

# Patterns of Specialist Mental Health Service usage in England

## 1. Introduction

Adults Accessing NHS Specialist Mental Health Services in England 2008/2009 is a new dataset on the Neighbourhood Statistics website, which was released at the end of March 2010. The data comes from an administrative source, the Mental Health Minimum Dataset<sup>1</sup> (MHMDS), which provides information on the number of people aged 18 and above who were in contact with NHS specialist mental health services in a year. These services include not only in-patient services, but also services provided in the community or through outpatient clinics.

This report provides analysis of mental health service usage by age and gender groups, and by region/sub-region. By using the Index of Multiple Deprivation 2007, the report goes on to study the variations in mental health service use that may relate to deprivation.

### 1.1 About the dataset

The MHMDS is derived from routine records of care comprising details of admissions, attendances and appointments recorded in provider organisation's patient administration systems. It should be noted that the definition of the dataset is not properly representative of **all** mental health care activities.

When the MHMDS submissions from providers are processed a unique patient identifier (the MHMDS ID) is attached to each record making it possible to link records of care for an individual person – across different reporting periods and different providers – without identifying them. The basic record of the MHMDS describes a single Mental Health Care (MHC) spell for one service user. A service user can legitimately have more than one record in a reporting period or records from more than one provider. However, each person is counted once in the year, regardless of how many times they were in contact with services and whether they used services in different areas.

The dataset covers the period 1<sup>st</sup> April 2008 to 31<sup>st</sup> March 2009. Data are available at Government Office Region (GOR) or local authority level. Columns are included in the dataset that show the numbers of people in specific age and gender groups, as well as total counts of all Specialist Adult Mental Health Service users aged 18 and over. The groups included are; all male users, all female users, males aged 18-35, males 36-64, males aged 65 and over, females aged 18-35, females aged 36-64, females aged 65 and over. Whilst each age band may include a wide variety of people with differing circumstances the bands might be thought of as early adult life, mid-life and retired life.

In the analyses below, local authority level counts are used<sup>2</sup> but are converted to percentages using relevant population estimates. The local authority has been derived from the service user's postcode of usual residence ie it represents where the service user lives rather than the location at which they received the service. Note that the local authority level data has a number of people missing for whom local authority information was not available (or could not be derived) when compared with national or regional level data. This is explained in Appendix A and the small variations in missing information between areas are not thought to unduly affect the analyses below.

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<sup>1</sup> The MHMDS is compiled by The NHS Information Centre for Health and Social Care. Copyright (c) 2010, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

<sup>2</sup> Where possible, the 326 local authorities that exist after the April 2009 reorganisation have been used.

## 2. Comparison by gender and age groups

In England about 1.2 million people aged 18 or over used Specialist Adult Mental Health Services (SAMHS). Using 2008 population estimates of people aged 18 and over as a denominator this equates to a rate of 2.9 per cent who used SAMHS. A breakdown by age and gender is shown in Table 1.

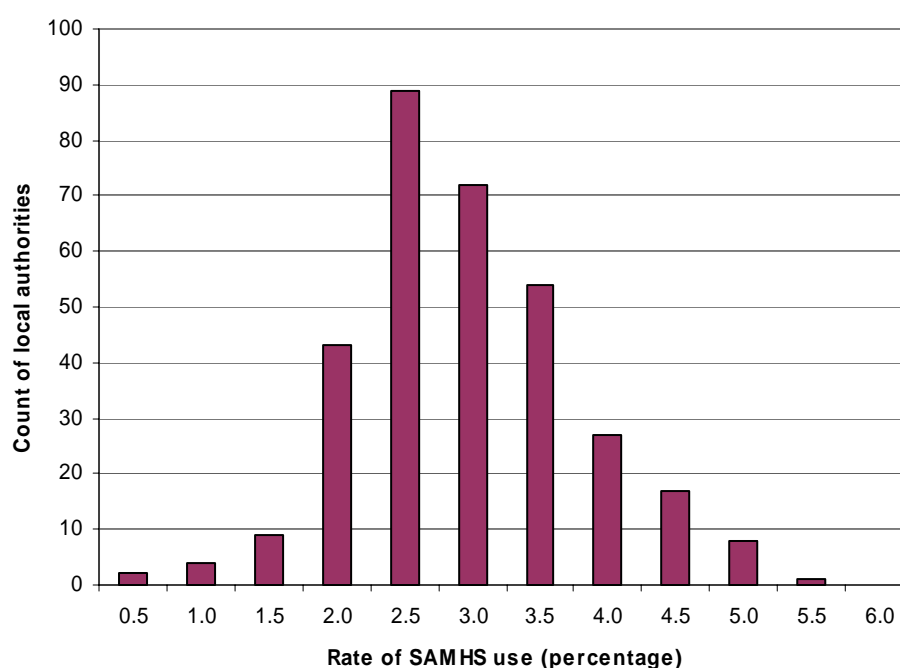
**Table 1: Percentage use of Specialist Adult Mental Health Services, breakdown by age and gender 2008/09, England**

Gender	Age-groups			Aged 18+
	18-35	36-64	65+	
Male	2.5	2.4	3.5	2.7
Female	2.8	2.4	4.9	3.1

The table shows that the rate of SAMHS use in England was higher amongst females than males in 2008/2009, except in the 35-64 age group where the rates for males and females were the same. For both males and females, those aged 65 and over had the highest rates of SAMHS use. Looking at differences between the groupings the largest disparity in rates of SAMHS use was between females aged 36-64 and females aged 65 and over, where females aged 65 and over had a rate 2.5 percentage points higher.

The average of local authority rates of SAMHS use amongst people aged 18 and over in England is 2.7 per cent. This is an average of the rates for areas but it is only slightly lower than the 2.9 per cent average rate for people in England reported above. The small difference may be explained by how the population, and therefore rates of SAMHS use, are distributed amongst local authorities. Figure 1 shows how rates of SAMHS use are distributed across local authorities.

**Figure 1: Histogram of rates of SAMHS use by people aged 18 and over for local authorities**



The overall patterns of SAMHS use by age and gender described at national level are repeated when looking at the average rates for local authorities. The average rates at local authority level by age and gender groups are shown in Appendix B and are very slightly lower compared with Table 1. This confirms the stories found at national level are repeated consistently when looking at the local authority level.

### 3. Analysis by Region and sub-region

From Map 1<sup>3</sup> it can be seen that at GOR level, the West Midlands (3.4 per cent), North East (3.4 per cent) and London (3.2 per cent) had the highest proportions of people aged 18 and over using SAMHS. The East of England (2.3 per cent) and the South East (2.5 per cent) regions had the lowest proportions of people aged 18 and over who used SAMHS.

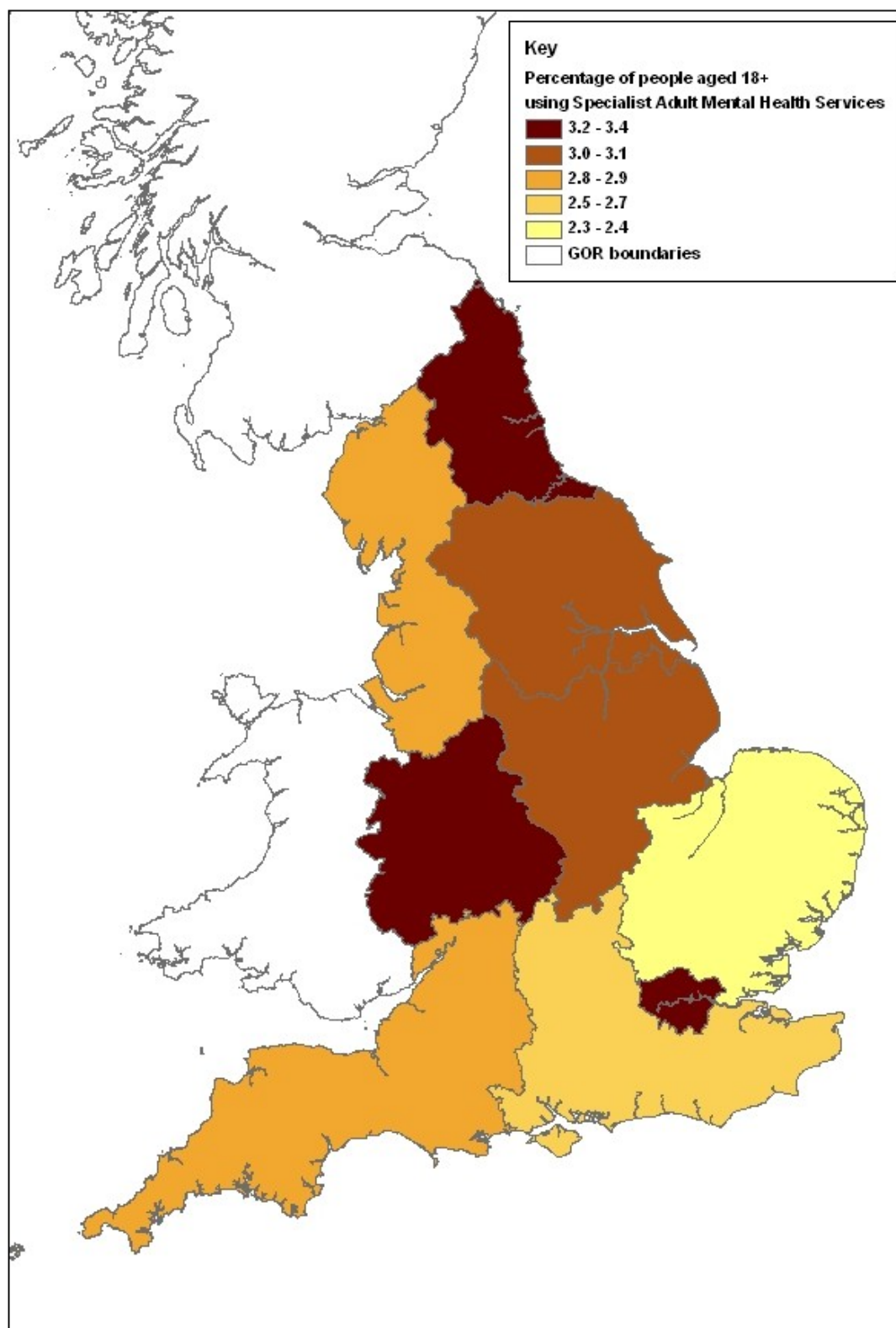
A more complex pattern at local authority level is shown in Map 2. For example, the South East region appears quite diverse with many local authorities with low proportions of people who used SAMHS, but also many areas with quite high rates. The North East and West Midlands do not have any local authorities in the category with the lowest rates.

An alternative way of looking at how use of SAMHS varies is shown in Figure 2. This box plot shows the different local authority rates of SAMHS use within each region. The box plot shows that the North East region had the highest median at 3.2 per cent. Three of the local authorities in this region had rates above 4.0 per cent (the upper quartile). These were Darlington, Middlesbrough and Northumberland. Northumberland had the highest rate of use of SAMHS in the North East at 4.3 per cent. Note that although, as mentioned earlier, the West Midlands had the same average rate of SAMHS use as the North East (3.4 per cent) its median is lower. Therefore the West Midlands average is affected by some local authorities with very high rates. Walsall had the highest rate in the West Midlands at 5.4 per cent. The local authority which had the next highest rate in the region was Newcastle-under-Lyme with a rate of 4.3 per cent.

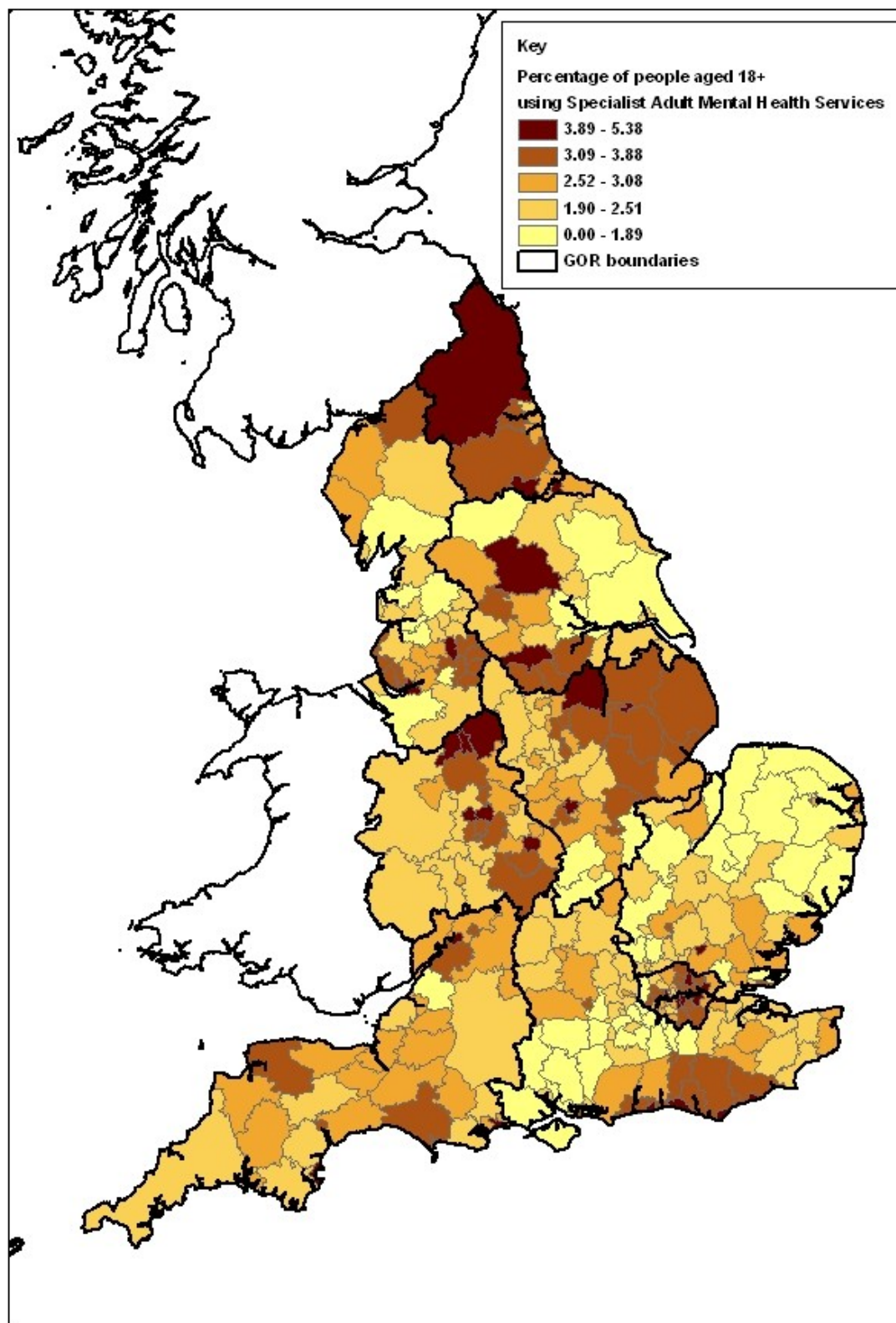
The East of England had the lowest median at 2.2 per cent. It also had a narrower range of rates across its local authorities than most regions. The area that had the highest rate in the East of England was Harlow, which is an outlier with a rate of 4.2 per cent. The lowest was Forest Heath with a rate of 1.4 per cent.

The South East and North West had the joint second lowest median of all English regions at 2.4 per cent. However the South East had some local authorities which are outliers with very high and low rates of SAMHS use. For example, Test Valley had 0.4 per cent of people aged 18+ using SAMHS (the lowest rate in England), whilst Brighton and Hove had 5.0 per cent of people aged 18+ using SAMHS (the second highest rate in England).

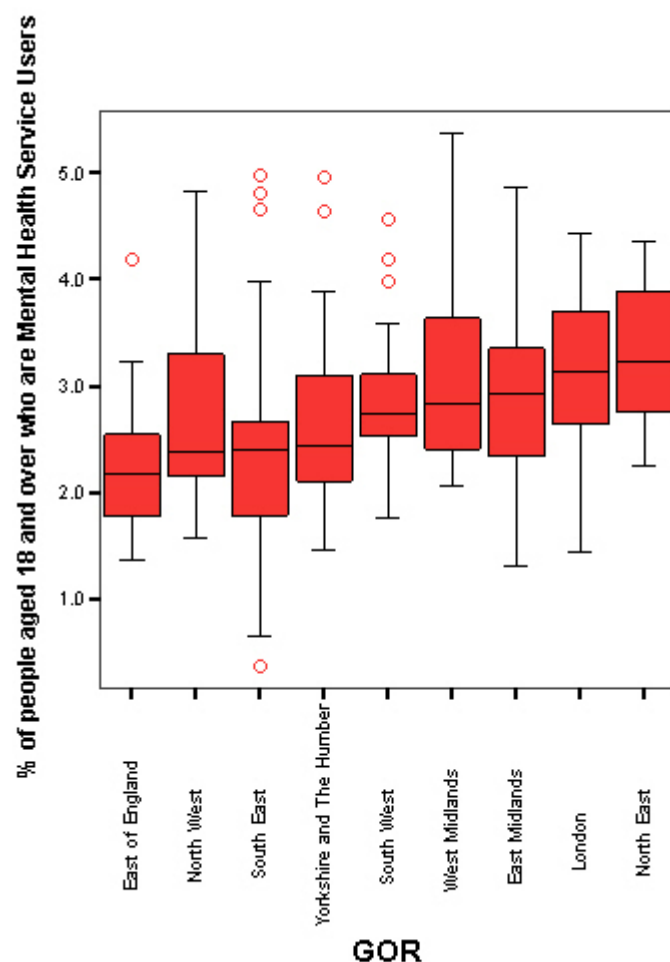
<sup>3</sup> Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2010. Ordnance Survey Licence number ONS 100019153.

**Map 1: Use of Specialist Adult Mental Health Services, by Region**

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**Map 2: Use of Specialist Adult Mental Health Services, by local authority**

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**Figure 2: Distribution of local authority rates of SAMHS use, by region**

Figures 3, 4, and 5 show the distribution of local authority rates for each GOR for females aged 18-35, females aged 36-64 and females aged 65 and over respectively.

Looking at the distribution of rates within each GOR for the three age groups the rates of SAMHS use were similar for females aged 18-35 and females aged 36-64 (Figures 3 and 4), whilst the rates for females aged 65 and over were considerably higher (Figure 5).

The East of England had the lowest median rate for females aged 18-35 (1.9 per cent) and females aged 36-64 (1.7 per cent). A subtle difference between Figures 3 and 4 is that the South West and West Midlands had the highest median rates for females aged 18-35 but not for females aged 36-64. London had the highest median rate for females aged 36-64 (2.9 per cent). Note also that there were a wider range of rates in each region for females aged 18-35 than females aged 36-64. London is the only exception and it had a wider range of rates for females aged 36-64 than for females aged 18-35.

The marked difference between rates in the females aged 65 and over group and the other groups can be summarised by using the median of all local authorities. The median rate for females aged 65 and over is 4.7 per cent and contrasts with a rate of 2.0 per cent for females aged 36-64 and 2.6 per cent for females aged 18-35.



The South East region had the lowest median rate for females aged 65 and over (4.0 per cent), whilst the North East had the highest median rate (6.4 per cent). These two regions both had a very wide range of rates of SAMHS use. In the South East the local authority with the lowest rates was the Isle of Wight (0.03 per cent). However, this needs to be treated with caution as information on gender was missing for this area. Eastleigh is the local authority in the South East with the second lowest rate of SAMHS use for females aged over 65 at 0.07 per cent. Portsmouth had the highest rate (8.0 per cent) in the South East. In the North East the local authority with the lowest rate for females aged over 65 was North Tyneside (2.0 per cent) and Gateshead had the highest rate (8.9 per cent).

**Figure 3: Distribution of local authority rates of SAMHS use, females 18-35, by region**

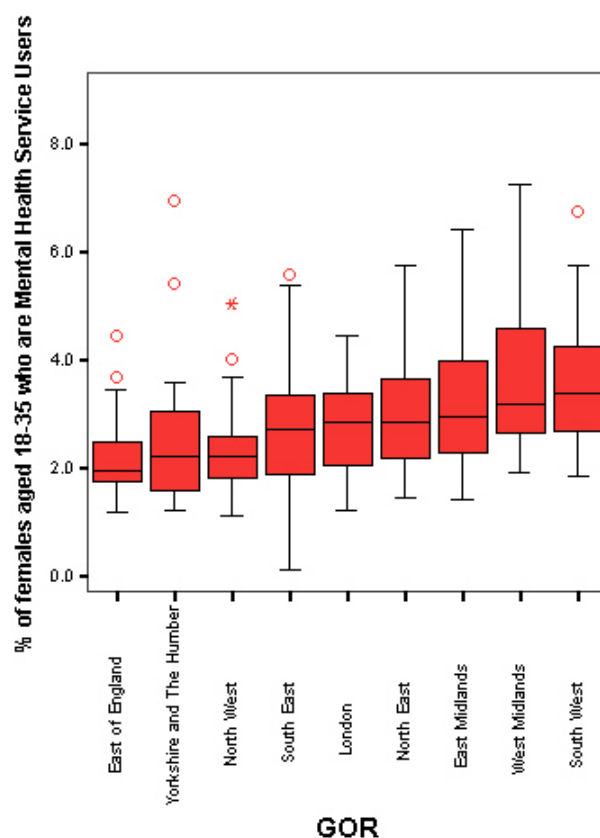




Figure 4: Distribution of local authority rates of SAMHS use, females 36-64, by region

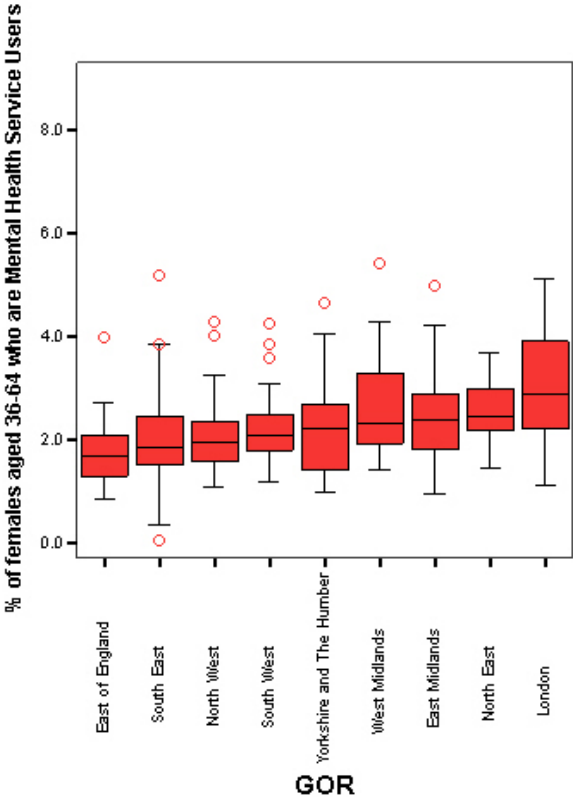
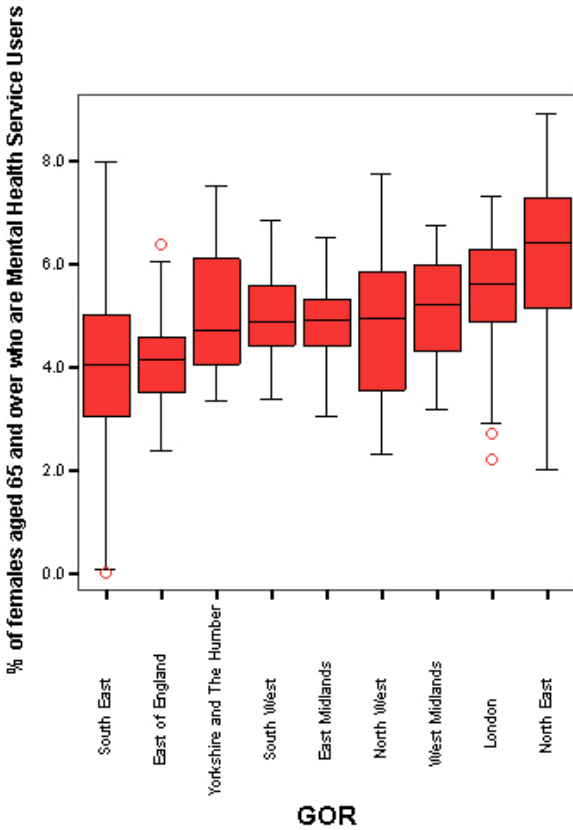


Figure 5: Distribution of local authority rates of SAMHS use, females 65 and over, by region

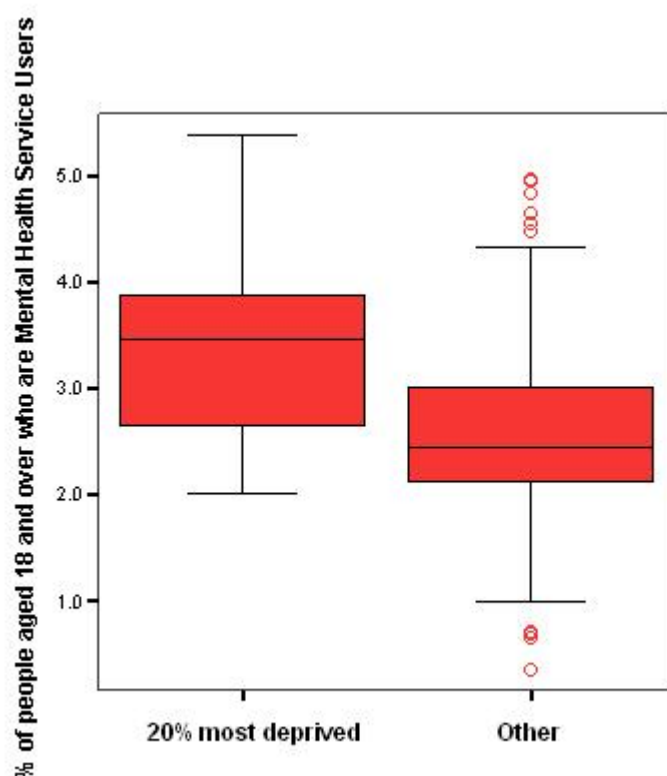


#### 4. Analysis by deprivation level

An alternative way to look at relationships between the socio-demographic character of areas and the use of SAMHS in those areas is to use the English Indices of Deprivation 2007<sup>4</sup>. The Indices provide seven different domains which measure separate aspects of deprivation. Each domain is measured independently and uses the best indicators available to generate a score or domain index. The domain scores are combined to generate an Index of Multiple Deprivation that is an aggregate of the component domains. At local authority level<sup>5</sup>, an average multiple deprivation score is available as well as measures of severity of deprivation (local concentration), extent of deprivation and Income Scale and Employment Scale. The two scale measures are measures of the number of people experiencing income and employment deprivation.

To provide an initial assessment of any relation between use of SAMHS and deprivation, areas are sorted and arranged into two groups according to their multiple deprivation scores and the median rate of SAMHS use in each group calculated. The median rate of SAMHS use amongst the 10 per cent most deprived local authorities is 3.6 per cent compared with 2.5 per cent amongst other local authorities. Similar differences are found when the 20 per cent most deprived of local authorities are compared with other local authorities. The median for the 20 per cent most deprived local authorities is 3.5 per cent and for other local authorities it is 2.5 per cent. Figure 6 compares the rates of SAMHS use for local authorities within the most deprived group and 'other' group.

**Figure 6: Rates of SAMHS use amongst the 20 per cent most deprived, and all other local authorities**



<sup>4</sup> See

[www.communities.gov.uk/communities/neighbourhoodrenewal/deprivation/deprivation07/](http://www.communities.gov.uk/communities/neighbourhoodrenewal/deprivation/deprivation07/)  
and also  
[www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=aboutneighbourhood/indicesofdeprivation/indices-of-deprivation.htm](http://www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=aboutneighbourhood/indicesofdeprivation/indices-of-deprivation.htm)

<sup>5</sup> Local authorities in this section refer to boundaries prior to 1<sup>st</sup> April 2009

Clearly there is a difference between the groups, but there is also some overlap. To clarify whether there is a consistent pattern where more deprived areas have higher levels of adult mental health service use, Table 2 looks at how the rates differ between more deprived and less deprived groups in each region.

**Table 2: Median rates of SAMHS use in most deprived and other local authorities, by region**

GOR name	median rate of SAMHS use amongst most deprived 20% of areas	median rate of SAMHS use amongst all other local authorities	difference between median rate in the 20% most deprived and the rate in other areas
North East	3.5	3.8	-0.3
North West	2.9	2.2	0.7
Yorkshire and The Humber	3.3	2.2	1.1
East Midlands	3.4	2.9	0.5
West Midlands	4.0	2.7	1.3
East of England	2.6	2.1	0.5
London	3.8	2.7	1.1
South East	3.7	2.4	1.3
South West	2.6	2.7	-0.1

Table 2 shows that the majority of regions have higher rates of SAMHS use in the most deprived areas than in other areas. The South West and North East regions are the only exceptions, where deprived areas have slightly lower rates of SAMHS use.

It appears that some relationship exists between deprivation and rates of SAMHS use for most, but not all regions. Where a strong relationship does not appear to exist within regions, this may reflect a relatively low proportion of 'urban' local authorities. One possible way of investigating this is to consider 'urban' local authorities and 'rural' local authorities separately using the Rural/Urban Classification of local authorities (see below). This approach may have particular merit because London and the West Midlands contain relatively high proportions of 'urban' areas and also showed strong differences in SAMHS use between deprived and non-deprived areas.

The Rural/Urban Classification of local authorities<sup>6</sup> provides six different categories based on the Rural Urban Definition that was introduced in 2004.

The six categories of the classification are as follows:

- Major Urban: districts with either 100,000 people or 50 per cent of their population in urban areas with a population of more than 750,000
- Large Urban: districts with either 50,000 people or 50 per cent of their population in one of 17 urban areas with a population between 250,000 and 750,000
- Other Urban: districts with fewer than 37,000 people or less than 26 per cent of their population in rural settlements and larger market towns

<sup>6</sup> [www.ons.gov.uk/about-statistics/geography/products/area-classifications/rural-urban-definition-and-la-classification/rural-urban-local-authority--la--classification/index.html](http://www.ons.gov.uk/about-statistics/geography/products/area-classifications/rural-urban-definition-and-la-classification/rural-urban-local-authority--la--classification/index.html)

- Significant Rural: districts with more than 37,000 people or more than 26 per cent of their population in rural settlements and larger market towns
- Rural-50: districts with at least 50 per cent but less than 80 per cent of their population in rural settlements and larger market towns
- Rural-80: districts with at least 80 per cent of their population in rural settlements and larger market towns

Table 3 shows the median rates of SAMHS use in each type classification. Local authorities in The Major Urban class had the highest rates of SAMHS use. The Large Urban and Other Urban class had higher rates than any of the rural classes. Within the three rural classes the rates of SAMHS use are quite similar, and lower than elsewhere.

**Table 3: Median of rates of SAMHS use for local authorities in each category of the Rural/Urban classification**

Classification	Number of local authorities	Median rate of SAMHS use
Major Urban	71	3.10
Large Urban	39	2.74
Other Urban	58	2.68
Rural-50	48	2.42
Rural-80	54	2.39
Significant Rural	55	2.32
All	325	2.60

Note that London, Yorkshire and The Humber, South East and the West Midlands GORs, which showed more than one percentage point difference in SAMHS use between most deprived and less deprived areas, also contain many local authorities that are classified as Major Urban or Large Urban. The North East has a high proportion of local authorities that are classified as Major Urban but does not show a clear difference between most deprived and less deprived areas. A possible explanation is that the relatively small number of local authorities in this region makes it more difficult to compare most deprived and less deprived areas.

Figure 9 looks at all the local authorities within the Major Urban category and plots their rates of SAMHS use against their multiple deprivation scores.

**Figure 9: Rates of SAMHS use for people aged 18+ versus multiple deprivation score, all local authorities within the Major Urban class**

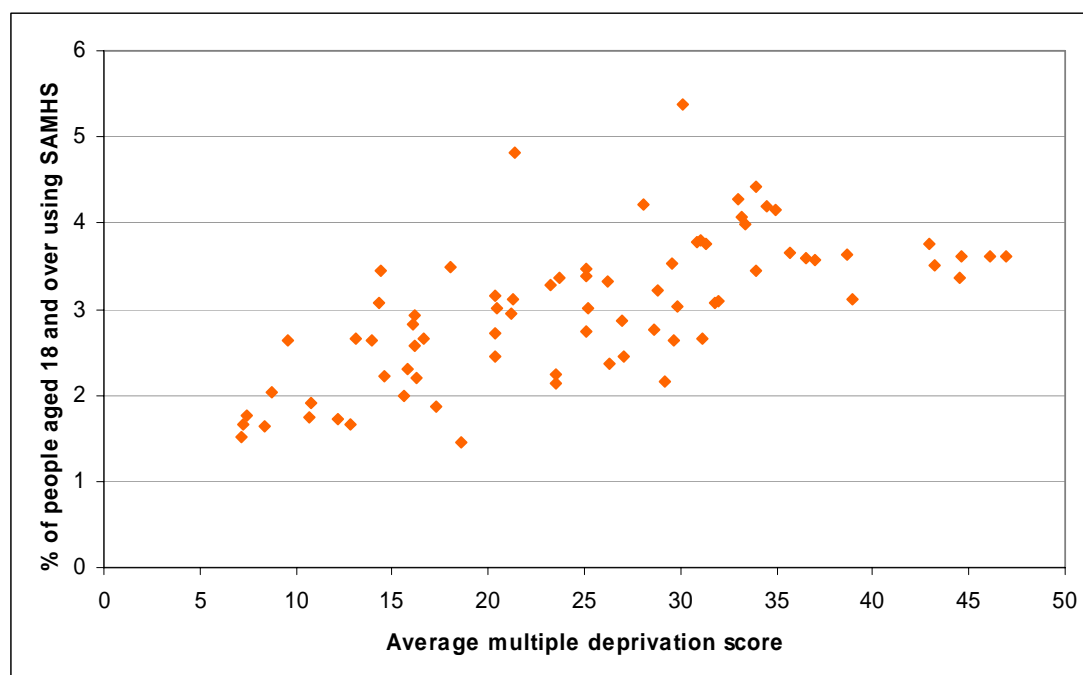
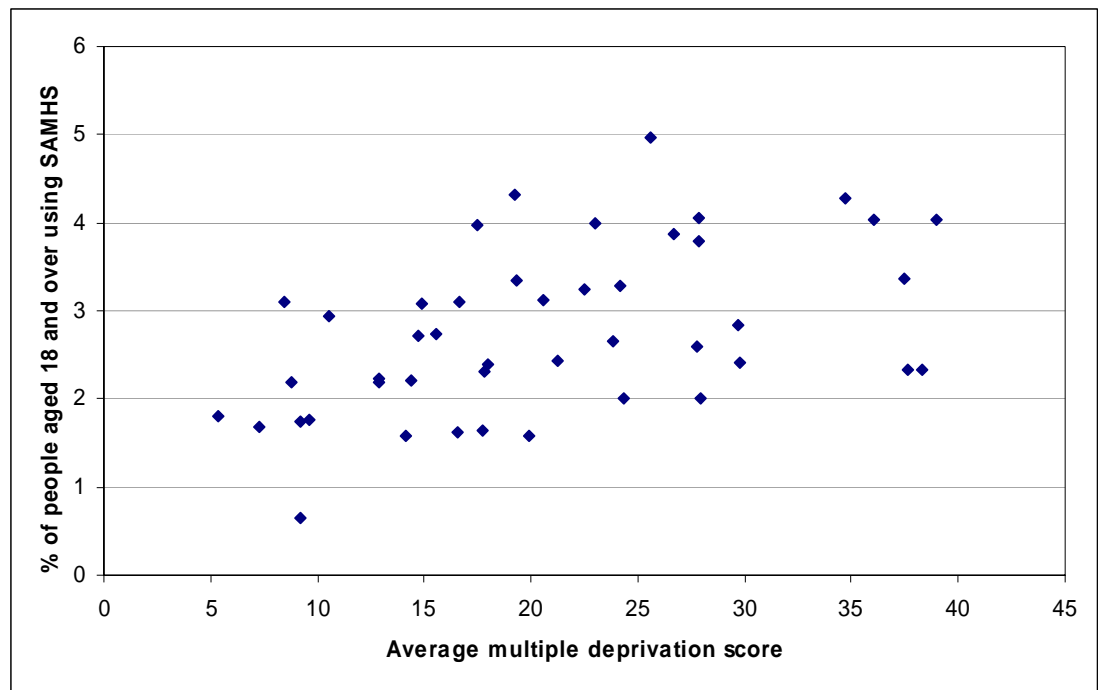


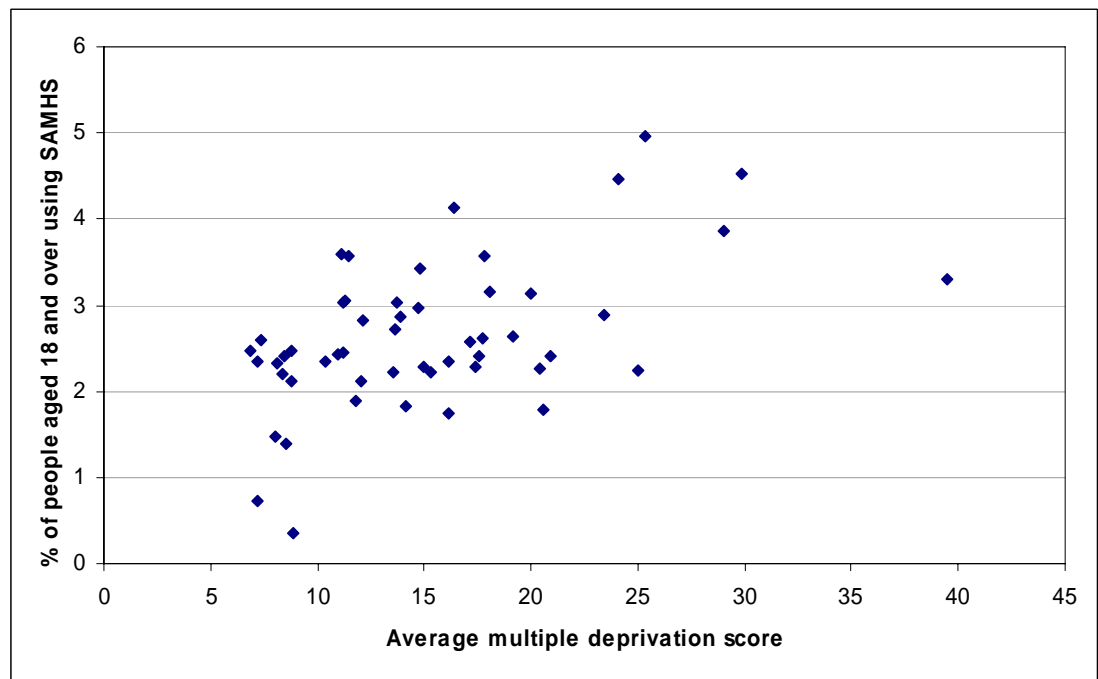
Figure 9 indicates there is a relationship between deprivation in local authorities in the Major Urban class and the rates of SAMHS use. The correlation coefficient for this relationship is 0.7 (ie a moderate relationship where multiple deprivation can account for some of the variation in SAMHS use between areas).

Figure 10 shows multiple deprivation and rates of SAMHS use within the Large Urban Class. This shows there is a weaker relationship between deprivation and SAMHS use in the Large Urban Class (correlation coefficient of 0.5). The correlation coefficient within the Rural 50 class is also 0.5 and the scatter plot of this relationship is shown in Figure 11.

**Figure 10: Rates of SAMHS use for people aged 18+ versus multiple deprivation score, all local authorities within the Large Urban class**



**Figure 11: Rates of SAMHS use for people aged 18+ versus multiple deprivation score, all local authorities within the Rural 50 class**



The Significant Rural, Other Urban and Rural 80 classes all show no relationship between deprivation and rates of SAMHS use (correlation coefficients below 0.4). The lowest correlation coefficient is for the Rural 80 class.

Specific groups of users can also be examined to see if their rates of SAMHS use are more or less related to deprivation. As it is already shown that there is a relationship within the Major Urban class, this will be studied.

**Table 4: Correlation between multiple deprivation scores and SAMHS use in the Major Urban class**

	Mental Health Service Users; Total	Mental Health Service Users; Males	Mental Health Service Users; Females	Mental Health Service Users; Males 18-35	Mental Health Service Users; Males 36-64	Mental Health Service Users; Males 65 and over	Mental Health Service Users; Females 18-35	Mental Health Service Users; Females 36-64	Mental Health Service Users; Females 65 and over
Correlation coefficient	0.67	0.71	0.62	0.47	0.76	0.51	0.38	0.69	0.46

In Table 4, the strongest relationship is between the proportion of males aged 36-64 using SAMHS and multiple deprivation score (correlation coefficient of 0.8). Multiple deprivation scores can 'explain' almost 60 per cent of the variation in rates of SAMHS use amongst males aged 36-64 in the Major Urban Class.

Returning to the Rural 80 class, we can use the same approach to demonstrate that there is no relationship between deprivation and rates of SAMHS use in this class. The correlation coefficients are given in Table 3 and show that there is no relationship within this class.

**Table 5: Correlation between multiple deprivation scores and SAMHS use in the Rural 80 class**

	Mental Health Service Users; Total	Mental Health Service Users; Males	Mental Health Service Users; Females	Mental Health Service Users; Males 18-35	Mental Health Service Users; Males 36-64	Mental Health Service Users; Males 65 and over	Mental Health Service Users; Females 18-35	Mental Health Service Users; Females 36-64	Mental Health Service Users; Females 65 and over
Correlation coefficient	0.23	0.26	0.17	0.18	0.29	0.15	0.05	0.16	0.16



## 5. Summary

The main findings of this report are that Specialist Adult Mental Health Service usage varies quite dramatically by age and local authority. The age 65 and over group has the highest rates of SAMHS use. SAMHS usage is typically higher for females than males, but there is a wider difference in rates between males and females in the aged 65 and over group than other groups.

Rates of SAMHS use noticeably vary by region and within regions. The South East, East of England and North West GORs had the lowest median rates for people aged 18 and over whilst the North East and London had the highest median rates. Local authorities in the South East had the widest variation in rates with Test Valley having the lowest rate and Brighton and Hove the highest rate.

There is some relationship between the average multiple deprivation score in a local authority and SAMHS use. The relationship is such that higher levels of multiple deprivation are associated with higher rates of SAMHS use. However when this relationship is studied within regions, it is clear that some regions do not demonstrate this relationship and some do.

Investigating the relationship between deprivation and SAMHS use further, local authorities that belong to the 'Major Urban' class show a relationship between multiple deprivation and SAMHS use, whilst those in other classes do not show such a clear relationship. This may account for some of the differences in rates of SAMHS use between most deprived and less deprived areas that are found at regional level. Within the Major Urban class males aged 36-64 showed the strongest relationship between multiple deprivation and SAMHS use.

The dataset 'Mental Health: Adults Accessing NHS Specialist Mental Health Services' can be found on the Neighbourhood Statistics website at

[www.neighbourhood.statistics.gov.uk/dissemination/datasetList.do?JSAllowed=true&Function=&%24ph=60&CurrentPageId=60&step=1&CurrentTreeIndex=-1&searchString=&datasetFamilyId=2207&Next.x=10&Next.y=12](http://www.neighbourhood.statistics.gov.uk/dissemination/datasetList.do?JSAllowed=true&Function=&%24ph=60&CurrentPageId=60&step=1&CurrentTreeIndex=-1&searchString=&datasetFamilyId=2207&Next.x=10&Next.y=12)

Further reference materials related to the topics in this report are contained in Appendix C.

## Appendix A

### Records that are missing local authority information

Checks against the regional totals show that relatively small percentages of records are missing local authority information, representing between 0.7 and 3.2 per cent of all service users in a given region. East of England and London regions have the largest proportions of users with missing local authority information (3.2 and 2.3 per cent respectively) when compared with GOR level data. By age group, records of 18-35 year olds are slightly more likely than other groups to be missing local authority information. For example in the London region 3.1 per cent of males aged 18-35 were missing local authority information, whilst 1.7 per cent of males aged 65 and over were missing local authority information.

## Appendix B

### Local authority rates of SAMHS use by age and gender

The average local authority rate of SAMHS use for males aged over 18 was 2.5 per cent, whilst for females aged over 18 it was 2.9 per cent. In 298 of 326 local authorities, the percentage of females aged 18 and over who were using SAMHS was higher than the percentage of males aged 18 and over using SAMHS. The average local authority rate of SAMHS use for females aged 65 and over was 4.7 per cent (see Table B). The next highest group was males aged 65 and over, where 3.4 per cent used SAMHS. This confirms the stories found at national level are repeated consistently when looking at the finer local authority level.

**Table B: Averages of local authority rates of SAMHS use, by age and gender groups, 2008/09**

Gender	Age groups			
	18-35	36-64	65+	Aged 18+
Male	2.4	2.2	3.4	2.5
Female	2.8	2.2	4.7	2.9

## Appendix C

The Third Report from the Mental Health Minimum Dataset annual returns published by The NHS Information Centre finds that access to all mental health services is highest among the Black and British group.

See [www.ic.nhs.uk/pubs/mhbmhmds0809](http://www.ic.nhs.uk/pubs/mhbmhmds0809)

It uses the same data source as this report and is of interest because the apparent relationship between multiple deprivation and SAMHS use in urban areas may be stronger or weaker for different ethnic groups.

The National Statistics Area Classification classifies areas based on a range of socio-demographic characteristics.

See [www.statistics.gov.uk/about/methodology\\_by\\_theme/area\\_classification/la/default.asp](http://www.statistics.gov.uk/about/methodology_by_theme/area_classification/la/default.asp)

By combining this data with the Mental Health data it would be possible to study how patterns of Specialist Mental Health Service use may relate to areas' characteristics.

The Index of Deprivation data and background information can be found on the Neighbourhood Statistics website.

See [www.neighbourhood.statistics.gov.uk](http://www.neighbourhood.statistics.gov.uk)