



Health & Social Care  
Information Centre

# HES-MHMDS Data Linkage Report:

**Provisional Summary Statistics, April 2013  
to October 2013  
(Experimental Statistics)**

**Published 14<sup>th</sup> February 2014**

This report will be of interest to service users and providers, and commissioners to help them to recognise and understand the different healthcare issues experienced by users of mental health services.

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# Executive Summary

This is the latest monthly (October 2013) statistical publication in relation to the linked HES (Hospital Episode Statistics) and MHMDS (Mental Health Minimum Dataset) data.

The two data sets have been linked using specific patient identifiers collected in HES and MHMDS. The linkage allows the datasets to be linked in this manner from 2006/07; however this report focuses on patients who were present in the two datasets in the period April 2013 to October 2013 only.

The bridging file used for this publication was also released on 14<sup>th</sup> February 2014, it utilises the latest published Provisional (Monthly) HES data and year to date MHMDS data relating to the period April 2013 to October 2013.

The HES-MHMDS linkage provides the ability to undertake national (within England) analysis along acute patient pathways for mental health service users, thereby enabling a much deeper understanding of MH (mental health) service users' interactions with acute secondary care.

Both HES and MHMDS datasets have been restricted to cover only patients who accessed NHS funded services in England during April 2013 to October 2013 and includes only those who are aged 18 and over.

There are approximately 1.44 million individuals who are recorded as being users of adult mental health services (within MHMDS) in the period April 2013 to October 2013.

Of these, approximately 1.37 million MH service users are aged 18 or over<sup>1</sup> and can be linked to HES, of this subset **in the period April 2013 to October 2013:**

- it is estimated that around **379,000** (or 28 per cent) had at least one inpatient episode of care
- it is estimated that around **836,000** (or 61 per cent) had at least one outpatient appointment
- it is estimated that around **445,000** (or 33 per cent) had at least one A&E attendance
- it is estimated that around **983,000** (or 72 per cent) accessed at least one hospital service (inpatients episode of care, outpatients appointment or A&E attendance)

Comparing the frequency of access to hospital services (inpatient episodes of care, outpatient appointments or A&E attendances) between MH service users and non-MH service users:

- Mental Health service users who accessed hospital services during April 2013 to October 2013 did so more frequently, approximately twice as much, as the corresponding Non-MH service user population.

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<sup>1</sup> While MHMDS can legitimately contain records for under 18's its primary focus is adults accessing the services and therefore is not fully representative of the under 18's age group

# Findings

Information presented within this report uses HES (Hospital Episode Statistics) and MHMDS (Mental Health Minimum Dataset) data, these datasets are linked together to provide an understanding of the potential similarities and differences between these two patient groups.

This is the latest monthly statistical publication reporting on the linkage between HES and MHMDS data and is published as 'Experimental Statistics'<sup>2</sup>.

Analysis presented within this publication provides a high level summary of the underlying linked data for the period April 2013 to October 2013.

The bridging file used for this publication was also released on 14<sup>th</sup> February 2014, it utilises the latest published Provisional (Monthly) HES data and year to date MHMDS data relating to the period April 2013 to October 2013.

Users of the data are invited and encouraged to provide feedback and suggestions for analysis and/or changes to the underlying linking methodology. Please see the **Contact us** section for details on how to engage with us.

Users are also advised to consult the methodology section of the first publication<sup>3</sup>, further information relating to the underlying data sources and links to their associated Data Quality reports is available within the 'Understanding the data' section of this report.

There are 1,435,622 (1,415,457 aged 18 and over) individuals who are recorded (in MHMDS) as being users of adult mental health services in the period April 2013 to October 2013. Of these 1,367,490 are recorded as being over 18 and can be linked to HES records; for the purposes of this publication this group are considered to be the MH (Mental Health) service user population.

For comparison purposes the remaining population is the 'England population (aged 18 or over and excluding all MH service users aged 18 or over)'.

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<sup>2</sup> The Office for National Statistics define experimental statistics as "...new official statistics undergoing evaluation. They are published in order to involve users and stakeholders in their development and as a means to build in quality at an early stage".

<sup>3</sup> [www.hscic.gov.uk/catalogue/PUB11037](http://www.hscic.gov.uk/catalogue/PUB11037)

**Table 1: Publication Populations; April 2013 to October 2013**

	<b>Number of people</b>
A. ONS Population <sup>4</sup> - England	53,107,169
B. ONS Population <sup>4</sup> - England aged 18 or over (ALL)	41,766,418
C. ONS Population - England aged 18 or over (excluding MH service users)	40,350,961
D. Number of MH service users (as recorded in MHMDS)	1,435,622
E. Number of MH service users – aged 18 or over	1,415,457
F. Number of distinct MH service users that can be linked to HES	1,386,931
G. Number of distinct MH service users aged 18 and over that can be linked to HES <sup>5</sup>	1,367,490

The population in England (aged 18 and over) was 41,766,418, of these 3.4% (or 1,415,457 people – aged 18 and over) were recorded as being users of adult specialist NHS funded Mental Health services (MH service users).

As a percentage of their overall individual populations MH service users are more likely to access hospital services (Inpatient episodes of care, Outpatient appointments or A&E attendances) compared to non-MH service users in the general population, accessing these services.

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<sup>4</sup> Census 2011 – Office for National Statistics: <http://www.ons.gov.uk/ons/rel/pop-estimate/population-estimates-for-england-and-wales/mid-2002-to-mid-2010-revised--subnational-/rft---mid-2006-to-mid-2011-revised-unformatted-data-files.zip>

<sup>5</sup> These are the records which contained the required information providing the capability to link between HES and MHMDS datasets

**Table 2: Adults Accessing Hospital Services (Linked HES - MH service Users); April 2013 to October 2013, England**

	Number of MH Service users	Percentage accessing services
Population <sup>6</sup>	1,367,490	-
At least one hospital service contact	983,459	71.9%
<ul style="list-style-type: none"> <li>At least one Inpatient episode of care</li> </ul>	378,883	27.7%
<ul style="list-style-type: none"> <li>At least one Outpatient appointment</li> </ul>	836,404	61.2%
<ul style="list-style-type: none"> <li>At least one A&amp;E attendance</li> </ul>	444,606	32.5%

Of the MH service user population 71.9% accessed a hospital service at least once in the period April 2013 to October 2013, compared to the remaining population where 38.5% accessed these services (33.4 percentage points less), when comparing the percentages from Table 2 to those in Table 3.

For Inpatients episodes of care and A&E attendances these proportions are around 2.5 times higher for MH service users compared to the general population demonstrating the greater need placed on hospital services by MH service users.

**Table 3: Adults Accessing Hospital Services (Non-MH service Users); April 2013 to October 2013, England**

	Number of Non-MH Service users	Percentage accessing services
Population <sup>7</sup>	40,350,961	-
At least one hospital service contact	15,531,717	38.5%
<ul style="list-style-type: none"> <li>At least one Inpatient episodes of care</li> </ul>	4,397,761	10.9%
<ul style="list-style-type: none"> <li>At least one Outpatient appointment</li> </ul>	12,570,081	31.2%
<ul style="list-style-type: none"> <li>At least one A&amp;E attendance</li> </ul>	5,382,136	13.3%

<sup>6</sup> Limited to include only those MH service users linked within HES-MHMDS and aged 18 or over

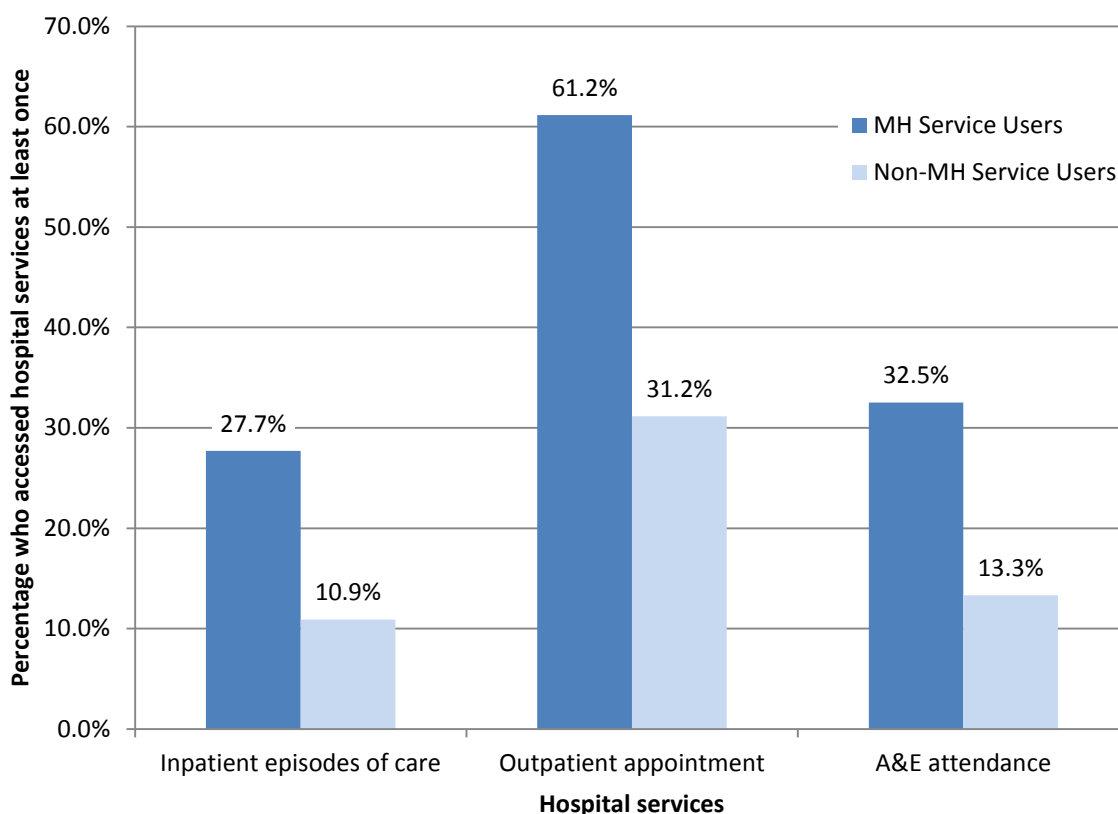
<sup>7</sup> ONS – England population (18 and over) excluding all MH Service users (aged 18 and over)

The number of Non-MH service users is the people count within the HES dataset for the period April 2013 to October 2013, where the HESID Index is unique and the patient is aged 18 or over. This may include some legitimate MH service user records which were classified as unmatched.

As the HESID Index has been developed over a number of years, there is an appreciation that the figures presented within Table 3 may be subject to change over time, as the index production develops. Further information relating to the quality and construction of the algorithm which derives this field can be found at:

[http://www.hscic.gov.uk/media/1370/HES-Hospital-Episode-Statistics-Replacement-of-the-HES-patient-ID/pdf/HESID\\_Replacement\\_Nov09.pdf](http://www.hscic.gov.uk/media/1370/HES-Hospital-Episode-Statistics-Replacement-of-the-HES-patient-ID/pdf/HESID_Replacement_Nov09.pdf)

**Chart 1: Percentage accessing hospital services (MH and Non-MH Service users); April 2013 to October 2013, England**





Individuals, who are mental health service users and had at least one inpatient episode of care, had on average 2.5 finished episodes of care in the period April 2013 to October 2013. This compares to an average of 1.8 finished episodes of care for patients who did not access mental health services in the period April 2013 to October 2013 (Table 4).

**Table 4: Inpatient episodes of care; April 2013 to October 2013, England**

<b>Patients who accessed inpatient services at least once</b>	<b>Number of patients</b>	<b>Number of completed Inpatient episodes of care</b>	<b>Average number of completed Inpatient episodes of care per patient</b>
All patients	4,776,644	9,073,465	1.9
Non-MH Service users	4,397,761	8,114,542	1.8
MH service users	378,883	958,923	2.5

Individuals who accessed both mental health services and hospital outpatient services had an average of 5.0 outpatient appointments in the period April 2013 to October 2013. This compares to an average of 3.7 outpatient appointments for patients not accessing mental health services in the period April 2013 to October 2013 (Table 5).

**Table 5: Outpatient Appointments; April 2013 to October 2013, England**

<b>Patients who accessed outpatient services at least once</b>	<b>Number of patients</b>	<b>Number of Outpatient appointments</b>	<b>Average number of Outpatient appointments per patient</b>
All patients	13,406,485	51,245,508	3.8
Non-MH Service users	12,570,081	47,063,400	3.7
MH service users	836,404	4,182,108	5.0

Individuals who accessed both mental health services and A&E services during April 2013 to October 2013 had an average of 2.1 A&E attendances each. This compares to an average of 1.4 A&E attendances, for patients who did not also access mental health services in the period April 2013 to October 2013 (Table 6).

**Table 6: A&E Attendances; April 2013 to October 2013, England**

<b>Patients who accessed A&amp;E services at least once</b>	<b>Number of patients</b>	<b>Number of A&amp;E Attendances</b>	<b>Average number of A&amp;E Attendances per patient</b>
All patients	5,826,742	8,253,474	1.4
Non-MH Service users	5,382,136	7,341,903	1.4
MH service users	444,606	911,571	2.1

# Understanding the data

## HES (Hospital Episode Statistics)

### What is Hospital Episode Statistics?

HES is a data warehouse containing details of all admissions (episodes of care), outpatient appointments and A&E attendances at NHS hospitals in England, where these have been recorded by the provider.

This data is collected during a patient's time at hospital and is submitted to allow hospitals to be paid for the care they deliver. HES data is designed to enable secondary use, that is use for non-clinical purposes, of this administrative data.

It is a records-based system that covers all NHS trusts in England, including acute hospitals, primary care trusts and mental health trusts. Strict statistical disclosure control in accordance with the HES protocol is applied to all published HES data. This suppresses small numbers to stop people identifying themselves and others, thereby ensuring patient confidentiality.

Further information relating to the published HES datasets are available within the links below, users are also advised to read the accompanying HES data quality reports.

### HES Inpatients:

<http://www.hscic.gov.uk/pubs/hes1213>

### HES Outpatients:

<http://www.hscic.gov.uk/pubs/outpatientactivity1213>

### HES Accident and Emergency:

<http://www.hscic.gov.uk/pubs/aandeattendance1213>

## MHMDS (Mental Health Minimum Dataset)

### What is the Mental Health Minimum Data Set?

The MHMDS is an approved NHS Information Standard that delivers information on people<sup>8</sup> in contact with specialist secondary mental health services that is:

- robust
- comprehensive
- nationally consistent
- comparable

The MHMDS is unique in its coverage, because it covers not only services provided in hospitals, but also in outpatient clinics and in the community, where the majority of people in contact with these services are treated. It brings together key information from the mental health care pathway that has been captured on clinical systems as part of patient care. During processing, this information is compiled into a single patient record.

Submission of MHMDS data is mandatory for NHS funded care, including independent sector providers. However, coverage in relation to the Independent Sector Providers is not considered to be comprehensive or representative of the sector.

Further information relating to the published MHMDS dataset is available within the latest published annual report which incorporates a data quality section:

[www.hscic.gov.uk/catalogue/PUB12745](http://www.hscic.gov.uk/catalogue/PUB12745)

Further information relating to monthly MHMDS can be found at <http://www.hscic.gov.uk/mhmdsmoonthly>

## HES-MHMDS linkage

### What is the Hospital Episode Statistics and Mental Health Minimum Data Set linkage?

Both HES and MHMDS have a person index which is used to identify individuals who access those services while keeping their personal details, such as date of birth, residential postcode etc. confidential. For example, when new HES data for an event (such as an inpatient episode of care) is received, the individual's personal details are checked against the existing index to find their HES ID, if no match is found a new ID is created for that individual.

The linkage matches the MHMDS person index to the HES patient index using the individual's NHS number, date of birth, gender, and postcode, which is stored in each of the indexes. It enables the linkage of all patients' mental health data going back to 2006/07 with the same patients' recorded interactions with secondary care services covering Inpatients, Outpatients and Accident & Emergency. The two indexes are linked using a specific linkage algorithm in which MHMDS IDs are passed through the matching process in nine different passes, each pass having different (less stringent) matching criteria. Each MHMDS ID which

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<sup>8</sup> These are predominantly adults aged 18 or over

is matched to a HES ID is given a 'match rank' that indicates which pass of the algorithm it matched at. This match rank gives an indication of the confidence of the match. The output of this process is a table which contains linked MHMDS IDs and HES IDs and the match rank; this is referred to as the 'bridging file'.

Further information relating to the HES-MHMDS bridging file is available within the following link; users are also advised to read the accompanying data matching quality report:

<http://www.hscic.gov.uk/hesmhmds>

**Table 7: Data fields, sources and filter conditions**

Data Item	Data source	Condition
HES Patient Identifier (HESID)	Bridging File February 2014	
MHMDS Person ID	Bridging File February 2014	
A&E Record Identifier (AEKEY)	Provisional HES A&E (October 2013)	
Arrival Age (ARRIVALAGE)	Provisional HES A&E (October 2013)	NOT between 0 and 17 and NOT between 7000 and 7007 (represents baby ages)
HES Patient Identifier (HESID)	Provisional HES A&E (October 2013)	
Age at end of Episode (ENDAGE)	Provisional HES Inpatients (October 2013)	NOT between 0 and 17 and NOT between 7000 and 7007 (represents baby ages)
Episode Status (EPISTAT)	Provisional HES Inpatients (October 2013)	Equal to 3 (identifies finished consultant episodes)
HES Patient Identifier (HESID)	Provisional HES Inpatients (October 2013)	
Inpatient Record Identifier (EPIKEY)	Provisional HES Inpatients (October 2013)	
Patient Classification (CLASSPAT)	Provisional HES Inpatients (October 2013)	Equal to 1, 2 or 5 (this excludes regular day and regular night attenders)
Appointment Age (APPTAGE)	Provisional HES Outpatients (October 2013)	NOT between 0 and 17 and NOT between 7000 and 7007 (represents baby ages)
HES Patient Identifier (HESID)	Provisional HES Outpatients (October 2013)	
Outpatient Record Identifier (ATTENDKEY)	Provisional HES Outpatients (October 2013)	
MHMDS Person ID	MHMDS (year to date – October 2013)	
Age at 31 March	MHMDS (year to date – October 2013)	Equal to or greater than 18

## Contact us

We would welcome and be happy to receive questions and/or comments relating to this new experimental statistical output.

In addition, users are encouraged to suggest areas of interest which could be considered and published in the future.

Please use ***“HES – MHMDS Data Linkage Report”*** in the subject line of any feedback via email.

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