



Young and Female: *using linked data to profile service use*



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Abbreviations & usages

ABS	Australian Bureau of Statistics
AHA	Aboriginal Housing Authority
CAMHS	Child and Adolescent Mental Health Service
CD	Collection District
CHS	Community Health Service
CRIB	Client Record Information Base, part of the Child and Youth Health database for children clients aged 0 to 12 years. Services provided include community based child health services, child health checks and assistance to families with children, particularly newborns.
CYFS	Child, Youth and Family Services (now Families SA)
CYH	Child and Youth Health (now part of the Children, Youth and Women's Health Service)
DECS	Department of Education and Children's Services
DFC	Department for Families and Communities
DFEEST	Department of Further Education, Employment, Science and Technology
DH	Department of Health
EMERG	public hospital accident and emergency department
GIS	Geographic Information Systems
GOM	services for children and young people who are under the Guardianship of the Minister
INPAT	public hospital inpatient
IRSD	Index of Relative Socioeconomic Disadvantage
MENTAL	a client of a community mental health service, CAMHS, or a inpatient of Glenside hospital
PRAS	Private Rental Assistance Scheme (provided by Housing SA, Department for Families and Communities)
SACHA	South Australian Community Housing Authority
SAHT	South Australian Housing Trust
SEIFA	Socioeconomic Indexes for Areas
SPECIAL	Special Needs Housing (provided by Housing SA, Department for Families and Communities)
TRACsa	Trauma and Injury Recovery South Australia
TSS	The Second Story, part of the Child and Youth Health database – providing a health service for youth clients aged 12 to 25 years
Provider	Each organisation is referred to as one 'provider'. SA Housing Trust is one provider, Accident and Emergency departments are another provider, Aboriginal Housing Authority is another. If a client is using multiple providers, they are clients of more than one of these

organisations. The number of providers a client has does not indicate how many times they are using a service however.

Service visits Each time a client visits any provider, or organisation, it is counted as a service visit. Therefore service visits count the number of times a client has reported to all providers as one total figure.

Provider Combinations The provider combinations look at the unique combination of providers being accessed by each client. This does not provide an overall idea of how many clients a provider has, but what providers are being accessed in conjunction with others. For example, when looking at the number of clients accessing EMERG+SAHT+CHS, only clients using that exact combination are counted, It does not give a count of all the clients using EMERG, or all of the clients using SAHT.

Provider totals These are a count of the total number of clients using each provider. Where clients use more than one provider, they are counted in each provider total.

Executive Summary

Young and Female: Using linked data to profile service use explores characteristics of service use by young female clients across the health and community services sector in Metropolitan Adelaide, and selected areas of South Australia.

While women who have multiple vulnerabilities might benefit from accessing a range of services, it is not considered that there is 'one service' in place that can accommodate all of their needs. Analysing the *Clients in Common* dataset allows characteristics or trends in the types of services used by young females to be determined.

Comparisons with young male and total clients show young female clients to be over represented in relation to clients who are users of multiple services. Spatial clustering of clients, particularly those using multiple providers, or clients who are considered 'at risk', such as children and young people who are under the Guardianship of the Minister, homeless clients and those accessing housing assistance, resembles the distribution of disadvantage as captured by the ABS SEIFA Index of Relative Disadvantage.

Analysis by quintiles of socioeconomic disadvantage reinforces the link between these variables, highlighting that clients with the highest use of services, using multiple providers and receiving housing assistance are also over represented in the most disadvantaged quintiles of Metropolitan Adelaide. Aboriginal and Torres Strait Islander peoples were found to be over-represented in clients identified as homeless and/or receiving housing assistance. Over half of all young female clients had visited a public hospital accident and emergency department, making it the highest provider of services.

Analysis of *Clients in Common* demonstrates the capacity of a de-identified linked data set for investigating service provision. Key interventions aimed at understanding service use by females and assessing a variety of providers across disciplines, is integral to improving service accessibility, service pathways and service effectiveness.

Introduction

Clients in Common – a linked dataset

The *Clients in Common* Project was a joint collaboration between the South Australian Department of Health and Department for Families and Communities. Its underlying purpose was to provide a de-identified dataset to help analyse the use of multiple services to inform service provision and program development. This dataset has been compiled largely from a number of public sector administrative datasets from health, housing and family and community services with clients in common identified through the use of record linkage. Additionally, geocoding, or spatial addressing was undertaken to enable use of Geographical Information Systems (GIS) to be used in the analysis.¹

The project was rigorous in its efforts to protect the privacy and confidentiality of individual's data and received approvals for the project and its methodology from a number of ethics and privacy committees.

As the first linked dataset of its kind in South Australia, this dataset is a very rich source of information for policy development and service delivery planning across a number of different disciplines. Analysis of the *Clients in Common* data demonstrates the capacity of a de-identified linked dataset for investigating service provision, with the ability to cross-examine characteristics of clients across service providers. The perspectives it gives on multiple, and high service users have the ability to better inform service provision and planning.

In total the dataset has nearly 1¹/₂ million records, which after record linkage relate to more than 410,000 clients. More than 95 percent of the data has been geocoded, meaning that those data can be mapped or grouped geographically for spatial analysis.

The dataset is comprised of data for Metropolitan Adelaide, Whyalla and Mount Gambier for the 2002–2003 financial year, from a range of service providers from health, housing, disability and community services including:

- Housing SA
 - SA Housing Trust
 - Private Rental Assistance
 - Community Housing
 - Aboriginal Housing tenants
- Public Hospitals
 - Inpatient separations
 - Accident and emergency department
- Disability SA
- Families SA
- Child and Adolescent Mental Health Services
- Adult Mental Health Services
- Community Health Services
- Children and Youth Health Services
 - Children
 - Youth

It was the intention that the dataset cover clients who reside in Metropolitan Adelaide, Mount Gambier and Whyalla, or where the service was provided from one of these locations. However, some providers have a state wide focus and consequently the data they provided extended beyond these three areas. Where this occurs the data was categorised as "other".

¹ See the Clients in Common Final Report for further information on the Clients in Common project and data linkage process.

Young and female profile of *Clients in Common*

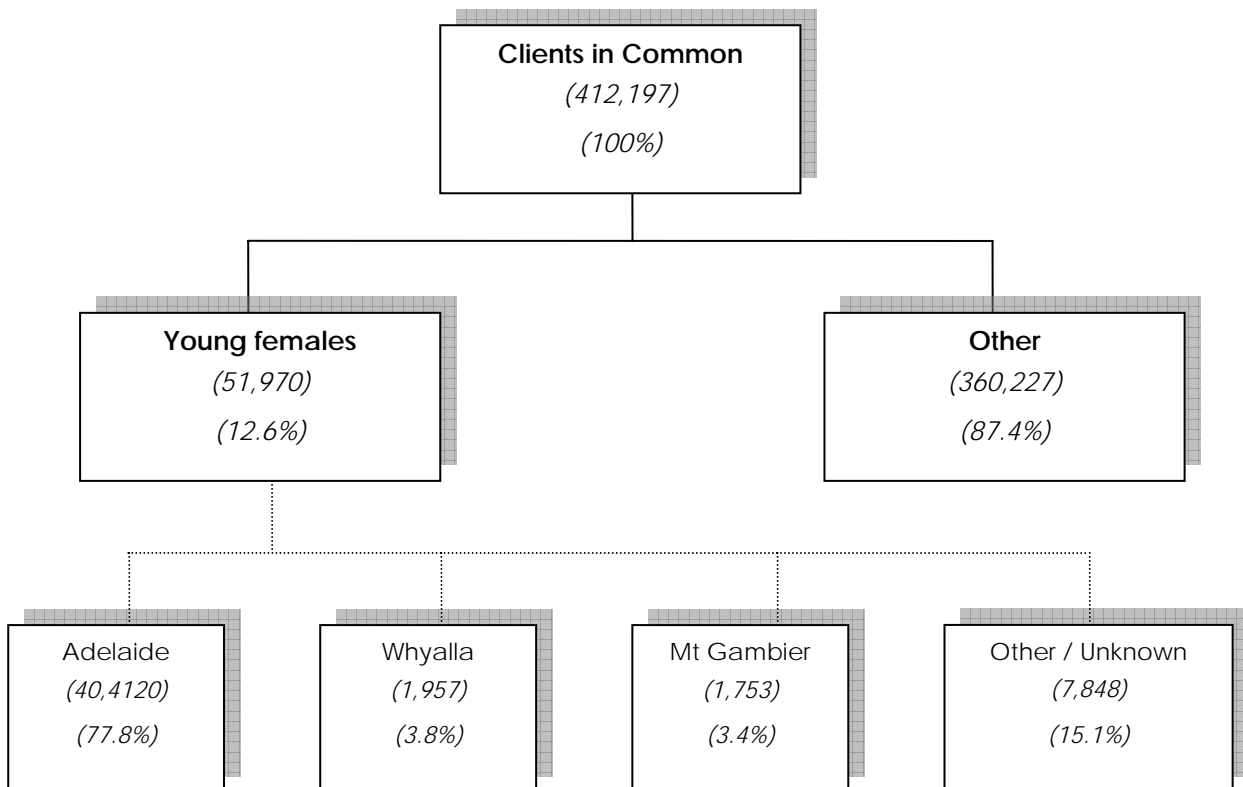
This report has utilised the *Clients in Common* linked dataset to profile service use for young females in three parts of South Australia; Metropolitan Adelaide, Mount Gambier and Whyalla.

For the purpose of the project 'young' has been defined as 10 to 29 years inclusive. Persons of both sexes aged between 10 and 29 years of age represent 25 percent (101,751) of the total clients captured in the *Clients in Common* dataset. Within this age bracket females represented more than half of the clients (51.1% or 51,970).

Just over 90% of these clients were geocoded, that is assigned a spatial reference. Around 5,047 (9.7%) young female clients could not be mapped to a defined address. However, in most of these cases some sort of spatial information on the suburb or town the client was located in was available.

The majority of young female clients (77.8% or 40,412) lived (at the time they last used a service) in Metropolitan Adelaide. The number of young female clients living in Whyalla and Mount Gambier were much smaller (1,957 and 1,753 respectively). Therefore, the majority of the analysis within this report is performed on clients within Metropolitan Adelaide. When breaking the data down by different variables the numbers were often too low to show meaningful patterns in Whyalla and Mount Gambier, or they were not used to protect confidentiality of clients. The home address of 15 percent of young females was an area other than the three mentioned above, or unknown.

Figure 1: Number of clients in *Clients in Common* dataset



As well as the broader analysis on young females from the *Clients in Common* dataset, young female clients have been analysed by a number of topic areas including:

- Socioeconomic Disadvantage in Adelaide
- Housing and Homelessness
- Families SA clients
- Guardianship of the Minister clients
- Births by young females
- Mental Health

Young females as a population group

A young woman's needs can be varied and complex, often in a climate where services remain compartmentalised. Rogers and Allwood (2005) believe that holistic and partnership services are of paramount importance in improving accessibility for young women. This is also the case for young women who may have more than one vulnerable characteristic (Loxton, Williams & Adamson, 2007). Young women who are socioeconomically disadvantaged, homeless or experiencing accommodation difficulties, and have a poor education background, are considered to be 'at risk' or 'vulnerable' in accessing services (Bullen and Kenway, 2004).

While women who have multiple vulnerabilities might benefit from accessing a range of services, it is not considered that there is 'one service' in place that can accommodate all of their needs. Analysing the *Clients in Common* dataset allows any characteristics or trends in the types of services used by young females to be determined, in particular the types of services used by young females who are users of multiple providers and services, from areas of socioeconomic disadvantage, and potentially 'at risk'.

Young female clients

Comparisons between the young females from this dataset with the estimated resident population (ABS June 2003), shown in Table 1, illustrates that the linked dataset picks up a greater proportion of the young females in regional centres. Around 69 percent of young females in Whyalla and 55 percent in Mount Gambier were accessing services, compared to 28 percent in Metropolitan Adelaide.

Table 1: Young female clients and the young female Estimated Resident Population

	Number of young female clients in Clients in Common	Young female Estimated Resident Population (June 2003)	Percent coverage
Adelaide	40,412	146,554	27.6
Mount Gambier	1,753	3,208	54.6
Whyalla	1,957	2,824	69.3

Source: Australian Bureau of Statistics (2004b).

Multiple providers

The average number of providers used by young females was 1.5. Overall the proportion of providers used by young females was similar to the total client population. However, it is interesting to note that the proportion of young females accessing five or more service providers (1.3%) was more than double the proportion of young males (0.6%), and total persons (0.5%).

Table 2: Number of providers used by clients

Number of providers the client used	Young females (%)	Young males (%)	Total clients (%)
1	64.1	70.7	64.9
2	25.2	21.5	26.3
3	7.0	5.4	6.6
4	2.5	1.7	1.6
5 or more	1.3	0.6	0.5
Total	100	100	100
<i>Average</i>	<i>1.5</i>	<i>1.4</i>	<i>1.5</i>

To place this in some context, ABS population data (ABS ERP June 2003) indicates there were 193,689 young females aged 10 to 29 years in South Australia, who represented 13% of the total population. Young females also represent 13% of total clients in the *Clients in Common* dataset. However, they represent 31% of all clients accessing 5 or more providers. This indicates that young females are over-represented in relation to clients who are users of multiple service providers.

Service visits

The average number of services visits by young female clients, regardless of provider, was 3.5, the same for total clients and comparable to that for young males (3.6). The majority of the young female clients (85%) recorded less than five total service visits from any provider. Overall, the number of service visits by young females was comparable to that for total clients, and young male clients.

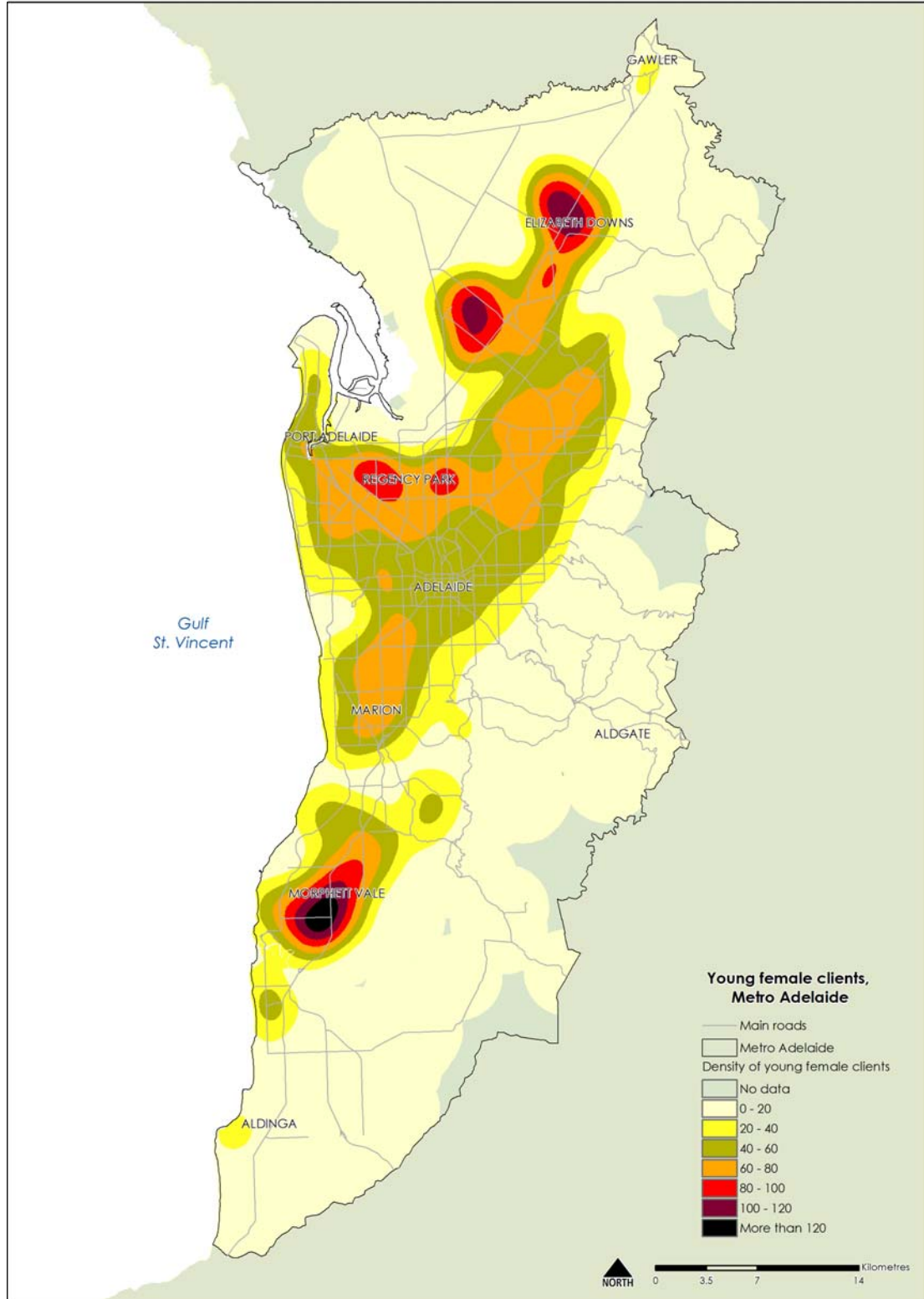
Table 3: Number of service visits by clients

Number of service visits	Young females (%)	Young males (%)	Total clients (%)
1	49.9	55.8	49.3
2	20.0	20.5	20.7
3	9.6	8.6	9.7
4	5.6	4.2	5.7
5 or more	14.9	10.9	14.5
Total	100	100	100
<i>Average</i>	<i>3.5</i>	<i>3.6</i>	<i>3.5</i>

Spatial distribution of clients

The map below illustrates the density of young female clients around Metropolitan Adelaide.

Figure 2: Young female clients, Adelaide



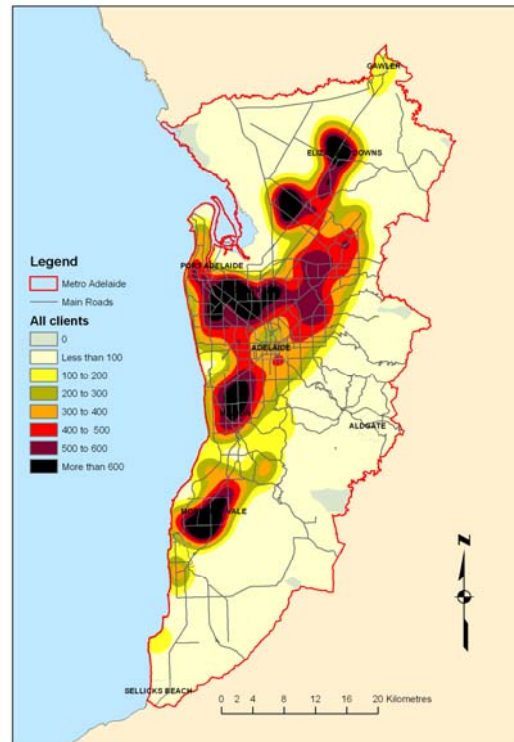
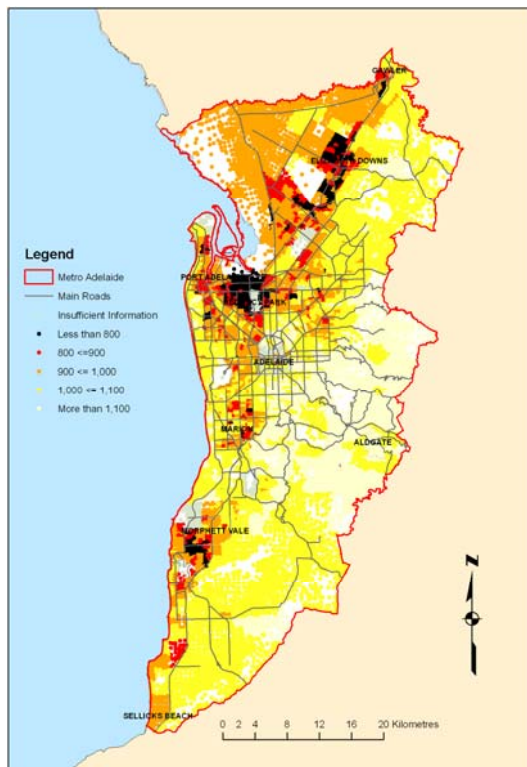
The spatial distribution of young female clients has some correlation with the areas of disadvantage as defined by the SEIFA Index of Relative Socioeconomic

Disadvantage produced by the ABS. This index is based around an Australian average value which is given the index value of 1,000. The lower the value, the greater the disadvantage. Conversely, the greater the value, the less the disadvantage.

Figure 4 illustrates the spatial distribution of SEIFA by assigning each dwelling the value attributable to the collection District in which it is located. The greatest disadvantage (less than 800, or extreme disadvantage) is represented by the dark red.

Figure 3: SEIFA Index of Relative Socioeconomic Disadvantage by dwelling, Adelaide

Figure 4: Total clients, Adelaide

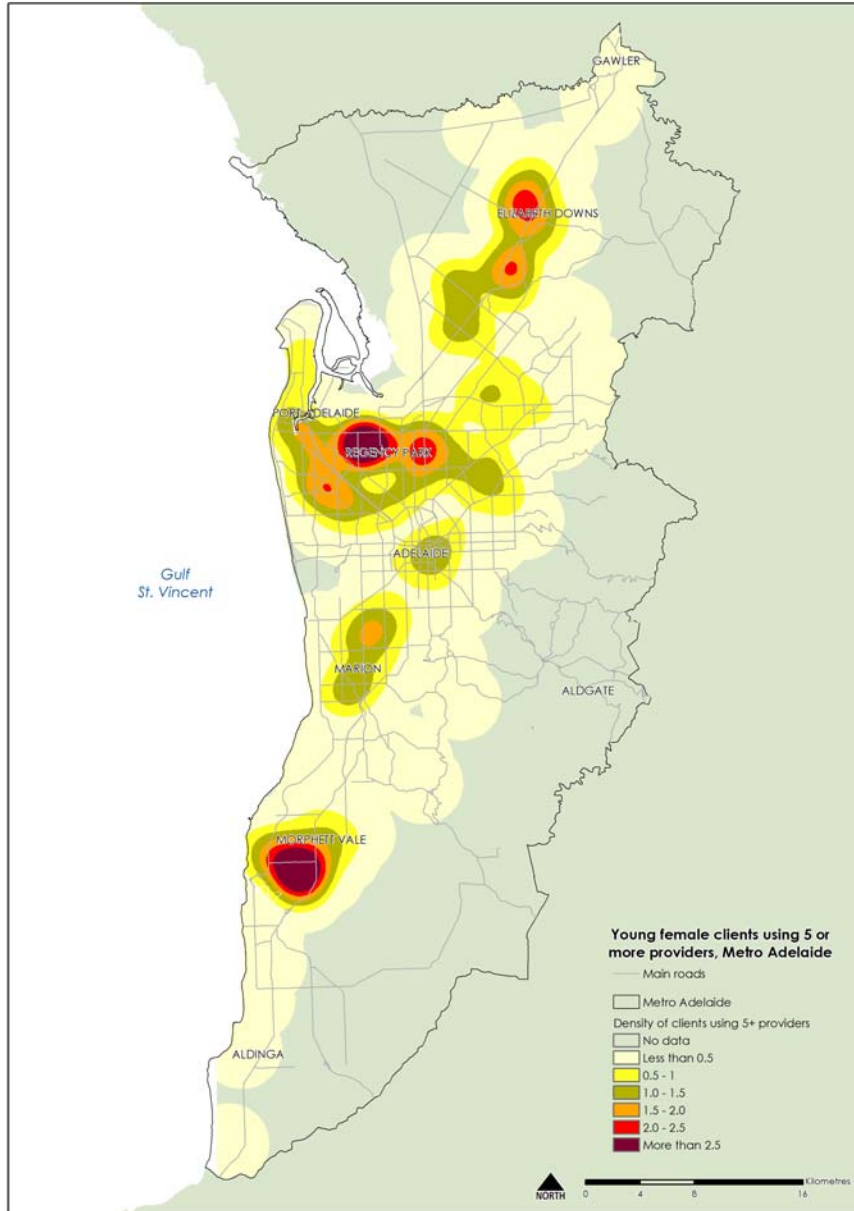


When total clients are mapped for Metropolitan Adelaide the density map reflects the general settlement pattern shown in by dwellings in the SEIFA map.

By comparing the two maps above it is apparent that clustering forms in a similar spatial pattern with greater densities of clients in the areas of greatest disadvantage. This reflects the datasets contained in the study which include social housing and other potentially financially disadvantaged groups such as those receiving a disability or mental health service.

In Figure 6, the spatial distribution of clients accessing five or more providers shows distinct clusters of high service users in the south of Metropolitan Adelaide around Morphett Vale, Noarlunga Downs and Huntfield Heights, as well as to the north-east of Adelaide around Regency Park, Salisbury and Elizabeth.

Figure 5: Young females using 5 or more providers, Adelaide



Provider combinations

The dataset allows us to examine patterns in the combinations of service providers being used by young females. Improving understanding of the service needs and the type of services provided gives insight to needs and accessibility. It helps planners understand what sorts of services are used in conjunction with others as well as how client profiles vary between providers.

The most common combination was the hospital accident and emergency department (with no services from any other provider) which was used by just over a quarter of clients (28.3%). Hospital inpatient services combined with hospital accident and emergency was the next highest (13.1%), followed by Hospital Inpatient (9.4%) then SAHT (8.5%) both as single providers. The combinations included in the table below represent 85% of the different combinations used by young female clients.

Table 4: Combination of providers used by young female clients

Combination of providers used ^a	Number of clients	Proportion of clients (%)
EMERG	14,704	28.3
INPAT+EMERG	6,811	13.1
INPAT	4,888	9.4
SAHT	4,402	8.5
PRAS	3,341	6.4
CYFS	2,028	3.9
TSS	1,006	1.9
CAMHS	955	1.8
CHS+INPAT+EMERG	902	1.7
SAHT+EMERG	791	1.5
PRAS+EMERG	603	1.2
PRAS+INPAT+EMERG	507	1.0
CYFS+SAHT	448	0.9
SAHT+INPAT+EMERG	425	0.8
DISABILITY SERVICES	419	0.8
CYFS+PRAS	410	0.8
AHA	387	0.7
CYFS+EMERG	352	0.7
SAHT+INPAT	315	0.6
CHS+INPAT+EMERG	311	0.6
Total	44,005	84.7

^a See Abbreviations & usages for key to abbreviations.

When comparing the combination of services used between Adelaide, Mount Gambier and Whyalla, there isn't significant variation. Adelaide, Mount Gambier and Whyalla clients all had Accident and Emergency departments as the highest provider use with the proportion of all clients using the provider at 30.9%, 33.4% and 27.2% respectively. Hospital Inpatient plus Accident and Emergency was the second or third highest combination for all locations (14%, 13.8% and 6.8% respectively) while the proportion of clients who used SA Housing trust accommodation, as a single provider, was also similar between the three locations (8%, 8.9% and 8.6% respectively).

Provider totals

The provider with the most clients was accident and emergency departments, with just over half of young female clients (55.6%). Public hospital inpatient services had the next highest number of young female clients with around one third (32.1%), followed by the SA Housing Trust at 16.2%. These figures are consistent with the results from the provider combinations which showed the same providers appearing as the most frequently used.

Table 5: Provider totals, young female clients

Provider	Number of clients ^a	Percent
Public Hospital - Accident and emergency	28884	55.6
Public Hospital - Inpatient	16671	32.1
SA Housing Trust	8426	16.2
Private Rental Assistance Scheme	7288	14.0
Community Health Service	2925	5.6
Child and Adolescent Mental Health Services	2236	4.3
Youth services - The Second Story	2172	4.2
Mental Health Services	1106	2.1
Disability Services	968	1.9
SA Community Housing Authority	792	1.5
Aboriginal Housing Authority	746	1.4
Special Needs Housing	484	0.9
Child & Youth Health - CRIB	224	0.4

^a Double counting occurs where a person uses more than one provider.

Accident and Emergency departments

The number of young females who visited an accident and emergency department was 28,884, 55.6% of all the young female clients. The proportion of young female clients who had two or more visits to an accident and emergency department was 18.8%. Eight percent of young females from the *Clients in Common* data set visited accident and emergency three or more times. As can be seen from the table below, the proportion of young females visiting on multiple occasions (2 or more visits) was higher than the proportion for total persons, and for young males.

Table 6: Visits to Accident and Emergency departments

Number of visits to Hospital accident and emergency	Young females (%)	Young males (%)	Total clients (%)
No ED visits	44.4	37.3	49.1
1 or more visits to ED	55.6	62.7	50.9
2 or more visits to ED	18.8	18.2	16.5
3 or more visits to ED	8.3	6.7	6.9
4 or more visits to ED	4.5	3.0	3.4

Aboriginal and Torres Strait Islander Clients

It is well known that Aboriginal and Torres Strait Islander peoples (ATSI) experience much worse outcomes on a wide range of social, economic, health and other measures than non-Aboriginal and Torres Strait Islander peoples (Gray, 2006). As Gray aptly states, tackling the high levels of disadvantage experienced by the Indigenous population is one of the most difficult policy challenges (2006).

The health and wellbeing of Aboriginal and Torres Strait Islander women is affected by a complex range of socioeconomic and environmental factors. Indigenous women are more likely than non-Indigenous women to be unemployed, to have carer responsibilities for children other than their own, to receive welfare payments and to have finished school at an earlier age (Aboriginal and Torres Strait Islander Social Justice Commissioner, 2004).

This project brings together data from a variety of sources, which provides opportunities to improve the quality of the information across different datasets. One example of where information has been carried across to improve the completeness

of information has been in the imputation rules for Aboriginal and Torres Strait Islander clients. If any record for a person showed that they were ATSI, then this was applied to all the records for that client.

This resulted in the recoding of ATSI young female clients from 4.6% to 5.2% of clients, the recoding of non-ATSI clients from 80.5% to 85.2%, and the subsequent drop in 'unknowns' from 14.8% to 9.6%.

In total 2,717 (5.2%) young female clients were recorded as Aboriginal and Torres Strait Islander. This is far higher than the 1.7 percent of Indigenous people in the total SA population (ABS, 2001b) and the 3.4 percent of total clients in the *Clients in Common* dataset who are Indigenous.

Socioeconomic Disadvantage in Adelaide

Summary measures examining different aspects of socioeconomic conditions by geographic areas are produced by the ABS, known as the Socioeconomic Indexes for Areas (SEIFA). This project has used one of the indexes, the Index of Relative Socioeconomic Disadvantage (IRSD) to investigate the relationship between *Clients in Common* and socioeconomic status.

Young female clients were grouped into areas of similar socioeconomic status by allocating each collection district (CD) in Adelaide to one of five categories (quintiles) based on the ABS 2001 SEIFA Index of Relative Socioeconomic Disadvantage scores². The quintiles each comprise approximately 20% of the total Adelaide population according to the ABS Estimated Resident Population.

Each of the young female clients in Metropolitan Adelaide was then assigned a SEIFA score based on the CD in which they were located³. Quintile 1 comprises the CDs with the lowest SEIFA IRSD scores (most disadvantaged areas) while quintile 5 is made up of the CDs with the highest SEIFA IRSD scores (least disadvantaged areas). The SEIFA IRSD scores in Adelaide ranged from 516.8 (most disadvantaged) to 1175.2 (least disadvantaged). This analysis is based on 38,756 young female clients in Adelaide who had a geocoded address and were not located in a CD with no SEIFA value (4% of CDs in Adelaide). This equates to a total of 96% of all young female clients in Adelaide.

Most young female clients (34.6%) were located in the most disadvantaged quintile (Q1) and the fewest (9.5%) in the least disadvantaged quintile (Q5). The data show that as the level of disadvantage in an area increases, so too does the number of clients.

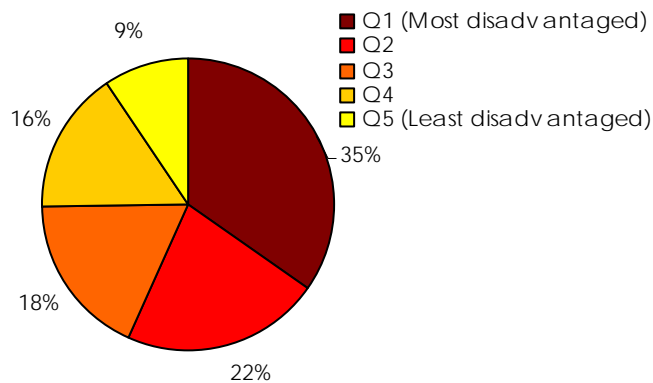
Table 7: Young female clients by SEIFA quintiles, Adelaide

SEIFA Quintiles	Number	%
Quintile 1 (Most disadvantaged)	13,427	34.6
Quintile 2	8,581	22.1
Quintile 3	6,996	18.1
Quintile 4	6,074	15.7
Quintile 5 (Least disadvantaged)	3,678	9.5
Total	38,756	100

² To provide a more accurate representation the analysis by socioeconomic area was based on collection districts and clients located in Adelaide only, due to the majority of the young female clients in this dataset being located in Adelaide (78%).

³ CDs with no SEIFA value (less than 1% of all CDs in Adelaide) were eliminated from this analysis. Clients without a geocoded address could also not be included in this analysis (4% of clients in Adelaide).

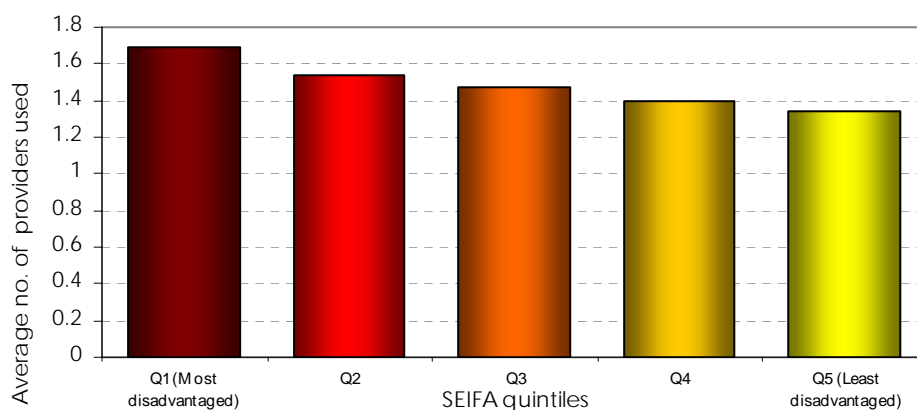
Figure 6: Young female clients by SEIFA quintiles, Adelaide



Multiple providers

Not only are there more young female clients in the most disadvantaged areas of Adelaide, but on average they are also using a higher number of providers per person than clients in the less disadvantaged areas. The average number of providers used by clients was 1.7 in the most disadvantaged quintile, compared to 1.3 in the least disadvantaged quintile.

Figure 7: Average provider use by SEIFA quintiles, Adelaide



In line with this, clients who were using five or more providers were more heavily concentrated in the most disadvantaged quintile, with the majority (59.6%) in quintile 1 and a much lower 2.8% in the least disadvantaged quintile (Q5).

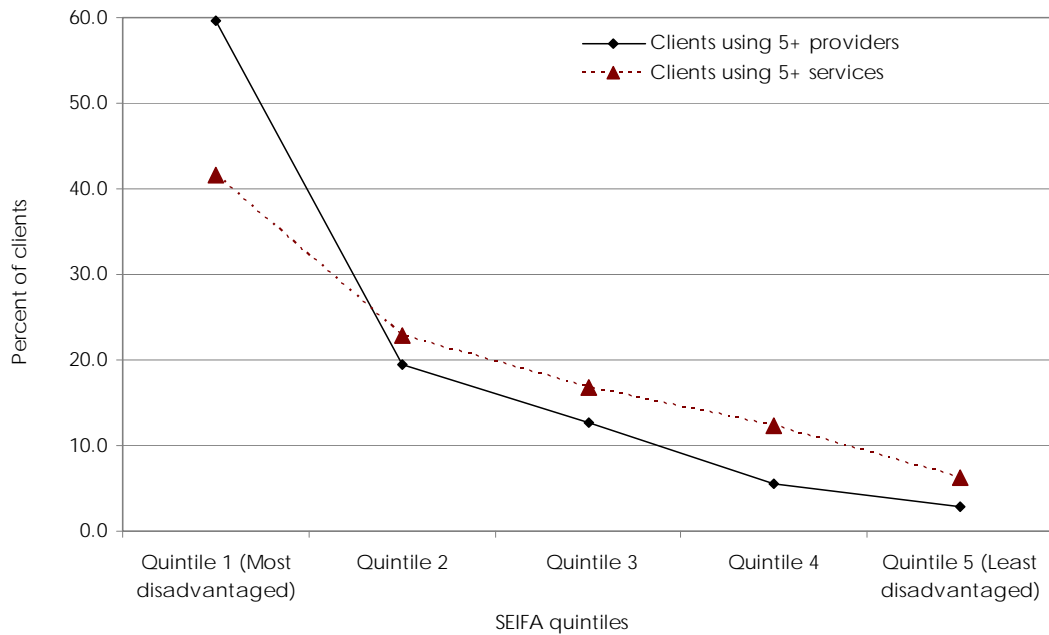
Table 8: Young female clients using 5 or more providers by SEIFA quintiles, Adelaide

SEIFA quintiles	Number	Percent
Quintile 1 (Most disadvantaged)	317	59.6
Quintile 2	104	19.5
Quintile 3	67	12.6
Quintile 4	29	5.5
Quintile 5 (Least disadvantaged)	15	2.8
Total	532	100

The use of 5 or more providers by socioeconomic disadvantage shows an obvious downward trend, illustrated by Figure 8, with the majority of high-use clients located in the most disadvantaged quintile. The percentage of clients declines sharply between

quintile 1 and quintile 2, with a steady decline between quintiles, which coincides with decreasing disadvantage.

Figure 8: Young female clients using 5 or more providers and 5 or more service visits by SEIFA quintiles, Adelaide

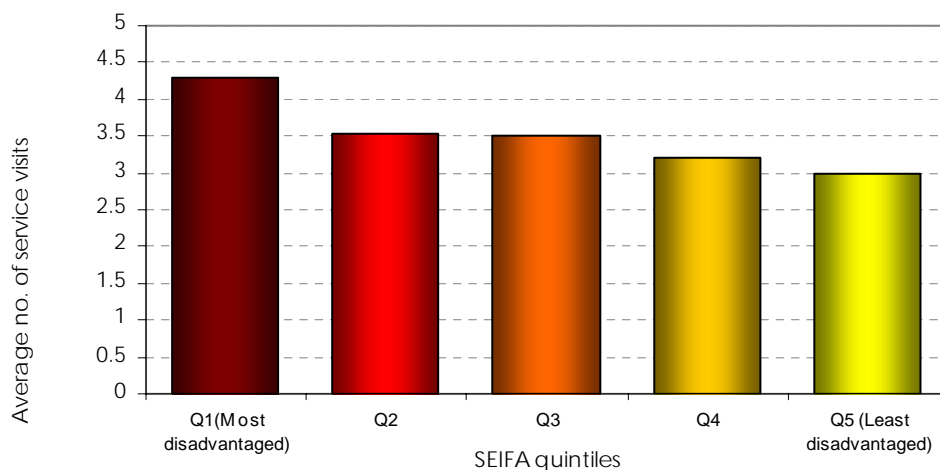


Service visits

Like provider use, clients with five or more service visits were also more heavily concentrated in the most disadvantaged quintile, with 41.6% in quintile 1 and only 6.3% in quintile 5, illustrated by Figure 8 above.

The average number of service visits by clients was also higher for clients in the most disadvantaged areas, with around 4.3 service visits in quintile 1 compared to an average of 3 service visits for clients in quintile 5, as demonstrated in Figure 9.

Figure 9: Average service visits by SEIFA quintiles, Adelaide

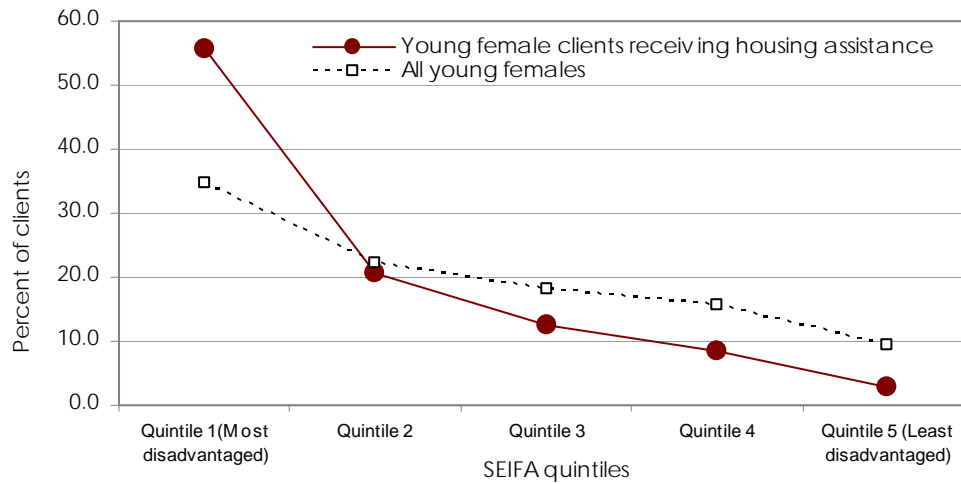


Housing assistance & Homelessness

Around 32% (12,141) of young female clients were accessing some form of housing assistance (SA Housing Trust, SA Community Housing Authority, Aboriginal Housing Authority, Private Rental Assistance Scheme or special needs housing). Analysing

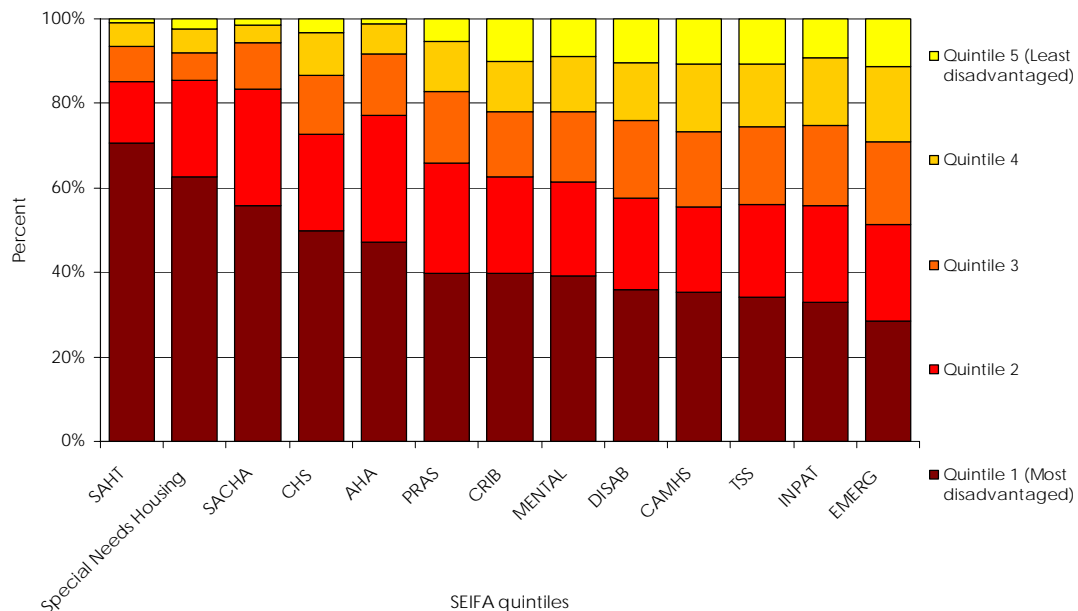
these clients by the socioeconomic status of their location reveals that the majority of them (56%) were located in the most disadvantaged areas of Adelaide (Figure 10).

Figure 10: Young female clients accessing any form of housing assistance by quintiles of socioeconomic disadvantage



Examining provider use by quintiles of socioeconomic disadvantage shows housing providers, such as the SA Housing Trust as well as other forms of social housing, to have the largest proportion of clients in the most disadvantaged areas. This would be expected given the eligibility requirements to access some of these services. Inpatient and accident and emergency hospital services on the other hand demonstrate the most even distribution of clients by quintile; however even with these services the most disadvantaged quintile still has the greater proportion of clients with around 33% and 28% respectively.

Figure 11: Provider use ^a by clients in quintiles of socioeconomic disadvantage



^a See Abbreviations & usages for key to abbreviations.

There also appears to be a relationship between socioeconomic disadvantage by area and homeless young female clients, which is discussed further in the Housing and homelessness chapter.

Housing and homelessness

Housing assistance

Thirty-two percent of the young female clients were accessing some form of housing assistance (SAHT, Special needs housing, PRAS, AHA or SACHA). This compares to 28% of the total clients from the *Clients in Common* dataset who had access to housing assistance.

Homelessness

One of the strengths of the dataset is the perspective it gives on young females who are 'homeless'. In addition to original information collected by providers on homelessness, this project also analysed address information to categorise clients as 'homeless'. This was either through the type of address given such as 'no fixed abode', or clients who recorded their place of residence as caravan parks, boarding houses, addresses recognised as providing for the homeless, or clients having a particular diagnosis code which infers lack of housing. Therefore, people were categorised as homeless in the dataset if they were identified at any time during the 2002-03 year as being homeless according to the above variables.

The *Clients in Common* dataset shows there were 2,851 (0.7%) people identified as homeless. Of these, almost half (43% or 1,220) were youth aged between 10 and 29 years. There were 508 (1%) young female clients identified as homeless.

Recent preliminary data regarding the number of persons in impoverished homes, tents, and rough sleepers from the Australian Bureau of Statistics (2006) show males to have a higher incidence of homelessness in all age groups reported except in the 12 to 17 year age group, where the number of females is 1.6 times higher than males, with 5 compared to 3 in the Adelaide Metropolitan area.⁴

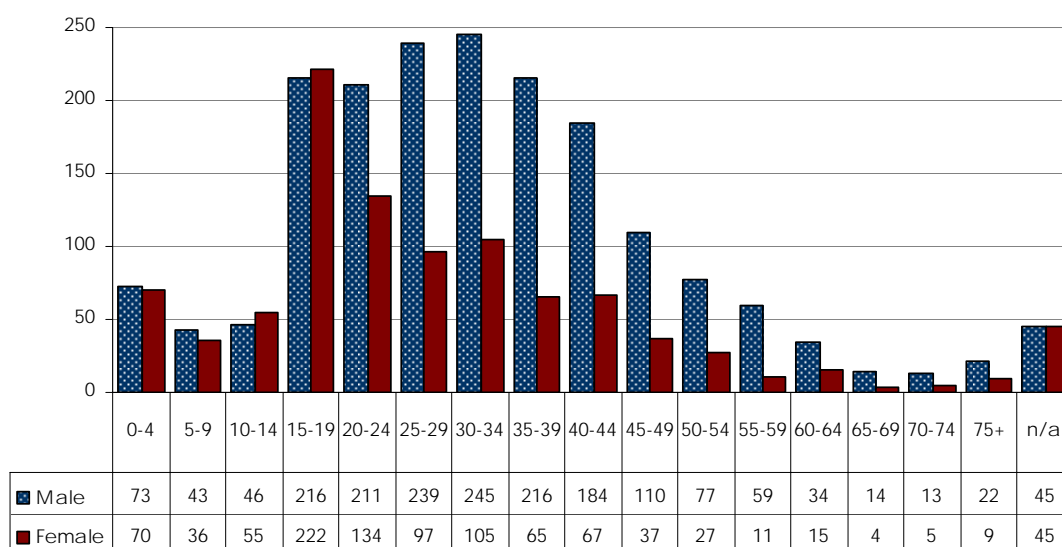
Data on homelessness from *Clients in Common* supports the finding that between 10 and 19 years of age, there are higher numbers of females experiencing some form of homelessness than there are males, despite the overall smaller female population.

Figure 14 shows an age sex distribution of homeless *Clients in Common*. In total there are 1,004 homeless females compared with 1,847 males. Males tend to predominate across the age ranges, especially those older than 20 years of age. However this isn't the case for females aged between 15 and 19, with 222 females as opposed to 216 males. Also of concern is the number of males and females younger than 15 years, with 323 clients or 11.3 percent of the homeless population.

Although both the ABS and *Clients in Common* data show a similar trend in the ratio of homeless females to males in the younger age groups, the actual numbers of homeless people are much higher in the *Clients in Common* dataset, with 277 females aged between 10 to 19 years, and 262 males homeless. It is important to note that the homeless in the *Clients in Common* dataset were clients who were recorded as homeless at any stage during the 2002-03 year, compared with the ABS Population Census which is a count from a single point in time.

⁴ Numbers may have been randomised to protect confidentiality. This data uses different age groupings to the 5 year age ranges used in the *Clients in Common* dataset, therefore they are not directly comparable.

Figure 12: Homeless clients by age and sex



Out of the young female clients that identified as homeless during the 2002-03, 74 percent lived in Metropolitan Adelaide, with very few having lived in Whyalla (3.7%) and Mount Gambier (2.4%). Another 3.7 percent lived in more than one of the three study areas of Adelaide, Whyalla and Mount Gambier. There were 4.7 percent who were from other regional centres, such as Berri, Murray Bridge, Port Pirie and Port Lincoln, while 57 (11.2%) were 'unknown'.

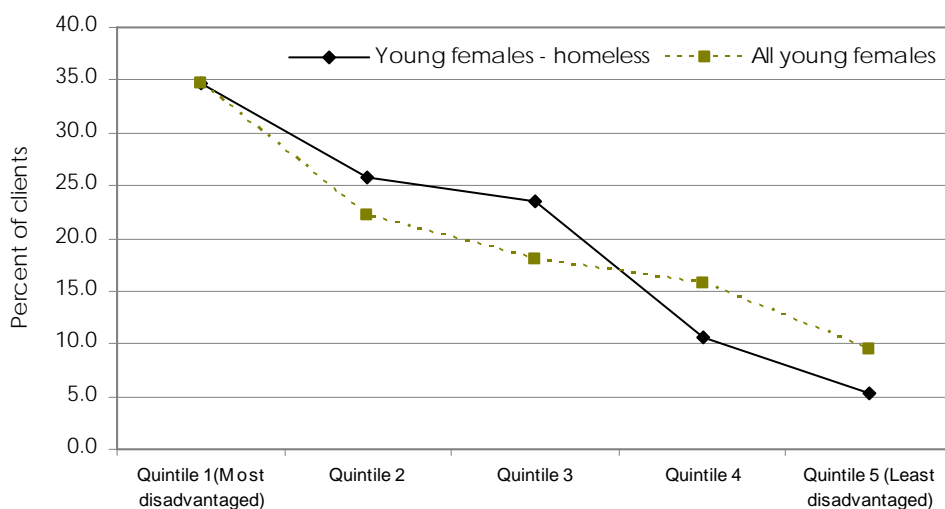
Most of the homeless young females in the 10 to 29 year age bracket were aged 15 to 19 years (222 clients), with the number of homeless decreasing with age. The 10 to 14 year age group had the lowest number of homeless females with 55.

Socioeconomic disadvantage

Although classified as 'homeless', many of these clients could still be geocoded to an address where they were identified as living in a boarding house, other accommodation catering for homeless people, or recorded as having an address at any of the providers they reported to during the 2002-03 period.

The graph below shows there is also an obvious relationship between socioeconomic disadvantage by area and homeless young female clients. It illustrates that the greater the disadvantage in an area, the greater the number of homeless clients. The distribution of homeless clients by quintiles is similar to that of all young female clients, with around 35% in the most disadvantaged quintile. However homeless clients show a more marked difference between quintiles, with only 5% of clients in the least disadvantaged quintile, compared to 10% for all young females.

Figure 13: Young female homeless clients by SEIFA quintiles, Adelaide



Aboriginal and Torres Strait Islander peoples and homelessness

The number of homeless young females identified as Aboriginal and Torres Strait Islander peoples was 17.3 percent, higher than the proportion of young homeless males (10.5%) and total homeless clients (12.4%) who were ATSI.

Table 9: Proportion of homeless clients who were Aboriginal and Torres Strait Islander peoples

	Young Females %	Young Males %	Total clients %
ATSI clients	17.3%	10.5%	12.4%

Adelaide had the highest number of homeless clients who were of Aboriginal and Torres Strait Islander descent (54) however Whyalla had the highest proportion (63%) of homeless who were ATSI, with 10 out of the 16 young homeless females recorded as Aboriginal and Torres Strait Islander peoples.

Families SA clients

There were 508 (1%) young female clients identified as homeless sometime during the 2002-03 period. More than half of these (54%, 274) were Families SA clients. The majority were located in Metropolitan Adelaide (74.8%) and almost half (41.2%) of them were aged between 15 to 19 years old. Around one third of them were accessing some sort of housing assistance (32%) and around one quarter were of Aboriginal and Torres Strait Islander descent (24%).

Young females giving birth in public hospitals

Young mothers are one of the most socioeconomically disadvantaged groups in Australian society (Bradbury,2006:1). Young mothers generally have lower levels of education, are more likely to live in rural or socially disadvantaged urban areas and are more likely to be of Aboriginal and Torres Strait Islander origin (Bradbury,2006:4). Teenage pregnancy, particularly for women under 18, carries significant social risks (interrupted schooling, potential poverty and social isolation) and health risks (low birth weight babies and higher rates of medical complications) (Slowinski, 2001). Developing a greater understanding of young mothers, their service needs and uses, are important for service providers and planners.

Research has suggested that children born to young mothers are more likely to grow up in more disadvantaged socioeconomic circumstances, making this a vulnerable group (Qu, Soriano & Weston, 2006). Data from Growing up in Australia, the Longitudinal Study of Australian Children, has indicated that among mothers, those that were teenagers appeared to be most prone to experiencing psychological distress, followed by mothers in their early twenties (Qu, Soriano & Weston, 2006). This was also found to be consistent with other studies (Deal & Holt, 1998; Hotz, McElroy, & Sanders, 1997; Kalil & Kunz, 2002).

Indeed, young women who are homeless and facing pregnancy are often of a poor socioeconomic background, are placed under great stress, have poorer nutritional outcomes, less access to services or are less inclined to access them (Rogers & Allwood, 2005; Bradbury, 2006). In this regard and from the perspective of health service professionals, accommodation for homeless young women is critical.

Information on young females giving birth is available from the *Clients in Common* dataset from hospital inpatient and accident and emergency diagnosis and procedure codes. During 2002-03 4,583 young females were identified as having children in public metropolitan hospitals.

The majority of births in Adelaide by clients were at the Women's and Children's Hospital (38.7%), followed by the Lyell McEwin (22.2%) and the Flinders Medical Centre (10.9%). It is important to note that the *Clients in Common* dataset only includes information from public hospitals.

Within the 10 to 29 year age group, the clients aged 25 to 29 had the highest number of hospital records for births according to inpatient data from the public hospitals with 52% of all the births to young females being in this age bracket. Around 34% of the young females giving birth in public hospitals recorded in the dataset were aged 20 to 24, 14% were aged 15 to 19 and less than 0.5% were aged 10 to 14 years.

Multiple providers

The average number of providers used by young mothers was 2.1, slightly higher than all young female clients at 1.5. The proportion of young mothers visiting two providers was double that of all young female clients (50.2% compared to 25.2%), which can be attributed to the high number of young mothers visiting inpatient and emergency departments, as would be expected when presenting for the birth of a child. The number of young mothers accessing five or more providers was also higher than all young female clients, at 3.1% compared to 1.3%.

Table 10: Provider use by various client groups

Number of providers the client used	Young mothers (%)	Young females (%)	Young males (%)	Total clients (%)
1	27.4	64.1	70.7	64.9
2	50.2	25.2	21.5	26.3
3	13.8	7.0	5.4	6.6
4	5.4	2.5	1.7	1.6
5 or more	3.1	1.3	0.6	0.5
Total	100	100	100	100
<i>Average</i>	<i>2.1</i>	<i>1.5</i>	<i>1.4</i>	<i>1.5</i>

Service visits

As Table 11 shows, young mothers averaged 4.8 service visits, higher than the average for all young female clients (3.5). It would be expected that during pregnancy females would be accessing a higher number of service visits, particularly to hospitals when attending routine check ups as well as receiving child and youth health – children services (CRIB) once the child is born.

Although they had a slightly higher average, the majority of young females giving birth still had less than 5 service visits (66.7%), while the majority (89.9%) had less than 10 service visits.

Table 11: Service visits by various client groups

Number of service visits	Young mothers (%)	Young females (%)	Young males (%)	Total clients (%)
1	16.2	49.9	55.8	49.3
2	22.4	20.0	20.5	20.7
3	15.8	9.6	8.6	9.7
4	12.3	5.6	4.2	5.7
5 or more	33.3	14.9	10.9	14.5
Total	100	100	100	100
<i>Average</i>	<i>4.8</i>	<i>3.5</i>	<i>3.6</i>	<i>3.5</i>

Provider combinations

As would be expected of clients giving birth, the most common combinations of services used were inpatient with emergency hospital services (41.7%), followed by use of inpatient services only (27.4%).

Provider totals

The overall provider use paints a similar picture, illustrating that all of the young mothers were using inpatient services, and that the majority of them were also using the accident and emergency departments (60.5%). The provider with the next highest use was the Private Rental Assistance Scheme (PRAS), used by 12.6% of young mothers. The SA Housing Trust and Community Health Service were each used by about 10% of young mothers.

Table 12: Provider use by young mothers

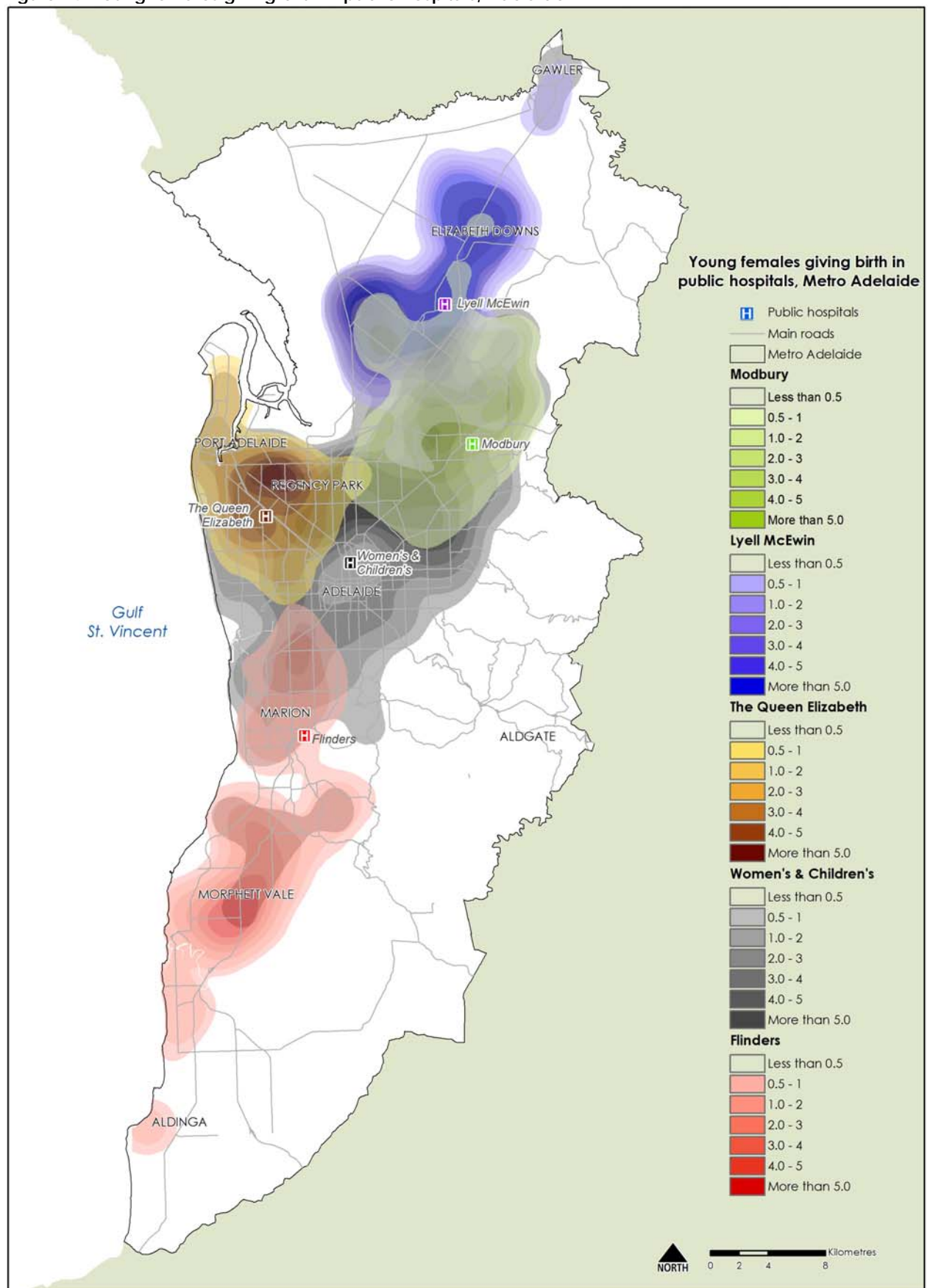
	Number of clients	Percent of clients
Public Hospital - Inpatient	4583	100.0
Public Hospital - Emergency	2774	60.5
Private Rental Assistance Scheme	576	12.6
SA Housing Trust	445	9.7
Community Health Service	438	9.6
Child and Youth Family Services	340	7.4
Youth services - The Second Story	112	2.4
SA Community Housing Authority	76	1.7
Special Needs Housing	57	1.2
Mental Health Services	56	1.2
Aboriginal Housing Authority	31	0.7
Child and Adolescent Mental Health Services	15	0.3
Disability Services	14	0.3
Child & Youth Health	0	0.0

The number of young mothers using housing assistance (SA Housing Trust, SA Community Housing Authority, Aboriginal Housing Authority, Private Rental Assistance Scheme or Special Needs Housing) was 22.7% (1,039). In comparison the number of all young female clients and total clients receiving housing assistance was slightly higher at 32% and 28% respectively.

Spatial distribution of young mothers

The majority of young mothers were located in Metropolitan Adelaide (77.7%), while 6.6% were living in Whyalla and 4.9% in Mount Gambier. The location of around 11% of the clients was outside of these areas, or unknown. Figure 14 maps the density of young mothers by the hospital they attended in Adelaide. This illustrates the hospital catchment areas for young females giving birth. The Women's and Children's hospital (shown in black) has the largest catchment area.

Figure 14: Young females giving birth in public hospitals, Adelaide



Guardianship of the Minister clients⁵

Families SA provides case-management and support services for children and young people who are under the Guardianship of the Minister, facilitating services to address education, health, family relationships, life skills and social connections. The objective of case management is to support the positive development of children and young people who are unable to remain in the care of their birth families. Families SA also facilitates children's living arrangements, through the provision of alternative care services.

Strong evidence shows that children and young people under guardianship experience significant health problems in addition to abuse or neglect. Children and young people under guardianship often have difficulty in accessing health, housing, education, welfare services and employment. They may have significant medical, psychological, developmental, educational and behavioural problems as well as other disabling conditions. Reduced and interrupted access to services means that early intervention and effective delivery of services may not take place, with an impact on both their immediate needs and long-term outcomes (CYWHS, 2005, p3).

There were 426 young females in the dataset who were under the Guardianship of the Minister (GOM) during the 2002-03 period (0.8% of all young female clients). These services fell under the banner of Child, Youth and Family Services (CYFS).⁶

Approximately 19 percent of the young females under the Guardianship of the Minister were of Aboriginal and Torres Strait Islander descent, which is a significant over representation given that Aboriginal and Torres Strait Islander peoples account for approximately 1.7% of the South Australian population (ABS, 2004a).

Over one third of these clients were only accessing services from Child, Youth and Family Services (CYFS) (166 or 39%). Of the 166 young females under GOM who were only using Child, Youth and Family Services, 40 (24%) were exclusively GOM clients, while 126 (76%) were also accessing other Child, Youth and Family Services (CYFS), the majority of these being alternative care placements .

Table 13: Number of providers used by Guardianship of the Minister clients

Number of providers the client used	Number	Percent
1 (GOM/CYFS only)	166	39.0
2	110	25.8
3	77	18.1
4	38	8.9
5	21	4.9
6	11	2.6
7	3	0.7
Total	426	100

Use of providers

Young female GOM clients used on average 2.2 providers, with 7.5% using five or more service providers, more than five times higher than the proportion for all young females, and 15 times higher than that for total clients (Table 12).

⁵ References to GOM clients are for GOM clients who are female and aged 10 to 29 years only.

⁶ CYFS services are now provided by *Families SA*.

Table 14: Number of providers used by Guardianship of the Minister clients

Number of providers the client used	Young females (%)	Young males (%)	Total clients (%)	GOM clients (%)
1	64.1	70.7	64.9	39.0
2	25.2	21.5	26.3	26.8
3	7.0	5.4	6.6	17.8
4	2.5	1.7	1.6	8.9
5 or more	1.3	0.6	0.5	7.5
Total	100	100	100	100
<i>Average</i>	<i>1.5</i>	<i>1.4</i>	<i>1.5</i>	<i>2.2</i>

Multiple services

The majority of the young female clients (85%) recorded less than five service visits. In comparison, only 46% of GOM young females recorded less than five service visits. The majority (54%) recorded five or more service visits, which was more almost four times higher than the proportion of total clients.

The average number of service visits by young female Guardianship of the Minister clients, regardless of provider, was 14.4. This compares to 3.5 for all young female clients and total clients, GOM clients are higher users of services and providers than all client groups compared in this analysis.

Table 15: Number of service visits by clients

Number of service visits by clients	Young females (%)	Young males (%)	Total clients (%)	GOM clients (%)
1	49.9	55.8	49.3	9.4
2	20.0	20.5	20.7	17.4
3	9.6	8.6	9.7	10.8
4	5.6	4.2	5.7	8.5
5 or more	14.9	10.9	14.5	54.0
Total	100	100	100	100.0
<i>Average</i>	<i>3.5</i>	<i>3.6</i>	<i>3.5</i>	<i>14.4</i>

Table 16 gives a breakdown of the full number of service visits, illustrating that there were over 50 service visits for 16 GOM clients.

Table 16: Number of service visits, Guardianship of the Minister clients

Number of service visits used by clients	GOM (No.)	GOM (%)
0-4	196	46.0
5-9	82	19.2
10-14	46	10.8
15-19	43	10.1
20-49	43	10.1
50-99	8	1.9
100 or more	8	1.9
Total	426	100

Provider combinations

As shown in the table below, the most common combination of services following 'Child and Youth Family Services (CYFS) only' (166 clients or 39%), was 'CYFS and CAMHS' with 36 clients (8.5%). 'CYFS with SAHT' (16 clients or 3.8%) and 'CYFS with

EMERG' (14 clients or 3.3%) were the next highest combinations reported. Note that this takes into account specific combinations only, and doesn't give a general indication of use from a particular provider overall, which is illustrated in Table 18.

Table 17: Most common combination of service providers' used, young female Guardianship of the Minister clients

Most common combination of providers used ^a	Number	Percent
CYFS (GOM)	166	39.0
CYFS+CAMHS	36	8.5
CYFS+SAHT	16	3.8
CYFS+EMERG	14	3.3
CYFS+DISAB	12	2.8
CYFS+INPAT+EMERG	11	2.6
CYFS+CAMHS+SAHT	10	2.3
Total	265	62.2

^a See Abbreviations & usages for key to abbreviations.

Provider totals

By examining the provider use of this client group, regardless of combinations, we can see that besides Child, Youth and Family Services (who provide services to GOM clients), hospital accident and emergency is the provider most commonly used with 102, or 24% of clients also visiting an accident and emergency department. Similarly, 22% (94) were clients of Child and Adolescent Mental Health Services, while around 15% were also SA Housing Trust or hospital inpatient clients.

Table 18: Provider totals, Guardianship of the Minister clients

Provider	Number of clients ^a	Percent
Public Hospital - Accident and emergency	102	23.9
Child and Adolescent Mental Health Services	94	22.1
SA Housing Trust	66	15.5
Public Hospital - Inpatient	65	15.3
Youth services - The Second Story	47	11.0
Private Rental Assistance Scheme	43	10.1
Disability Services	35	8.2
SA Community Housing Authority	20	4.7
Community Health Service	15	3.5
Aboriginal Housing Authority	14	3.3
Special Needs Housing	12	2.8
Child & Youth Health - CRIB	7	1.6

^a Double counting occurs where a person uses more than one provider.

Housing and homelessness

The number of GOM clients accessing any form of housing assistance (SA Housing Trust, SA Community Housing Authority, Aboriginal Housing Authority, Private Rental Assistance Scheme or special needs housing) was 132 clients, or 31%. This was similar to the proportion of all young female and total clients which was 32% and 28% respectively.

There were 21, or 5% of GOM young females identified as homeless. In comparison 508 (1%) of all young female clients identified as being homeless sometime during the 2002-03 period. The majority were located in Metropolitan Adelaide (66%). More than

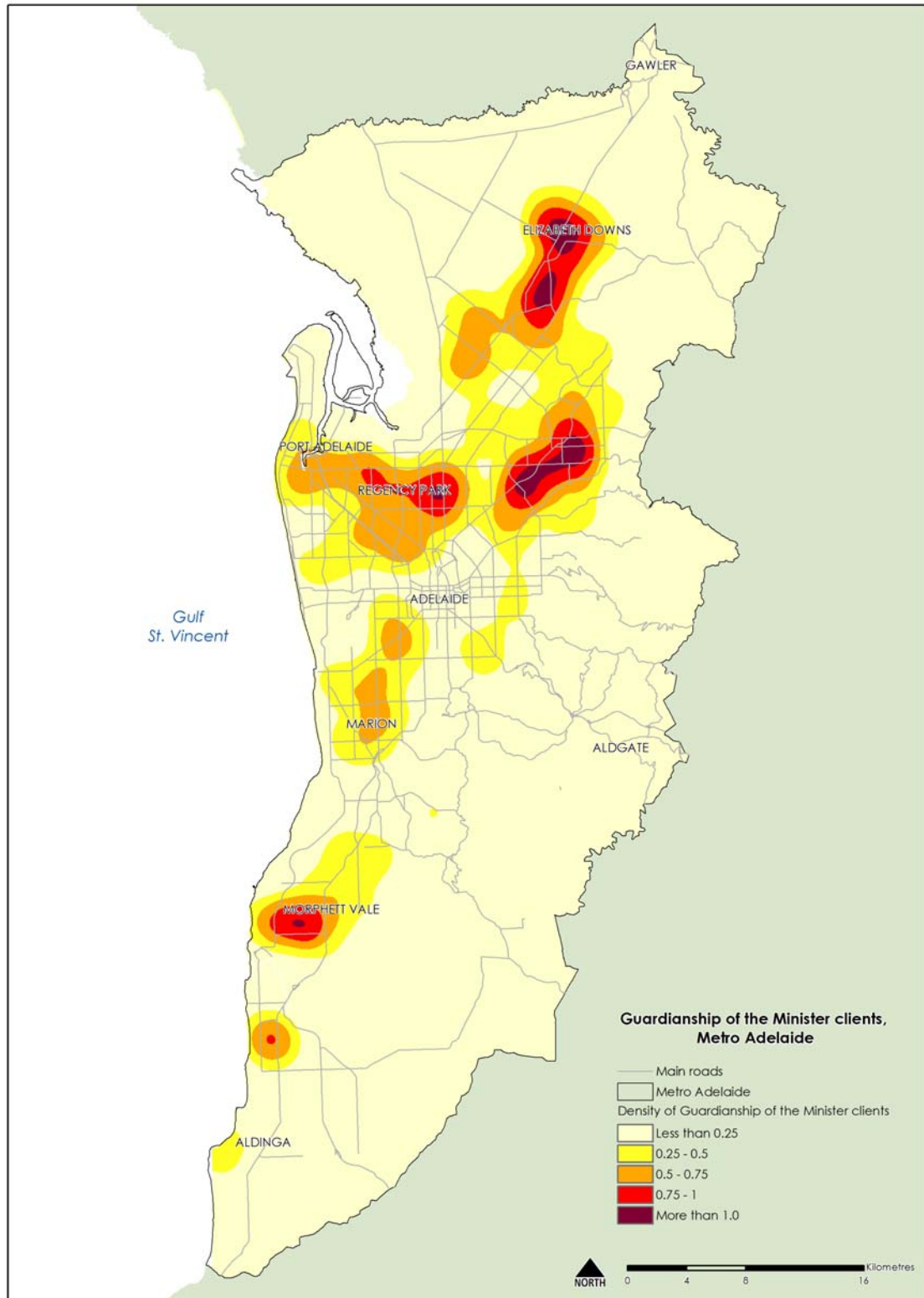
half of the GOM homeless clients were accessing some sort of housing assistance (57%) and almost a quarter were of Aboriginal and Torres Strait Islander descent (24%).

Spatial distribution of clients

The majority of young female GOM clients in the dataset were located in Metropolitan Adelaide (278 or 65%), with 2.3% in Mount Gambier and 3.1% in Whyalla. Almost thirty percent of them were located in areas of South Australia other than Adelaide, Mount Gambier or Whyalla.

The map below illustrates the spread and density of GOM clients in Metropolitan Adelaide. The highest clusters are concentrated around Elizabeth and Modbury/Hope Valley/Holden Hill in the north-east, with smaller but still marked concentrations around The Parks suburbs in the north-west and Christie Downs/Morphett Vale in the south.

Figure 15: Guardianship of the Minister clients, Adelaide



Families SA Clients⁷

Families SA offer services in child protection, youth justice and adoptions including out-of-home care, supported accommodation, assistance services and the protection of children who are under the Guardianship of the Minister.

During the 2002-03 period which this data relates to, Families SA was known as Child, Youth and Family Services (CYFS). Young females who were clients of Families SA represented 11.8% of total young females with 6,118 clients.

Use of providers

The average number of providers used was 2.4, this was higher than the average number used by all young females (1.5). A third of the Families SA clients (33.1%) were using Families SA services only.

Table 19: Provider use by clients

Number of providers the client used	Young females (%)	Young males (%)	Total clients (%)	Families SA clients (%)
1	64.1	70.7	64.9	33.1
2	25.2	21.5	26.3	29.0
3	7.0	5.4	6.6	18.0
4	2.5	1.7	1.6	11.4
5 or more	1.3	0.6	0.5	8.3
Total	100	100	100	100
<i>Average</i>	<i>1.5</i>	<i>1.4</i>	<i>1.5</i>	<i>2.4</i>

The proportion of Families SA young females using five or more providers (8.3%) was more than six times higher than all young females (1.3%), and much higher than the proportion of young males, and total clients (0.6% and 0.5% respectively).

Multiple services

Young females who were clients of Families SA averaged 6.5 service visits. In comparison, the average number of service visits by young female clients, regardless of provider, was 3.5, the same for total clients and comparable to that for young males (3.6).

Families SA clients with 5 or more service visits (35.8%) were more than double the proportion of all young females with the equivalent number of visits (14.9%).

Table 20: Service visits by Families SA clients

Number of service visits	Young females (%)	Young males (%)	Total clients (%)	Families SA clients (%)	GOM clients (%)
1	49.9	55.8	49.3	22.9	9.4
2	20.0	20.5	20.7	19.5	17.4
3	9.6	8.6	9.7	12.4	10.8
4	5.6	4.2	5.7	9.4	8.5
5 or more	14.9	10.9	14.5	35.8	54.0
Total	100	100	100	100	100.0
<i>Average</i>	<i>3.5</i>	<i>3.6</i>	<i>3.5</i>	<i>6.5</i>	<i>14.4</i>

⁷ References to Families SA clients are for Families SA clients who are female and aged 10 to 29 years only.

Like other client groups, the majority of Families SA clients had between one and four service visits (64.2%). The proportion of clients with 5 or more service visits was much higher for Families SA clients (35.8%) than young females (14.9%), and total clients (14.5), but lower than Guardianship of the Minister clients (54%).

Twenty-four Families SA clients (0.4%) recorded more than 100 service visits, compared to 0.2% for all young females and total clients.

Table 21: Number of service visits by Families SA clients

Number of service visits by clients	Families SA clients (no.)	Families SA clients (%)
1-4	3930	64.2
5-9	1272	20.8
10-14	400	6.5
15-19	205	3.4
20-49	251	4.1
50-99	36	0.6
100 or more	24	0.4
Total	6118	100

Data on the use of providers and number of service visits highlights that the Families SA client group on the whole are using more providers, and visiting services more often, than all young females, young males and total clients.

Provider combinations

As shown in the table below, the most common combination of services following Family SA services only (CYFS - 2028 clients or 33.1%), was Families SA with SA Housing Trust (CYFS + SAHT) with 448 clients (7.3%). Families SA with Private Rental Assistance (CYFS + PRAS - 410 clients or 6.7%) and Families SA with a public hospital accident and emergency department visit (CYFS + EMERG - 352 clients or 5.8%) were the next highest combinations reported. Note that this takes into account specific combinations only, and doesn't give a general indication of overall use from a particular provider, which is highlighted in Table 21.

Table 22: Most common combination of service providers' used by Families SA clients

Combination of providers used	Number	Percent
Families SA (formerly CYFS)	2028	33.1
Families SA +SAHT	448	7.3
Families SA +PRAS	410	6.7
Families SA +EMERG	352	5.8
Families SA +INPAT+EMERG	211	3.4
Families SA +CAMHS	197	3.2
Total	3646	59.5

Provider totals

By examining the total provider use of this client group, rather than specific combinations, we can see that besides Families SA services (which all of these clients are accessing), visiting a public hospital accident and emergency department was most common out of the provider types, used by 2060, or 33.7% of the clients. The Private Rental Assistance Scheme was the next largest provider, with 22.8% of clients (1397). Similarly, around 21% used SA Housing Trust and hospital inpatient services.

Table 23: Provider totals, Families SA clients

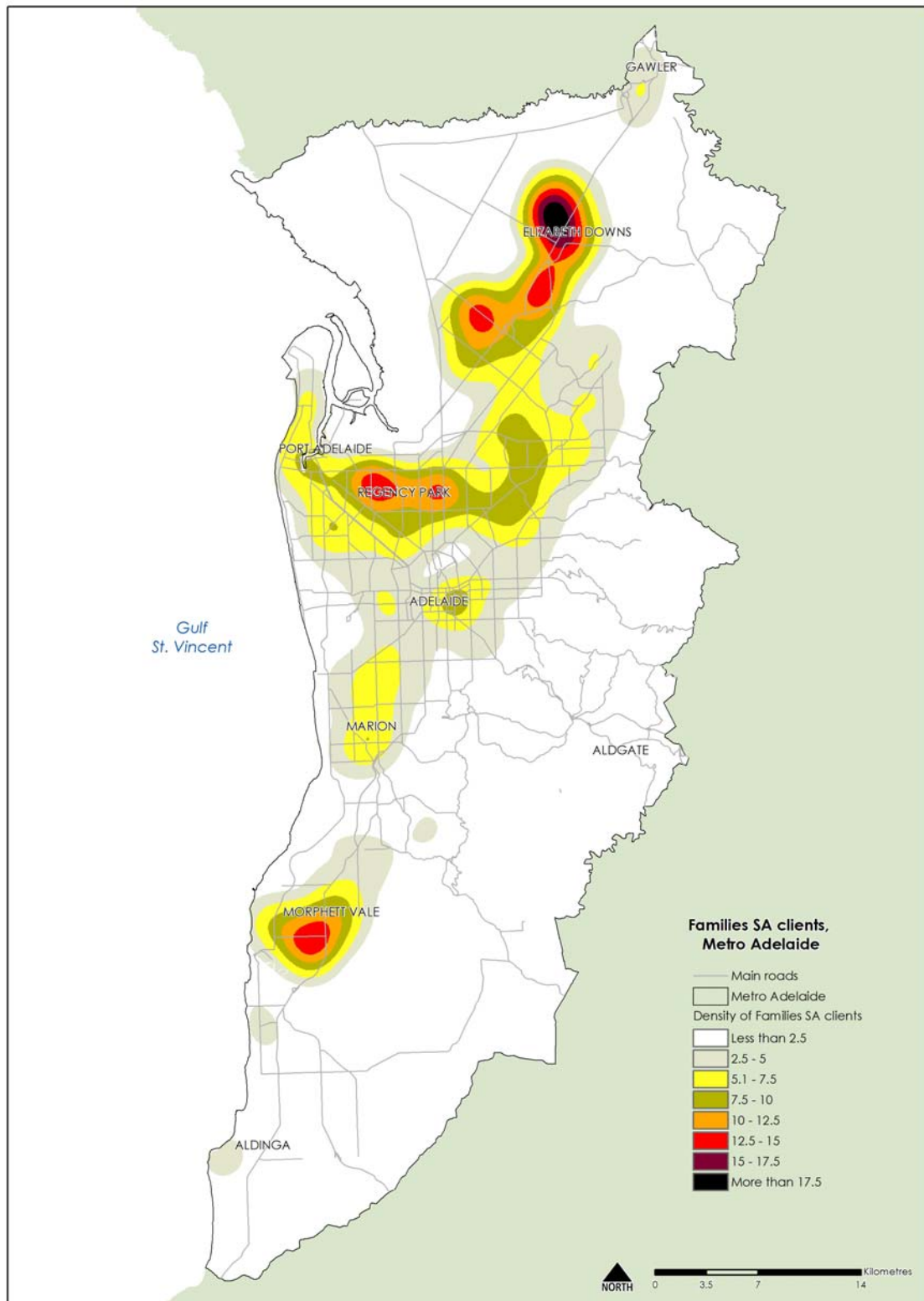
Provider	Number of clients	Percent
Public Hospital - Accident and emergency	2060	33.7
Private Rental Assistance Scheme	1397	22.8
SA Housing Trust	1314	21.5
Public Hospital - Inpatient	1293	21.1
Child and Adolescent Mental Health Services	568	9.3
Community Health Service	415	6.8
Youth services - The Second Story	296	4.8
Special Needs Housing	242	4
SA Community Housing Authority	223	3.6
Mental Health Services	190	3.1
Aboriginal Housing Authority	182	3
Disability Services	97	1.6
Child & Youth Health	20	0.3

The number of clients using any form of housing assistance (SA Housing Trust, SA Community Housing Authority, Aboriginal Housing Authority, Private Rental Assistance Scheme or special needs housing) was 32% for all young females and 28% for total clients. In comparison the number of Families SA young female clients receiving housing assistance was significantly higher at 55% (3,331).

Spatial distribution of Families SA clients

The majority of young female Families SA clients from the *Clients in Common* dataset were located in Metropolitan Adelaide (3921, 64.1%), with 3.3% in Mount Gambier and 3.7% in Whyalla. The map below illustrates the spread and density of Families SA clients around Metropolitan Adelaide. The highest concentrations are around Elizabeth North and Davoren Park in the outer north-eastern suburbs, and to a lesser extent, but still signifying a pattern of clustering, around Elizabeth Grove, the Parks area in the north-western suburbs, and Morphett Vale and Hackham West in the outer southern suburbs.

Figure 16: Families SA clients, Adelaide



Mental Health

Around six percent of young female clients were accessing mental health related services through Child and Adolescent Mental Health Services (CAMHS), a community mental health service, or as an inpatient at Glenside hospital.

Table 24: Use of Mental Health providers

Provider	Number of clients	Percent of clients
CAMHS	2236	4.3
Other mental health services	1106	2.1
Total	3342	6.4

Thirty of these young females were clients of both CAMHS and other mental health services (community mental health or Glenside), meaning there were 3312 young females who were using a mental health provider. Six percent of these clients were Aboriginal or Torres Strait Islander peoples, compared to 3.4 percent of total clients of mental health services who were ATSI.

The proportion of clients of mental health services who were homeless was 3.7% among young females, more than five times higher the equivalent proportion for total clients (0.7%).

Use of providers

The proportion of mental health young female clients accessing five or more providers was more than 18 times that for total clients. The average number of providers used was 2.4 compared to 1.5 for all young females and total clients.

Table 25: Number of providers used, Mental Health clients

Number of providers the client used	Mental Health clients (%)	Young females (%)	Total clients (%)
1	34.5	64.1	64.9
2	24.5	25.2	26.3
3	19.8	7.0	6.6
4	11.9	2.5	1.6
5 or more	9.3	1.3	0.5
Total	100	100	100
<i>Average</i>	<i>2.4</i>	<i>1.5</i>	<i>1.5</i>

Multiple Services

The number of service visits showed an even more striking difference between Mental Health clients and other client groups, with an average use of 14.7 compared to 3.5 for all young females and total clients.

Table 26: Number of service visits, Mental Health clients

Number of service visits	Mental Health clients (%)	Young females (%)	Total clients (%)
1	11.0	49.9	49.3
2	9.6	20.0	20.7
3	9.5	9.6	9.7
4	8.2	5.6	5.7
5 or more	61.7	14.9	14.5
Total	100	100	100
<i>Average</i>	<i>14.7</i>	<i>3.5</i>	<i>3.5</i>

Provider combinations

Child and Adolescent Mental Health Services as a single service was the most common combination accessed, with almost one third of clients. Other mental health services (community mental health or Glenside) combined with inpatient and accident and emergency public hospital use were the next most commonly accessed with just over six percent of clients.

Table 27: Combination of providers used by Mental Health clients

Combination of Providers used	Number of clients	Percent of clients (%)
CAMHS	955	28.8
MENTAL+INPAT+EMERG	204	6.2
CAMHS+CYFS	197	5.9
MENTAL	187	5.6
CAMHS+EMERG	169	5.1
CAMHS+INPAT+EMERG	117	3.5
MENTAL+EMERG	113	3.4
Total	1942	58.6

Provider totals

In line with the provider combinations above, CAMHS had the most clients in this category (67.5%) with accident and emergency departments in public hospitals also featuring highly with approximately 43 percent.

Table 28: Provider totals, Mental Health clients

Provider	Provider use Mental Health Clients	Percent
CAMHS	2236	67.5
EMERG	1422	42.9
MENTAL	1106	33.4
INPAT	910	27.5
CYFS	751	22.7
SAHT	524	15.8
PRAS	378	11.4
CHS	204	6.2
TSS	200	6.0
Special	80	2.4
SACHA	77	2.3
DISAB	48	1.4
AHA	30	0.9
CRIB	8	0.2

Key findings

The *Clients in Common* Young and Female project examines aspects and patterns of service use among young female clients. Bringing together a broad range of administrative datasets from the health and community services sector allows a unique perspective of this population group's pathways in accessing and using services. In particular it allows for relationships to be examined between discrete providers, and to test if particular services have a high proportion of shared clients. It allows a focus on this subgroup including Indigenous and homeless clients, young mothers and clients specific to particular agencies.

Although average provider use was similar between young females, total clients and young males, the analysis found young female clients to be higher users of multiple providers, thereby more likely to be a client of more than one organisation compared to total clients and young males. In addition, the spatial distribution of the 'high-use' clients bears similarity with the picture of socioeconomic disadvantage according to SEIFA.

Hospital accident and emergency and inpatient services featured prominently in the types of providers being accessed, with over half of clients visiting accident and emergency departments.

The analysis also depicts a distinct socioeconomic gradient among young female clients, particularly for young females using 5 or more providers and young women who were receiving housing assistance.

Aboriginal and Torres Strait Islander peoples were found to be over-represented in clients identified as homeless and/or receiving housing assistance. Almost one-fifth of homeless young females were ATSI, which was higher than the proportion for total clients and young males.

Young females who were homeless outnumbered young males, with the largest number of homeless females aged 15 to 19 years old.

Guardianship of the Minister clients were much higher users of multiple providers and services than total clients, as well as all young female clients. Their provider use of five or more services was fifteen times higher than the total population. Although not as high as GOM clients, the average number of service visits for Families SA clients were also relatively high compared to total clients.

This analysis demonstrates the capacity of a de-identified linked data set for investigating service provision. It indicates that clients using multiple providers, receiving multiple services from a single provider, or a combination of both, are heavily focussed in areas of disadvantage. It also raises questions of service use and further analysis which this rich and complex dataset could inform. One example is the detailed procedure and diagnosis information available in relation to hospital accident and emergency and inpatient records.

Supporting young women in areas of health, welfare and housing is vital, especially when the clients are considered 'at risk'. Key interventions aimed at understanding service use by females and assessing a variety of providers across disciplines, is integral to improving service accessibility, service pathways and service effectiveness.

Within South Australia a Data Linkage Consortium has been established consisting of representatives from South Australian government agencies (DH, DFC, DFEEST, DECS, TRACsa and the Justice Portfolio), the universities (Adelaide University, University of South Australia, Flinders University) and the Cancer Council of South Australia. Data linkage is an extremely powerful research tool with a number of potential social, scientific and economic benefits. A collaboration of this sort offers an ongoing opportunity to analyse large volumes of data from various sources, and make connections through subsequent research and analysis.

The collection and standardisation of multiple datasets, record linkage and geocoding are not simple and can be resource hungry. However, the creation of the *Clients in Common* dataset, and the *Young and Female: Using linked data to profile service use* project demonstrate some of the possibilities of data linkage and analysis. It is hoped that lessons learned and techniques demonstrated will assist in informing and streamlining future processes of data linkage in South Australia. In the meantime the *Clients in Common* dataset provides a valuable evidence base to aid in better social outcomes for the Departments' clients.

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Appendix

Methodology

For the purpose of the project 'young' has been defined as 10 to 29 years inclusive. Persons where the imputed sex was unknown were excluded from the analysis. This was to ensure that the information being analysed was for females only.

Code to undertake this analysis was written in SPSS, (Base and Tables modules) with some of the spatial analysis being undertaken in ArcGIS using the Base program and the Spatial Analyst extension.

Spatial analysis of the data was within a Geographic Information System (GIS), using ESRI ArcMap software. The kernel density mapping technique was used. Kernel density calculates the density of features in a neighbourhood around those features. Conceptually, a smooth curved surface is fitted over each point. The surface value is highest at the location of the point, and diminishes with increasing distance from the point, reaching 0 at the search radius distance from the point.

Density maps were generated for Metropolitan Adelaide using a three kilometre search radius, an output grid cell size of 50 metres. It must be recognised that in different maps, different breakpoints are used for colour coding of densities. This is evident when viewing the legends. With mapping, colour coding used in the legend is such that the gradient is from light to dark with the dark generally representing the heaviest use.

Density analysis applied to point data shows how the density of the point distribution varies spatially. Results are presented in this format as it allows clearer visualisation of results than can be presented in a simple point map. Density mapping is particularly useful to represent service utilisation and to identify groups using multiple services. It is important to remember that the points being mapped have been randomly shifted by up to 200 metres in any direction.

The numbers of clients in the spatial analysis are slightly lower than the rest of the statistical analysis due to not all the clients being geocoded (that is, assigned an exact spatial reference). Of the 51,970 young female clients, 5,047 of these were not geocoded (9.7%). Although these could not be geocoded to a precise latitude and longitude, most could be attributed to a suburb.