0.57	0.01	0.68	-0.65	0.16	0.39	-0.25	0.21	0.14	-0.24	-0.14	0.06	0.34	V23
V24	0.21	0.18	0.15	-0.31	0.68	0.52	0.70	0.35	0.79	0.33	0.66	0.50	0.32	0.48	-0.10	0.25	-0.08	0.41	0.48	-0.31	0.39	0.26	0.40	0.36	0.41	0.51	0.51	0.14	0.73	-0.36	-0.14	0.30	-0.44	-0.02	-0.19	-0.57	-0.26	-0.32	0.24	V24
V25	0.08	-0.46	0.38	0.35	-0.73	-0.69	-0.75	-0.61	-0.62	-0.74	-0.65	-0.85	-0.68	-0.06	0.12	0.05	0.77	-0.47	0.00	-0.09	-0.78	-0.66	-0.72	-0.63	-0.76	-0.84	-0.85	0.68	-0.46	0.78	-0.22	-0.84	0.64	-0.24	-0.22	0.45	0.29	-0.24	-0.81	V25
V26	0.02	-0.57	0.36	0.31	-0.80	-0.69	-0.80	-0.63	-0.69	-0.72	-0.79	-0.88	-0.66	-0.10	0.17	0.03	0.77	-0.53	0.06	-0.06	-0.79	-0.72	-0.79	-0.73	-0.81	-0.87	-0.88	0.67	-0.50	0.83	-0.27	-0.89	0.66	-0.27	-0.27	0.41	0.35	-0.27	-0.85	V26
V27	0.34	0.66	-0.15	0.17	0.23	0.33	0.29	0.39	0.20	0.59	0.30	0.56	0.56	0.21	0.23	-0.07	-0.69	0.23	-0.06	0.14	0.61	0.59	0.52	0.46	0.54	0.60	0.60	-0.57	0.26	-0.50	0.08	0.44	-0.37	0.05	0.09	-0.17	-0.02	0.21	0.69	V27
V28	0.09	0.51	-0.18	-0.30	0.74	0.71	0.76	0.67	0.81	0.79	0.81	0.86	0.61	0.34	-0.21	0.05	-0.71	0.59	0.12	0.05	0.79	0.66	0.80	0.72	0.83	0.90	0.90	-0.50	0.67	-0.78	0.14	0.68	-0.56	0.18	0.13	-0.44	-0.36	0.11	0.78	V28
V29	-0.06	0.57	-0.35	-0.24	0.63	0.67	0.59	0.51	0.59	0.70	0.70	0.84	0.56	0.06	-0.26	-0.09	-0.84	0.57	-0.16	0.15	0.72	0.69	0.82	0.80	0.80	0.80	0.80	-0.69	0.39	-0.79	0.33	0.76	-0.46	0.27	0.36	-0.15	-0.29	0.41	0.87	V29
V30	0.08	0.57	-0.22	-0.31	0.79	0.69	0.78	0.63	0.83	0.72	0.87	0.84	0.56	0.32	-0.27	0.07	-0.67	0.63	0.11	-0.06	0.80	0.70	0.86	0.81	0.86	0.90	0.90	-0.48	0.69	-0.82	0.23	0.74	-0.54	0.25	0.22	-0.39	-0.35	0.18	0.77	V30
V31	-0.09	0.51	-0.40	-0.31	0.64	0.66	0.63	0.65	0.61	0.79	0.70	0.83	0.54	0.05	-0.31	-0.10	-0.83	0.48	-0.09	0.17	0.80	0.70	0.82	0.75	0.83	0.84	0.85	-0.77	0.40	-0.83	0.32	0.78	-0.49	0.30	0.33	-0.23	-0.30	0.38	0.88	V31
V32	-0.23	0.47	-0.45	-0.34	0.68	0.58	0.60	0.44	0.52	0.54	0.59	0.75	0.59	-0.13	-0.33	0.04	-0.74	0.60	-0.13	0.08	0.59	0.56	0.71	0.70	0.69	0.70	0.70	-0.65	0.31	-0.80	0.38	0.78	-0.44	0.29	0.43	-0.11	-0.31	0.47	0.73	V32
V33	0.06	0.63	-0.17	-0.08	0.59	0.43	0.57	0.37	0.57	0.52	0.59	0.57	0.49	0.02	-0.13	0.04	-0.59	0.57	-0																					

Table 99: Correlation matrix for SLAs in the CNAHS ...cont

	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57	V58	V59	V60	V61	V62	V63	V64	V65	V66	V67	V68	V69	V70	V71	V72	V73	V74	V75	V77	V78	V79		
V40	1.00	0.47	0.66	0.68	-0.04	-0.03	0.15	-0.06	0.18	0.11	0.22	-0.03	-0.01	0.49	0.56	0.37	0.17	0.07	0.40	-0.14	0.08	0.16	0.06	0.07	0.06	0.03	0.03	0.23	0.23	0.12	-0.35	-0.13	-0.21	-0.26	-0.39	-0.38	0.34	-0.39	0.00	V40	
V41	0.47	1.00	0.09	0.21	0.41	0.30	0.46	0.36	0.44	0.46	0.60	0.50	0.35	0.18	0.09	0.10	-0.43	0.38	0.21	-0.05	0.64	0.74	0.71	0.69	0.71	0.59	0.59	-0.40	0.38	-0.66	0.11	0.52	-0.43	0.09	0.12	-0.25	0.02	0.26	0.71	V41	
V42	0.66	0.09	1.00	0.35	-0.34	-0.17	-0.17	-0.30	0.02	-0.21	-0.08	-0.28	-0.19	0.30	0.35	0.56	0.47	-0.11	0.63	0.01	-0.37	-0.35	-0.28	-0.28	-0.26	-0.37	-0.37	0.49	-0.04	0.49	-0.51	-0.48	0.01	-0.43	-0.53	-0.25	0.32	-0.52	-0.28	V42	
V43	0.68	0.21	0.35	1.00	-0.30	-0.38	-0.27	-0.17	-0.27	-0.06	-0.18	-0.27	-0.18	0.11	0.46	-0.02	0.23	-0.24	0.02	-0.06	-0.18	-0.01	-0.17	-0.16	-0.17	-0.26	-0.26	0.14	-0.19	0.31	-0.15	-0.29	0.16	-0.13	-0.16	0.02	0.38	-0.10	-0.23	V43	
V44	-0.04	0.41	-0.34	-0.30	1.00	0.63	0.93	0.52	0.77	0.55	0.80	0.72	0.53	0.18	-0.40	0.01	-0.45	0.60	-0.01	-0.28	0.59	0.59	0.67	0.64	0.67	0.77	0.77	-0.38	0.61	-0.76	0.52	0.81	-0.54	0.50	0.55	-0.43	-0.49	0.36	0.60	V44	
V45	-0.03	0.30	-0.17	-0.38	0.63	1.00	0.78	0.34	0.70	0.48	0.66	0.74	0.49	0.12	-0.16	0.20	-0.53	0.51	0.06	-0.02	0.50	0.40	0.57	0.56	0.56	0.62	0.63	-0.32	0.49	-0.58	0.06	0.55	-0.70	0.03	0.09	-0.54	-0.25	0.15	0.58	V45	
V46	0.15	0.46	-0.17	-0.27	0.93	0.78	1.00	0.43	0.82	0.49	0.83	0.74	0.51	0.19	-0.07	0.15	-0.41	0.51	0.09	-0.22	0.63	0.58	0.67	0.64	0.66	0.73	0.73	-0.28	0.64	-0.69	0.10	0.78	-0.72	0.15	0.08	-0.58	-0.25	0.00	0.62	V46	
V47	-0.06	0.36	-0.30	-0.17	0.52	0.34	0.43	1.00	0.36	0.65	0.42	0.50	0.46	0.23	-0.21	-0.03	-0.56	0.26	-0.13	0.01	0.64	0.51	0.47	0.34	0.57	0.70	0.70	-0.57	0.38	-0.61	0.18	0.53	-0.37	0.20	0.16	-0.24	-0.55	0.19	0.55	V47	
V48	0.18	0.44	0.02	-0.27	0.77	0.70	0.82	0.36	1.00	0.53	0.84	0.69	0.41	0.31	-0.12	0.21	-0.37	0.63	0.28	-0.16	0.56	0.48	0.68	0.66	0.66	0.68	0.68	-0.16	0.68	-0.60	0.07	0.60	-0.55	0.14	0.04	-0.56	-0.21	-0.07	0.54	V48	
V49	0.11	0.46	-0.21	-0.06	0.55	0.48	0.49	0.65	0.53	1.00	0.52	0.61	0.56	0.30	-0.08	-0.11	-0.73	0.50	0.01	0.07	0.58	0.52	0.56	0.43	0.65	0.77	0.78	-0.73	0.35	-0.58	0.28	0.62	-0.36	0.28	0.28	-0.26	-0.28	0.20	0.69	V49	
V50	0.22	0.60	-0.08	-0.18	0.80	0.66	0.83	0.42	0.84	0.52	1.00	0.75	0.29	0.23	-0.20	0.11	-0.40	0.56	0.15	-0.08	0.68	0.69	0.84	0.84	0.81	0.70	0.70	-0.31	0.59	-0.76	0.21	0.70	-0.53	0.25	0.18	-0.40	-0.24	0.16	0.66	V50	
V51	-0.03	0.50	-0.28	-0.27	0.72	0.74	0.74	0.50	0.69	0.61	0.75	1.00	0.72	0.09	-0.17	0.01	-0.77	0.55	0.03	0.11	0.70	0.61	0.78	0.74	0.78	0.78	0.78	-0.52	0.51	-0.74	0.12	0.71	-0.62	0.11	0.13	-0.38	-0.28	0.23	0.80	V51	
V52	-0.01	0.35	-0.19	-0.18	0.53	0.49	0.51	0.46	0.41	0.56	0.29	0.72	1.00	0.27	-0.06	0.04	-0.75	0.50	-0.04	0.06	0.42	0.30	0.37	0.29	0.42	0.70	0.70	-0.39	0.51	-0.46	0.08	0.50	-0.44	0.04	0.10	-0.31	-0.29	0.08	0.55	V52	
V53	0.49	0.18	0.30	0.11	0.18	0.12	0.19	0.23	0.31	0.30	0.23	0.09	0.27	1.00	0.12	0.29	-0.08	0.30	0.15	-0.27	0.11	0.07	0.03	0.02	0.05	0.38	0.37	0.27	0.66	-0.03	-0.08	-0.10	0.03	0.01	-0.12	-0.14	-0.17	-0.43	-0.05	V53	
V54	0.56	0.09	0.35	0.46	-0.40	-0.16	-0.07	-0.21	-0.12	-0.08	-0.20	-0.17	-0.06	0.12	1.00	0.14	0.19	-0.19	0.11	0.01	-0.01	0.01	-0.25	-0.26	-0.22	-0.20	-0.20	0.24	-0.05	0.36	-0.58	-0.21	-0.35	-0.53	-0.60	-0.50	0.45	-0.47	-0.23	V54	
V55	0.37	0.10	0.56	-0.02	0.01	0.20	0.15	-0.03	0.21	-0.11	0.11	0.01	0.04	0.29	0.14	1.00	0.21	0.17	0.48	-0.06	-0.13	-0.17	-0.03	-0.03	-0.03	-0.02	-0.02	0.26	0.18	0.10	-0.21	-0.07	-0.14	-0.15	-0.24	-0.21	0.20	-0.18	-0.08	V55	
V56	0.17	-0.43	0.47	0.23	-0.45	-0.53	-0.41	-0.56	-0.37	-0.73	-0.40	-0.77	-0.75	-0.08	0.19	0.21	1.00	-0.49	0.26	-0.31	-0.63	-0.52	-0.60	-0.54	-0.62	-0.76	-0.76	0.76	-0.30	0.69	-0.26	-0.63	0.39	-0.19	-0.29	0.11	0.30	-0.33	-0.76	V56	
V57	0.07	0.38	-0.11	-0.24	0.60	0.51	0.51	0.26	0.63	0.50	0.56	0.55	0.50	0.30	-0.19	0.17	-0.49	1.00	0.00	-0.03	0.40	0.44	0.55	0.55	0.52	0.59	0.59	-0.27	0.48	-0.57	0.26	0.50	-0.25	0.26	0.27	-0.12	-0.39	0.19	0.50	V57	
V58	0.40	0.21	0.63	0.02	-0.01	0.06	0.09	-0.13	0.28	0.01	0.15	0.03	-0.04	0.15	0.11	0.48	0.26	0.00	1.00	-0.25	-0.09	-0.16	-0.01	-0.03	0.01	-0.09	-0.09	0.22	0.08	0.14	-0.37	-0.17	-0.17	-0.30	-0.38	-0.39	0.37	-0.34	-0.01	V58	
V59	-0.14	-0.05	0.01	-0.06	-0.28	-0.02	-0.22	0.01	-0.16	0.07	-0.08	0.11	0.06	-0.27	0.01	-0.06	-0.31	-0.03	-0.25	1.00	0.05	0.01	0.04	0.01	0.06	-0.07	-0.06	-0.28	-0.30	-0.01	-0.10	-0.06	-0.03	-0.09	-0.11	0.03	-0.03	0.15	0.15	V59	
V60	0.08	0.64	-0.37	-0.18	0.59	0.50	0.63	0.64	0.56	0.58	0.68	0.70	0.42	0.11	-0.01	-0.13	-0.63	0.40	-0.09	0.05	1.00	0.93	0.84	0.79	0.85	0.83	0.84	-0.51	0.58	-0.85	0.13	0.70	-0.59	0.15	0.12	-0.41	-0.22	0.21	0.78	V60	
V61	0.16	0.74	-0.35	-0.01	0.59	0.40	0.58	0.51	0.48	0.52	0.69	0.61	0.30	0.07	0.01	-0.17	-0.52	0.44	-0.16	0.01	0.93	1.00	0.87	0.84	0.85	0.85	0.77	0.77	-0.49	0.52	-0.84	0.25	0.70	-0.47	0.26	0.25	-0.26	-0.19	0.36	0.76	V61
V62	0.06	0.71	-0.28	-0.17	0.67	0.57	0.67	0.47	0.68	0.56	0.84	0.78	0.37	0.03	-0.25	-0.03	-0.60	0.55	-0.01	0.04	0.84	0.87	1.00	0.97	0.98	0.78	0.78	-0.51	0.52	-0.89	0.31	0.76	-0.48	0.30	0.31	-0.26	-0.19	0.44	0.86	V62	
V63	0.07	0.69	-0.28	-0.16	0.64	0.56	0.64	0.34	0.66	0.43	0.84	0.74	0.29	0.02	-0.26	-0.03	-0.54	0.55	-0.03	0.01	0.79	0.84	0.97	1.00	0.90	0.71	0.71	-0.42	0.51	-0.87	0.31	0.70	-0.42	0.30	0.32	-0.19	-0.15	0.43	0.79	V63	
V64	0.06	0.71	-0.26	-0.17	0.67	0.56	0.66	0.57	0.66	0.65	0.81	0.78	0.42	0.05	-0.22	-0.03	-0.62	0.52	0.01	0.06	0.85	0.85	0.98	0.90	1.00	0.81	0.81	-0.57	0.51	-0.87	0.29	0.77	-0.51	0.29	0.29	-0.31	-0.22	0.43	0.88	V64	
V65	0.03	0.59	-0.37	-0.26	0.77	0.62	0.73	0.70	0.68	0.77	0.70	0.78	0.70	0.38	-0.20	-0.02	-0.76	0.59	-0.09	-0.07	0.83	0.77	0.78	0.71	0.81	1.00	1.00	-0.54	0.75	-0.85	0.30	0.75	-0.49	0.29	0.30	-0.31	-0.40	0.22	0.78	V65	
V66	0.03	0.59	-0.37	-0.26	0.77	0.63	0.73	0.70	0.68	0.78	0.70	0.78	0.70	0.37	-0.20	-0.02	-0.76	0.59	-0.09	-0.06	0.84	0.77	0.78	0.71	0.81	1.00	1.00	-0.55	0.75	-0.85	0.29	0.75	-0.49	0.29	0.29	-0.32	-0.40	0.22	0.79	V66	
V67	0.23	-0.40	0.49	0.14	-0.38	-0.32	-0.28	-0.57	-0.16	-0.73	-0.31	-0.52	-0.39	0.27	0.24	0.26	0.76	-0.27	0.22	-0.28	-0.51	-0.49	-0.51	-0.42	-0.57	-0.54	1.00	0.14	0.64	-0.44	-0.70	0.28	-0.36	-0.48	-0.04	0.28	-0.55	-0.75	V67		
V68	0.23	0.38	-0.04	-0.19	0.61	0.49	0.64	0.38	0.68	0.35	0.59	0.51	0.51	0.66	-0.05	0.18	-0.30	0.48	0.08	-0.30	0.58	0.52	0.52	0.51	0.51	0.75	0.75	0.14	1.00	-0.49	-0.01	0.34	-0.36	0.05	-0.04	-0.41	-0.24	-0.18			

APPENDIX

More detailed definitions and data sources are on the PHIDU web site pages associated with this atlas at www.publichealth.gov.au.

Table A1: Data definitions for demography and socioeconomic status indicators

Topic and variable name	Numerator	Denominator
Demography		
children aged 0 to 4 yrs	all children aged from 0 to 4 yrs	total population
children aged 5 to 14 yrs	all children aged from 5 to 14 yrs	total population
young people aged 15 to 24 yrs	all young people aged from 15 to 24 yrs	total population
people aged 65 yrs and over	all people aged 65 yrs and over	total population
Families		
single parent families	single parent families with children under 15	all families
low income families ¹	families with income less than \$26,000 p.a. [\$500 per week]	all families with an income
jobless families with children aged under 15 yrs	families with children under 15 yrs in which no parent is employed	all families with children under 15 yrs
high income families ²	families with income of \$62,400 or more p.a. [\$1,200 per week]	all families with an income
Labour force		
unemployment	population 15-64 yrs unemployed	population 15-64 yrs in labour force
unskilled and semi-skilled workers	intermediate production & transport workers; labourers & related workers	employed labour force
female labour force participation	females 20-54 yrs in the labour force	females 20 to 54 yrs
high status occupations ²	managers & administrators; professionals	employed labour force
Education		
participation at age 16 yrs	people aged 16 years participating in full-time secondary education	all 16 year olds
Technology		
people who used the Internet at home	people who used the Internet at home in a one-week period	total population
Indigenous status		
Aboriginal and Torres Strait Islander people	people identifying in the Census as Aboriginal and/or Torres Strait Islanders	total population
People born in predominantly non-English speaking countries		
resident for 5 yrs or more	number born in predominately non-English speaking countries, resident for 5 yrs or more	total population
resident for less than 5 yrs	number born in predominately non-English speaking countries, resident for less than 5 yrs	total population
proficiency in English	people aged 5 yrs and over born in predominately non-English speaking countries who speak English 'not well' or 'not at all'	population aged 5 yrs and over
Housing		
public rental dwellings	occupied private dwellings rented from the State housing authority	all occupied private dwellings
rent assistance	renters receiving assistance from Centrelink	all households
Transport		
dwellings with no motor vehicle	occupied private dwellings with no motor vehicle garaged or parked on Census night	all occupied private dwellings

¹When interpreting the figures for low income families in the text, it should be noted that the indicators of low income used in the comparisons (\$12,000 per annum or less in 1986, \$16,000 per annum or less in 1991, and \$21,000 per annum or less in 1996) do not equate to equivalent incomes and have thus not been adjusted based on changes to buying power. Rather, they are based on categories of income available from the Census and denote comparability of income in 1986, 1991, 1996 and 2001, based on levels of income of recipients of the sole parents' pension and unemployment benefits.

²These variables were not mapped but are included in the correlation analysis.

³Also referred to as Aboriginal people, and the Indigenous population.

Source: Compiled from project sources

Table A2: Data sources for indicators

Section	Data source
Demography and socioeconomic status	<p>Data largely from the ABS Basic Community or Usual Residents Profiles, 2001: exceptions are</p> <ul style="list-style-type: none"> - jobless families and educational participation variables (purchased from ABS) - the IRSD (from SEIFA database, supplied by ABS) - the SACE achievement scores, supplied by SSABSA - and the Total Fertility Rate (calculated from births data from ABS).
Income support	Data were purchased from Centrelink.
Health status and risk factors	<p>Perinatal data (low birthweight, pregnancy outcomes, termination of pregnancy and smoking in pregnancy) from Pregnancy Outcome Unit, Epidemiology Branch, Department of Health SA</p> <p>Immunisation data from National Centre for Immunisation Research and Surveillance, The New Childrens Hospital, Westmead</p> <p>Childhood overweight and obesity from Child and Youth Health at the Children, Youth and Women's Health Service</p> <p>Dental health from SA Dental Service</p> <p>Chronic disease and injury prevalence estimates/ self-reported health/ risk factor prevalence produced by Australian Bureau of Statistics, in conjunction with PHIDU</p> <p>Cancer incidence from Health Statistics Unit, Epidemiology Branch, Department of Health SA</p> <p>Premature and avoidable mortality calculated from deaths data from the Australian Bureau of Statistics</p>
Use of services	<p>Primary health and community-based services:</p> <ul style="list-style-type: none"> - Community health, community mental health and Child and Adolescent Mental Health Services data from Data Management Unit, Department of Health SA - Department for Families and Communities data from the Department <p>Screening test services:</p> <ul style="list-style-type: none"> - Breast screening participation and outcomes data from BreastScreen SA - Cervical screening participation and outcomes data from SA Cervix Screening program <p>Home and community care</p> <ul style="list-style-type: none"> - Data for domiciliary care service clients from Department for Families and Communities - Home nursing from RDNS and home delivered meals from Meals on Wheels <p>General medical practitioners:</p> <ul style="list-style-type: none"> - GP services from Health Insurance Commission - Data for population per GP from Health Insurance Commission (GPs) and ABS (population) <p>Emergency department attendances data from Emergency Department Collection</p> <p>Outpatient department attendances estimated from data from OACIS and MMSS</p> <p>Private health insurance data from Hansard</p> <p>Admissions data from ISAAC</p>

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More detailed definitions and data sources are on the PHIDU web site pages associated with this atlas at

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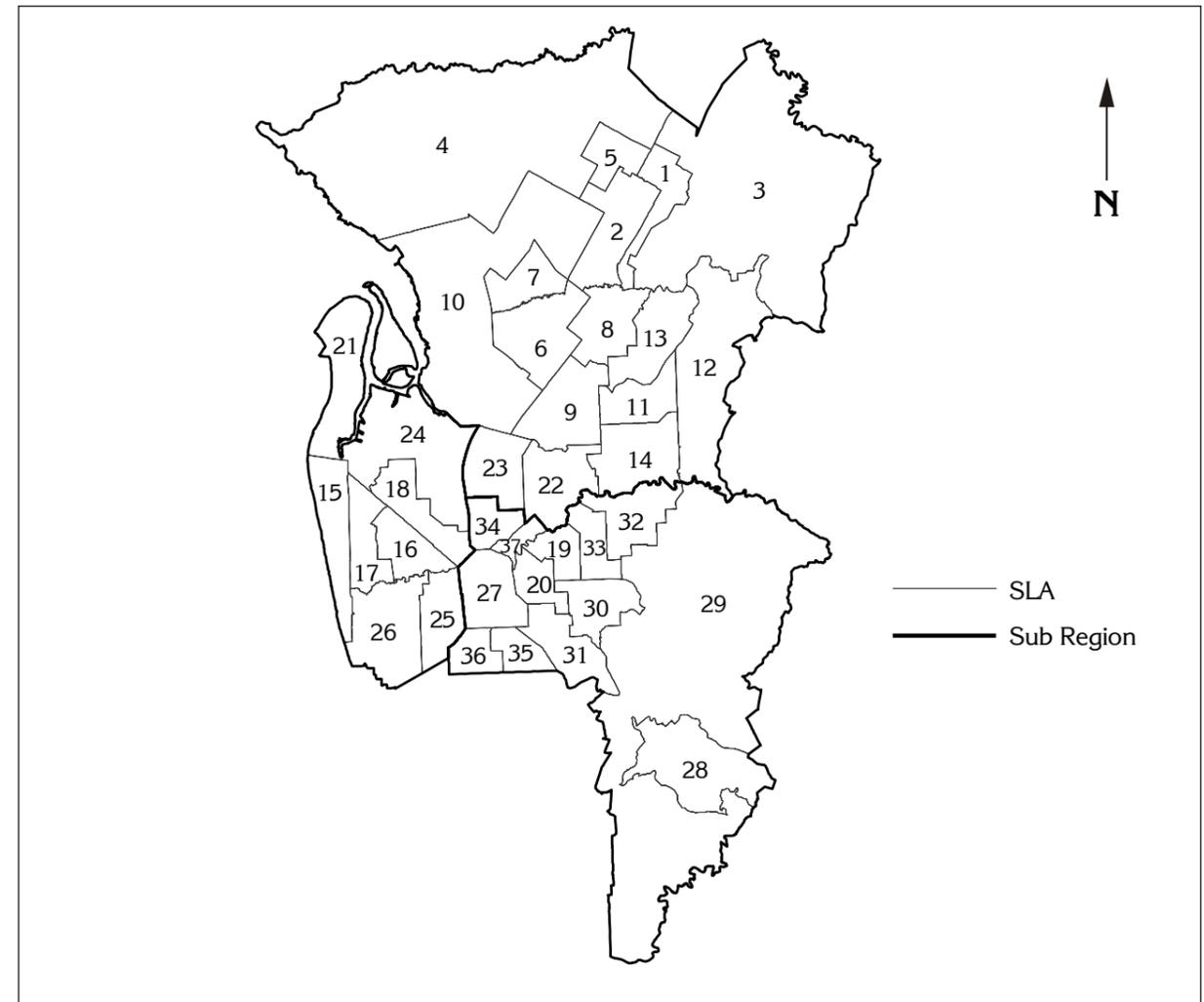
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Map A1: Key map – Areas mapped for CNAHS



Key to Statistical Local Areas of the Central Northern Adelaide Health Service Region, 2001

Health Regions

Northern	Map Ref.	Western	Map Ref.	Central East	Map Ref.
Port Adelaide Enfield - East	22	Charles Sturt - Coastal	15	Adelaide	27
Port Adelaide Enfield - Inner	23	Charles Sturt - Inner East	16	Adelaide Hills - Central	28
Playford - East Central	1	Charles Sturt - Inner West	17	Adelaide Hills - Ranges	29
Playford - Elizabeth	2	Charles Sturt - North-East	18	Burnside - North-East	30
Playford - Hills	3	Port Adelaide Enfield - Coast	21	Burnside - South-West	31
Playford - West	4	Port Adelaide Enfield - Port	24	Campbelltown - East	32
Playford - West Central	5	West Torrens - East	25	Campbelltown - West	33
Salisbury - Central	6	West Torrens - West	26	Norwood Payneham	
Salisbury - Inner North	7			St Peters - East	19
Salisbury - North East	8			Norwood Payneham	
Salisbury - South East	9			St Peters - West	20
Salisbury Balance	10			Prospect	34
Tea Tree Gully - Central	11			Unley - East	35
Tea Tree Gully - Hills	12			Unley - West	36
Tea Tree Gully - North	13			Walkerville	37
Tea Tree Gully - South	14				