

Geographic distribution of admissions to hospital with a mental health diagnosis and use of community mental health services, 2004-05

November 2006



Government of South Australia

Central Northern Adelaide
Health Service



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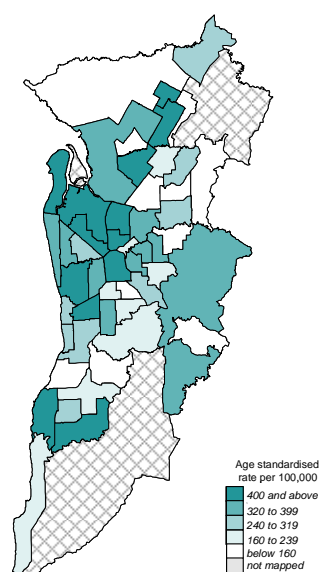
Foreword

It is with great pleasure that we present this set of maps outlining the distribution of clients of mental health services in South Australia.

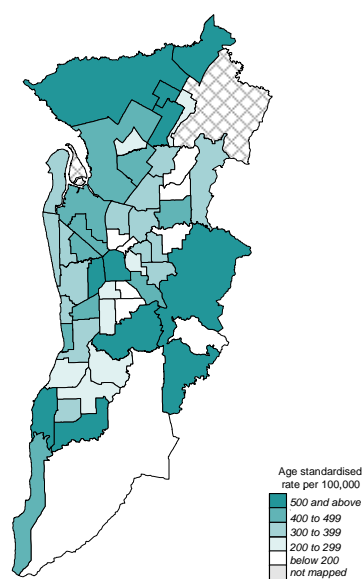
This resource was produced for the Mental Health Directorate, Central Northern Adelaide Health Service and complements other health atlases including the Social Health Atlas of South Australia and the Social Health Atlas of the Central Northern Adelaide Health Service. Together, these provide important information for policy makers, planners, service providers and community members working towards the future health and wellbeing of South Australians.

Whilst there are many factors that influence the residential location of clients of mental health services, including the location of services themselves and the availability of appropriate accommodation, there are nevertheless some interesting variations in the distributions, for example by diagnostic group as seen below. As expected, the patterns for mental health clients show a relationship with the general population distributions based on socioeconomic status, although this too varies by diagnostic group.

Hospital separations with a principal diagnosis of
"Schizophrenia, schizotypal and delusional disorders",
Adelaide 2004-05



Hospital separations with a principal diagnosis of
"Mood (affective) disorders",
Adelaide 2004-05



Correlation matrices following each set of maps (hospital & community) show associations of hospitalisation and community service use (by diagnosis) with a range of socio-demographic variables, including income, employment, housing, NESB and Indigenous status.

We view this resource as a ‘first cut’ and hope that it raises users curiosity to suggest other ways the information may be sliced and also to consider additional data required to further examine the underlying factors attributing to the perceived patterns. Any suggestions or recommendations will be welcomed by the Mental Health Research and Outcomes Unit.

The data for this atlas was provided to PHIDU by the Mental Health Research and Outcomes Unit from the Department of Health. We thank Paul Basso, Manager Strategic Information and his staff (particularly Julie Mitchell and Jacqui Bryant) for providing the databases and acknowledge the skilful work of Naomi Guiver in scrutinising and extracting the data.

We would like to acknowledge the expertise and significant contribution of the staff at the Public Health Information Development Unit, University of Adelaide in making this publication possible.

We commend this report to you and hope that collectively we can move forward in improving the information resources for mental health service planning and ultimately the health and wellbeing of the population living with mental health issues.

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Context

Mental health relates to an individual's ability to negotiate the daily challenges and social interactions of life without experiencing undue emotional or behavioural incapacity (DHAC & AIHW 1999). Mental health conditions may require a range of community-based or institutional interventions, depending on the severity of the episode.

In Australia, one in five people is likely to develop a mental health problem at some stage in their lives (NMHS 1992), and this number will increase over the next twenty years (Mathers et al. 1999). Furthermore, a substantial number of people of all ages experience significant mental illness annually and many others are affected, particularly their families and carers. In 2001, an estimated 111,814 people in the Adelaide metropolitan regions reported mental and behavioural disorders, a rate of 106.7 per 1,000 people (Glover et al. 2006).

Mental health is crucial to the overall wellbeing of individuals and communities. However, mental health and mental disorders have not been accorded anywhere near the same importance as physical health and illness (WHO 2003). This is reflected in the stigma, disability and discrimination still experienced by those who suffer mental ill health, the lack of acknowledgement of the true extent of the problem, and the longstanding neglect of mental health care systems globally (WHO 2003).

The stigmatisation of people with mental illnesses and its negative consequences also impinges on family members (Phelan et al. 1998). The care burden on children of parents with a mental illness (especially in sole-parent situations), for example, may greatly affect their participation in education and social life (CA 2001; COPMI 2004). There may also be an increased risk of mental health problems, although not all children of parents with a mental illness will experience difficulties as a result of their parent's health status (Anthony & Cohler 1987).

Mental health problems take many different forms, from anxiety and obsessive and compulsive disorders, post-traumatic stress, to schizophrenia and depression. Many mental health disorders can also co-exist with chronic, physical ill health conditions. The National Survey of Mental Health and Wellbeing Report indicated that just under half of those with any mental health disorder also had a physical health problem (DHAC & AIHW 1999). These included asthma, chronic bronchitis, anaemia, high blood pressure, heart disease and kidney disease. Mental health problems may also be associated with a wide range of other health and social problems such as substance misuse, homelessness, unemployment, and gambling.

In Australia, depression is the fourth leading cause of disease burden, with high associated costs including reduced work productivity, days of lost work, educational failure, poor family functioning, poor social functioning, a diminished sense of wellbeing, and increased use of health services (AIHW 2002). It is also a major risk factor for suicide and self-inflicted injury (DHAC & AIHW 1999).

There are significant mental health inequalities across the population, as the risk of mental ill-health is higher among those who are poor, homeless, unemployed, with low education, victims of violence, migrants and refugees, Indigenous populations, children and adolescents, abused women and the neglected elderly (WHO 2003).

Socioeconomic inequalities are also apparent in the prevalence of mental health problems in Australia (Glover et al. 2004). Research undertaken with self-reported data from the 2001 NHS showed that there was a statistically significant differential of 67% at ages 25 to 64 years, with a strong, continuous gradient, in the prevalence of self-reported mental and behavioural problems across the socioeconomic gradient; differentials (also statistically significant) in the 0 to 14 year and 65 years and over age groups were 52% and 56%, respectively (Glover et al. 2004).

This report describes geographic variations in hospital admissions and use of community-based mental health services.

1 Methods

Data sources

Hospital inpatient data are from the Integrated South Australian Activity Collection (ISAAC). For community clients the data are from the Client Management Engine (CME)/ Community Based Information System (CBIS).

Data was excluded where the age and sex of the individual could not be obtained.

The hospital inpatient data presented reflects hospital separations occurring in 2004-05 for people residing in each mapped area. The term 'admission' is used instead of 'separation' in this report for simplicity. In interpreting the maps, areas showing higher admission rates, for example, may reflect more individuals from that area being admitted to hospital, or more admissions per person in that area, or a mix of both.

The community data reflects contacts with community mental health services occurring in 2004-05 for people residing in each area. Contacts between clients and their community mental health workers may occur by telephone or face-to-face, and in a one-on-one setting or in a group setting. In interpreting the maps, areas with higher community mental health service contacts may reflect more individuals using the services, or more services per person, or a mix of both.

The diagnostic groups referred to in this report are categories from the ICD10-AM 4th Edition. The term "Mental Health-related diagnosis" used in this report refers to a larger grouping of diagnostic codes created specifically for this analysis, closely modelled on the definition formulated by the Australian Institute of Health and Welfare (AIHW 2005). The only amendment made for this report was to include within "Mental Health-related diagnosis" any hospital admissions which occurred as a consequence of intentional self-harm but which were not given a principal mental health diagnosis. For example, any admissions which were allocated a principal diagnosis reflecting the nature, site or method of injury (eg poisoning), but which were known to be due to intentional self-harm as indicated by a separate field in the database, were considered to be Mental Health-related.

While most of the hospital inpatient data presented in this report refers solely to principal diagnosis, some maps and tables showing admissions with "any Mental Health-related diagnosis" have been included. This refers to admissions where a Mental Health-related diagnosis appeared in any of the 30 additional diagnostic fields collected. For example, admissions to hospital for physical illness (ie non-mental health principal diagnosis), but for which at least one Mental Health-related diagnosis was recorded as a secondary/additional diagnosis, are included in "any Mental Health-related diagnosis".

Maps of service use for certain age groups and for particular diagnostic groups such as "Schizophrenia, schizotypal and delusional disorders" have been included where there were sufficient cases for mapping.

Data presentation

The data are presented in maps, one for Metropolitan Adelaide and one for country South Australia. The area mapped is the Statistical Local Area (SLA) – in country South Australia the SLA is equivalent to a Local Government Area (LGA): areas not incorporated (e.g. the Far North of the state, parts of the Riverland) are also separate SLAs. In Metropolitan Adelaide, there are 52 SLAs and 19 LGAs: thus, SLAs are almost always smaller than LGAs, with only Adelaide, Gawler and Walkerville LGAs also SLAs.

Where there were fewer than five admissions/contacts in an SLA, data was not mapped. Areas not mapped are shown as a crosshatch.

The data mapped are age-standardised rates. Age standardisation is used to remove, as far as possible, differences in rates between areas that result from differences in age structure of the population. For example, an area with a larger percentage of its population over 65 years of age (eg. Walkerville) would be expected to have more admissions to hospital than a younger area, such as Aberfoyle Park.

Summary measure of socioeconomic status

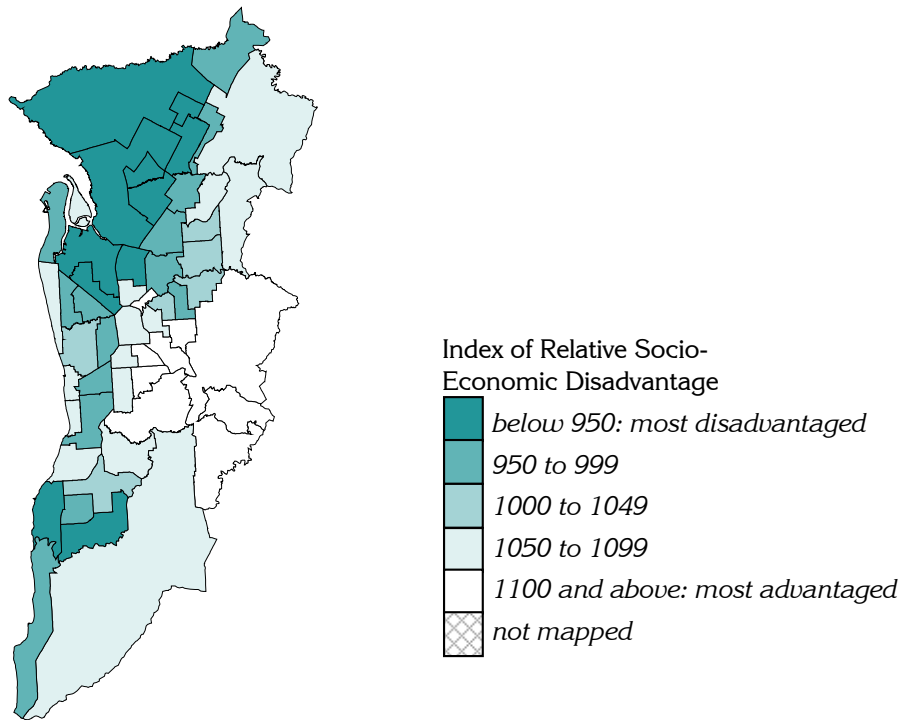
The geographic distribution of the population in Metropolitan Adelaide can be described using the Index of Relative Socio-Economic Disadvantage (IRSD), produced by the Australian Bureau of Statistics (Map A). The IRSD is a summary measure of socioeconomic disadvantage, based on information collected at the 2001 Census of Population and Housing. It is an area-based measure, in that it is calculated for areas for which the ABS holds the Census data; however, all of the variables used in producing the index reflect characteristics of the population in those areas, or of the dwellings in which they live.

The average index score is 1000, with scores below 1000 indicating greater relative disadvantage, and scores above 1000 indicating greater relative advantage.

At the 2001 Census, the IRSD score for Metropolitan Adelaide was 1006, marginally (6 index points) higher than the index score for South Australia of 1000. The lowest IRSD scores (that is, scores indicating the highest levels of disadvantage) are found in a contiguous band of Statistical Local Areas (SLAs) covering the north-west, inner north and much of the outer north, as well as in some parts of the outer south (Map A).

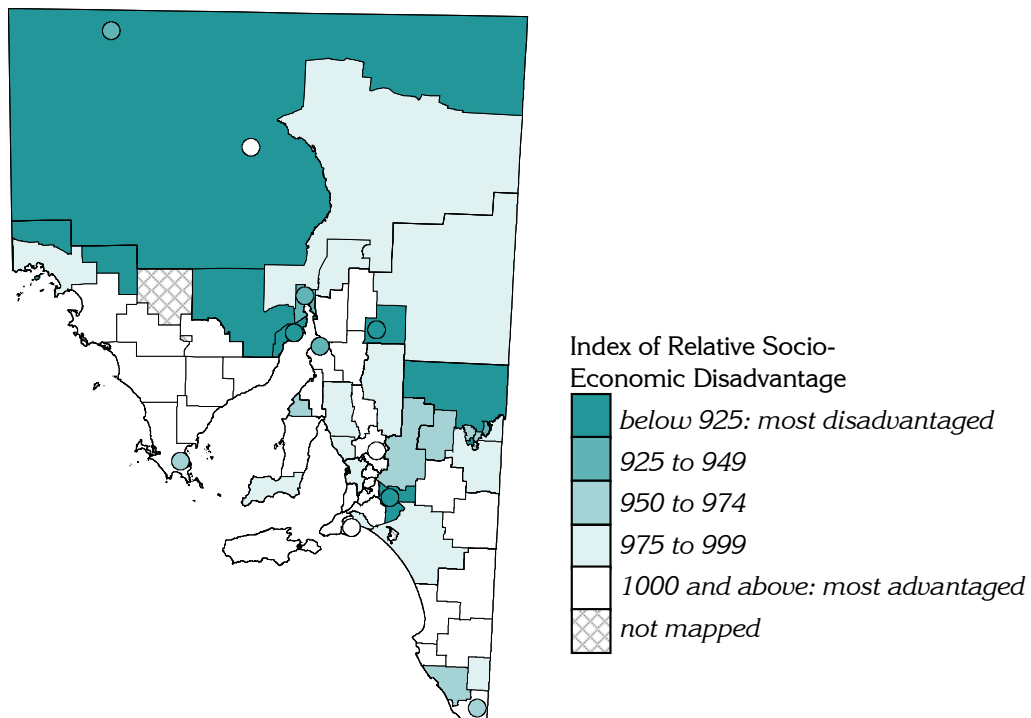
Areas with populations of least socioeconomic disadvantage include the City of Adelaide; adjacent SLAs to the north, east and south; a band of SLAs further out, to the south-east, east and north-east; and some beach-side SLAs.

Map A: Index of Relative Socio-Economic Disadvantage, Metropolitan Adelaide, 2001



In 2001, the IRSD score for country South Australia was 983, slightly below the index score for South Australia of 1000. The lowest index scores were recorded for SLAs in the north and west of the State, as well as in a number of the towns mapped; at both the SLA and regional level, the lowest scores coincide with areas with above average Indigenous populations (Map B).

Map B: Index of Relative Socio-Economic Disadvantage, South Australia, 2001



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2 Hospital admissions

The hospital admissions mapped in this section are those with a Mental Health-related principal diagnosis or any Mental Health-related diagnosis (Maps 2.7 to 2.34). However, the first set of maps (Map 2.1 to 2.6) are for total hospital admissions and have been included to provide an overview for comparative purposes.

There were 21,036 admissions with a Mental Health-related principal diagnosis (Table 2.1), 3.6% of all admissions in 2004-05. The proportion increases to 7.4% when admissions with any diagnosis of mental health are included.

Table 2.1: Hospital admissions by sex, South Australia, 2004-05

	Males		Females		Persons	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹
Total admissions	277,676	36,573	30,9776	40,050	587,452	38,327
Mental Health-related principal diagnosis	9,721	1,280	11,315	1,463	21,036	1,373
Any Mental Health-related diagnosis	20,046	2,640	23,260	3,007	43,306	2,825

¹Age standardised rate per 100,000 population

The number of admissions is highest in the 20 to 44 and 65 years and over age groups, in particular for any Mental Health-related diagnosis (Table 2.2). While this is also the case for the rate of admissions for Mental Health-related principal diagnosis, the rate for admissions of those aged 65 years and over with any Mental Health-related diagnosis is substantially the highest, being over twice that of those aged 20 to 44 years.

Table 2.2: Hospital admissions by cause and age, South Australia, 2004-05

	0-19	20-44	45-64	65+	total
	Number				
Mental/behavioural disorder due to substance use	300	1,433	700	160	2,593
Schizophrenia, schizotypal and delusional disorders	192	3,090	1,489	227	4,452
Mood (affective) disorders	271	2,614	1,711	1,354	5,950
Neurotic, stress-related and somatoform disorders	302	1,372	759	395	2,828
Intentional self-harm	444	1,630	494	81	2,649
<i>Mental health-related principal diagnosis</i>	1,841	10,922	4,862	3,411	21,036
<i>Any Mental health-related diagnosis</i>	2,767	16,138	9,442	14,959	43,306
Total admissions	71,792	142,927	159,216	213,517	587,452
	Rate ¹				
Mental/behavioural disorder due to substance use	77.2	271.7	181.2	69.4	169.2
Schizophrenia, schizotypal and delusional disorders	49.4	585.9	385.4	98.4	290.5
Mood (affective) disorders	69.8	495.6	442.9	587.0	388.2
Neurotic, stress-related and somatoform disorders	77.8	260.1	196.5	171.3	184.5
Intentional self-harm	114.3	309.1	127.9	35.1	172.8
<i>Mental health-related principal diagnosis</i>	474.1	2,070.9	1,258.6	1,478.8	1372.5
<i>Any Mental health-related diagnosis</i>	712.5	3,059.9	2,444.1	6,485.5	2,825.4
Total admissions	18,486.2	27,100.0	41,214.2	92,570.7	38,327.2

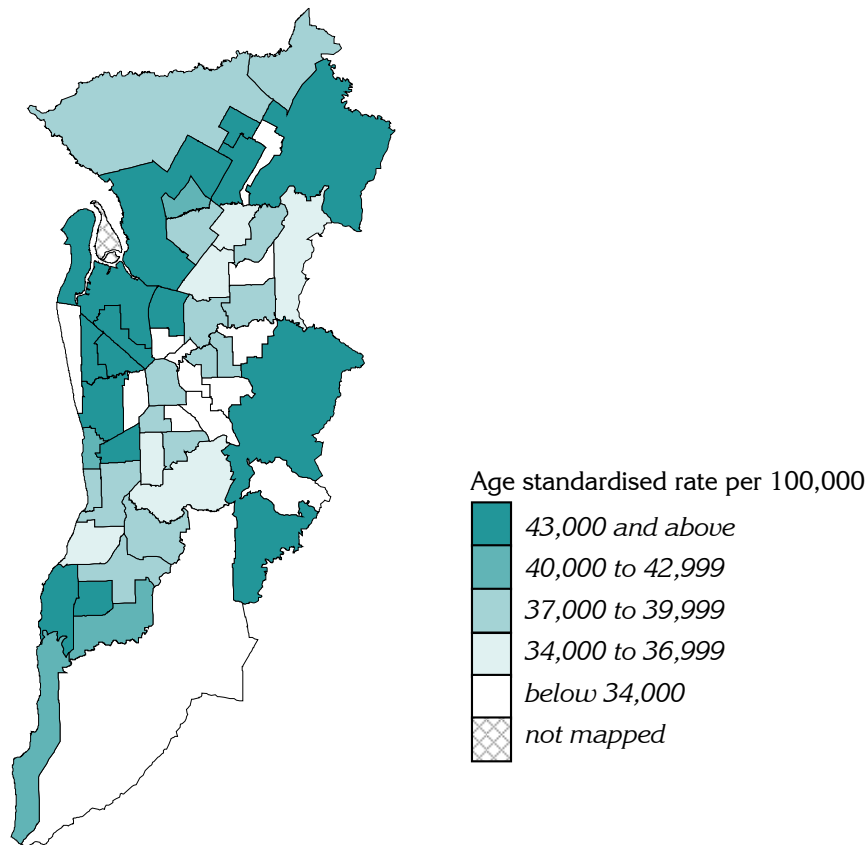
¹Age standardised rate per 100,000 population

The pattern of distribution of total hospital admissions per 100,000 population across Metropolitan Adelaide in 2004-05 (Map 2.1) has a number of similarities with the geographic distribution of the socioeconomically disadvantaged population, as shown by the IRSD (Map A). There are, however, some notable differences, including:

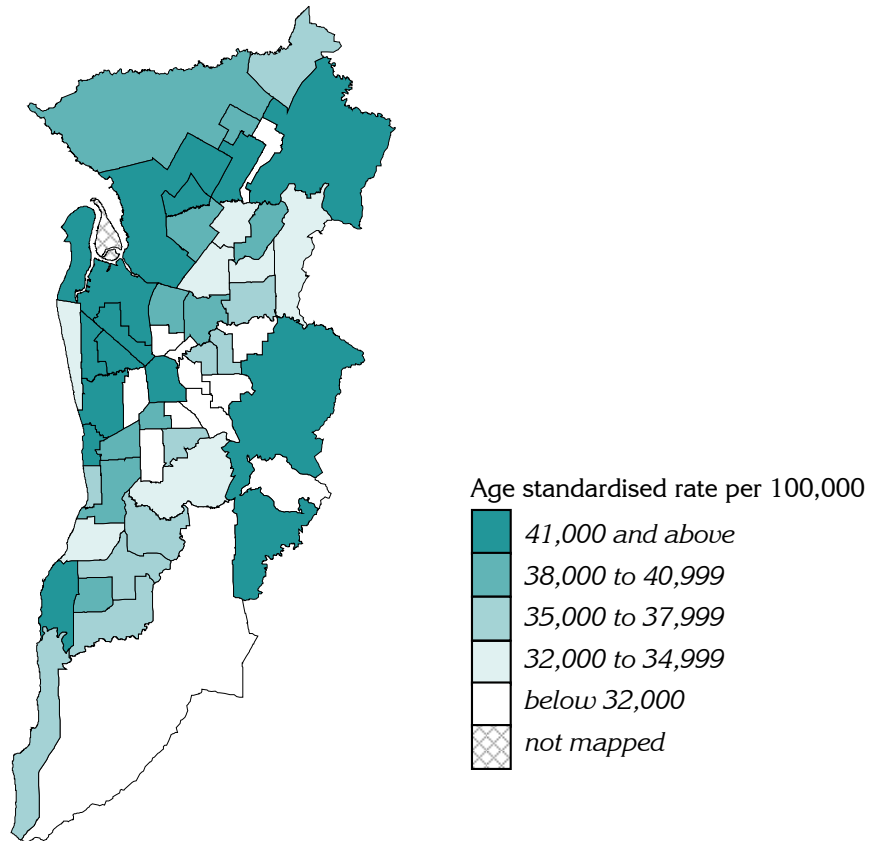
- the high hospitalisation rate in Playford Hills and Adelaide Hills - Ranges; and
- the lower rates in the Salisbury SLAs of - Central – Inner North, and Playford - West.

The distribution was similar for male (Map 2.2) and female (Map 2.3) admissions, with the exception of male admissions in the SLA of Adelaide, which is mapped in the highest range.

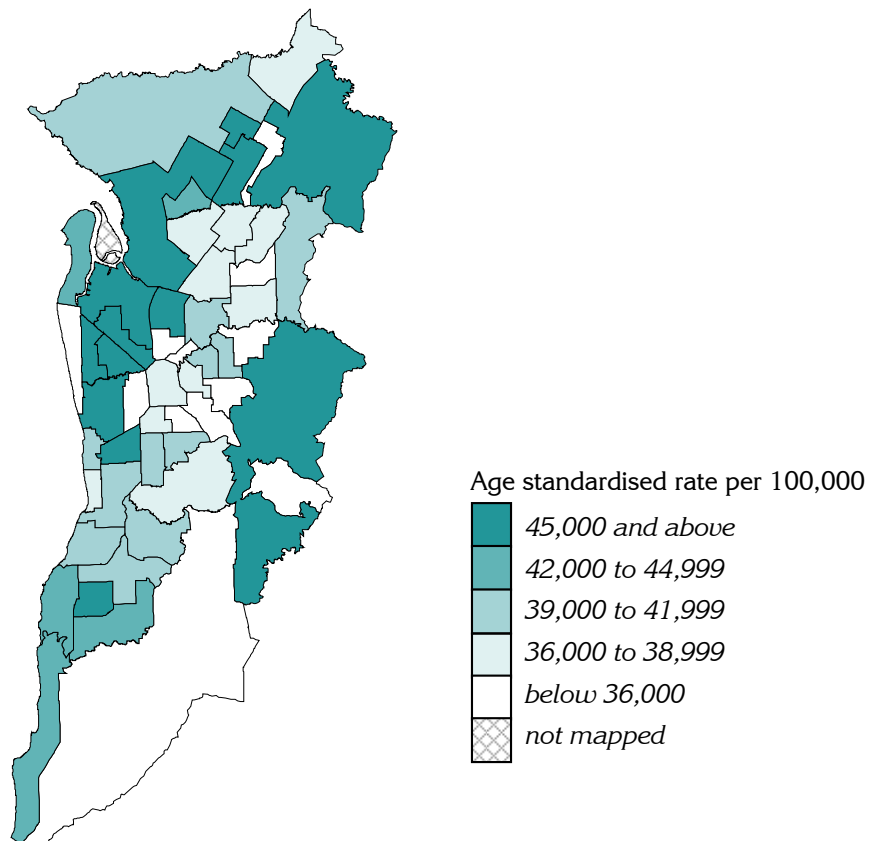
Map 2.1: All hospital admissions, Metropolitan Adelaide, 2004-05



Map 2.2: Male hospital admissions, Metropolitan Adelaide, 2004-05

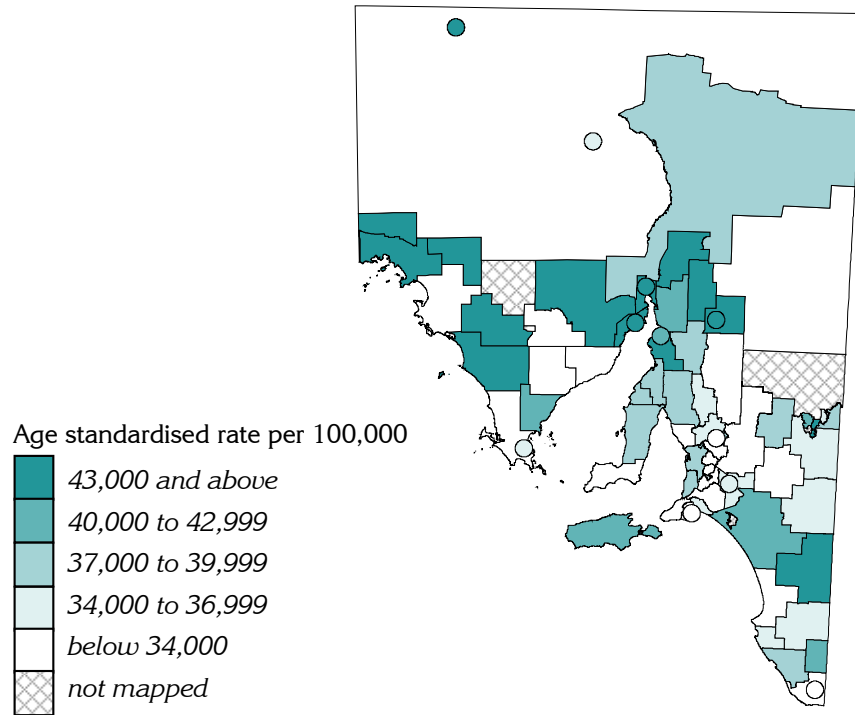


Map 2.3: Female hospital admissions, Metropolitan Adelaide, 2004-05

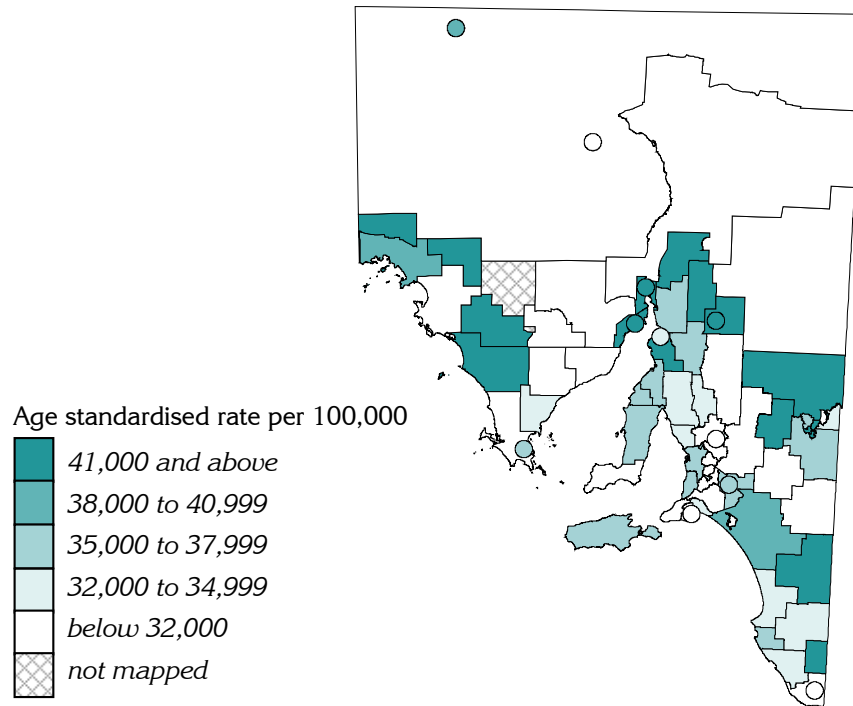


The geographic distribution of hospital admissions in country South Australia (Map 2.4) shows the main concentration of high rates of admissions to be in SLAs on the Eyre Peninsula and in the mid north. Both male (Map 2.5) and female (Map 2.6) admissions showed similar patterns, with female rates higher in the Unincorporated areas of Flinders Ranges and Whyalla.

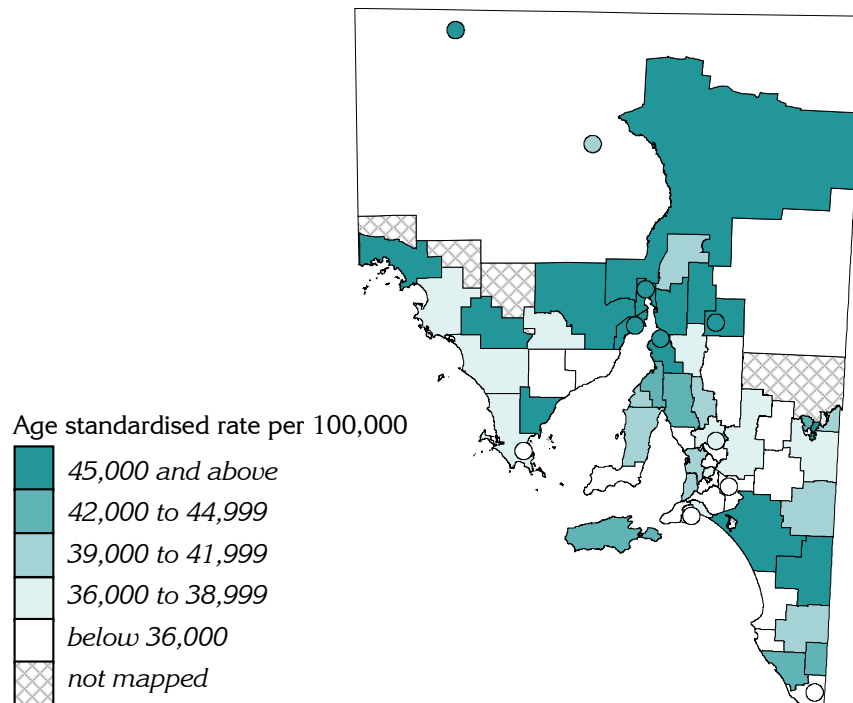
Map 2.4: All hospital admissions, South Australia, 2004-05



Map 2.5: Male hospital admissions, South Australia, 2004-05

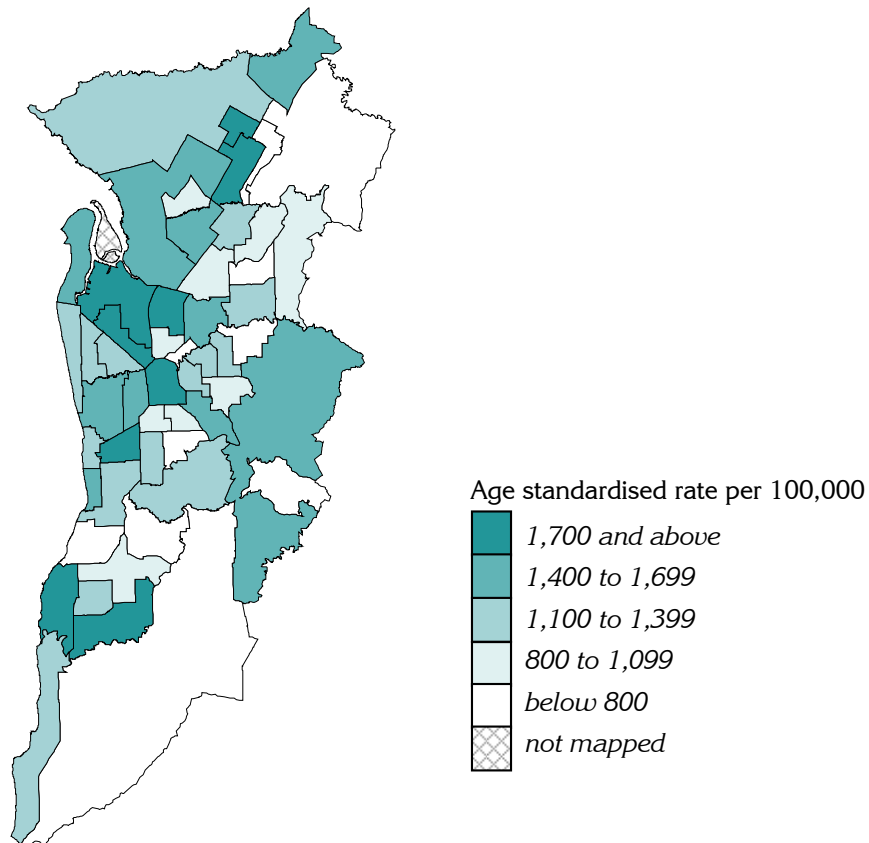


Map 2.6: Female hospital admissions, South Australia, 2004-05

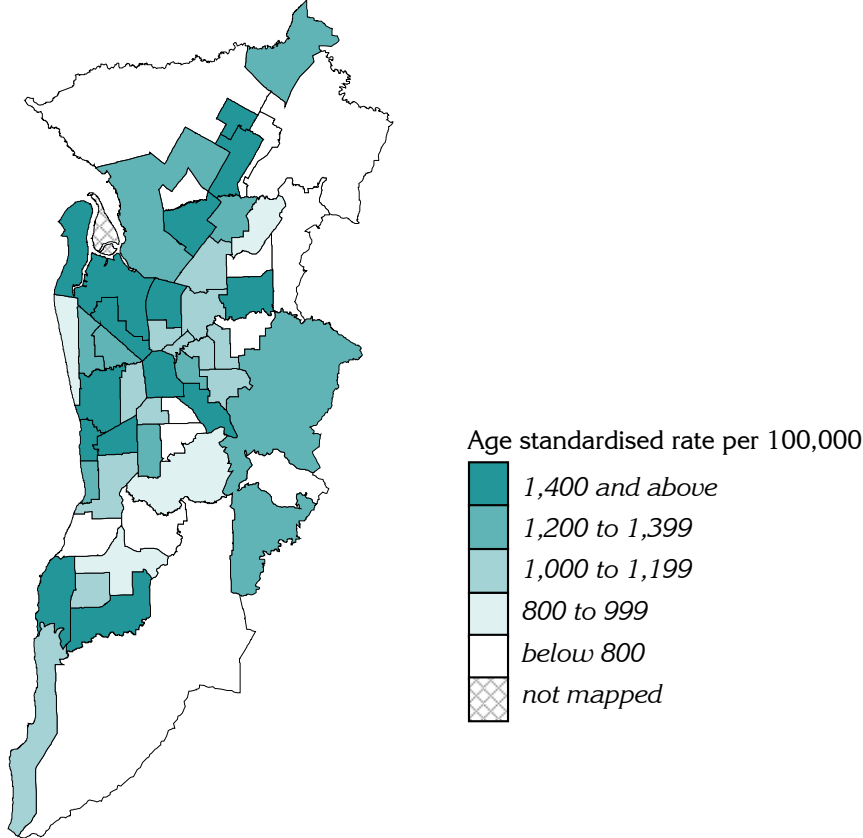


The geographic distribution of hospital admissions with a Mental health-related principal diagnosis follows a similar pattern to that of total hospital admissions shown in Map 2.1. The exception to this being the low rate in the SLA of Playford – Hills (Map 2.7). Although overall female rates were higher, there was a greater concentration of higher rates mapped for males in and around the city centre (Maps 2.8 and 2.9).

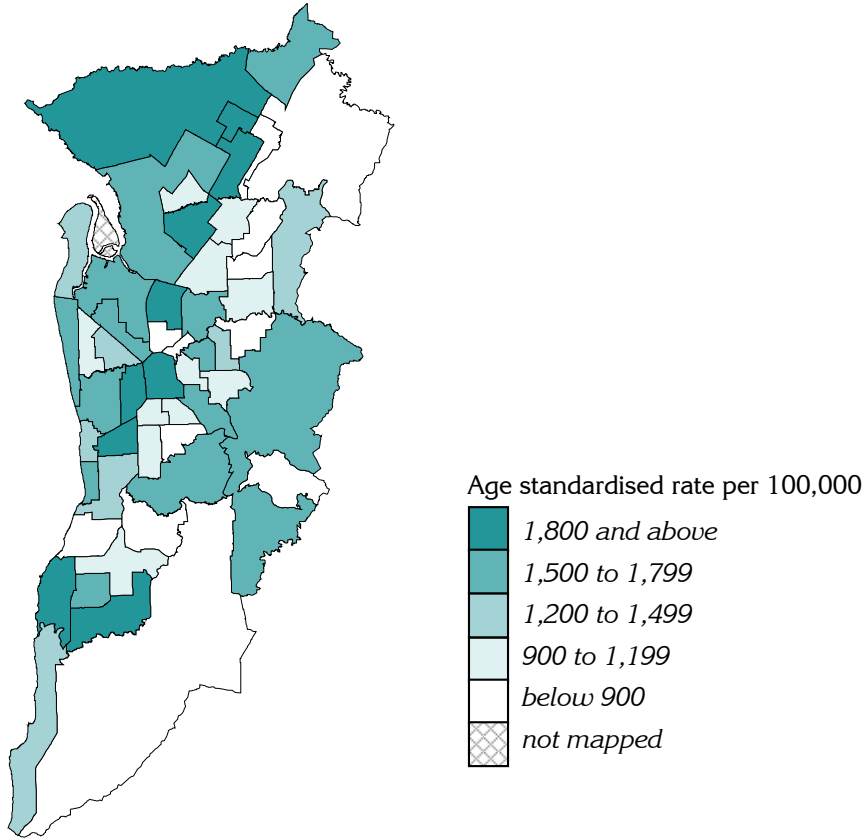
Map 2.7: Hospital admissions with a Mental Health-related principal diagnosis, Metropolitan Adelaide, 2004-05



Map 2.8: Male hospital admissions with a Mental Health-related principal diagnosis, Metropolitan Adelaide, 2004-05

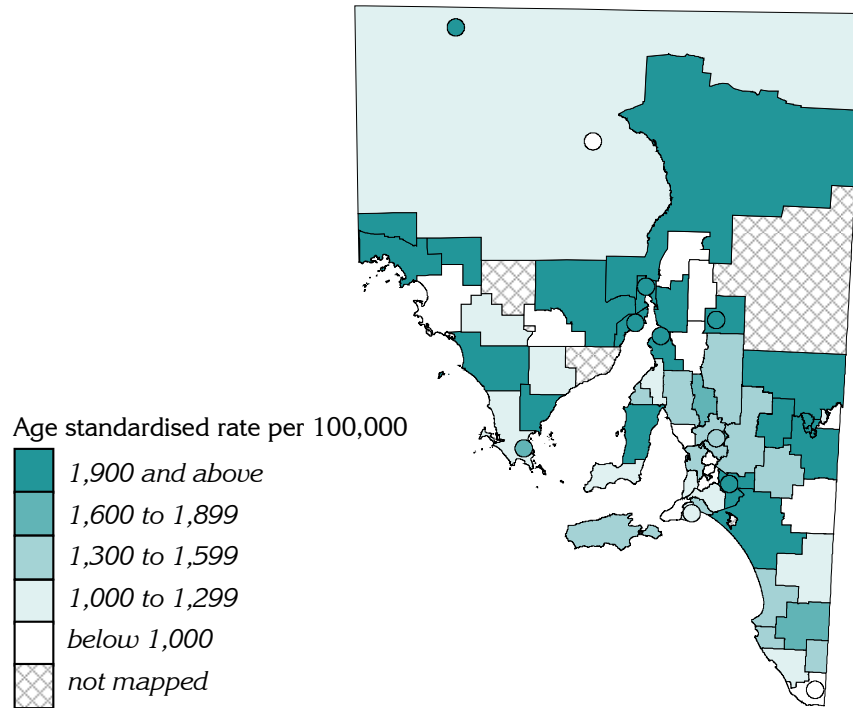


Map 2.9: Female hospital admissions with a Mental Health-related principal diagnosis, Metropolitan Adelaide, 2004-05

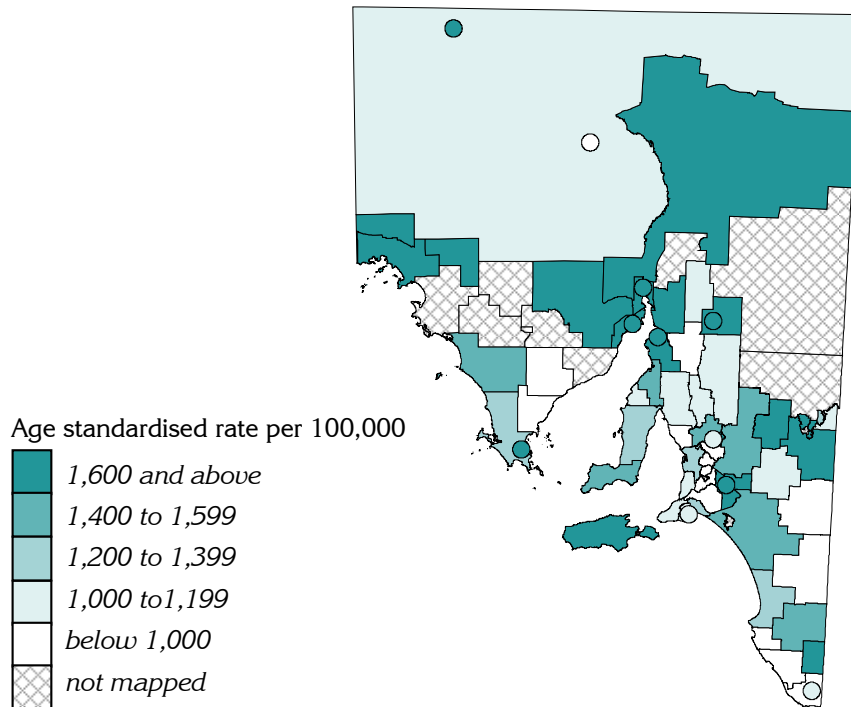


High rates of hospital admissions with a Mental Health-related principal diagnosis were spread throughout much of the State (Map 2.10), with higher rates for males occurring in the Unincorporated areas of Flinders Ranges and Whyalla (Map 2.11) and higher rates for females in the SLAs of Unincorporated Riverland, The Coorong, Tumby Bay and Elliston (Map 2.12).

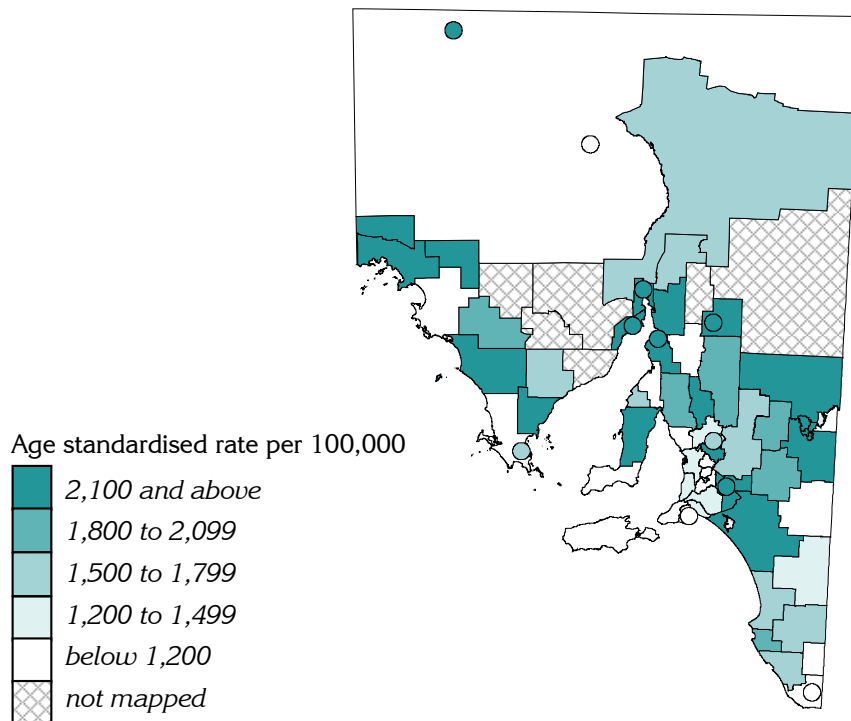
Map 2.10: Hospital admissions with a Mental Health-related principal diagnosis, South Australia, 2004-05



Map 2.11: Male hospital admissions with a Mental Health-related principal diagnosis, South Australia, 2004-05

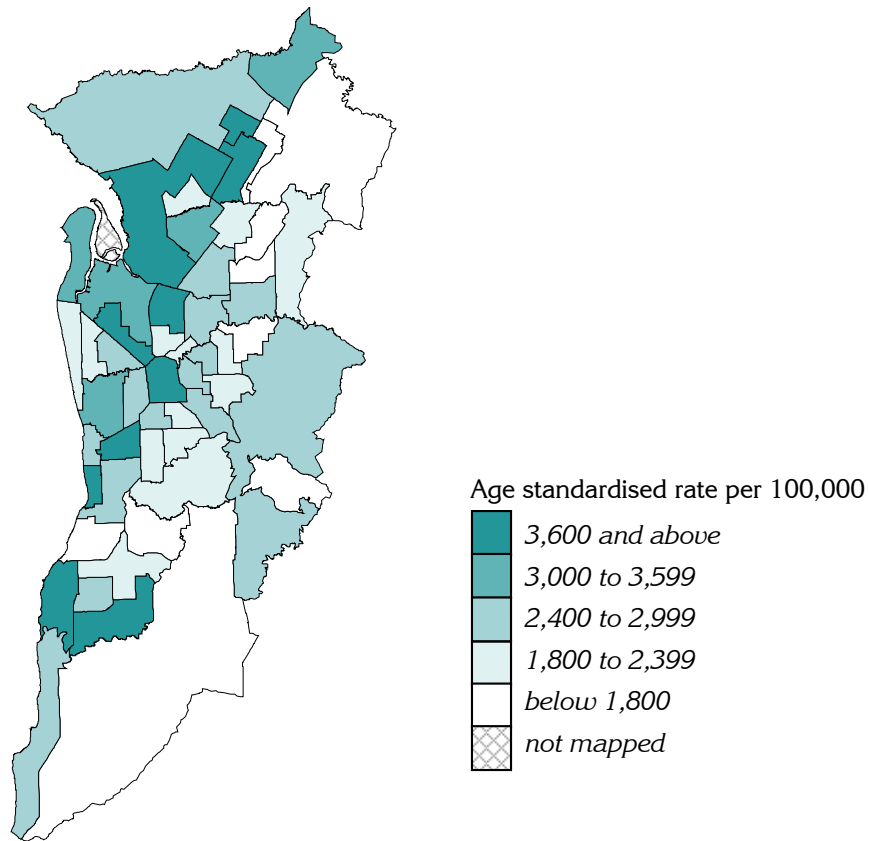


Map 2.12: Female hospital admissions with a Mental Health-related principal diagnosis, South Australia, 2004-05

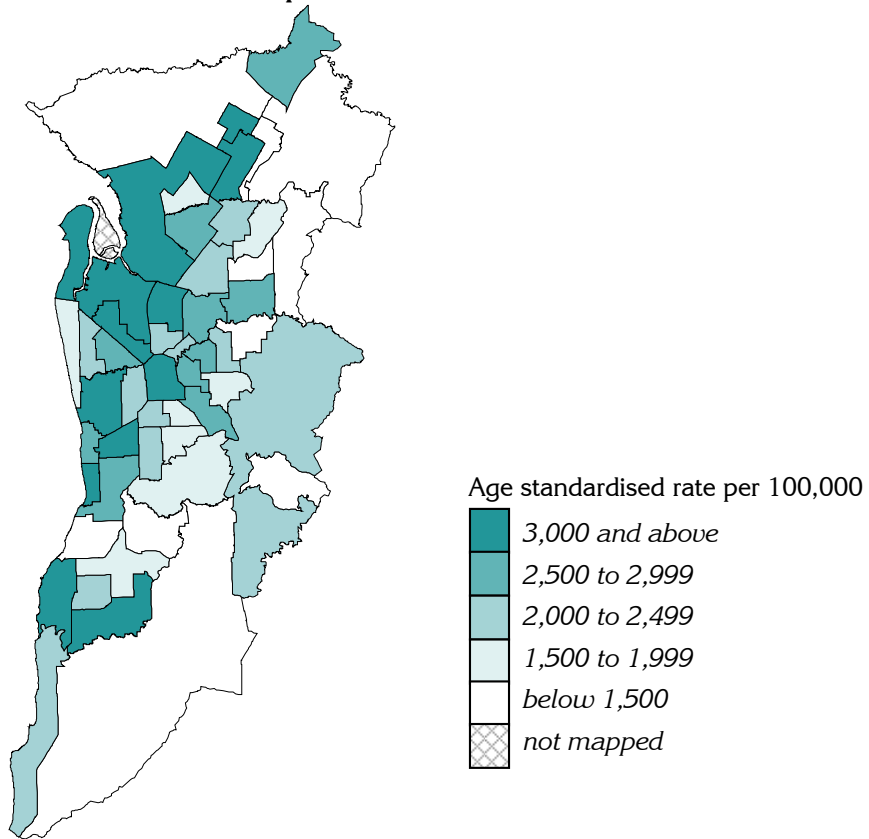


Hospital admissions with any Mental Health-related diagnosis (Map 2.13) was almost identical to the distribution of hospital admissions with a Mental Health-related principal diagnosis (Map 2.7), this being the case in the distribution for both males and females in Metropolitan Adelaide and country South Australia (Map 2.16).

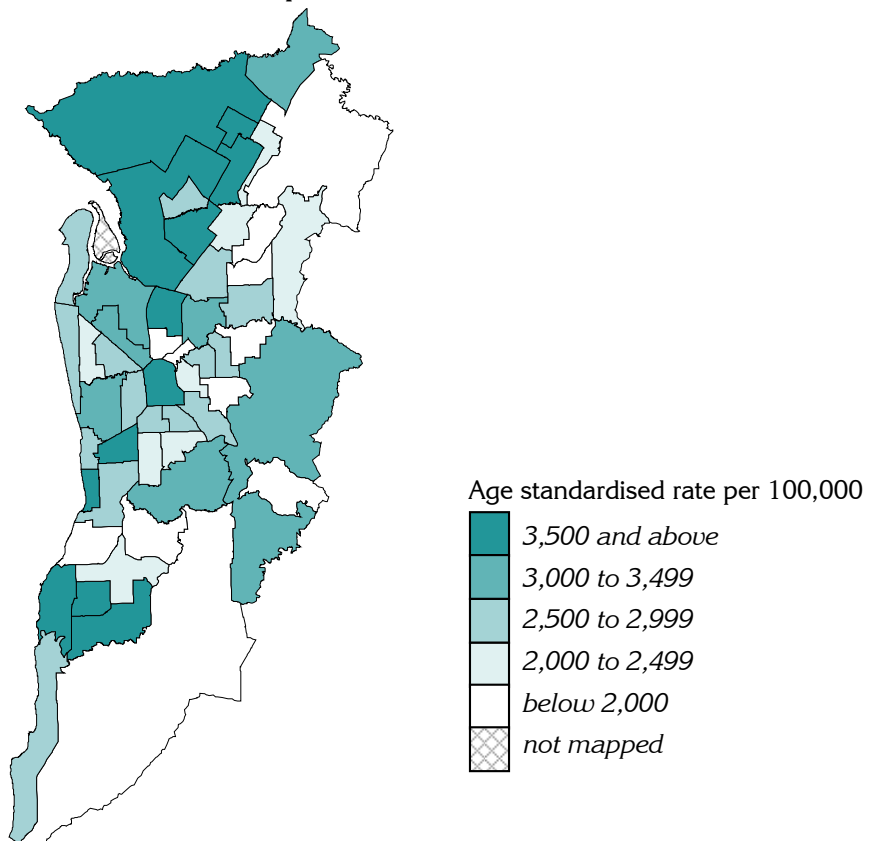
Map 2.13: Hospital admissions with any Mental Health-related diagnosis, Metropolitan Adelaide, 2004-05



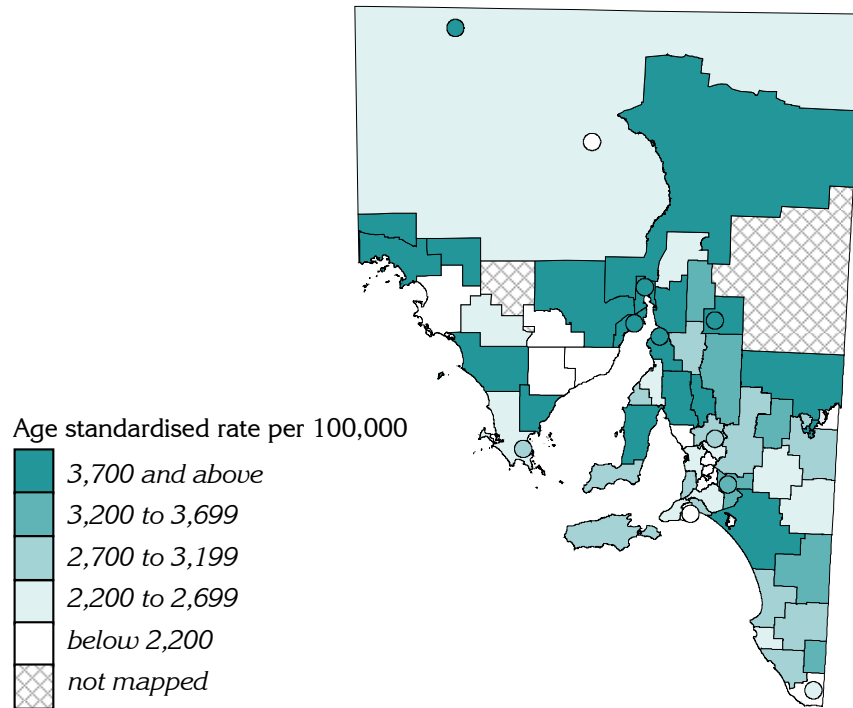
Map 2.14: Male hospital admissions with any Mental Health-related diagnosis, Metropolitan Adelaide, 2004-05



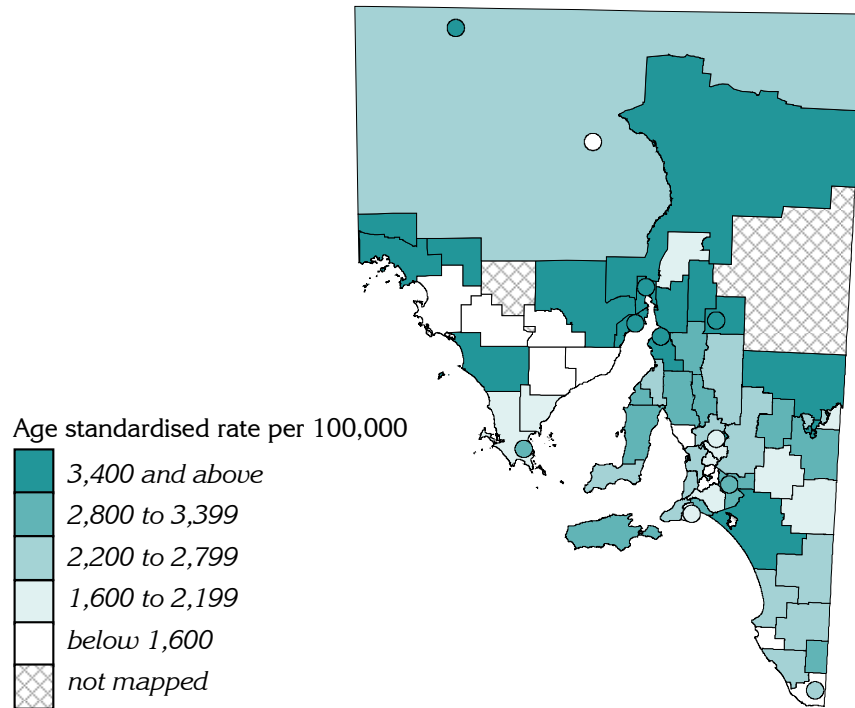
Map 2.15: Female hospital admissions with any Mental Health-related diagnosis, Metropolitan Adelaide, 2004-05



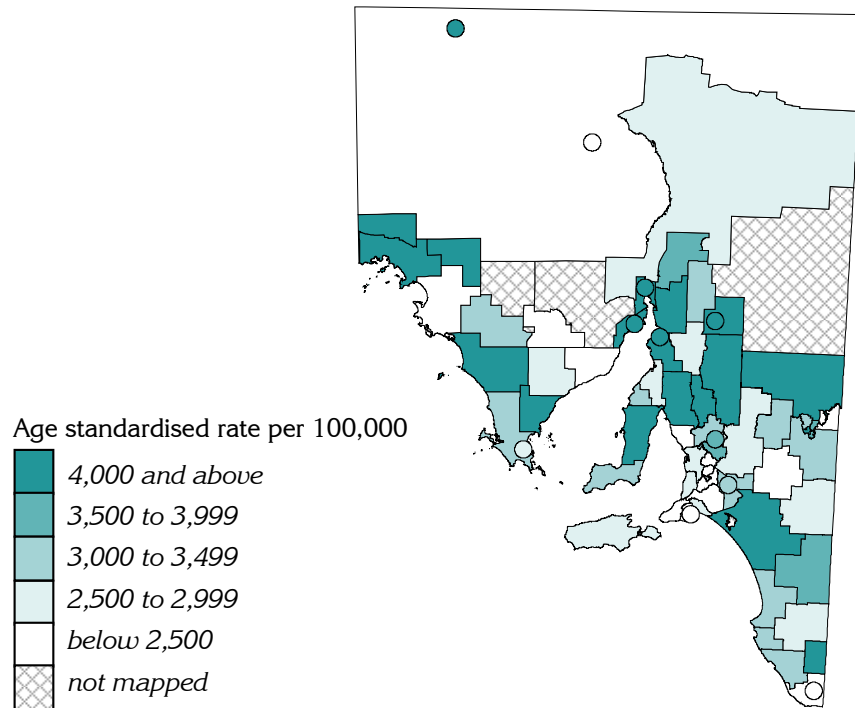
Map 2.16: All hospital admissions with any Mental Health-related diagnosis, South Australia, 2004-05



Map 2.17: Male hospital admissions with any Mental Health-related diagnosis, South Australia, 2004-05



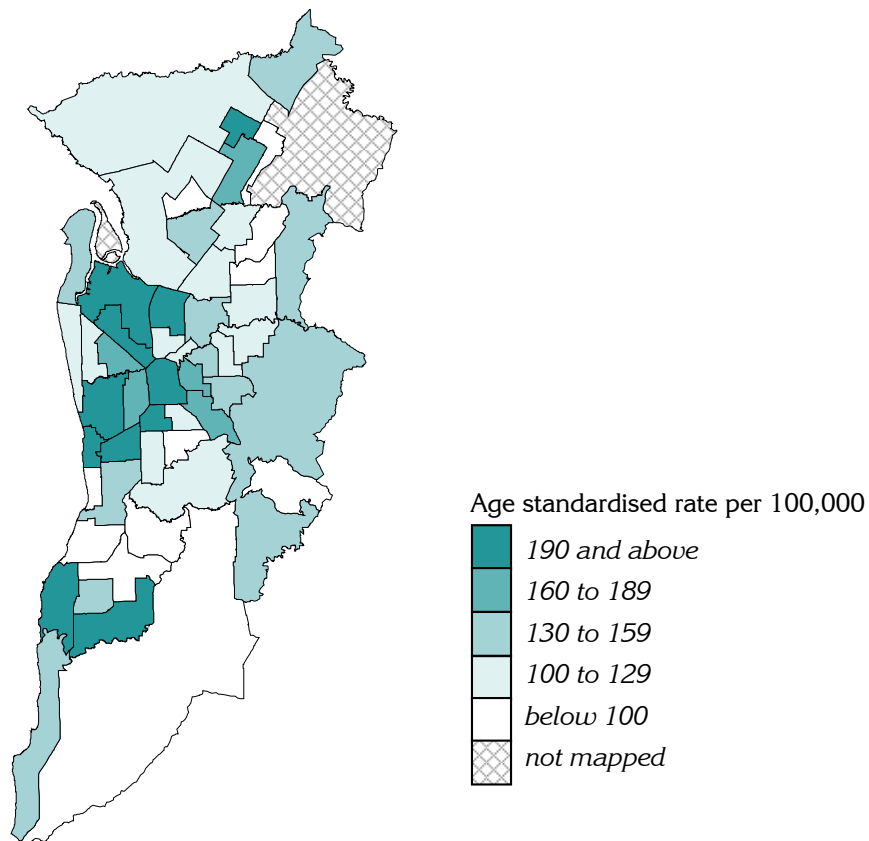
Map 2.18: Female hospital admissions with any Mental Health-related diagnosis, South Australia, 2004-05



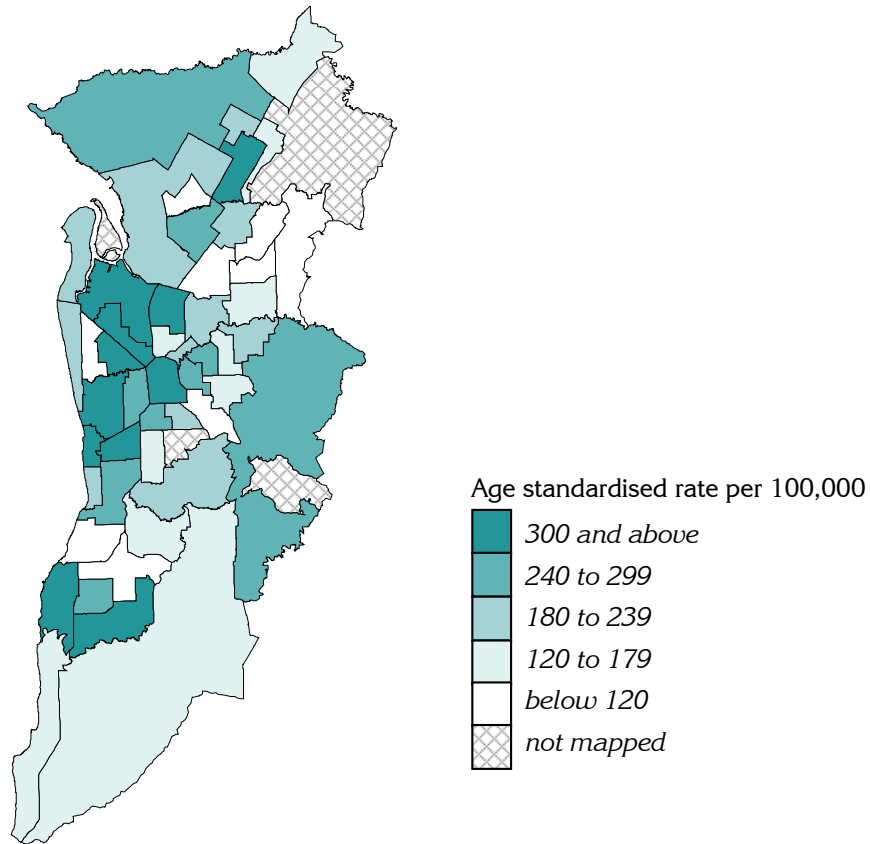
The distribution of hospital admissions with a principal diagnosis of “Mental/behavioural disorder due to substance use” shows the highest rates were situated in the inner northern and western areas, with high rates also recorded to the outer southern areas (Map 2.19). The pattern was similar for admissions of people aged 20-44 years, with the most notable differences occurring in the SLAs of Playford (Map 2.20).

In country South Australia (Map 2.21) the lowest rates were recorded in the SLAs surrounding the metropolitan region, with the highest rates in the far northern, Riverland and Yorke Peninsula areas.

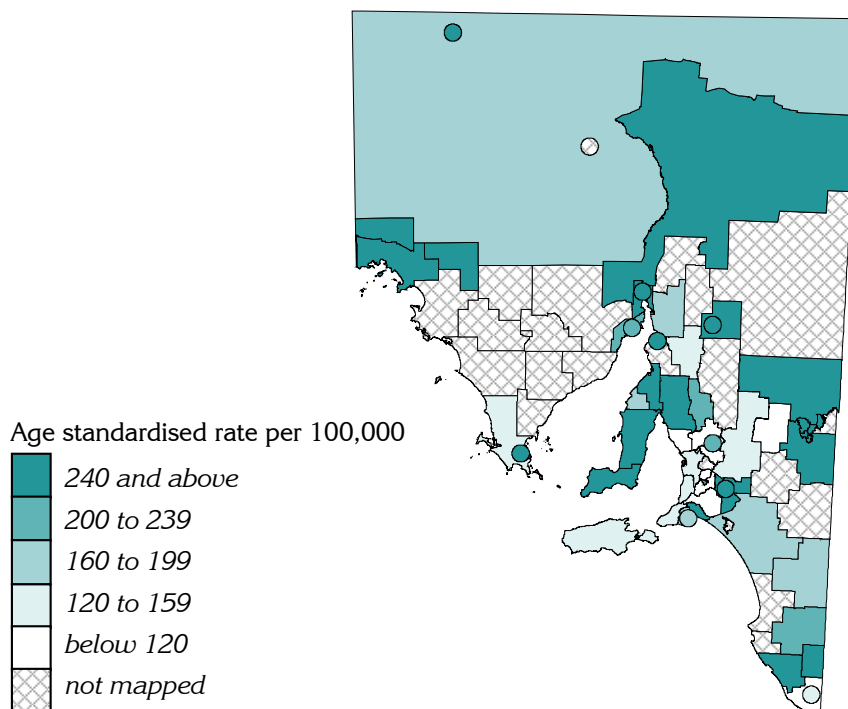
Map 2.19: Hospital admissions with a principal diagnosis of “Mental/behavioural disorder due to substance use”, Metropolitan Adelaide, 2004-05



Map 2.20: Hospital admissions of 20-44 year olds with a principal diagnosis of “Mental/behavioural disorder due to substance use”, Metropolitan Adelaide, 2004-05



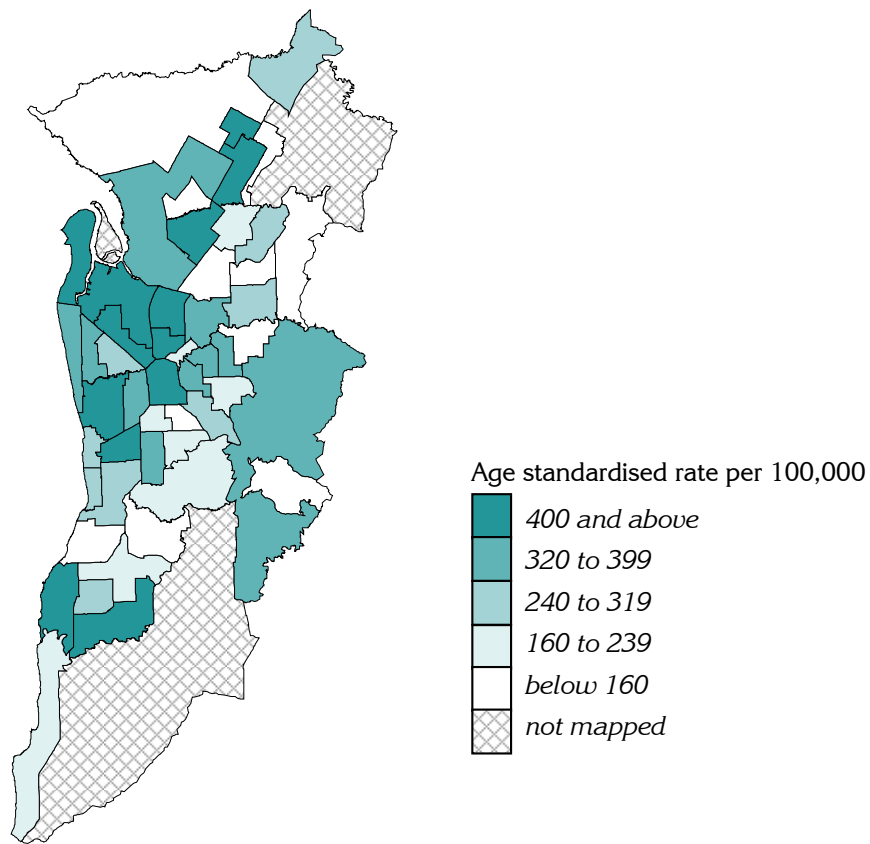
Map 2.21: Hospital admissions with a principal diagnosis of “Mental/behavioural disorder due to substance use”, South Australia, 2004-05



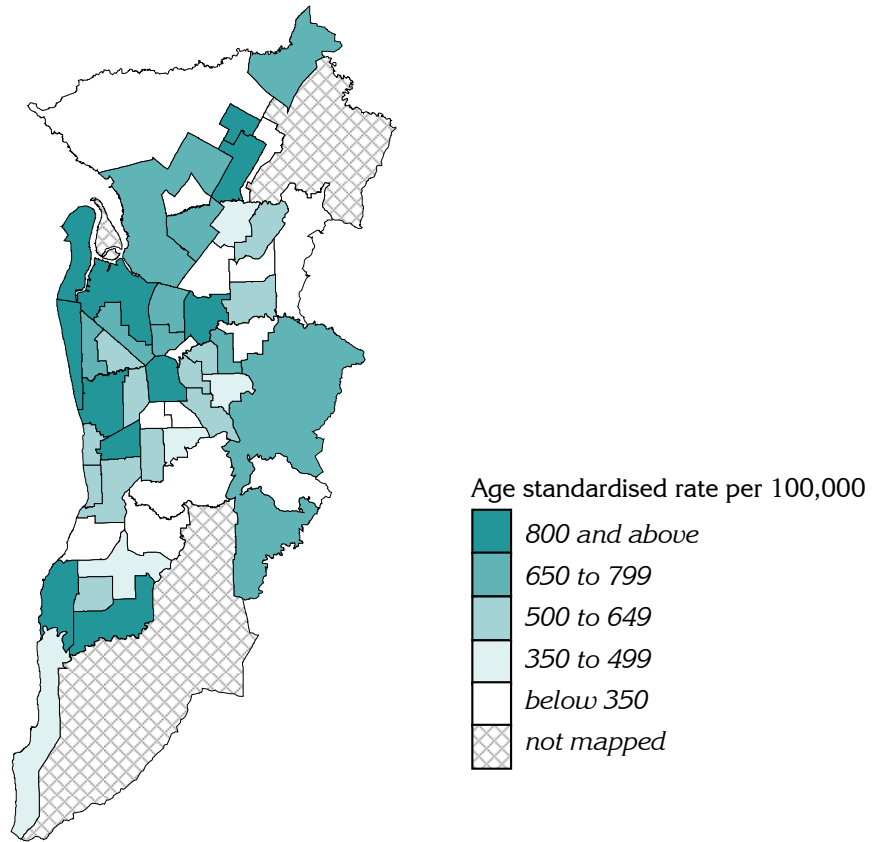
Again, the highest concentrations of hospital admissions with a principal diagnosis of “Schizophrenia, schizotypal and delusional disorders” were in areas located in the northern and southern areas, as well in the north-western and western suburbs (Map 2.22). There was little difference in the geographical pattern for people aged 20-44 years (Map 2.23).

Outside of Adelaide, the lowest rates were generally situated in the south-east and in the areas surrounding the metropolitan area and in the mid north (Map 2.24).

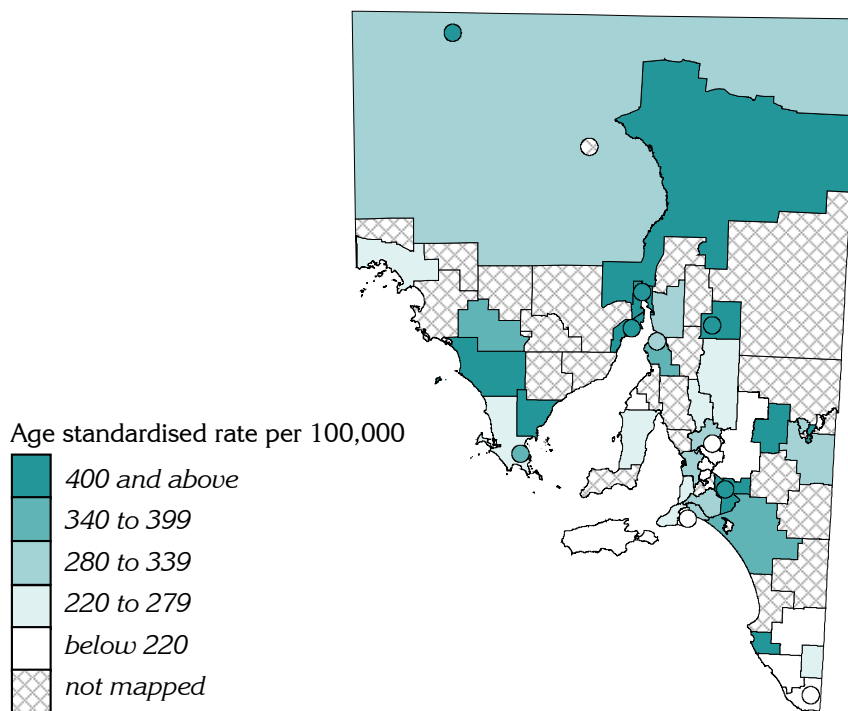
Map 2.22: Hospital admissions with a principal diagnosis of “Schizophrenia, schizotypal and delusional disorders”, Metropolitan Adelaide, 2004-05



Map 2.23: Hospital admissions of 20-44 year olds with a principal diagnosis of “Schizophrenia, schizotypal and delusional disorders”, Metropolitan Adelaide, 2004-05



Map 2.24: Hospital admissions with a principal diagnosis of “Schizophrenia, schizotypal and delusional disorders”, South Australia, 2004-05

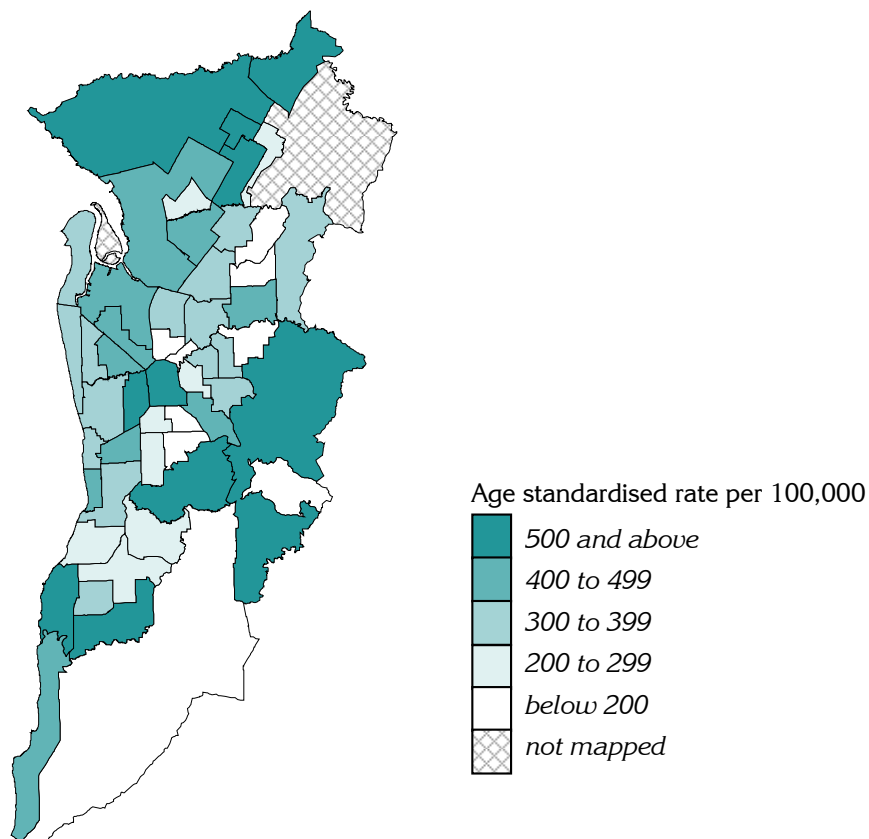


The map of hospital admissions with a principal diagnosis of “Mood (affective) disorders” (Map 2.25) shows a more diverse pattern, with the highest rates in the outer northern, southern, inner and eastern areas. The distribution across the age groups also varies, with

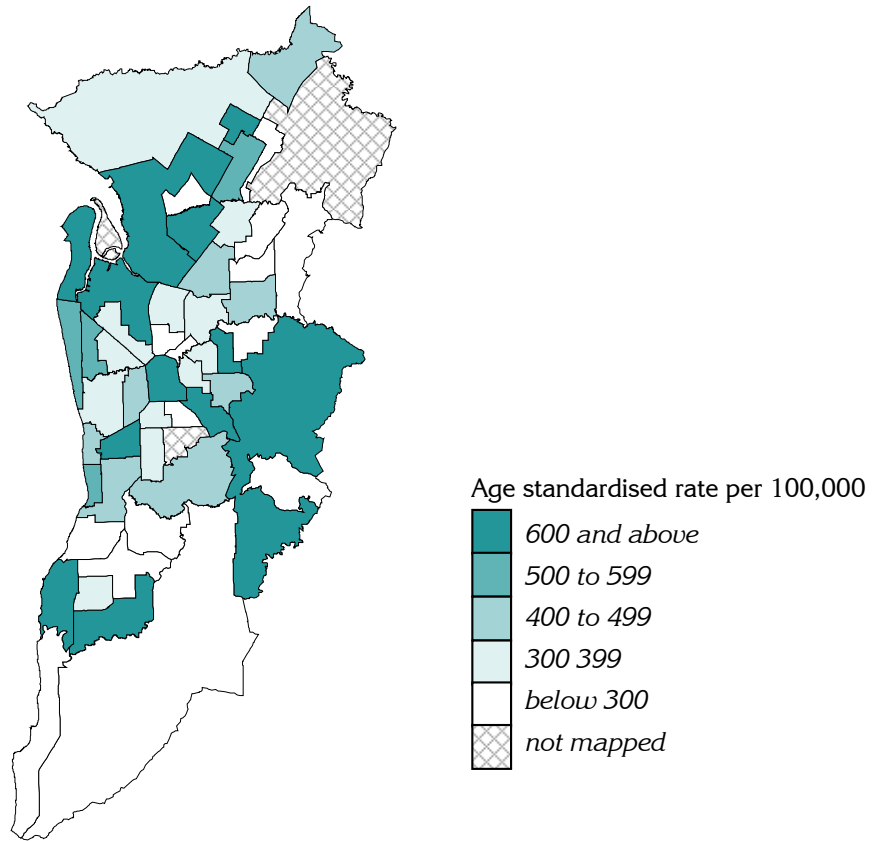
- high hospitalisation rates across most of the north-western region and low rates in the outer north for people aged 20-44 years (Map 2.26);
- lower rates in the outer north and higher rates in the areas just south of the city for people aged 44-64 years (Map 2.27); and
- high rates scattered across the metropolitan region for those aged 65 years and over (Map 2.28).

Low rates of hospital admissions with a principal diagnosis of “Mood (affective) disorders” across country South Australia were recorded in the areas surrounding the metropolitan region, and in the mid and far north (Map 2.29). There was little difference to the geographical pattern recorded for people aged 20-44 years (Map 2.30).

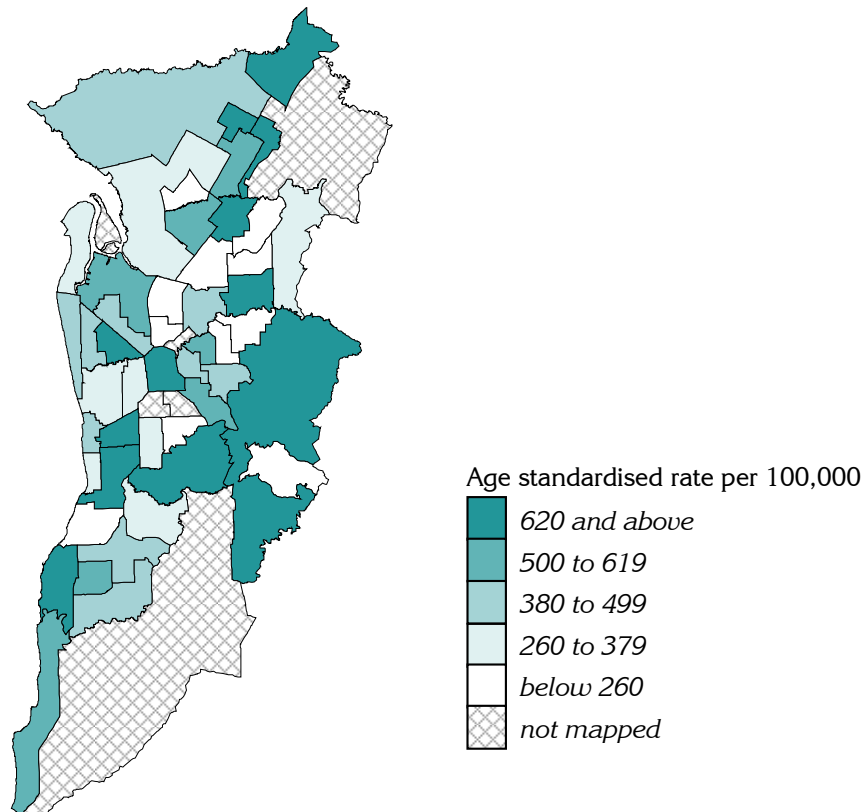
Map 2.25: Hospital admissions with a principal diagnosis of “Mood (affective) disorders”, Metropolitan Adelaide, 2004-05



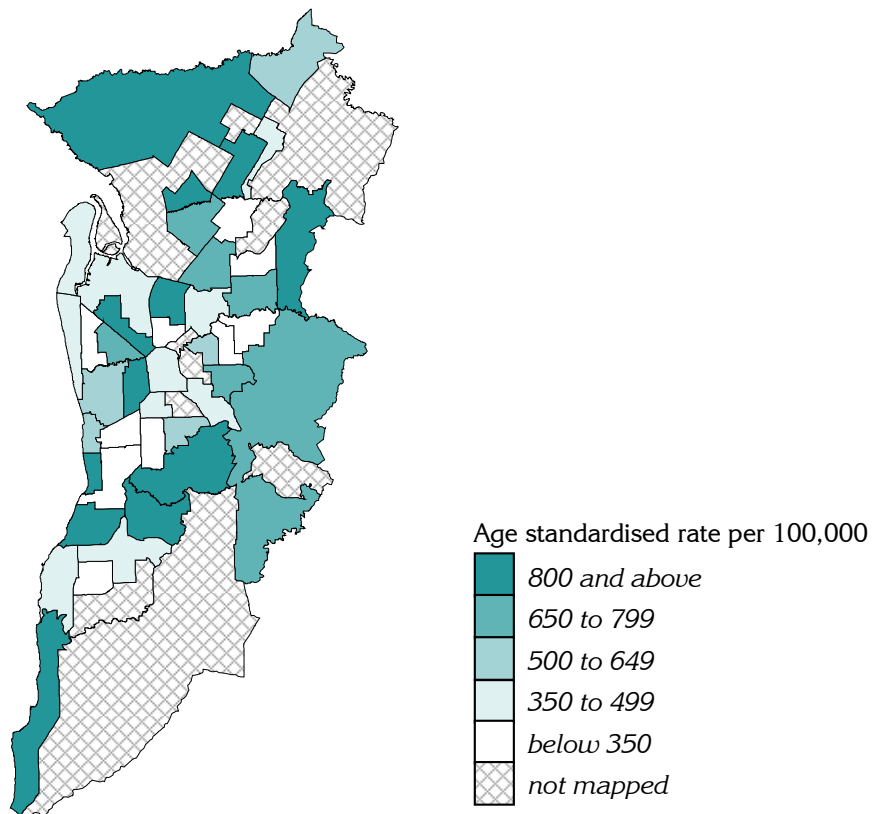
Map 2.26: Hospital admissions of 20-44 year olds with a principal diagnosis of “Mood (affective) disorders”, Metropolitan Adelaide, 2004-05



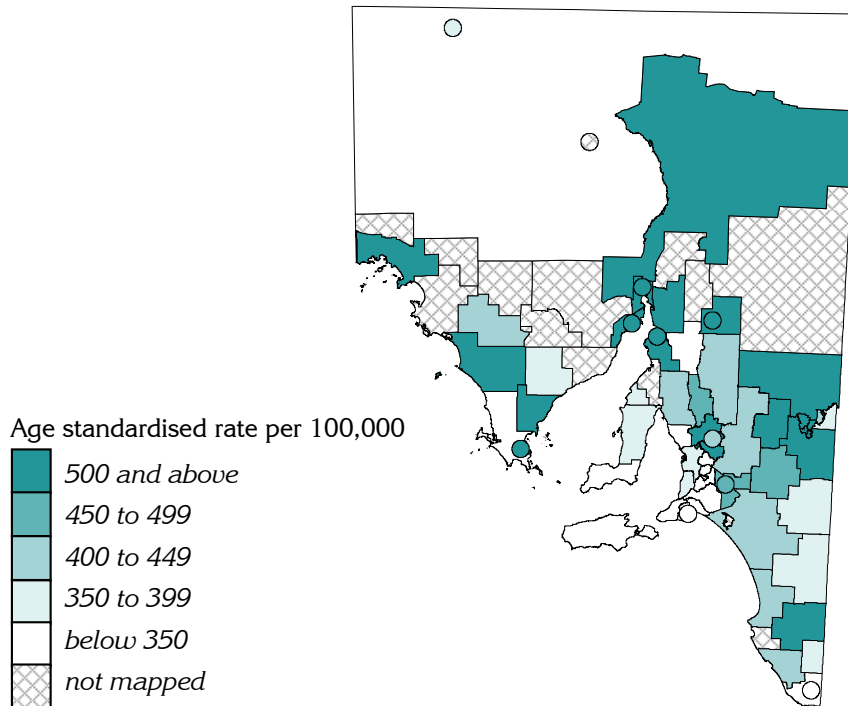
Map 2.27: Hospital admissions of 44-64 year olds with a principal diagnosis of “Mood (affective) disorders”, Metropolitan Adelaide, 2004-05



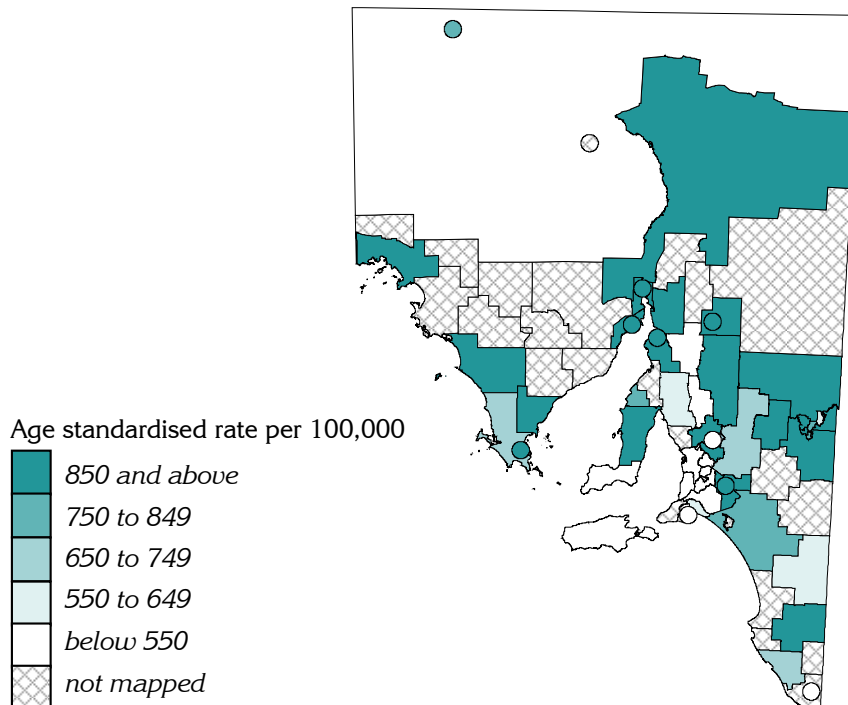
Map 2.28: Hospital admissions of people aged 65 years and over with a principal diagnosis of “Mood (affective) disorders”, Metropolitan Adelaide, 2004-05



Map 2.29: Hospital admissions with a principal diagnosis of “Mood (affective) disorders”, South Australia, 2004-05

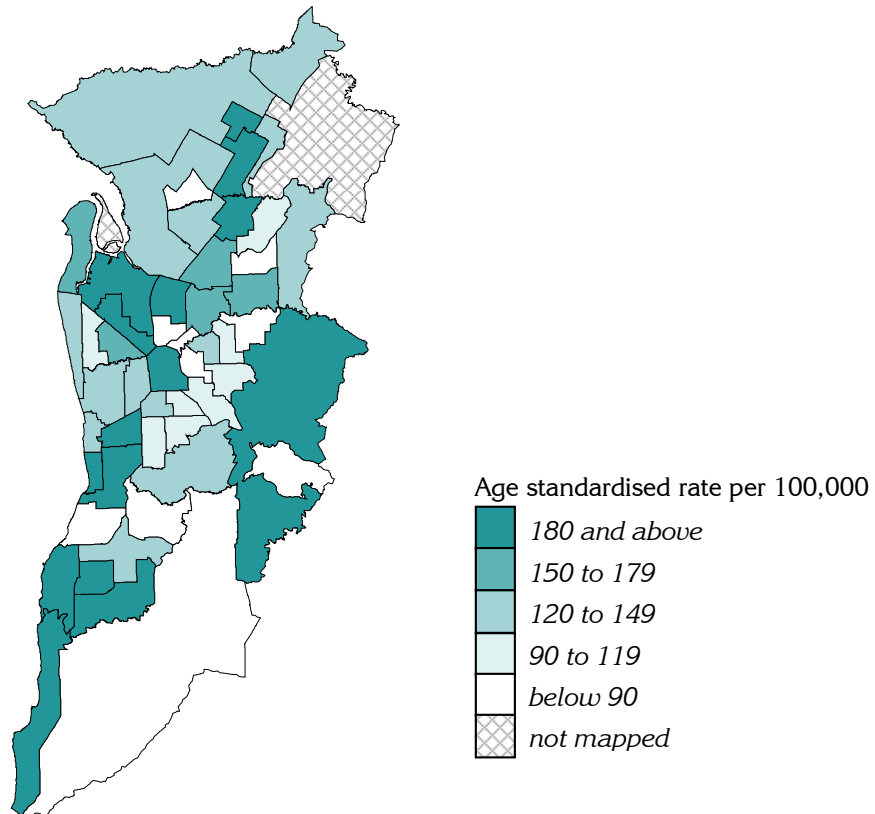


Map 2.30: Hospital admissions of 20-44 year olds with a principal diagnosis of “Mood (affective) disorders”, South Australia, 2004-05

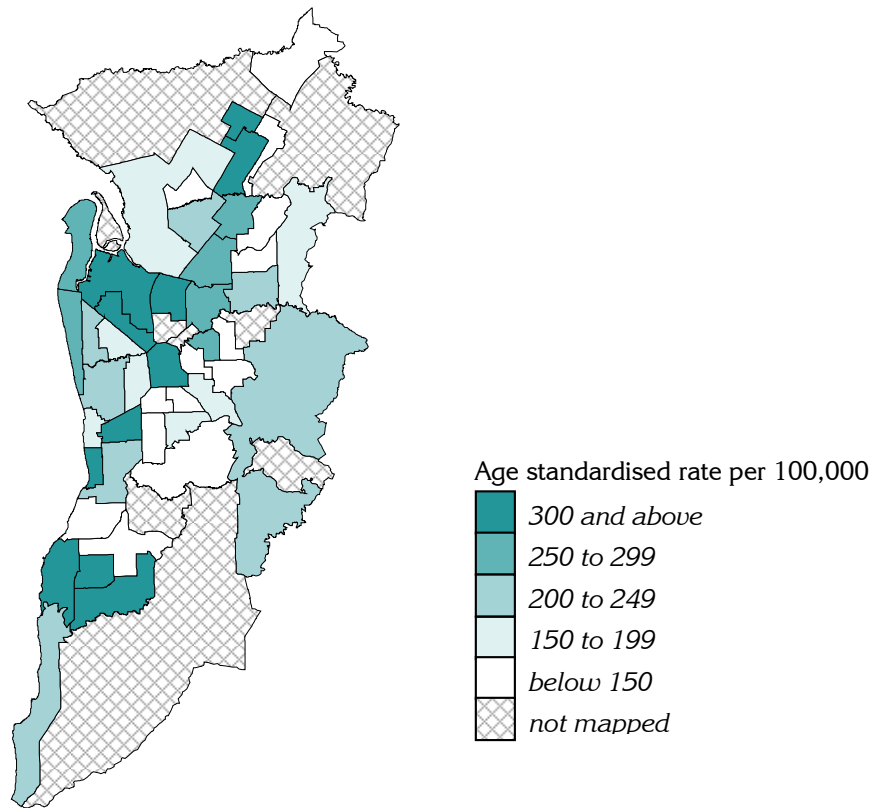


In the metropolitan region, there were four distinct areas of high rates of hospital admissions with a principal diagnosis of “Neurotic, stress-related and somatoform disorders”; in the north-west, north, outer south and east (Map 2.31). The SLAs of Adelaide Hills – Ranges, Salisbury – North-East, Marion – Central and Onkaparinga – South Coast moved from the highest range for people aged 20-44 years (Map 2.32).

Map 2.31: Hospital admissions with a principal diagnosis of “Neurotic, stress-related and somatoform disorders”, Metropolitan Adelaide, 2004-05

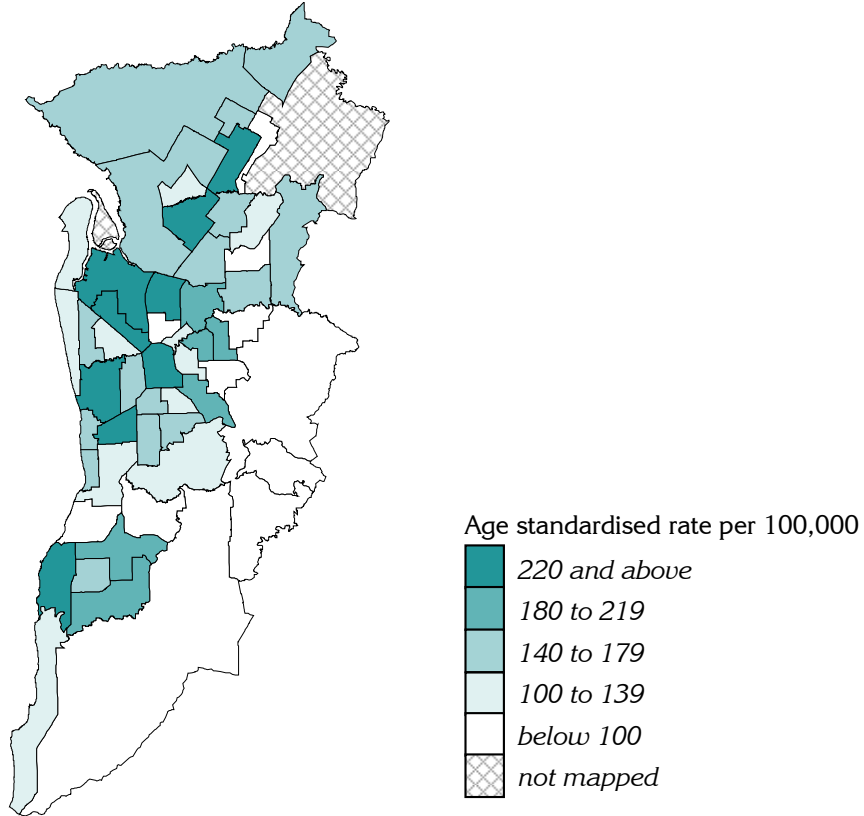


Map 2.32: Hospital admissions of people aged 20-44 years with a principal diagnosis of “Neurotic, stress-related and somatoform disorders”, Metropolitan Adelaide, 2004-05

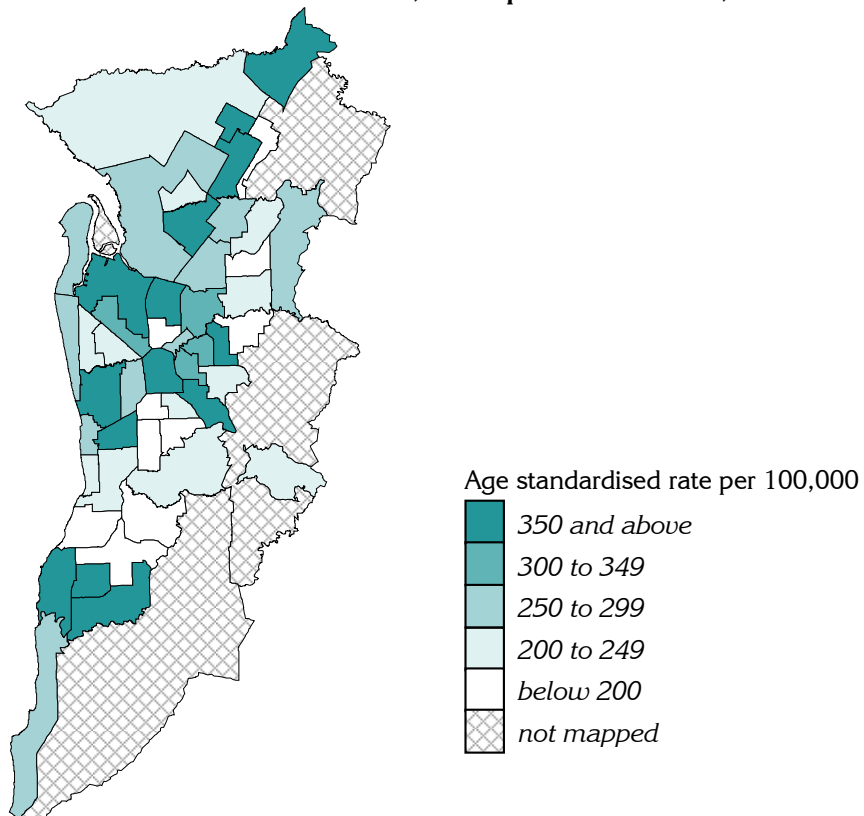


The distribution of admissions with a principal diagnosis of “Intentional self-harm” were similar for all ages (Map 2.33) and the 20-44 year age group (Map 2.34), with high rates in around the city centre, outer northern and southern areas,

Map 2.33: Hospital admissions with a principal diagnosis of “Intentional self-harm”, Metropolitan Adelaide, 2004-05



Map 2.34: Hospital admissions of people aged 20-44 years with a principal diagnosis of “Intentional self-harm”, Metropolitan Adelaide, 2004-05



Correlation analysis: hospitals admissions

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 (i.e. high values for one are matched by low values for the other), the two variables are negatively correlated.

In both Metropolitan Adelaide (Table 2.3) and country South Australia (Table 2.4), the correlation analysis shows a range of very strong and strong correlations between mental health hospital admissions and a wide range of indicators of socioeconomic disadvantage; similarly strong inverse correlations were recorded with many indicators of socioeconomic advantage.

Table 2.3: Correlation summary, mental health hospital admissions and indicators of socioeconomic disadvantage, Metropolitan Adelaide

Variable	Principal diagnosis	Any diagnosis	Substance use	Schizophrenia	Mood disorders	Neurotic	Intentional self-harm
Single parent families	0.42	0.58	0.14	0.34	0.44	0.51	0.36
Low income families	0.46	0.57	0.18	0.41	0.50	0.52	0.42
High income families	-0.36	-0.48	-0.06	-0.28	-0.47	-0.46	-0.31
Jobless families	0.55	0.66	0.29	0.46	0.54	0.60	0.49
Unemployment	0.60	0.70	0.41	0.53	0.50	0.62	0.53
Unskilled workers	0.24	0.40	-0.01	0.14	0.38	0.35	0.18
Educational participation	-0.57	-0.65	-0.42	-0.48	-0.49	-0.61	-0.53
Indigenous	0.50	0.60	0.29	0.44	0.46	0.57	0.42
NESB – 5 yrs or more	0.13	0.07	0.12	0.23	0.11	-0.03	0.19
NESB – less than 5 yrs	0.58	0.42	0.74	0.64	0.23	0.35	0.60
Poor English proficiency	0.24	0.20	0.20	0.30	0.21	0.09	0.26
Rented dwellings	0.54	0.61	0.32	0.52	0.42	0.57	0.51
Rent assistance	0.65	0.67	0.64	0.65	0.37	0.55	0.57
Dwellings with no car	0.68	0.66	0.62	0.74	0.36	0.53	0.69
IRSD	-0.44	-0.56	-0.18	-0.37	-0.48	-0.50	-0.38

Note: Correlations between 0.3 and 0.49 are referred to as being 'weak'; between 0.50 and 0.70 as being 'strong', and shaded in light green; and those 0.71 and above as being 'very strong', and shaded in dark green.

Table 2.4: Correlation summary, mental health hospital admissions and indicators of socioeconomic disadvantage, country South Australia

Variable	Principal diagnosis	Any diagnosis	Substance use	Schizophrenia	Mood disorders	Neurotic	Intentional self-harm
Single parent families	0.46	0.45	0.42	0.47	0.36	0.38	0.34
Low income families	0.34	0.39	0.30	0.50	0.24	0.31	-0.02
High income families	-0.36	-0.41	-0.33	-0.43	-0.32	-0.33	0.09
Jobless families	0.54	0.50	0.44	0.71	0.48	0.41	0.15
Unemployment	0.22	0.38	0.22	0.34	0.15	0.11	0.17
Unskilled workers	0.33	0.33	0.37	0.30	0.32	0.18	-0.03
Educational participation	-0.52	-0.56	-0.54	-0.53	-0.58	-0.23	0.13
Indigenous	0.71	0.80	0.78	0.50	0.63	0.55	-0.02
NESB – 5 yrs or more	0.11	0.09	0.11	0.42	-0.02	-0.02	0.08
NESB – less than 5 yrs	-0.03	-0.07	-0.03	0.09	-0.06	-0.04	-0.05
Poor English proficiency	0.07	0.05	0.07	0.27	-0.01	-0.01	-0.04
Rented dwellings	0.07	0.03	-0.03	0.13	0.09	0.01	0.35
Rent assistance	0.20	0.18	0.24	0.18	0.13	0.16	0.05
Dwellings with no car	0.68	0.67	0.65	0.57	0.63	0.56	0.18
IRSD	-0.74	-0.72	-0.72	-0.69	-0.70	-0.55	0.00

Note: Correlations between 0.3 and 0.49 are referred to as being 'weak'; between 0.50 and 0.70 as being 'strong', and shaded in light green; and those 0.71 and above as being 'very strong', and shaded in dark green.

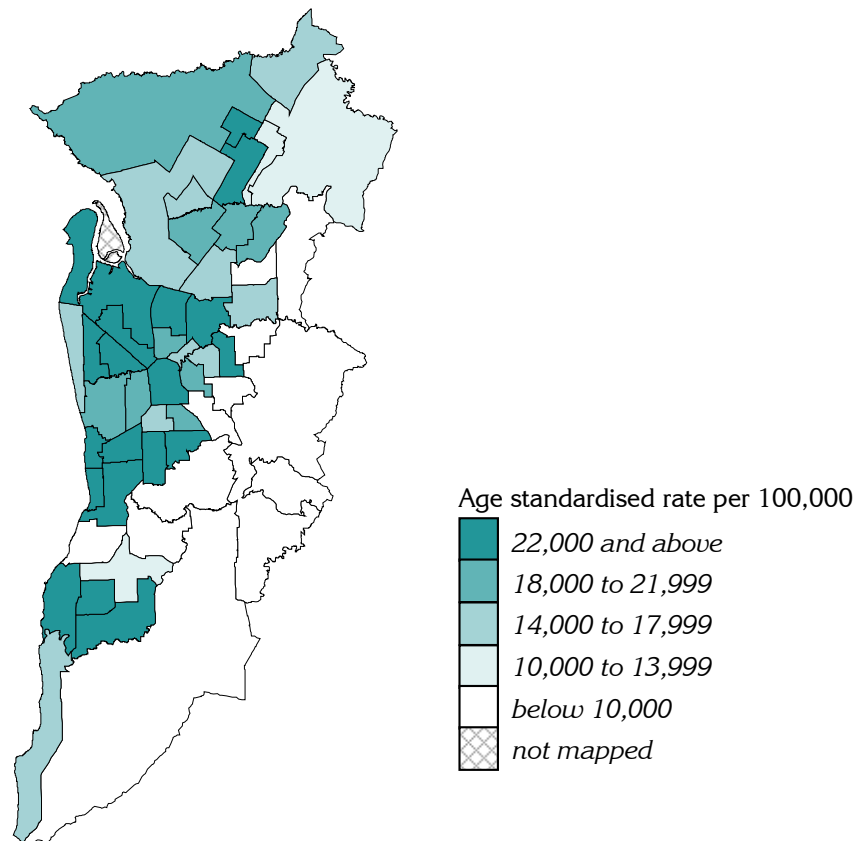
3 Community mental health service contacts

The distribution of community mental health service contacts shows a distinct pattern across the metropolitan region, with slight variations across the age groups;

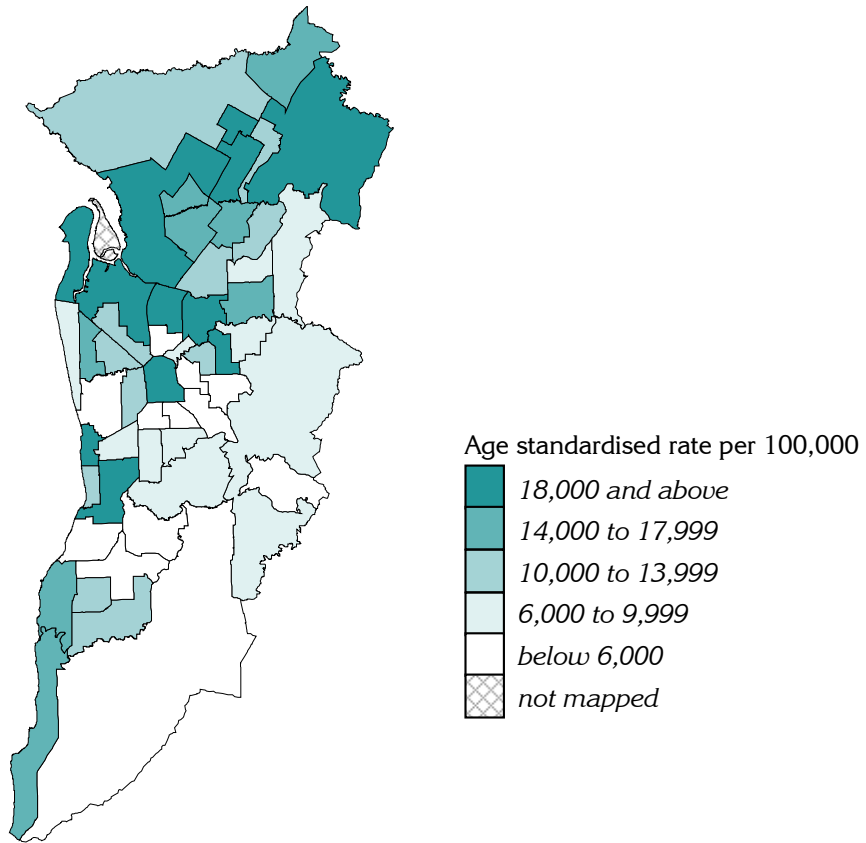
- for people aged 0-19 years the highest rates were generally spread across the inner northern, north-western and outer northern region (Map 3.2);
- for those aged 20-44 years (Map 3.3) and 45-64 years (Map 3.4), the highest rates were recorded in the outer northern and southern areas and in a dense block spreading from the northern-western to the inner southern suburbs; and
- people aged 65 years and over the highest rates formed a band from the outer northern areas through the north-western region into the inner southern suburbs (Map 3.5).

In the areas outside of Metropolitan Adelaide, the highest rates were spread through much of the State in no distinct pattern (Map 3.6).

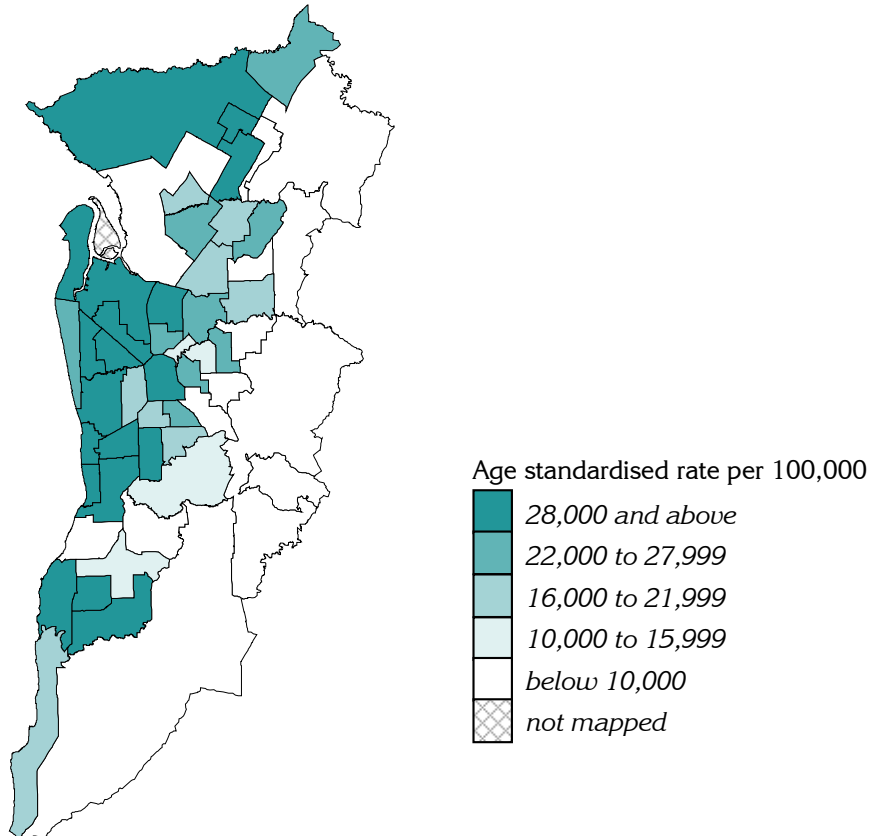
**Map 3.1: Community mental health service contacts,
Metropolitan Adelaide, 2004-05**



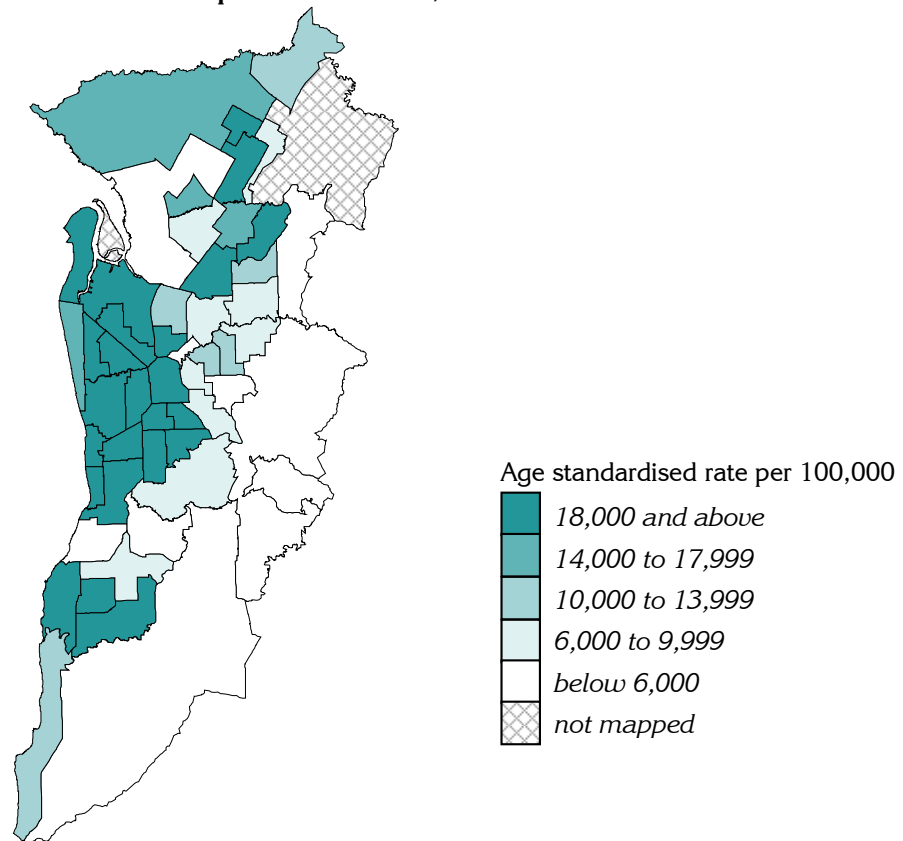
Map 3.2: Community mental health service contacts for clients aged 0-19 years, Metropolitan Adelaide, 2004-05



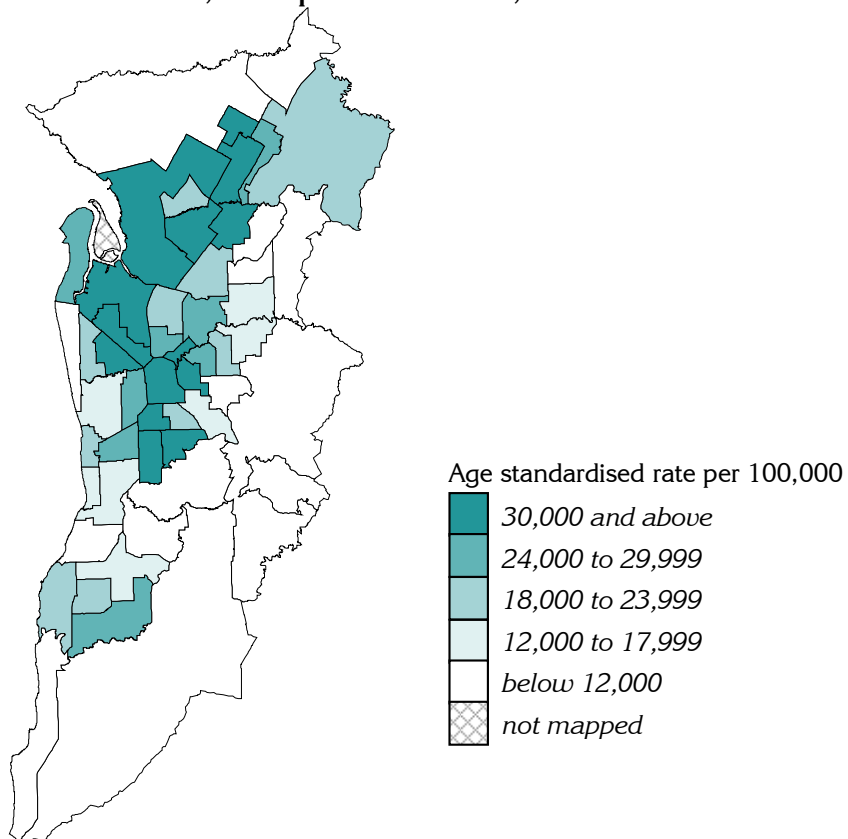
Map 3.3: Community mental health service contacts for clients aged 20-44 years, Metropolitan Adelaide, 2004-05



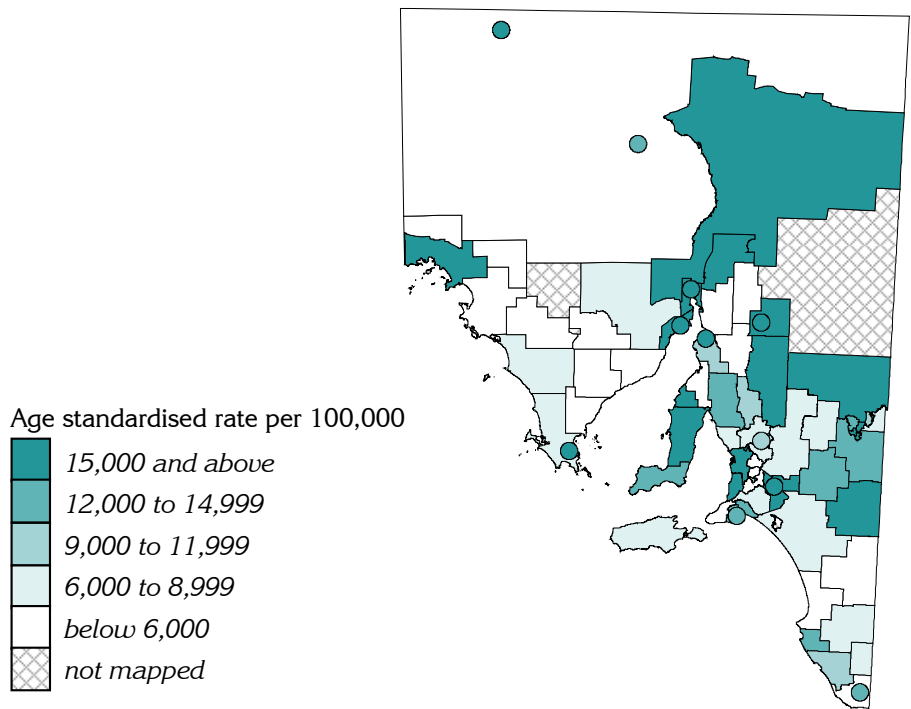
Map 3.4: Community mental health service contacts for clients aged 45-64 years, Metropolitan Adelaide, 2004-05



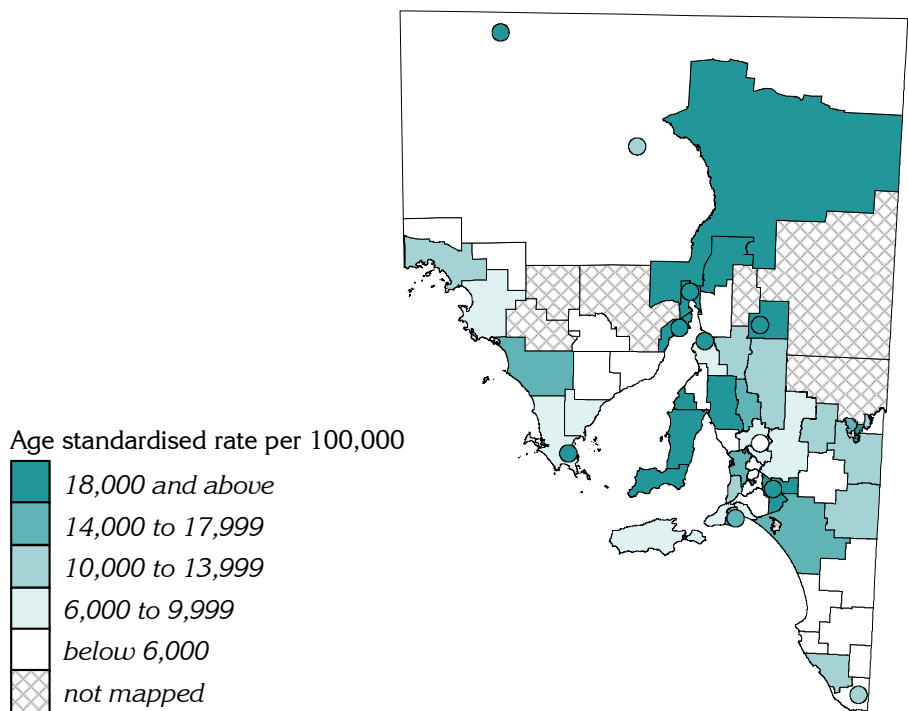
Map 3.5: Community mental health service contacts for clients aged 65 years and over, Metropolitan Adelaide, 2004-05



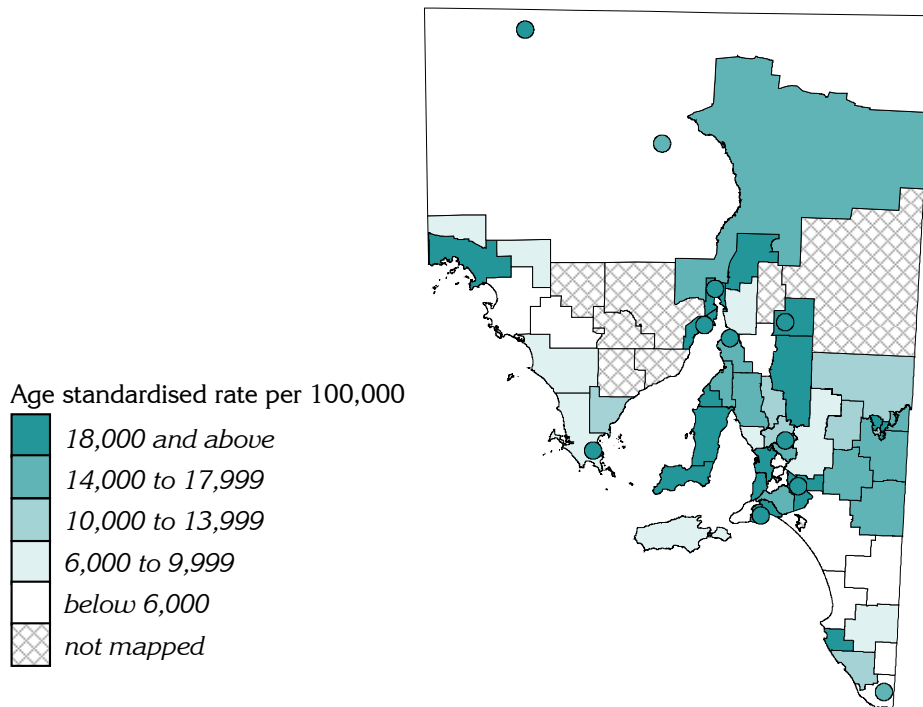
Map 3.6: Community mental health service contacts, South Australia, 2004-05



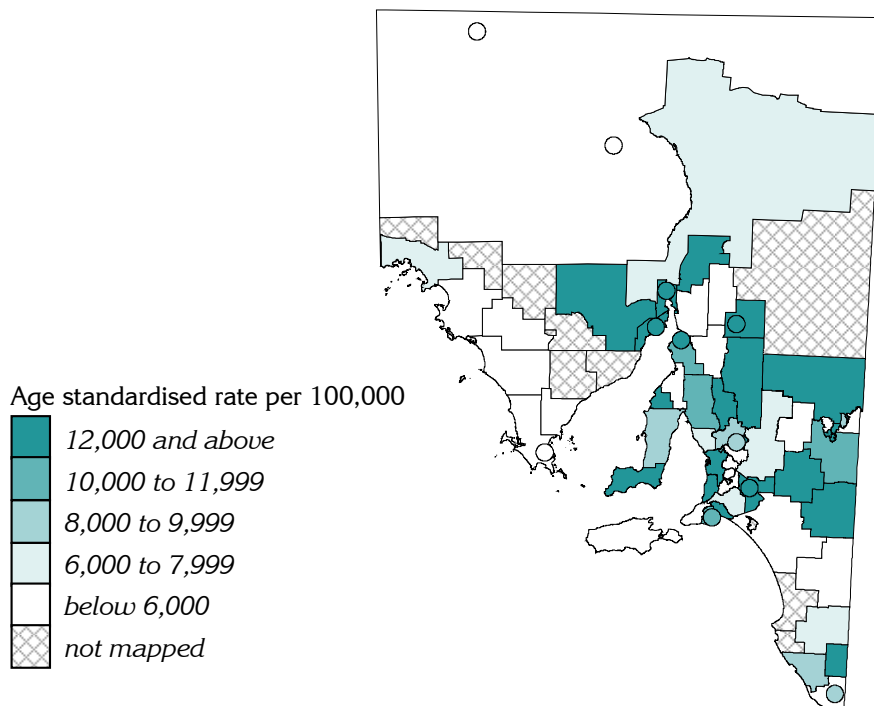
Map 3.7: Community mental health service contacts for clients aged 0-19 years, South Australia, 2004-05



Map 3.8: Community mental health service contacts for clients aged 20-44 years, South Australia, 2004-05

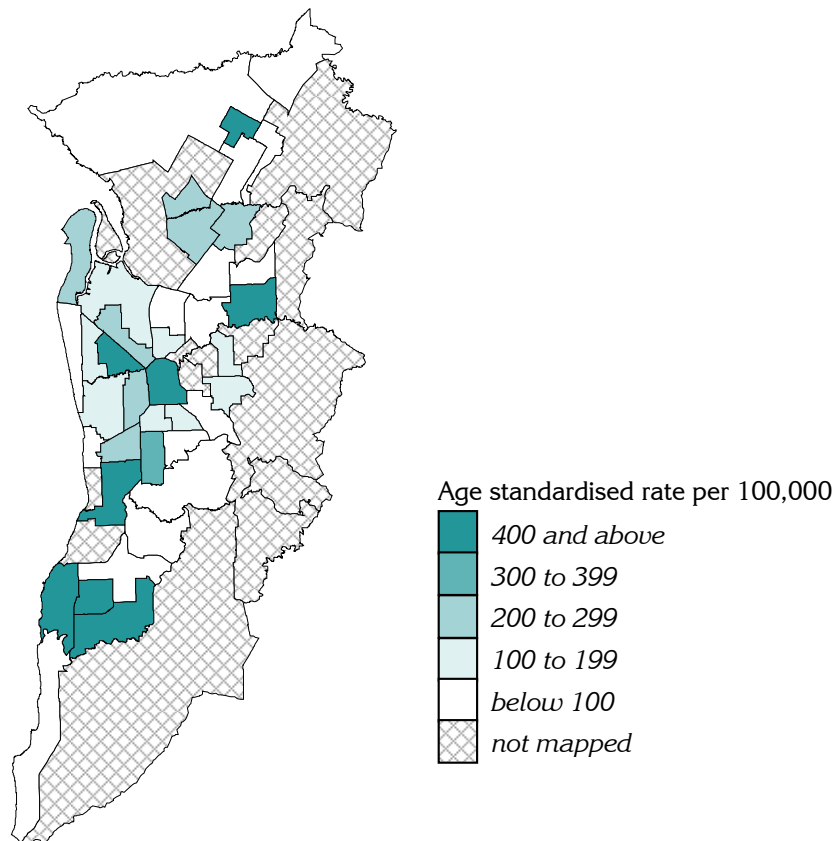


Map 3.9: Community mental health service contacts for clients aged 45-64 years, South Australia, 2004-05

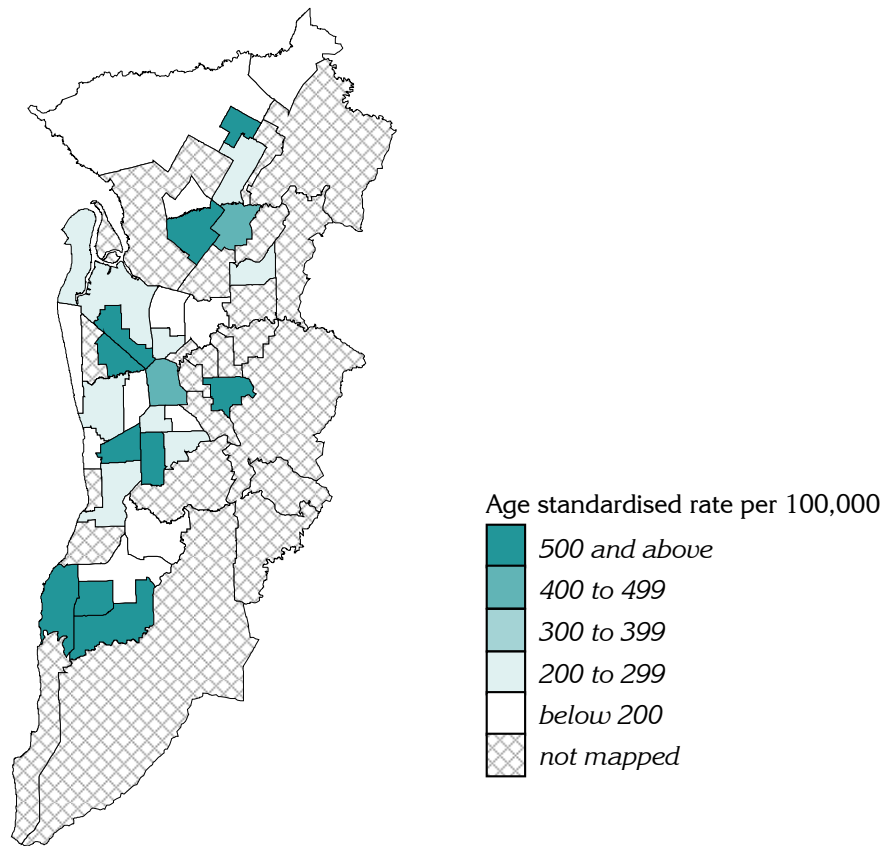


The distribution of community mental health services for clients with principal diagnosis of "Mental/behavioural disorder due to substance use" showed no clear geographical pattern for both people of all ages (Map 3.10) and those aged 20-44 years (Map 3.11).

Map 3.10: Community mental health service contacts for clients with principal diagnosis of "Mental/behavioural disorder due to substance use", Metropolitan Adelaide, 2004-05



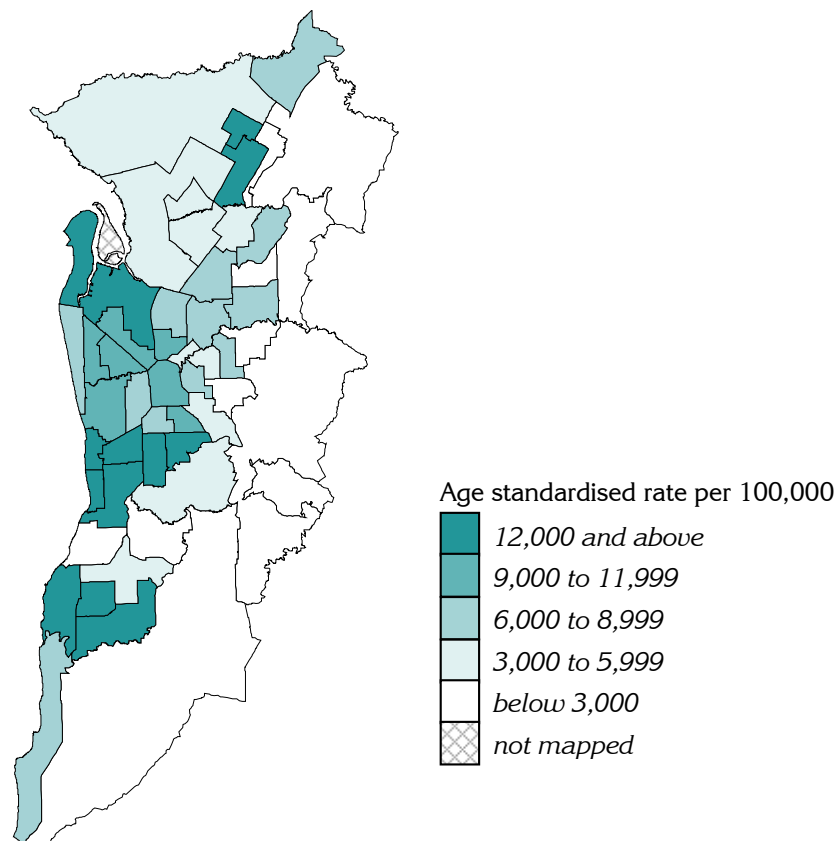
Map 3.11: Community mental health service contacts for clients aged 20-44 years with principal diagnosis of "Mental/behavioural disorder due to substance use", Metropolitan Adelaide, 2004-05



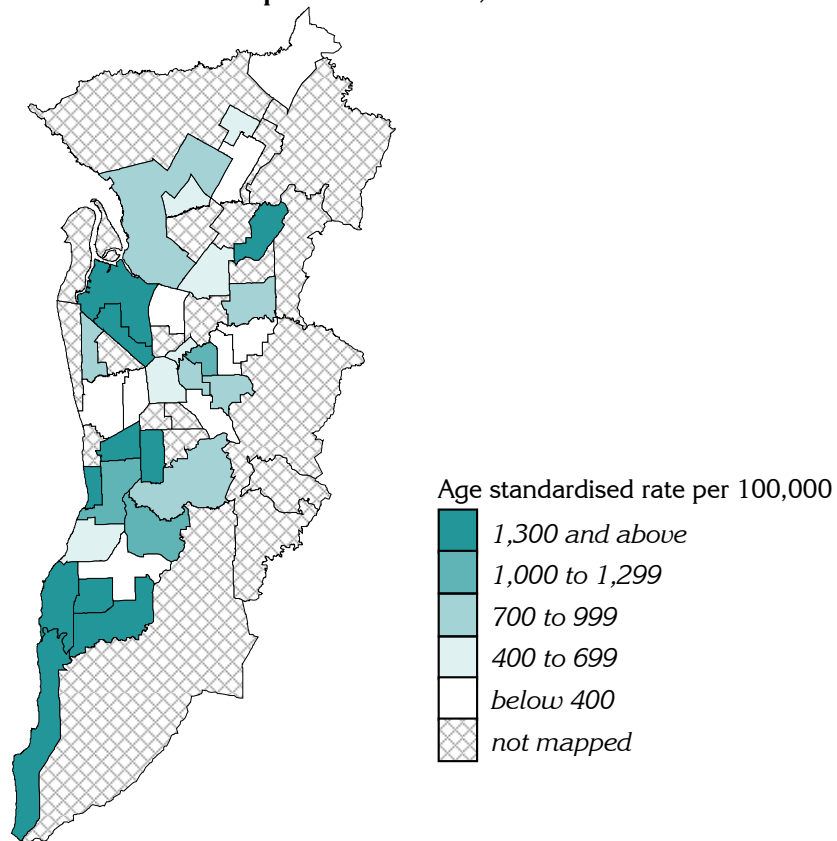
The highest rates of community mental health services for clients with principal diagnosis of "Schizophrenia, schizotypal and delusional disorders" were situated in four distinct areas across Metropolitan Adelaide; in the outer north, north-west, inner south and outer south (Map 3.12). Although slightly varied, this pattern remained for people aged 0-19 years (Map 3.13) and 20-44 years (Map 3.14). For people aged 45-64 years, the north-western and inner southern areas joined with higher rates in a number of the western areas (Map 3.15). The geographical distribution for people aged 65 years and over was unlike that in the other age groups, with the highest rates forming a band from the north-western to outer northern suburbs. The high rates in the southern areas were no longer evident (Map 3.16).

Community service rates in country South Australia showed no geographic pattern with the highest rates scattered across the State (Map 3.17).

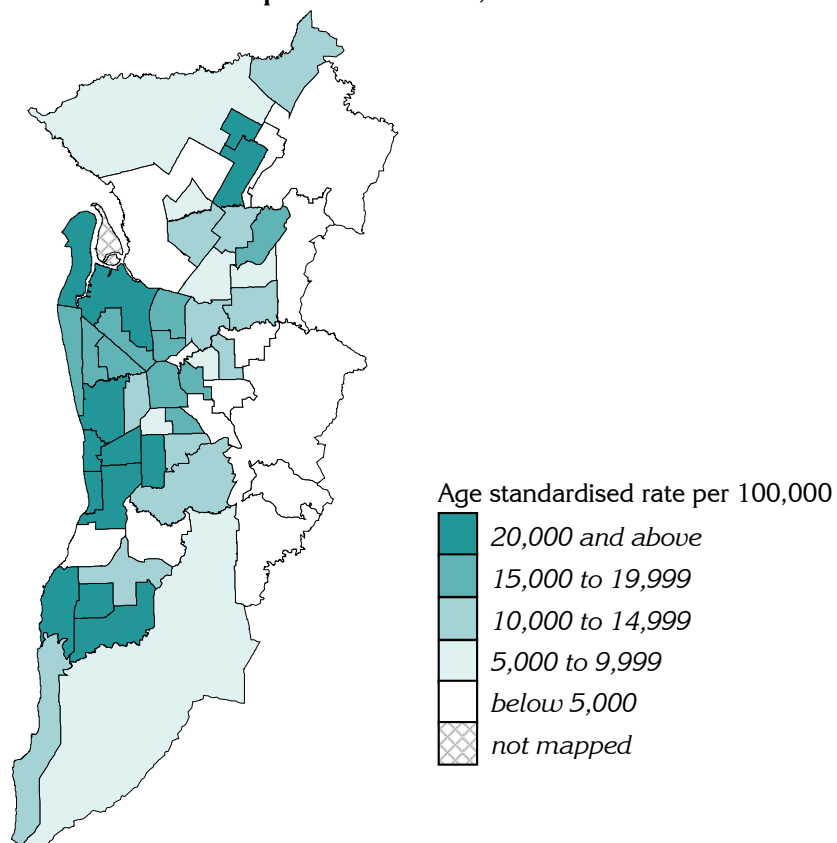
Map 3.12: Community mental health service contacts for clients with principal diagnosis of "Schizophrenia, schizotypal and delusional disorders", Metropolitan Adelaide, 2004-05



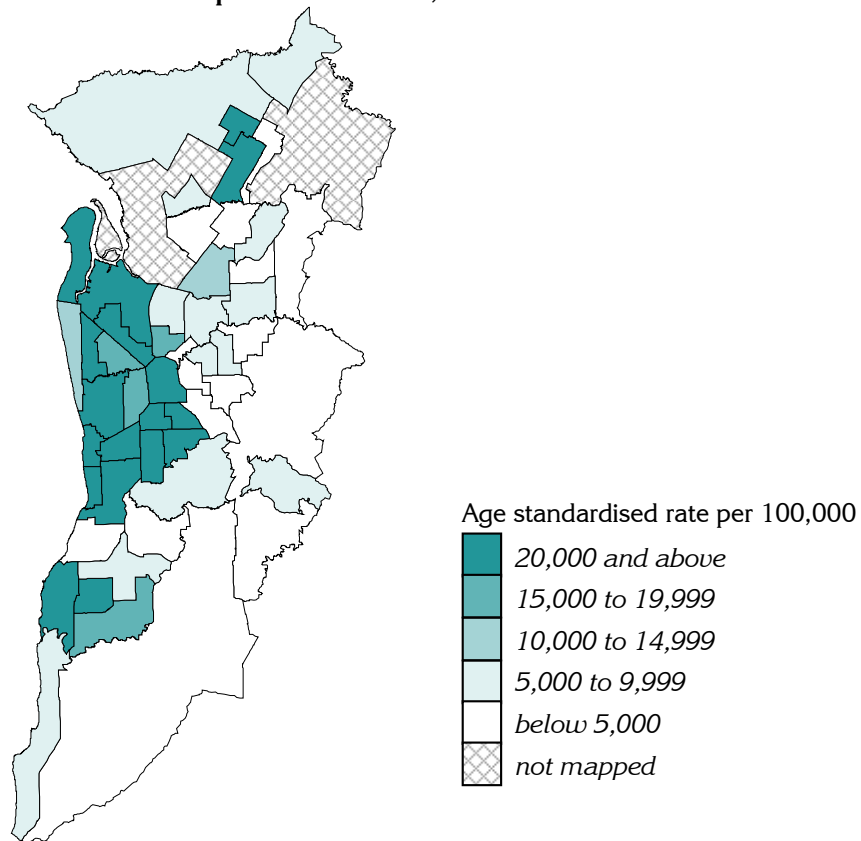
Map 3.13: Community mental health service contacts for clients aged 0-19 years with principal diagnosis of "Schizophrenia, schizotypal and delusional disorders", Metropolitan Adelaide, 2004-05



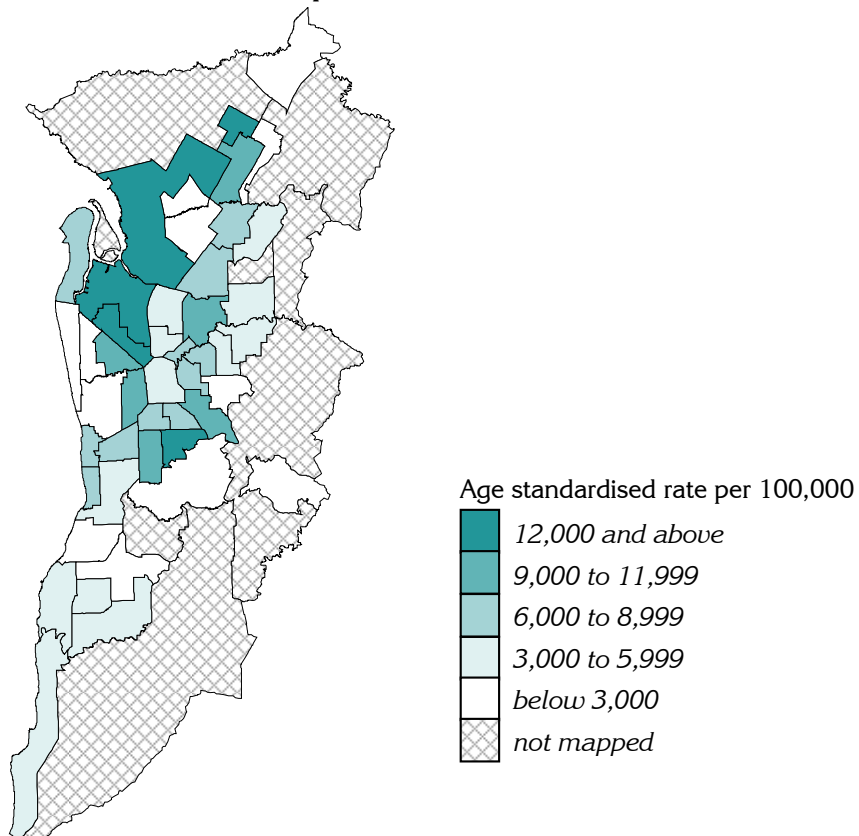
Map 3.14: Community mental health service contacts for clients aged 20-44 years with principal diagnosis of "Schizophrenia, schizotypal and delusional disorders", Metropolitan Adelaide, 2004-05



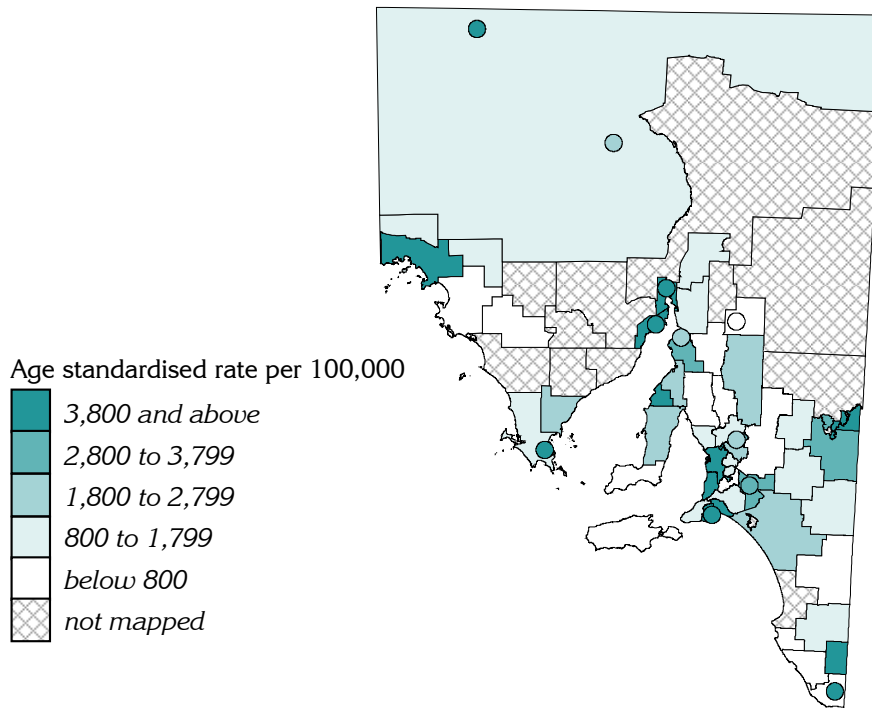
Map 3.15: Community mental health service contacts for clients aged 45-64 years with principal diagnosis of "Schizophrenia, schizotypal and delusional disorders", Metropolitan Adelaide, 2004-05



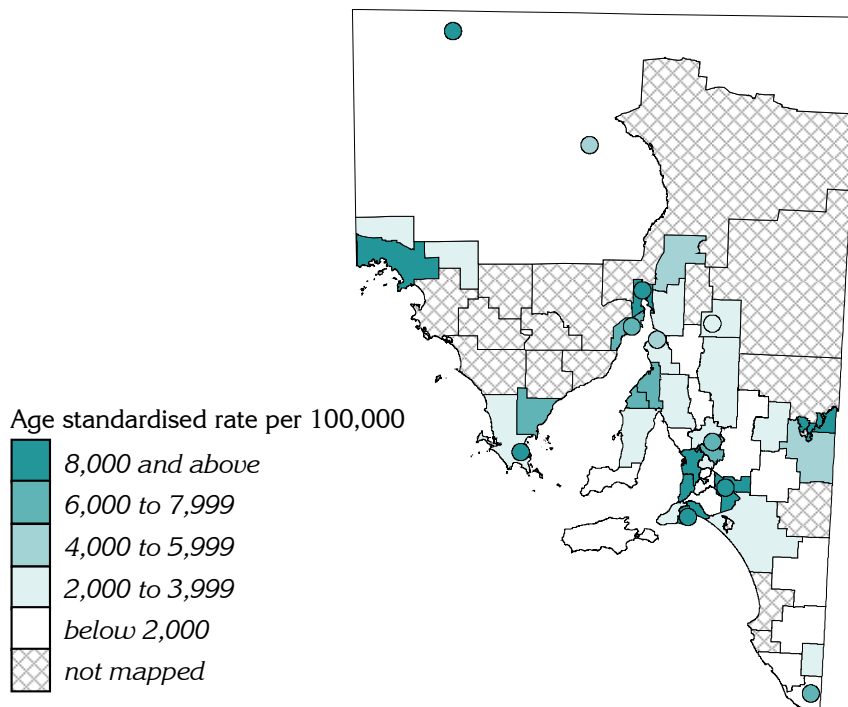
Map 3.16: Community mental health service contacts for clients aged 65 years and over with principal diagnosis of "Schizophrenia, schizotypal and delusional disorders", Metropolitan Adelaide, 2004-05



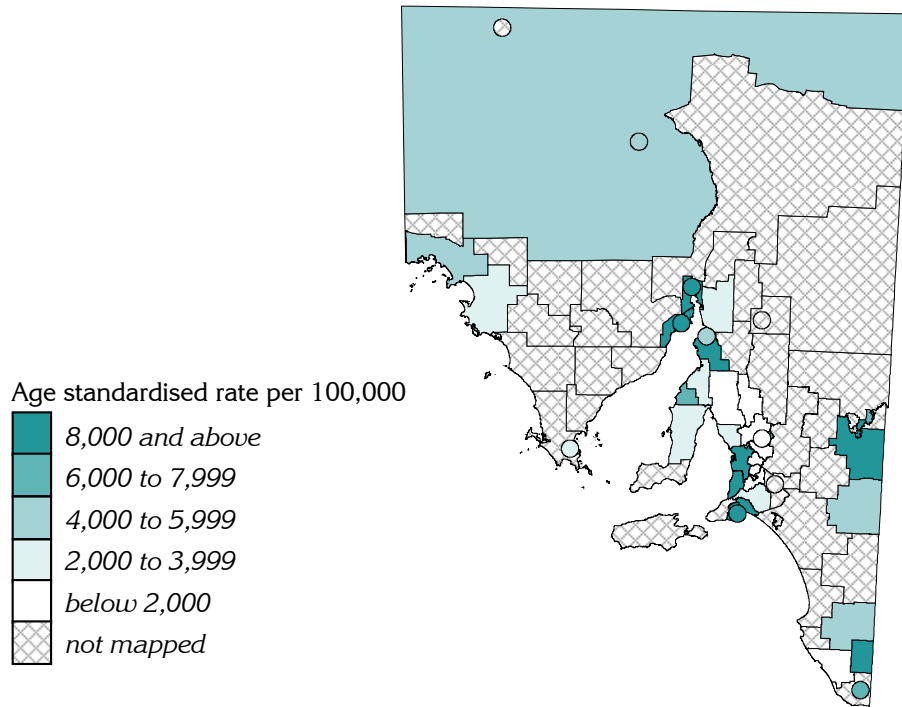
Map 3.17: Community mental health service contacts for clients with principal diagnosis of "Schizophrenia, schizotypal and delusional disorders", South Australia, 2004-05



Map 3.18: Community mental health service contacts for clients aged 20-44 years with principal diagnosis of "Schizophrenia, schizotypal and delusional disorders", South Australia, 2004-05



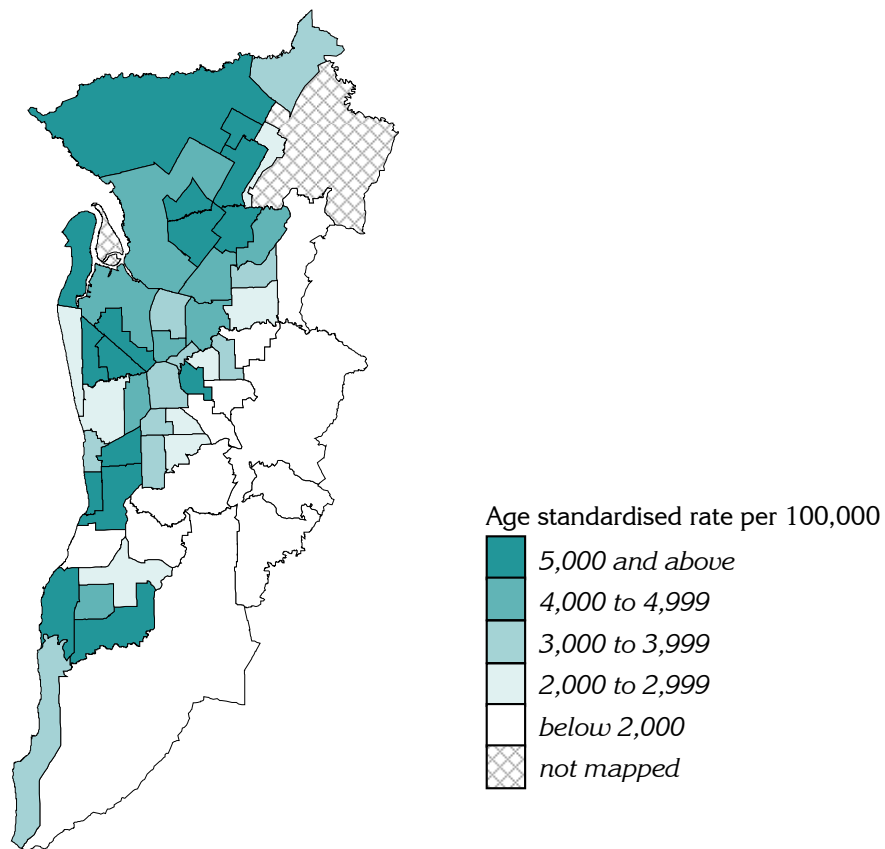
Map 3.19: Community mental health service contacts for clients aged 45-64 years with principal diagnosis of "Schizophrenia, schizotypal and delusional disorders", South Australia, 2004-05



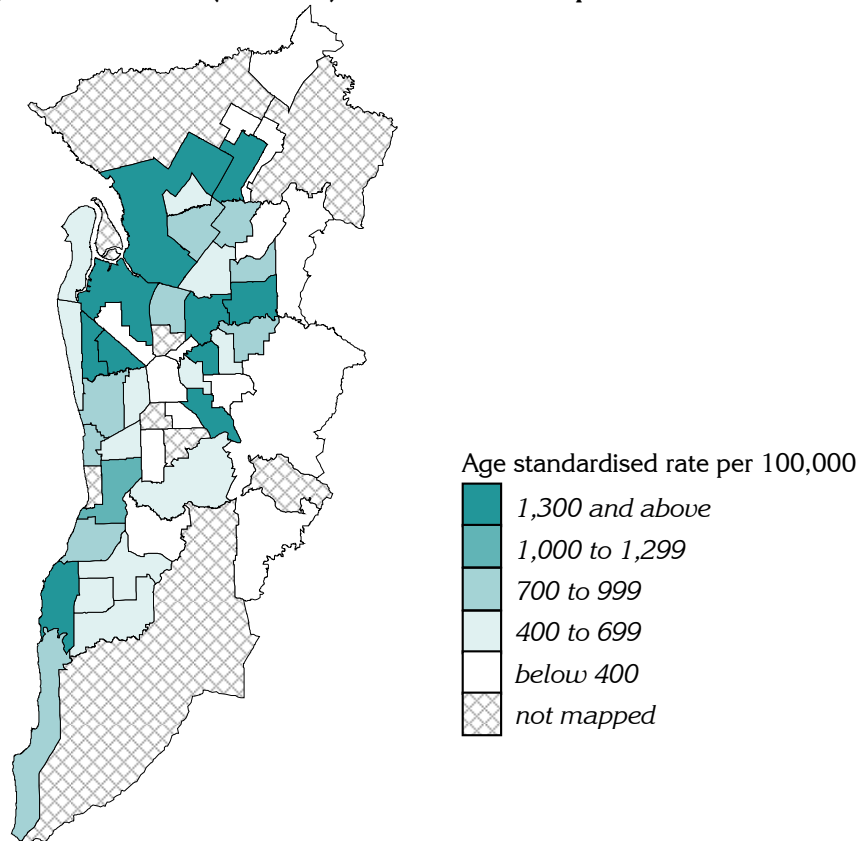
Overall rates of community mental health services for clients with principal diagnosis of "Mood (affective) disorders" (Map 3.20) were similar to those recorded for people aged 20-44 years (Map 3.22) and 45-64 years (Map 3.23). The highest rates recorded for people aged 0-19 years were more widely spread across areas north of the city centre (Map 3.21), while those aged 65 years and over showed the highest rates to be more concentrated in the outer northern, inner northern and southern suburbs (Map 3.24).

High community service rates in the non-metropolitan region were recorded in the far northern, Riverland and Murray Mallee areas (Map 3.25), with no significant variation to the pattern across the age groups.

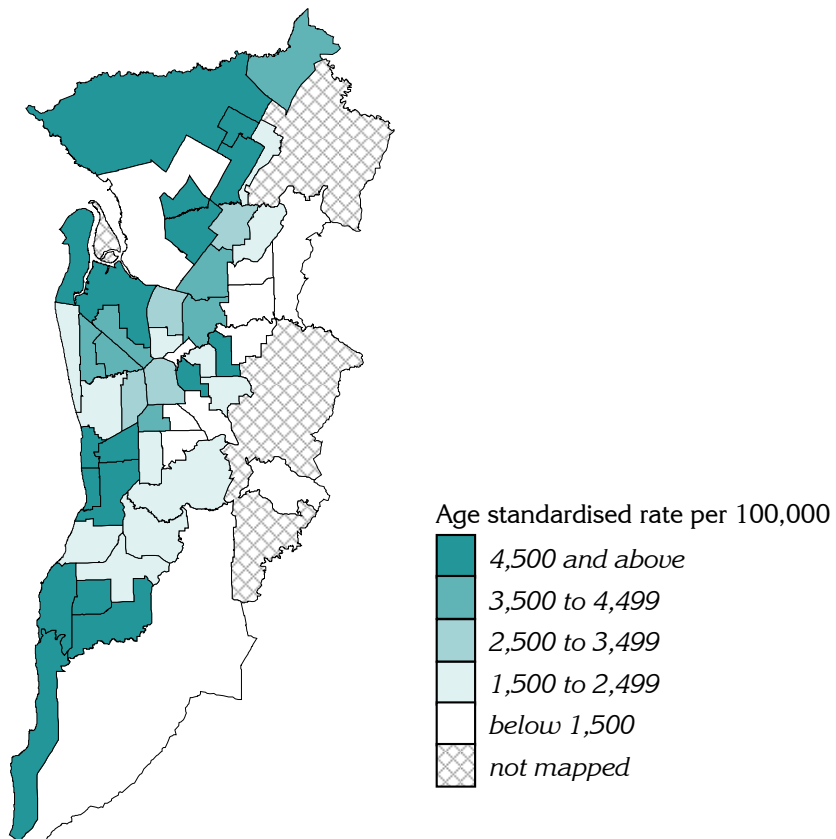
Map 3.20: Community mental health service contacts for clients with principal diagnosis of "Mood (affective) disorders", Metropolitan Adelaide, 2004-05



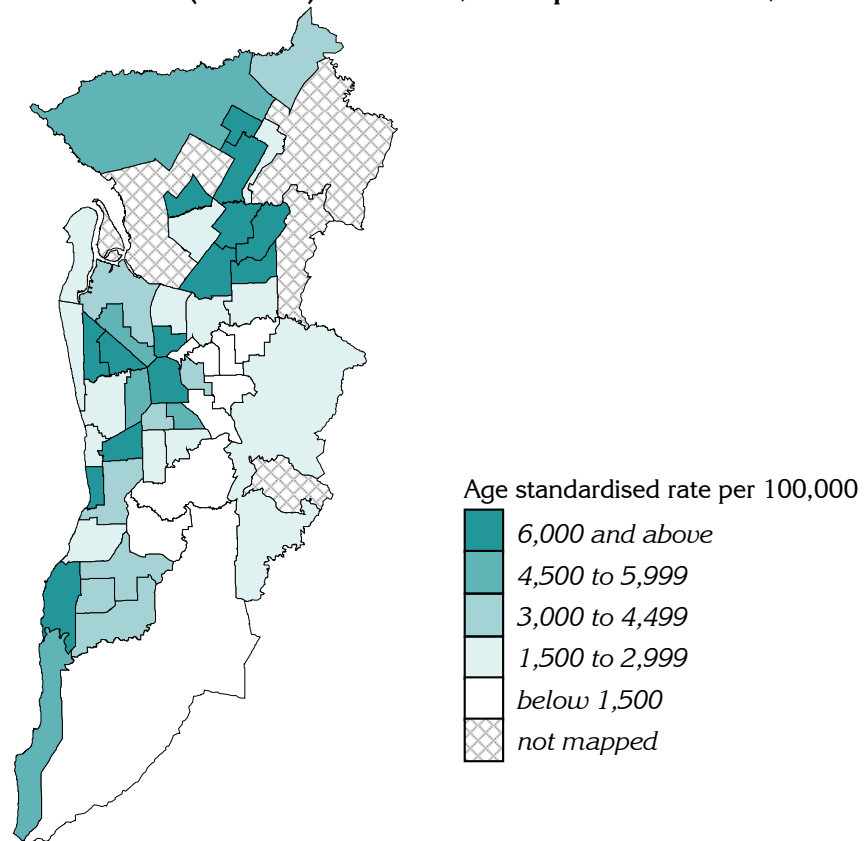
Map 3.21: Community mental health service contacts for clients aged 0-19 years with principal diagnosis of "Mood (affective) disorders", Metropolitan Adelaide, 2004-05



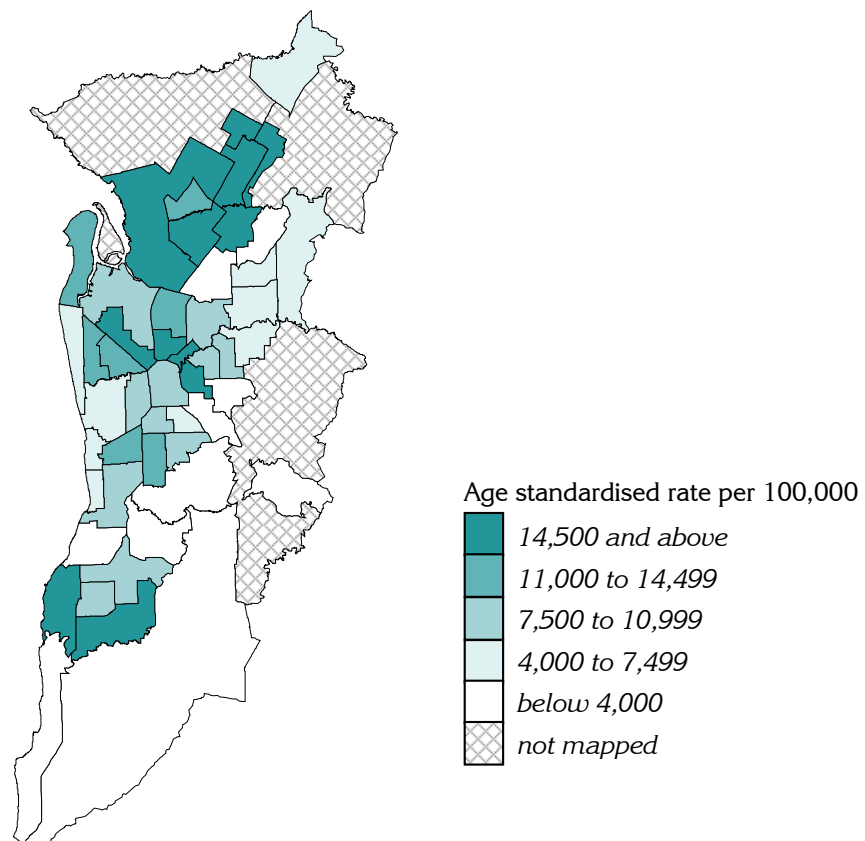
Map 3.22: Community mental health service contacts aged for clients 20-44 years with principal diagnosis of "Mood (affective) disorders", Metropolitan Adelaide, 2004-05



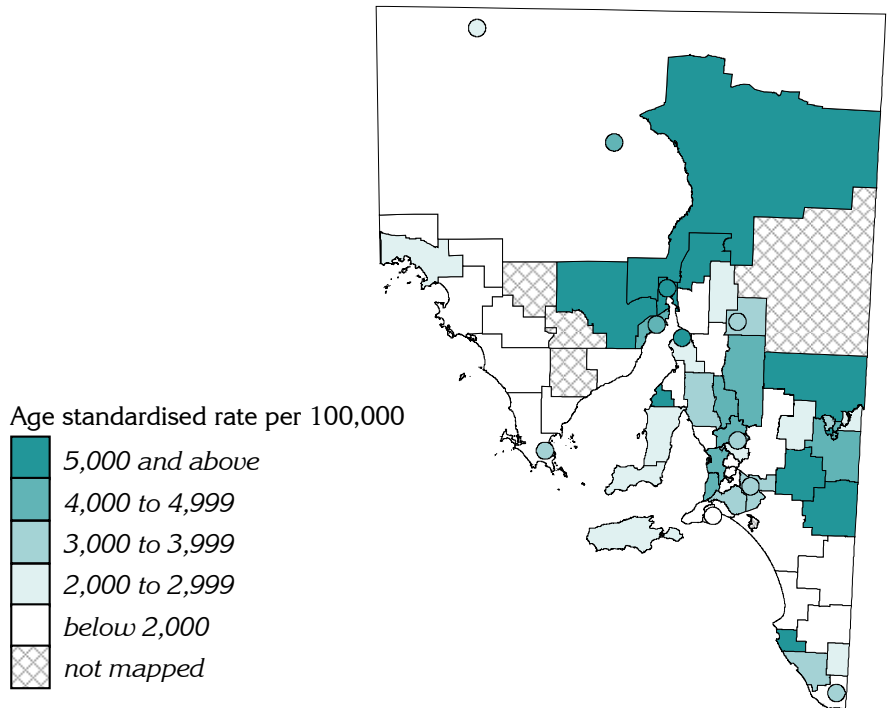
Map 3.23: Community mental health service contacts for clients aged 45-64 years with principal diagnosis of "Mood (affective) disorders", Metropolitan Adelaide, 2004-05



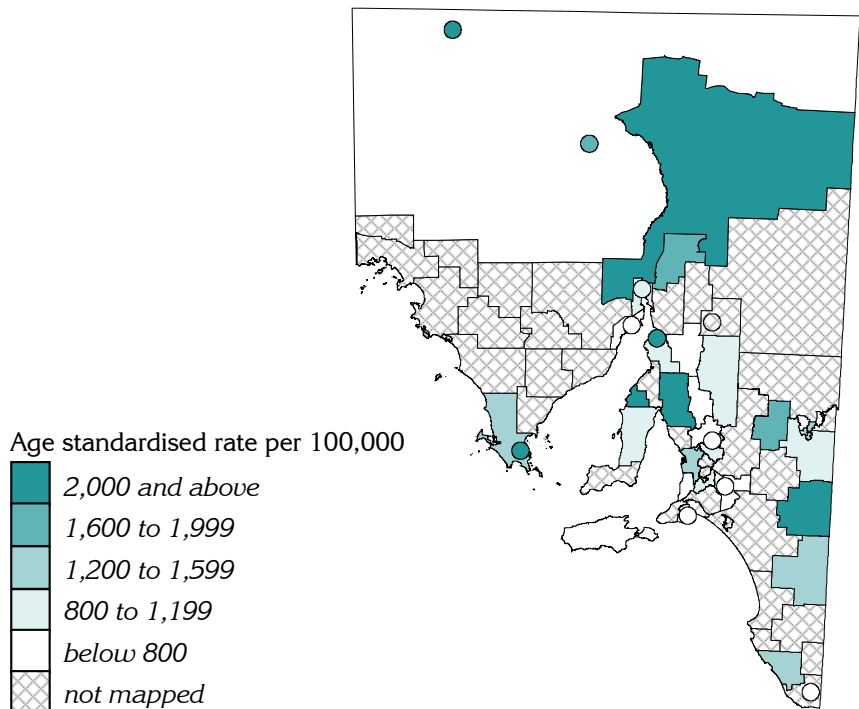
Map 3.24: Community mental health service contacts for clients aged 65 years and over with principal diagnosis of "Mood (affective) disorders", Metropolitan Adelaide, 2004-05



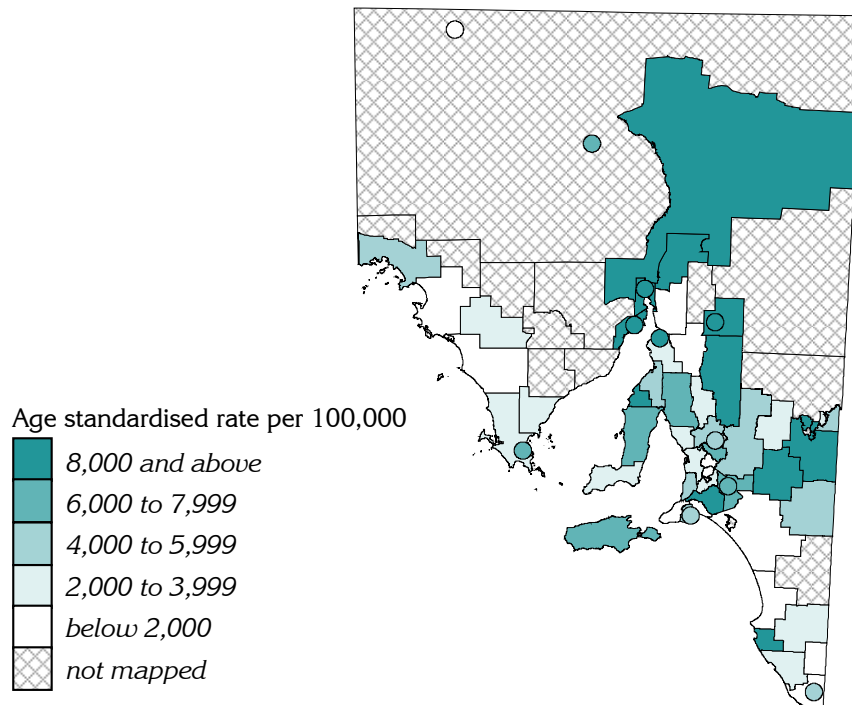
Map 3.25: Community mental health service contacts for clients with principal diagnosis of "Mood (affective) disorders", South Australia, 2004-05



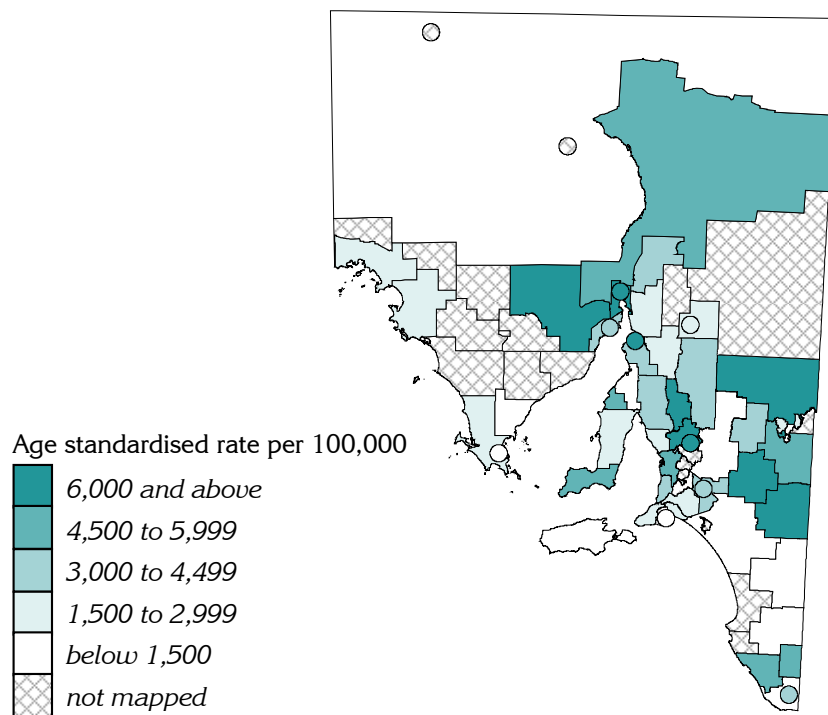
Map 3.26: Community mental health service contacts for clients aged 0-19 years with principal diagnosis of "Mood (affective) disorders", South Australia, 2004-05



Map 3.27: Community mental health service contacts for clients aged 20-44 years with principal diagnosis of "Mood (affective) disorders", South Australia, 2004-05



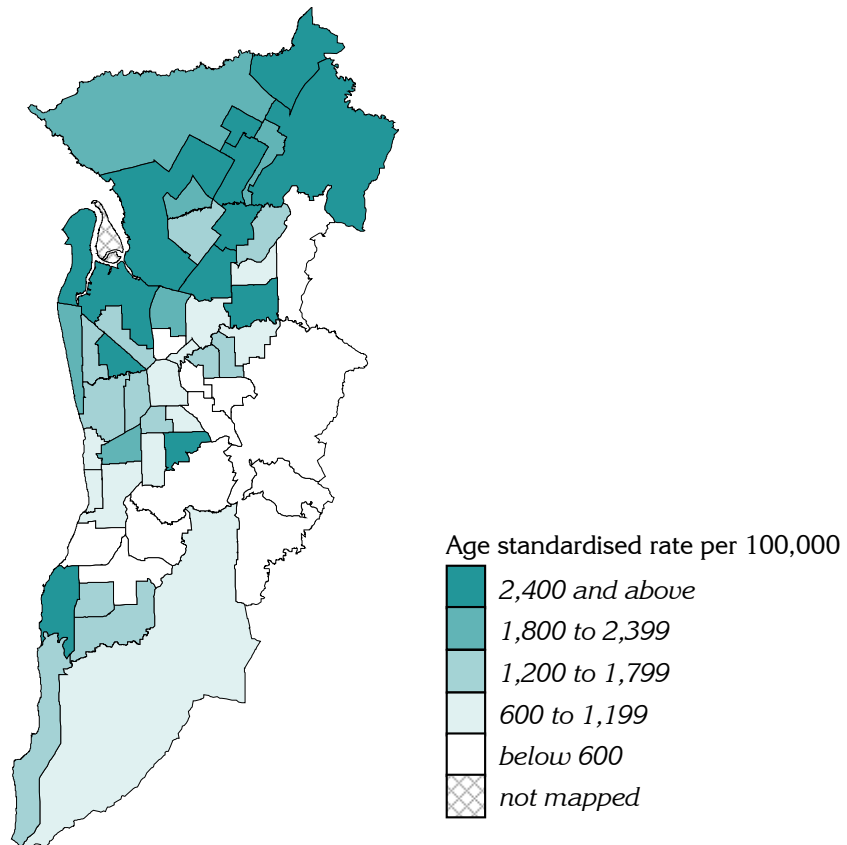
Map 3.28: Community mental health service contacts for clients aged 45-64 years with principal diagnosis of "Mood (affective) disorders", South Australia, 2004-05



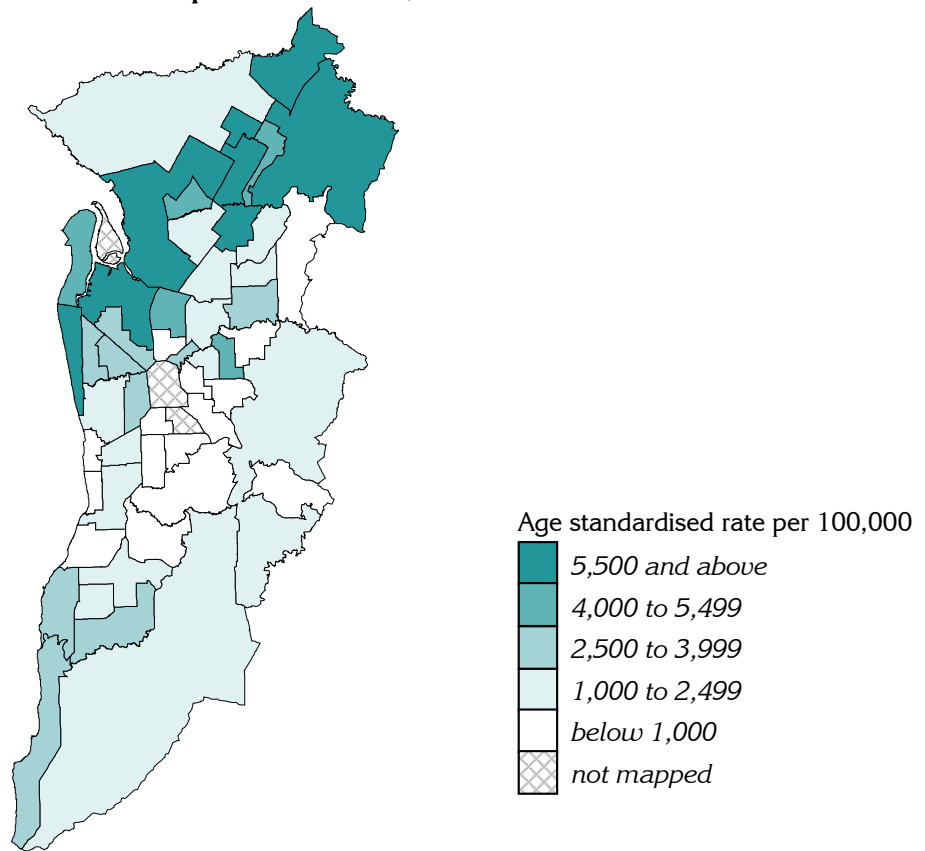
The highest rates of community mental health services for clients with principal diagnosis of "Neurotic, stress-related and somatoform disorders" were spread across a number of the SLAs to the north of the city centre (Map 3.29), with the lowest rates in the inner eastern and southern areas and through the Hills region. A similar pattern was recorded for people aged 0-19 years (Map 3.30). However, the rates for 20-44 year olds thinned out in the northern suburbs but became more prominent in the outer southern region (Map 3.31). The geographical distribution for people aged 65 years and over was quite different, with the highest rates in the western and inner southern area (Map 3.33).

The distribution in country South Australia was similar to that for community mental health services for clients with principal diagnosis of "Mood (affective) disorders" (Map 3.25), with the exception of the higher rates on the Yorke Peninsula (Map 3.34).

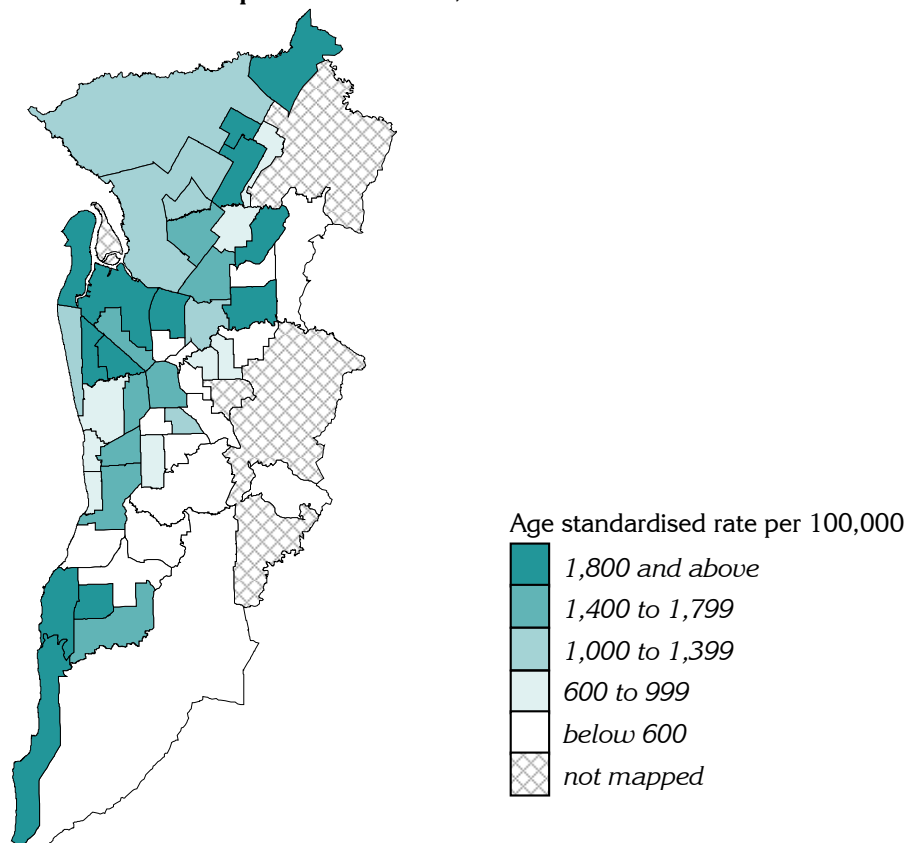
Map 3.29: Community mental health service contacts for clients with principal diagnosis of "Neurotic, stress-related and somatoform disorders", Metropolitan Adelaide, 2004-05



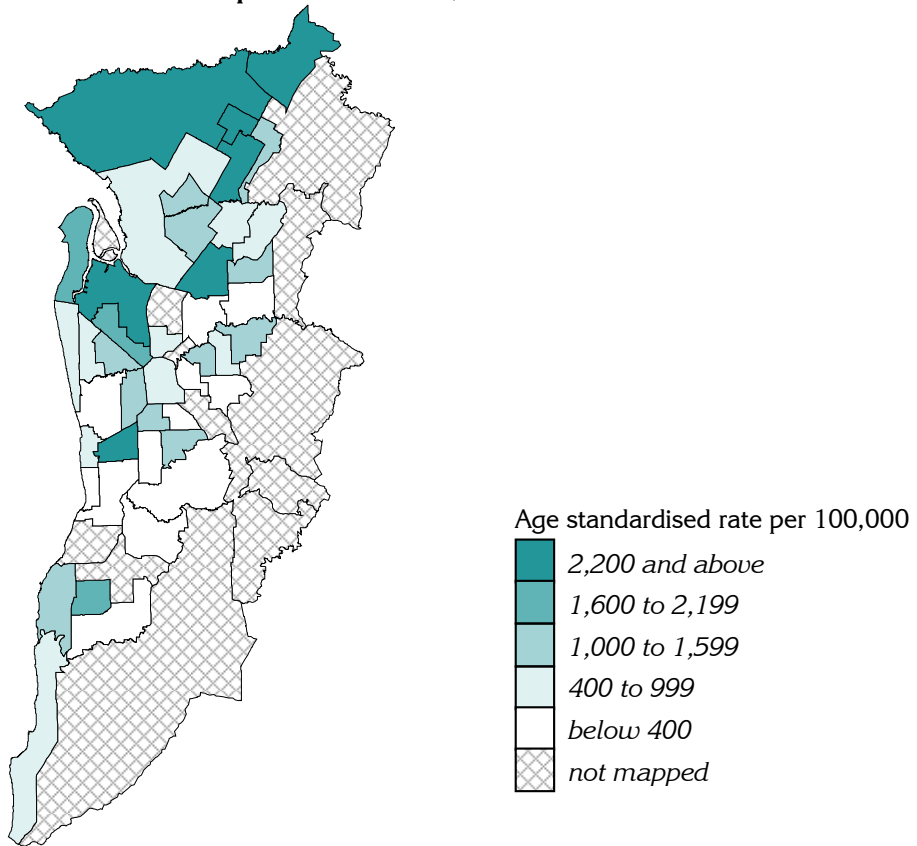
Map 3.30: Community mental health service contacts for clients aged 0-19 years with principal diagnosis of "Neurotic, stress-related and somatoform disorders", Metropolitan Adelaide, 2004-05



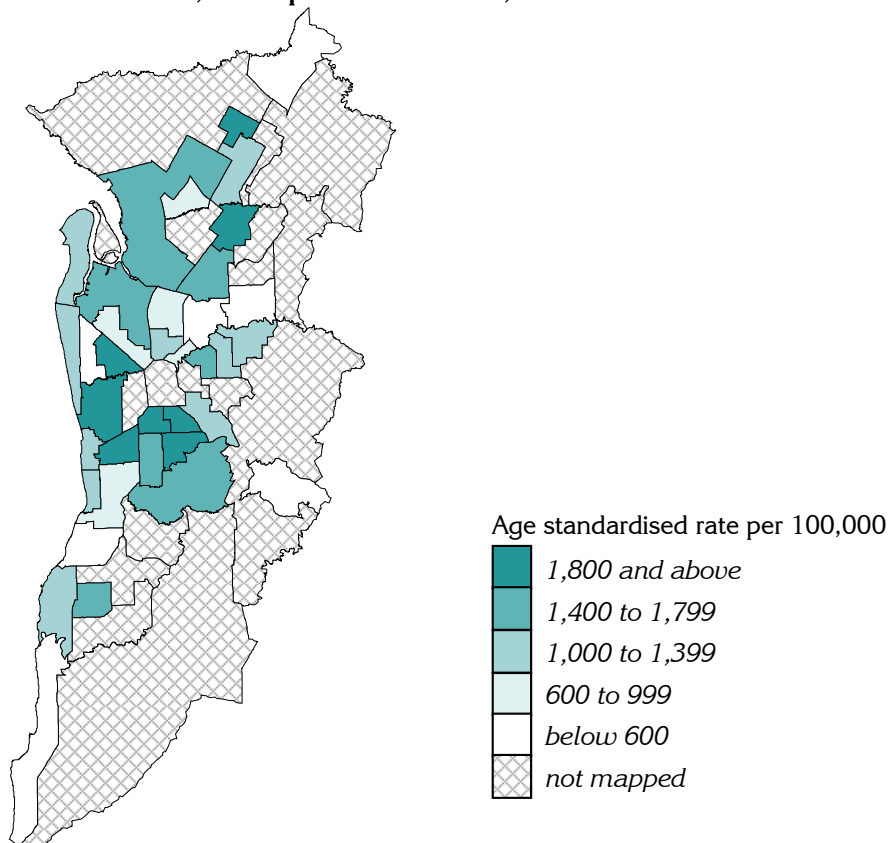
Map 3.31: Community mental health service contacts for clients aged 20-44 years with principal diagnosis of "Neurotic, stress-related and somatoform disorders", Metropolitan Adelaide, 2004-05



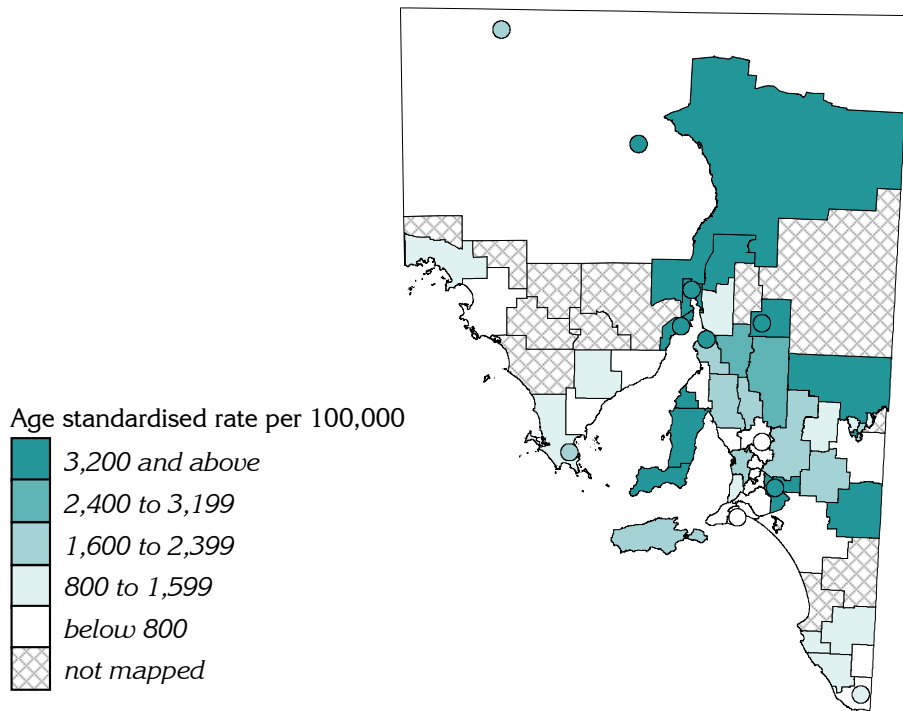
Map 3.32: Community mental health service contacts for clients aged 45-64 years with principal diagnosis of "Neurotic, stress-related and somatoform disorders", Metropolitan Adelaide, 2004-05



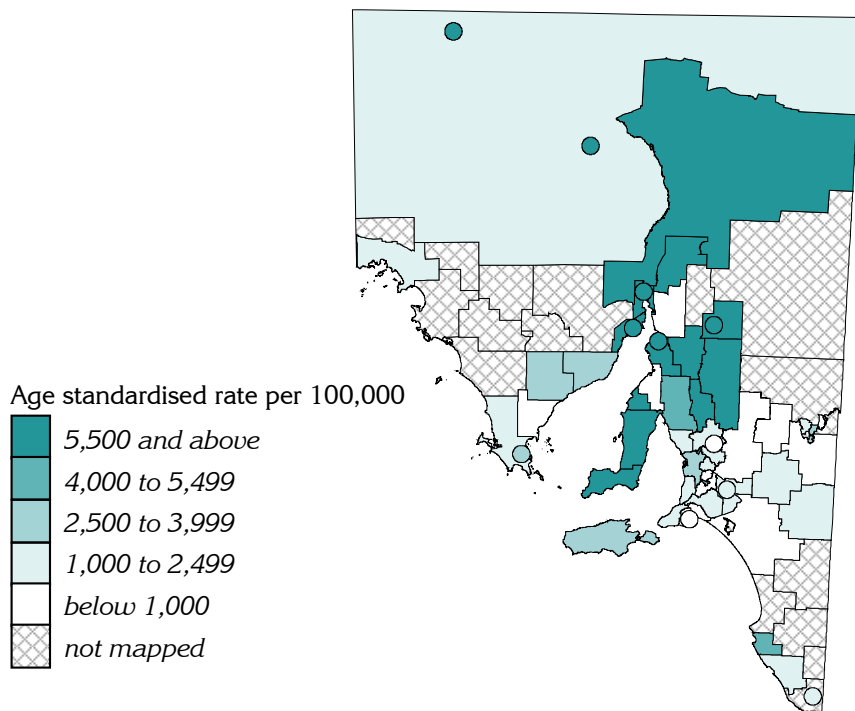
Map 3.33: Community mental health service contacts for clients aged 65 years and over with principal diagnosis of "Neurotic, stress-related and somatoform disorders", Metropolitan Adelaide, 2004-05



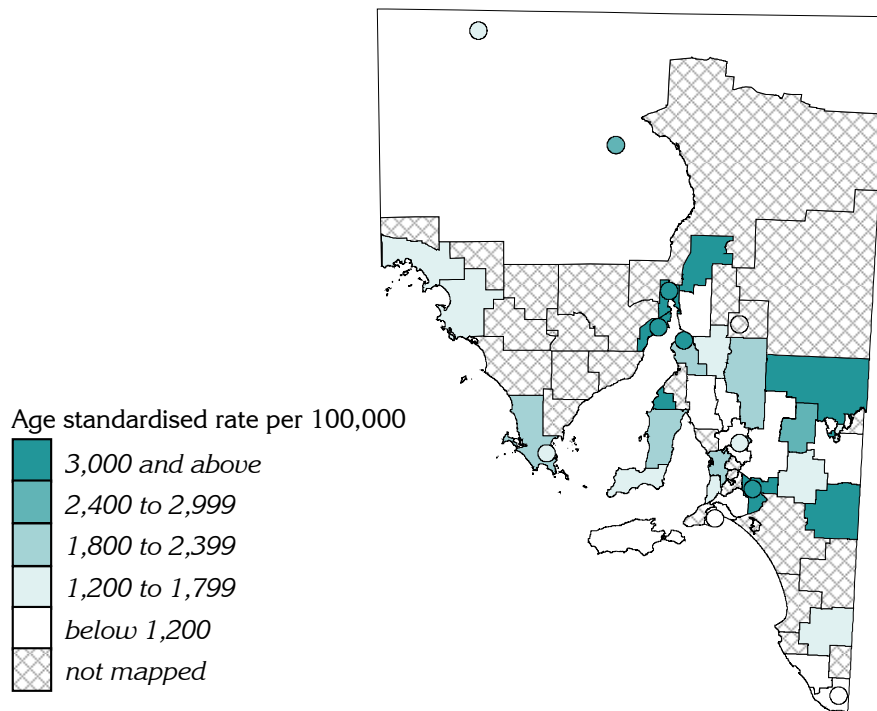
Map 3.34: Community mental health service contacts for clients with principal diagnosis of "Neurotic, stress-related and somatoform disorders", South Australia, 2004-05



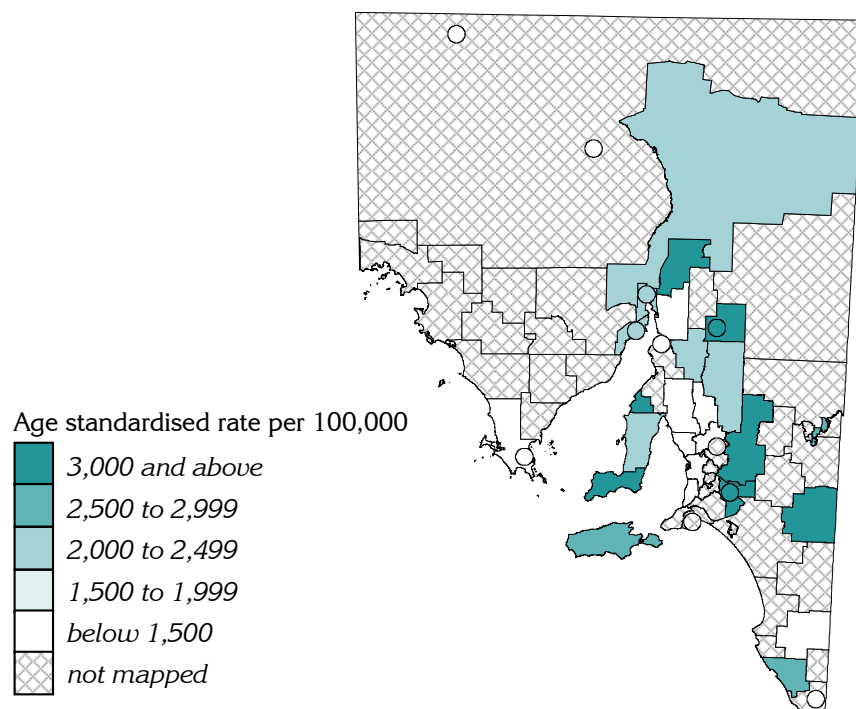
Map 3.35: Community mental health service contacts for clients aged 0-19 years with principal diagnosis of "Neurotic, stress-related and somatoform disorders", South Australia, 2004-05



Map 3.36: Community mental health service contacts for clients aged 20-44 years with principal diagnosis of "Neurotic, stress-related and somatoform disorders", South Australia, 2004-05

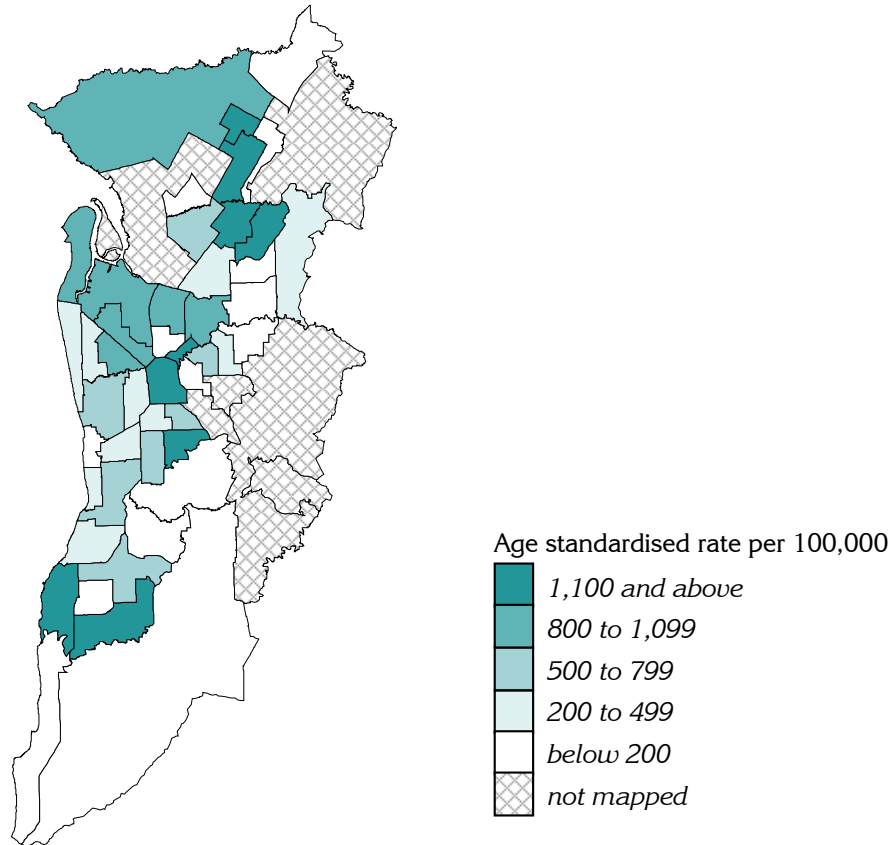


Map 3.37: Community mental health service contacts for clients aged 45-64 years with principal diagnosis of "Neurotic, stress-related and somatoform disorders", South Australia, 2004-05

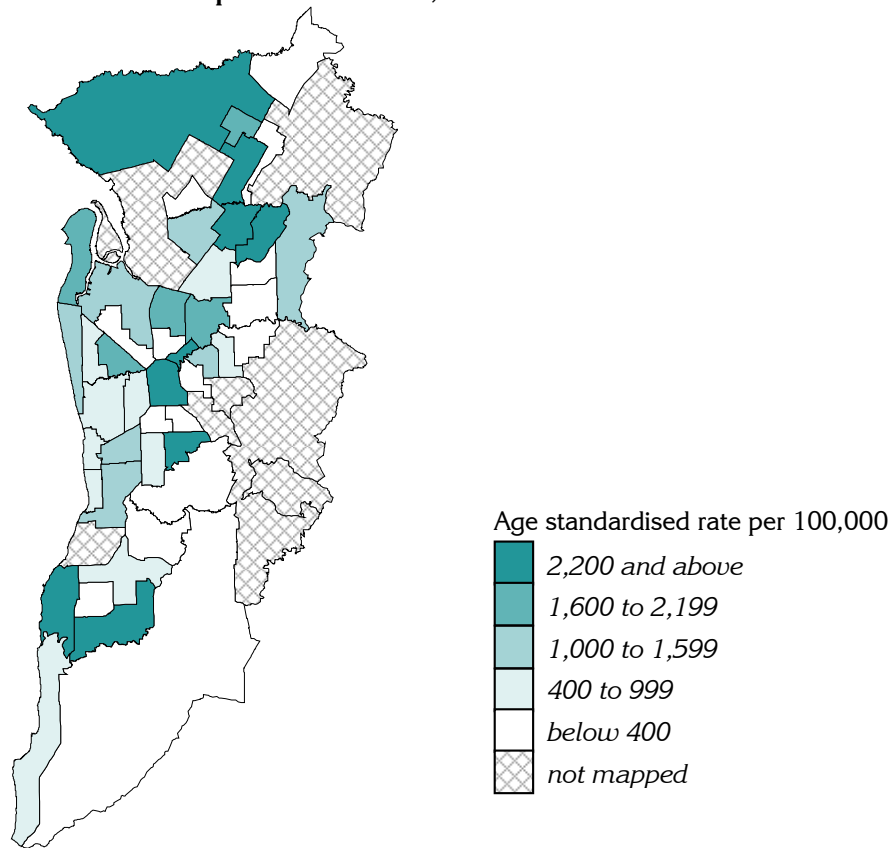


For community mental health service contacts with principal diagnosis of "Disorders of adult personality and behaviour", high rates were largely found in the northern, inner city and outer southern SLAs (Map 3.38).

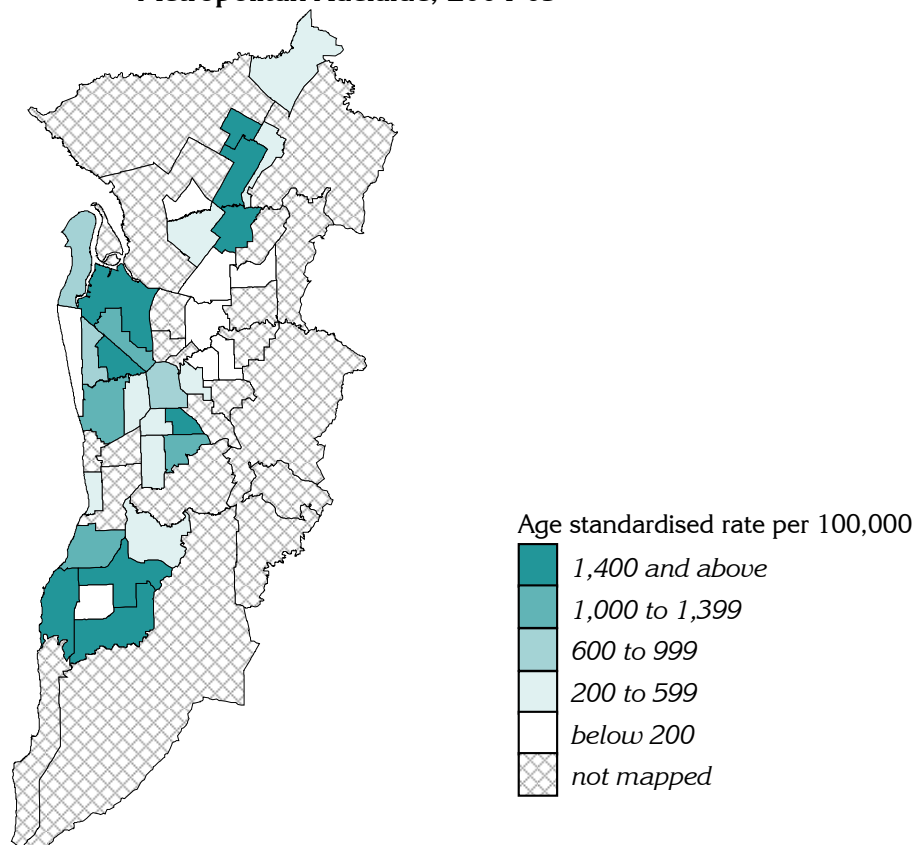
Map 3.38: Community mental health service contacts for clients with principal diagnosis of "Disorders of adult personality and behaviour", Metropolitan Adelaide, 2004-05



Map 3.39: Community mental health service contacts for clients aged 20-44 years with principal diagnosis of "Disorders of adult personality and behaviour", Metropolitan Adelaide, 2004-05

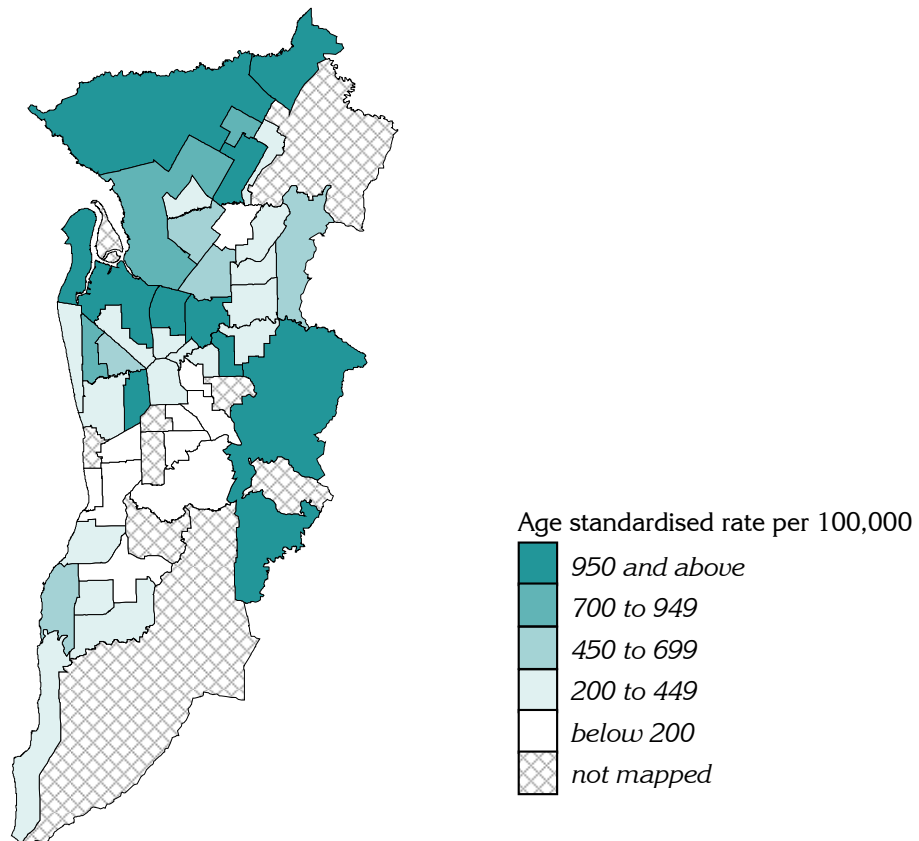


Map 3.40: Community mental health service contacts for clients aged 45-64 years with principal diagnosis of "Disorders of adult personality and behaviour", Metropolitan Adelaide, 2004-05

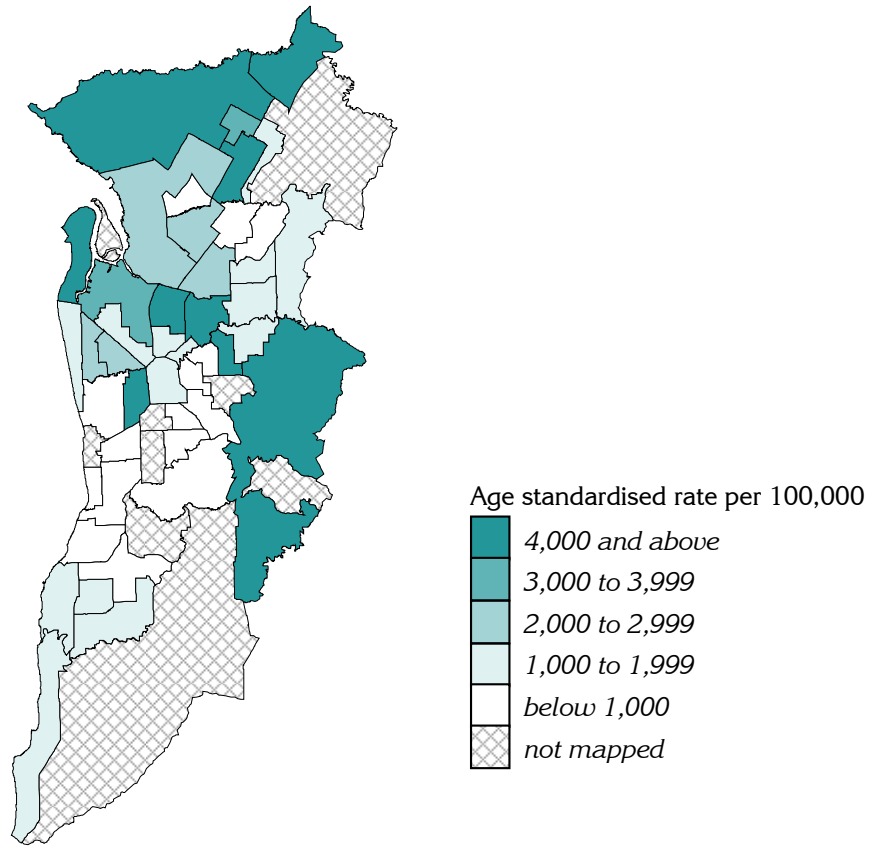


High rates of community mental health services for clients with principal diagnosis of "Behavioural & emotional disorders with usual onset in childhood and adolescence" formed a band across the metropolitan region running from the north-western region to the Metropolitan Adelaide Hills (Map 3.41). Low rates were generally found in the inner southern suburbs.

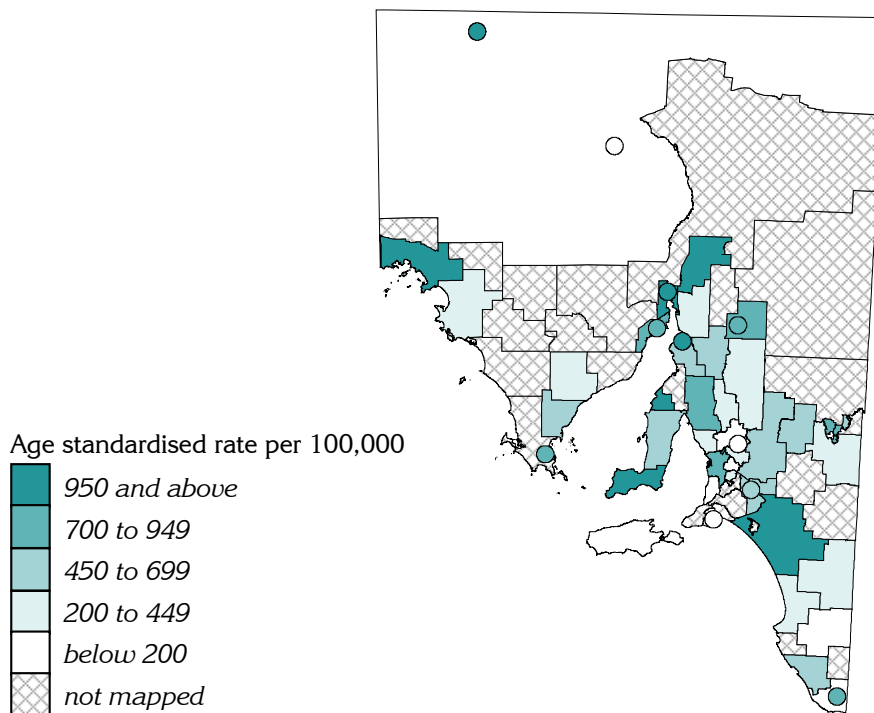
Map 3.41: Community mental health service contacts for clients with principal diagnosis of "Behavioural & emotional disorders with usual onset in childhood and adolescence", Metropolitan Adelaide, 2004-05



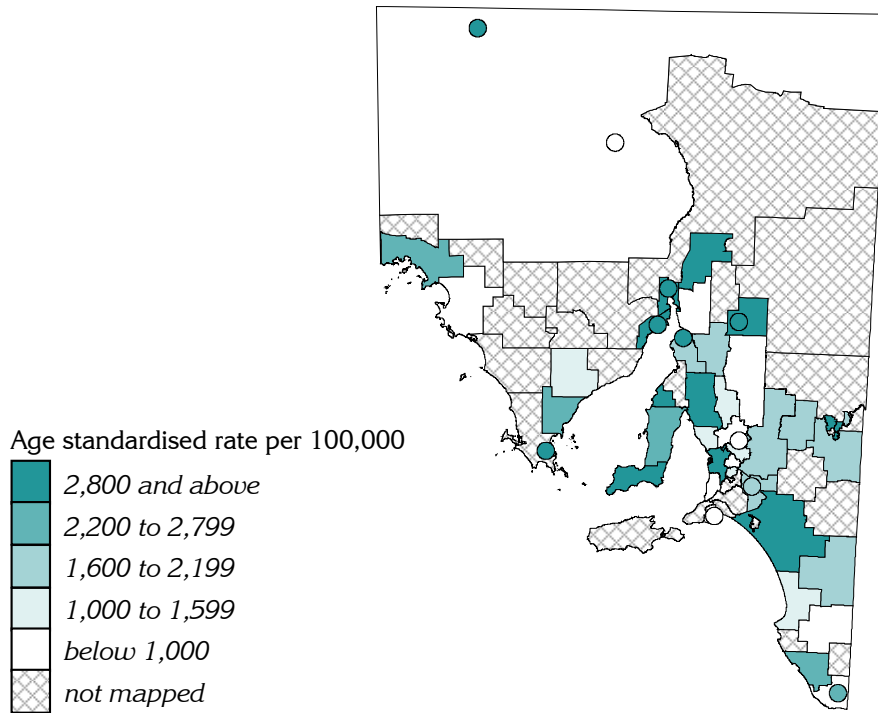
Map 3.42: Community mental health service contacts for clients aged 0-19 years with principal diagnosis of "Behavioural & emotional disorders with usual onset in childhood and adolescence", Metropolitan Adelaide, 2004-05



Map 3.43: Community mental health service contacts for clients with principal diagnosis of "Behavioural & emotional disorders with usual onset in childhood and adolescence", South Australia, 2004-05



Map 3.44: Community mental health service contacts for clients aged 0-19 years with principal diagnosis of "Behavioural & emotional disorders with usual onset in childhood and adolescence", South Australia, 2004-05



Correlation analysis: community mental health contacts

As shown in Table 3.1, there were strong and very strong correlations recorded with community services and many of the variables of socioeconomic disadvantage. The correlation analysis was generally weaker in the country areas of South Australia (Table 3.2).

Table 3.1: Correlation summary, community service contacts and indicators of socioeconomic disadvantage, Metropolitan Adelaide

Variable	Substance		Mood		Adult personality & behaviour	Childhood behavioural & emotional disorders
	Total	use	Schizophrenia	disorders		
Single parent families	0.71	0.42	0.56	0.73	0.56	0.29
Low income families	0.76	0.39	0.60	0.75	0.61	0.45
High income families	-0.66	-0.38	-0.49	-0.71	-0.57	-0.41
Jobless families	0.77	0.45	0.58	0.76	0.66	0.39
Unemployment	0.79	0.41	0.58	0.74	0.73	0.29
Unskilled workers	0.50	0.31	0.28	0.62	0.64	0.27
Educational participation	-0.61	-0.42	-0.36	-0.65	-0.60	-0.44
Indigenous	0.68	0.42	0.48	0.64	0.60	0.37
NESB – 5 yrs or more	0.10	0.02	0.01	0.14	-0.01	0.35
NESB – less than 5 yrs	0.19	0.25	0.20	0.02	-0.15	0.09
Poor English proficiency	0.21	0.04	0.10	0.25	0.10	0.31
Rented dwellings	0.82	0.43	0.68	0.76	0.60	0.31
Rent assistance	0.57	0.39	0.42	0.48	0.33	0.24
Dwellings with no car	0.74	0.37	0.67	0.55	0.25	0.25
IRSD	-0.69	-0.39	-0.49	-0.73	-0.63	-0.33

Note: Correlations between 0.3 and 0.49 are referred to as being 'weak'; between 0.50 and 0.70 as being 'strong', and shaded in light green; and those 0.71 and above as being 'very strong', and shaded in dark green.

Table 3.2: Correlation summary, community service contacts and indicators of socioeconomic disadvantage, country South Australia

Variable	Total	Schizophrenia	Mood		Adult personality & behaviour	Childhood behavioural & emotional disorders
			disorders	Neurotic		
Single parent families	0.59	0.35	0.38	0.43	0.13	0.39
Low income families	0.20	-0.01	0.09	0.20	0.15	0.14
High income families	-0.14	0.07	-0.09	-0.13	-0.11	-0.15
Jobless families	0.46	0.14	0.36	0.34	0.09	0.27
Unemployment	0.20	0.23	0.00	0.12	0.06	0.20
Unskilled workers	0.18	0.07	0.30	0.05	-0.04	0.03
Educational participation	-0.12	0.01	-0.26	0.00	0.22	-0.04
Indigenous	0.28	0.02	0.46	0.17	-0.11	0.05
NESB – 5 yrs or more	0.28	0.41	-0.02	0.04	-0.01	0.30
NESB – less than 5 yrs	0.19	0.30	0.01	0.04	0.04	0.16
Poor English proficiency	0.23	0.37	-0.01	-0.01	0.08	0.28
Rented dwellings	0.52	0.43	0.22	0.36	0.18	0.45
Rent assistance	0.29	0.58	0.01	-0.03	-0.04	0.15
Dwellings with no car	0.56	0.24	0.53	0.43	0.03	0.31
IRSD	-0.43	-0.06	-0.52	-0.29	-0.05	-0.17

Note: Correlations between 0.3 and 0.49 are referred to as being 'weak'; between 0.50 and 0.70 as being 'strong', and shaded in light green; and those 0.71 and above as being 'very strong', and shaded in dark green.

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