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Introduction

This publication looks at Accident and Emergency activity in England. The report includes analysis by patient demographics, time spent in A&E, distributions by time of arrival and day of week, arriving by ambulance, performance times, waits for admission and re-attendances to A&E within 7 days.

It describes NHS accident and emergency activity and performance in hospitals in England during 2017-18. The data sources for this publication are Hospital Episode Statistics (HES) and A&E Attendances and Emergency Admissions Monthly Situation Reports (MSitAE).

This publication releases some high level analyses of both HES and MSitAE data relating to A&E attendances in NHS hospitals, minor injury units and walk-in centres. This document provides supporting information to the summary report and detailed tables.

Hospital Episode Statistics (HES)

This comes from the HES data warehouse containing details of all admissions, outpatient appointments and accident and emergency (A&E) attendances at National Health Service (NHS) hospitals in England. It includes private patients treated in NHS hospitals, patients who were resident outside of England and care delivered by treatment centres (including those in the independent sector) funded by the NHS.

HES datasets are the data source for a wide range of healthcare analyses for the NHS, Government and many other organisations and individuals. HES is sourced from the Secondary Uses Service (SUS) database, which is collected from hospitals’ patient administration systems on a monthly basis at record level.

Each record in HES includes a wide range of information including details of the patient (age, gender, geographic details), when they were treated and what they were treated for.

A&E Attendances and Emergency Admissions Monthly Situation Reports (MSitAE)

The collection process used for MSitAE data is very different from the process used for HES. MSitAE are based on counts made in local NHS and Independent Sector organisations and submitted to NHS England in aggregate form, rather than from patient level data.

These are currently the official source of A&E information and should be used in preference to A&E HES where information is held in both data sets.

MSitAE data is available at:
Emergency Care Dataset (ECDS)

The Emergency Care Data Set (ECDS) is a new national dataset for urgent and emergency care which will replace the current HES A&E dataset used to collect information from Emergency Departments across England. It will enable more detailed analysis and enhanced understanding of emergency services.

Since October 2017 urgent and emergency care providers have been asked to submit data to the ECDS. Those that do this will no longer submit data via the A&E Commissioning Data Set (CDS 010), which means that A&E data will no longer be automatically processed into Hospital Episode Statistics (HES) for that provider. However, in order to seek a continuity in A&E activity data during this transition period from the phased implementation of ECDS NHS Digital with guidance from nominated representatives from the Royal College of Emergency Medicine (RCEM) have put in place a mapping process of reported activity within ECDS to A&E CDS to allow data to be populated for the providers who have switched to submitting ECDS. This mapped data has been used within the reporting of this statistical release.

Details of this mapping methodology can be found within the Technical Output Specification Document on the ECDS project website.


Additional detail maybe found in the following methodological change notice paper published by NHS Digital


This change should not impact upon overall total counts of activity presented within these statistical outputs. However, changes are expected in the composition of data from those trusts that have submitted to ECDS and have subsequently been mapped to the A&E Commissioning Data Set format.

Additional analysis has been produced with this statistic release investigating certain possible impacts upon the data that the implementation of ECDS may have on the traditional data classification. This compares data submitted via both mechanisms to NHS Digital for the period October 2017 to March 2018 and comparing this to the data submitted in the equivalent time period the previous year October 2016 to March 2017. It provides a high level comparison of the coverage and differences in completeness of field values that have been mapped for: All diagnosis codes, investigation codes and treatment codes.

New Additions to the Publication

Following discussions with the UK Statistics Authority and partly in response to a request from them to improve the timeliness and coherence of the landscape of A&E statistics, this is the second year running NHS Digital and NHS England are collaborating a joint release presenting both annual HES and an annual summary of monthly A&E ‘Sitrep’ statistics.

The charts draw on both data sources, using the most appropriate in each instance. They are accompanied by detailed tables of data as with previous releases. The overall aim of this
change is to improve the reporting of Official Statistics around A&E; to give a clear and coherent picture of A&E activity and to improve its timeliness.

The following reports have been added within this year’s summary report:

- A&E attendances by Index of Multiple Deprivation (IMD)
- A&E attendances by ethnicity
- comparison of 4 hour and 12 hour waits between the four home nations, England, Scotland, Northern Ireland and Wales

The following standalone reports have been developed to be included in this year’s publication that seek to review reported data quality to inform future uses of the data.

- interactive comparison to allow users to explore provider level A&E attendances alongside corresponding Workforce data
- understanding the differences in 4 hours A&E performance between HES A&E and MSitAE reports
- analysis of clinical fields and the impact of mapping from ECDS to A&E

The previous publication for 16/17 was released in October 2017. This has been brought forward, for the second year running, to September this year to release finalised annual statistics before the next winter period; this will help avoid confusion with the more up-to-date monthly performance figures which will continue to be published by NHS England.

**Department Types**

The role of major A&E departments is to assess and treat patients who have serious and unforeseen injuries or illnesses. Major A&E departments are consultant-led, open 24 hours a day and 365 days a year with full resuscitation facilities. Not all hospitals have an A&E department.

In addition to major A&E departments, single specialty A&E departments, walk-in centres and minor injury units are also covered by the A&E HES data. People can attend these services without an appointment. They deal with a range of minor injuries and illnesses. All data tables include all of these groups unless otherwise stated.

Type 1 A&E department = A consultant led 24 hour service with full resuscitation facilities and designated accommodation for the reception of accident and emergency patients.

Type 2 A&E department = A consultant led single specialty accident and emergency service (e.g. ophthalmology, dental) with designated accommodation for the reception of patients.

Type 3 A&E department / Type 4 A&E department / Urgent Care Centre = Other type of A&E/minor injury units (MIUs)/Walk-in Centres (WiCs)/Urgent Care Centre, primarily designed for the receiving of accident and emergency patients.

A Type 3 department may be doctor led or nurse led. It may be co-located with a major A&E or sited in the community. A defining characteristic of a service qualifying as a Type 3 department is that it treats at least minor injuries and illnesses (sprains for example) and can be routinely accessed without appointment. An appointment based service (for example an outpatient clinic) or one mainly or entirely accessed via telephone or other referral (for
example most out of hours services), or a dedicated primary care service (such as GP practice or GP-led health centre) is not a Type 3 A&E service even though it may treat a number of patients with minor illness or injury.

**Attendances**

Records in the HES Accident and Emergency (A&E) database are called ‘attendances’, and each A&E attendance relates to a single visit by an individual to A&E. An individual patient may have more than one attendance in a period, so these are not the same as a count of patients. Where follow up care is required and provided by the A&E department, a second planned attendance is recorded.

**National Standard**

A&E waiting times form part of the NHS Constitution, which contains a list of expected rights and pledges for patients that NHS England takes into account when assessing organisational delivery.

Section 3a of the NHS constitution pledges “The NHS commits to provide convenient, easy access to services within the waiting times set out in this Handbook to the NHS Constitution.” There are a number of government pledges on waiting times, including:

_A maximum four-hour wait in A&E from arrival to admission, transfer or discharge;_

The operational standard for A&E waiting times is that 95% of patients should be admitted, transferred or discharged within 4 hours of their arrival at an A&E department.

The NHS constitution is available at the following link; [https://www.gov.uk/government/publications/the-nhs-constitution-for-england/the-nhs-constitution-for-england](https://www.gov.uk/government/publications/the-nhs-constitution-for-england/the-nhs-constitution-for-england)

Information in this Publication

Summary Report

This is a high level summary report of NHS Accident and Emergency activity and performance of hospitals in England, during 2017-18 and as a comparison over time.

This is a joint report between NHS Digital and NHS England providing a collective and coherent message between the two organisations. This enables a wider set of breakdowns and measures in the detailed reports. This annual publication is earlier than previous years, in advance of the winter period.

The data sources for this publication are:

- Hospital Episode Statistics (HES) and
- A&E Attendances and Emergency Admissions Monthly Situation Reports (MSitAE)

Both sets of data are received monthly by NHS Digital and NHS England respectively. MSitAE are submitted data at aggregate level to a quick timetable, used to monitor performance and activity growth. Coverage is higher for MSitAE than HES, though HES holds the data at patient level from hospital systems. The gap between the two datasets is narrowing over time as the coverage in HES improves.

The report includes the following charts and graphs:

Summary of A&E Attendances;

- A&E attendances
- A&E attendances by department type
- A&E attendances by age band

Performance Times and Waits for Admission:

- percentage of patients spending 4 hours or less in A&E
- average number of attendances of 4 hours or less
- average number of attendances over 4 hours
- percentage of patients spending 4 hours or less in A&E by provider (map)
- total time in A&E from hour of arrival to transfer, admission or discharge
- patients spending over 12 hours in A&E from arrival
- patients waiting over 12 hours from decision to admit to admission to a ward

Time of Day / Calendar Distribution:

- A&E attendances by time of arrival and day of week
- A&E attendances arriving by ambulance
- average number of attendances per day by month
- percentage of attendances admitted from A&E by month
• percentage of attendances admitted from A&E by year

Re-attendances within 7 Days to A&E:
• number and percentage of A&E re attendances
• percentage of re attendances by day of week of first attendance
• percentage of re attendances by age and sex

Attendance by IMD and Ethnicity:
• Attendances by Index of Multiple Deprivation and rate per 100,000 population
• Attendances by ethnicity and rate per 100,000 population

Published Tables
This publication includes detailed tables at a national level with further breakdowns included in each table.

The tables are available at (web link) and include:
• data completeness and comparison with other data sources
• attendance by category
• attendance by assessment, diagnosis and treatment
• duration and disposal
• patient group
• attendance by Index of Multiple Deprivation (IMD) and ethnicity
• Clinical Quality Indicators

Provider Level Analysis
In addition to national aggregations of activity a provider-level analysis is supplied; this allows users to select hospital providers and compare activity with peer organisations, regions or the England total.

One of the purposes of the provider-level analysis is to contribute to the improvement of both the quality and coverage of the data submitted to HES.

This provides information at provider level (where submitted) relating to:
• gender
• age group
• hour of arrival
• day of arrival
• method of arrival by age group
• comparison with attendances recorded in A&E MSitAE
• duration
• method of discharge
• method of discharge by duration
• average length of stay by hour of arrival

Home Nations Comparison Analysis

For the first time an additional file has been published providing supplementary information to this report that provides a comparison of the number of unplanned A&E attendances, 4 hour and 12 hour waiting time performance for each of the four Home Nations (England, Scotland, Wales and Northern Ireland). So as to compare across all nations this comparison is for Type 1 or Major A&E departments within each nation.

This builds upon work undertaken by statisticians in all four home nations that have collaborated as part of the ‘UK Comparative Waiting Times Group’. The aim of the group was to look across published health statistics, in particular waiting times, and compile a comparison of (i) what is measured in each country, (ii) how the statistics are similar and (iii) where they have key differences. The first area investigate related to A&E data.

The data sources for this analysis are:
• Hospital Episode Statistics (HES)
• A&E Attendances and Emergency Admissions Monthly Situation Reports (MSitAE)
• ISD Scotland A&E datamart
• Emergency department data set (EDDS), NHS Wales Informatics Services (NWIS)
• Hospital Information Branch, Information & Analysis Directorate, Department of Health (Northern Ireland)

Data Quality Review and Exploratory Analysis of HES A&E Activity and Reported Workforce Statistics

Published alongside the report this supplementary analysis has been produced by NHS Digital and contains Experimental statistics produced using both HES A&E attendance and HCHS workforce data held within NHS Digital. This analysis seeks to assist users of the data in understanding the data quality of reported time spent within A&E within HES data by enabling through an interactive visualisation the distribution of reported HES A&E data against calculated national and provider level figures. It also enables such distributions to be
viewed at specific NHS Commissioning Region level to be selected to understand potential regional variations in reported activity.

Additional exploratory analysis is also presented using HCHS workforce data held within NHS Digital to explore how workforce data held within NHS Digital may be used to support future data reporting requirements and presenting results of preliminary investigations exploring relationships between A&E activity and staffing. Data is presented so as to enable A&E activity alongside corresponding workforce data relating specifically to staff employed within an A&E setting to be reviewed at specific provider/s level.

Please note this analysis and its associated results are neither intended or suitable for any performance monitoring use. The A&E Attendances and Emergency Admissions Monthly Situation Reports (MSitAE) data collected by NHSE are the Official Data source which are used for such purposes.

HES data has been used in this analysis in preference to the MSitAE as the work seeks to investigate possible relationships between Workforce and A&E activity and HES provides greater scope to investigate other variables that may influence this going forward such as patient age and Casemix than is possible with MSitAE data.

**Differences in 4 hours A&E performance between HES A&E and MSitAE reports**

For the first time this additional file provides a comparison of the 4-hour waiting time performance for all providers that submit data to both HES and MSitAE. A joint exercise was completed by NHS Digital and NHSE to identify and contact providers that had a difference in performance larger than 5 percentage points when 4-hour performance was calculated using HES and MSitAE.

The purpose of this joint exercise is that because HES and ECDS are more granular, they offer much more flexibility to break down times waited and other aspects of A&E care in many more different ways but in order to do this there needs to be a good level of confidence that it is broadly similar to the official measure and where providers exhibit large differences we are following up with them to address it. This DQ report is the first joint DQ exercise between NHS Digital and NHS England with a view to repeating more frequently to understand and overcome the differences between the two sources

**Analysis of clinical fields and the impact of mapping from ECDS to A&E**

This file provides a high-level comparison of the coverage and differences in completeness of field values that have been mapped for:
All diagnosis codes, investigation codes and treatment codes.

The purpose of the analysis in this file is to investigate certain possible impacts upon the data that the implementation of ECDS may have on the traditional data classification. This is done by comparing activity submitted via both mechanisms to NHS Digital for the period October 2017 to March 2018 and comparing this to the data submitted in the equivalent time period the previous year October 2016 to March 2017.

**Metadata**

The table descriptions that accompany this publication are given in the document entitled 'Hospital Accident and Emergency Activity, 2017-18 - Metadata Document'; this includes descriptions of the tables included in the report, as well as providing useful links to other relevant webpages and documents.

**Further Information About HES**

The NHS Digital website contains more background information about HES: https://digital.nhs.uk/hes

Alongside this publication a Statement of Administrative Sources is also published, as required by the Code of Practice for Official Statistics. More information on the background and purpose of the Statement of Administrative Sources can be found at: https://digital.nhs.uk/data-and-information/find-data-and-publications/statement-of-administrative-sources

**Accessing HES**

The HES publications focus on headline information about hospital activity. Each annual publication includes a series of national tables and also provider-level breakdowns for some main areas.

All data items included in the published tables are explained in footnotes, and NHS Digital publishes data dictionaries for HES describing the format and possible values for all HES data items: https://www.digital.nhs.uk/hes

This data is also readily accessible via an online interrogation service (for NHS users) or via our bespoke extract service: https://www.digital.nhs.uk/dars

**Further information about MSitAE**

NHS England compiles A&E attendances and emergency admissions data through a central return that is split into two parts:

- A&E Attendances: This collects the number of A&E attendances, patients spending greater than 4 hours in A&E from arrival to discharge, transfer or admission and the number of patients delayed more than 4 hours from decision to admit to admission.
- Emergency Admissions: This collects the total number of emergency admissions via A&E as well as other emergency admissions (i.e. not via A&E).

The above data items are split by the following categories of A&E department:

- Type 1 Department (Major A&E Department).
- Type 2 Department
- Type 3 A&E department / Type 4 A&E department / Urgent Care Centre

Detailed descriptions of the A&E department types can be found on the Introduction Section of this document.


**Data availability**

A&E attendances and emergency admissions data are published to a pre-announced timetable, usually every second Thursday of the month. The data is published on the NHS England website:


**Data revisions**

Revisions to published figures are released on a six-monthly basis and in accordance with the NHS England Analytical Services (National) team’s revision policy:


**Data comparability**

Data has been published monthly since June 2015. Before this, data was published weekly from November 2010 to June 2015. Prior to November 2010, data was briefly collected monthly between August 2010 and October 2010 and was collected quarterly from 2003-04 until September 2011.

The data can also be compared to A&E data for Wales collected by the Welsh Government, data for Scotland collected from Information Services Division (ISD) Scotland and data for Northern Ireland collected from the Department of Health, Social Services and Public Safety. The link below includes the description of the technical differences between data from the four administrations:

https://gss.civilservice.gov.uk/health-waiting-time-statistics/

The Welsh Government publishes monthly data on A&E attendances and performance against the 4-hour standard:
ISD Scotland now publishes a weekly update on A&E attendances and performance against the 4-hour standard:

https://www.isdscotland.org/Health-Topics/Emergency-Care/Publications/index.asp?ID=1251

The Department of Health, Social Services and Public Safety publishes quarterly data on A&E attendances and performance against the 4-hour standard:

https://www.dhsspsni.gov.uk/index/statistics/hospital/waitingtimes-emergency.htm

The UK Comparative Waiting Times Group has published a summary of the differences in methodologies between the four countries:

https://gss.civilservice.gov.uk/health-waiting-time-statistics/
## Appendix 1: Glossary of Terms

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<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>A&amp;E</td>
<td>Accident and Emergency</td>
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<tr>
<td>ACC</td>
<td>Adult Critical Care</td>
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<tr>
<td>APC</td>
<td>Admitted Patient Care</td>
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<tr>
<td>AR</td>
<td>Annual Refresh</td>
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<td>AT</td>
<td>Area Team</td>
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<td>CCG</td>
<td>Clinical Commissioning Group</td>
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<td>CDS</td>
<td>Commissioning Data Set</td>
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<td>DH</td>
<td>Department of Health</td>
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<td>ECDS</td>
<td>Emergency Care Data Set</td>
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<tr>
<td>FAE</td>
<td>Finished Admission Episode</td>
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<tr>
<td>FCE</td>
<td>Finished Consultant Episode</td>
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<td>HCHS</td>
<td>NHS Hospital &amp; Community Health Service</td>
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<td>HES</td>
<td>Hospital Episode Statistics</td>
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<tr>
<td>ICD-10</td>
<td>International Classification of Diseases and Related Health Problems version 10</td>
</tr>
<tr>
<td>MSitAE</td>
<td>A&amp;E Attendances and Emergency Admissions Monthly Situation Reports</td>
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<tr>
<td>NHS</td>
<td>National Health Service</td>
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<tr>
<td>ODS</td>
<td>Organisation Data Service</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>ONS</td>
<td>Office for National Statistics</td>
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<tr>
<td>OP</td>
<td>Outpatient</td>
</tr>
<tr>
<td>OPCS 4.7</td>
<td>Office for Population, Censuses and Surveys Classification of Interventions and Procedures version 4.7</td>
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<tr>
<td>PAS</td>
<td>Patient Administration Systems</td>
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<td>PbR</td>
<td>Payment by Results</td>
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<td>SUS</td>
<td>Secondary Uses Service</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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Appendix 2: Hospital Episode Statistics Data Quality Statement

Introduction

HES data includes patient level data on hospital admissions, outpatient appointments and A&E attendances for all NHS trusts in England. It covers acute hospitals, mental health trusts and other providers of hospital care. HES includes information about private patients treated in NHS hospitals, patients who were resident outside England and care delivered by treatment centres (including those in the independent sector) funded by the NHS.

Healthcare providers collect administrative and clinical information locally to support the care of the patient. This data is submitted to the SUS to enable hospitals to be paid for the care they deliver. HES is created from SUS to enable further secondary use of this data.

HES is the data source for a wide range of healthcare analysis used by a variety of people including the NHS, government, regulators, academic researchers, the media and members of the public.

HES is a unique data source, whose strength lies in the richness of detail at patient level going back to 1989 for Admitted Patient Care (APC) episodes, 2003 for outpatient appointments and 2007 for A&E attendances. HES data includes:

- specific information about the patient, such as age, gender and ethnicity
- clinical information about diagnoses, operations and consultant specialties
- administrative information, such as time waited, and dates and methods of admission and discharge
- geographical information such as where the patient was treated and the area in which they live

The principal benefits of HES are in its use to:

- monitor trends and patterns in NHS hospital activity
- assess effective delivery of care and provide the basis for national indicators of clinical quality
- support NHS and parliamentary accountability
- inform patient choice
- provide information on hospital care within the NHS for the media
- determine fair access to health care
- develop, monitor and evaluate government policy
- reveal health trends over time
- support local service planning
Relevance
The HES publications focus on headline information about hospital activity. Each annual publication includes a series of national tables and also provider-level breakdowns for some main areas.

Most data included in the published tables are aggregate counts of hospital activity. Where averages are published, e.g. average length of stay for inpatients or caesarean rates for maternity statistics, this data is clearly labelled stating how the data has been calculated.

Accuracy and Reliability
The accuracy of HES data is the responsibility of the NHS providers who submit the data to the Secondary Uses Service (SUS). This data is required to be accurate to enable providers to be correctly paid for the activity they undertake.

SUS is the single, comprehensive repository for healthcare data in England which enables a range of reporting and analyses to support the NHS in the delivery of healthcare services.

When a patient or service user is treated or cared for, information is collected which supports their treatment. This information is also useful to commissioners and providers of NHS-funded care for ‘secondary’ purposes - purposes other than direct or ‘primary’ clinical care - such as:

- healthcare planning
- commissioning of services
- national tariff reimbursement
- development of national policy

SUS is a secure data warehouse that stores this patient-level information in line with national standards and applies complex derivations which support national tariff policy and secondary analysis.

A list of mandatory and optional fields for submission in in the Commissioning Data Set (CDS) is provided within the NHS Model and Data Dictionary:
A&E: CDS V6-2 Type 010 – Accident and Emergency CDS
ECDS: CDS V6-2 Type 011 – Emergency Care CDS

NHS Digital has a well-developed data quality assurance process for the SUS and HES data. It uses an xml schema to ensure some standardisation of the data received. The use of the schema means that the data set has to meet certain validation rules before it can be submitted to SUS. NHS Digital leads on the schema changes and consults the data suppliers about proposed changes.

Each month NHS Digital create data quality dashboards available to NHS providers to show the completeness and validity of their data submissions to SUS. This helps to highlight any issues present in the provisional data allowing time for corrections to be made before the annual data is submitted.
An external auditor, acting on behalf of the Department of Health (DH), audits the data submitted to SUS to ensure NHS providers are being correctly paid by Payment by Results (PbR) for the care they provide.

NHS Digital validates and cleans the HES extract and derives new items. The team discusses data quality issues with the information leads in hospital trusts who are responsible for submitting data. The roles and responsibilities within NHS Digital are clear for the purposes of data quality assurance, to assess the quality of data received against published standards and report the results.

Data quality information for each year to date HES dataset is published alongside the provisional year to date HES data, and also alongside annual publications. These specify known data quality issues each year and where a trust has a known shortfall of secondary diagnoses. The statisticians can only check the validity and format of the data and not whether they are accurate, as accuracy checking requires a level of audit capacity and capability which NHS Digital does not currently possess.


NHS Digital also publishes an annual report The Quality of Nationally Submitted Health and Social Care Data, which highlights issues around the recording of the underlying data that is used for HES, as well as examples of good and poor practice, and a regular Data Quality Maturity Index for providers across several datasets including HES: https://content.digital.nhs.uk/dq

The UK Statistics Authority conducted case studies of quality assurance and audit arrangements of administrative data sources. HES was used as a case study and further information can be found in the published report (Annex C, case study 3), available at: https://www.statisticsauthority.gov.uk/osr/systemic-reviews/administrative-data-and-official-statistics/quality-assurance-and-audit-arrangements-for-administrative-data/

**Data Quality Note**

Detailed information about data quality of data items, and completeness of provider data submissions can be accessed via the following link: https://content.digital.nhs.uk/article/1825/The-processing-cycle-and-HES-data-quality

A&E HES data has been available since 2007-08 and during those early years data completeness was known to be an issue.

**Data completeness**

There are some definitional differences between A&E HES data and MSitAE data. The main difference is that MSitAE data does not include attendances where the A&E appointment has been pre-arranged. Therefore, where A&E HES is compared directly with MSitAE, planned follow-up attendances are excluded.
Overall coverage in HES has increased from 2016-17 compared to the MSitAE data, although data completeness of key fields is slightly lower than the previous year. Codes are considered to be valid if they matched to one of the A&E CDS data dictionary values for the specified field and were considered invalid if they did not match one of the data dictionary values. Where a field has a null value it is considered invalid.

Multiple diagnosis, investigation and treatment codes can be submitted within the dataset. The analysis contained within this report only looks at the first (or primary) diagnosis, investigation and treatment codes submitted. It also only uses the first two characters of these codes covering the diagnosis condition, investigation and treatment sections of the six character codes. This is due to quality issues with these clinical fields.

Table 1: A&E Count of attendances with a valid entry in key fields

<table>
<thead>
<tr>
<th>Field description</th>
<th>2016-17</th>
<th></th>
<th>2017-18</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of records</td>
<td>20,886,411</td>
<td></td>
<td>21,278,504</td>
<td></td>
</tr>
<tr>
<td>A&amp;E Arrival Mode</td>
<td>20,437,190</td>
<td>97.8%</td>
<td>20,615,760</td>
<td>96.9%</td>
</tr>
<tr>
<td>A&amp;E Department Type (from April 2007)</td>
<td>20,770,233</td>
<td>99.4%</td>
<td>21,266,051</td>
<td>99.9%</td>
</tr>
<tr>
<td>A&amp;E Attendance Category</td>
<td>20,304,807</td>
<td>97.2%</td>
<td>20,828,043</td>
<td>97.9%</td>
</tr>
<tr>
<td>A&amp;E Attendance Disposal</td>
<td>20,414,834</td>
<td>97.7%</td>
<td>20,256,439</td>
<td>95.2%</td>
</tr>
<tr>
<td>A&amp;E Incident Location Type</td>
<td>18,523,589</td>
<td>88.7%</td>
<td>16,244,532</td>
<td>76.3%</td>
</tr>
<tr>
<td>A&amp;E Patient Group</td>
<td>20,398,709</td>
<td>97.7%</td>
<td>20,711,775</td>
<td>97.3%</td>
</tr>
<tr>
<td>Source of Referral for A&amp;E</td>
<td>20,185,155</td>
<td>96.6%</td>
<td>20,340,463</td>
<td>95.6%</td>
</tr>
<tr>
<td>Arrival Date</td>
<td>20,886,411</td>
<td>100.0%</td>
<td>21,278,504</td>
<td>100.0%</td>
</tr>
<tr>
<td>Arrival Time</td>
<td>20,886,411</td>
<td>100.0%</td>
<td>21,278,504</td>
<td>100.0%</td>
</tr>
<tr>
<td>A&amp;E Initial Assessment Time</td>
<td>18,694,021</td>
<td>89.5%</td>
<td>19,022,817</td>
<td>89.4%</td>
</tr>
<tr>
<td>A&amp;E Time Seen For Treatment</td>
<td>19,506,201</td>
<td>93.4%</td>
<td>19,677,495</td>
<td>92.5%</td>
</tr>
<tr>
<td>A&amp;E Attendance Conclusion Time</td>
<td>20,642,515</td>
<td>98.8%</td>
<td>20,992,380</td>
<td>98.7%</td>
</tr>
<tr>
<td>A&amp;E Departure Time</td>
<td>20,757,445</td>
<td>99.4%</td>
<td>21,167,326</td>
<td>99.5%</td>
</tr>
<tr>
<td>Primary A&amp;E Diagnosis - 2 Character Level¹</td>
<td>13,502,875</td>
<td>64.6%</td>
<td>14,768,119</td>
<td>69.4%</td>
</tr>
<tr>
<td>First A&amp;E Investigation - 2 Character Level²</td>
<td>19,581,779</td>
<td>93.8%</td>
<td>18,531,716</td>
<td>87.1%</td>
</tr>
<tr>
<td>First A&amp;E Treatment - 2 Character Level³</td>
<td>19,377,298</td>
<td>92.8%</td>
<td>18,908,296</td>
<td>88.9%</td>
</tr>
</tbody>
</table>

Source: NHS Digital

Final and Provisional Data Comparison

Collection of HES data is carried out on a monthly basis throughout the financial year, with a final annual refresh (AR) once the year end has passed. Each monthly collection refreshes data back to the start of the financial year.

‘Month 13’ represents the provisional full year data and was published in June 2018. Hospital providers and the NHS Digital HES Data Quality team work to improve the quality and completeness of the data in order to produce the final AR data used in this report, as described in the Accuracy and Reliability Section above.

Table 2 shows the differences between the Month 13 provisional data and the final AR data.
Table 2: Comparing month 13 and annual refresh data, 2017-18

<table>
<thead>
<tr>
<th></th>
<th>Month 13</th>
<th>Annual Refresh</th>
<th>Percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total attendances</td>
<td>21,261,798</td>
<td>21,278,504</td>
<td>0.08</td>
</tr>
<tr>
<td>Admitted / became a lodged patient</td>
<td>4,053,766</td>
<td>4,053,917</td>
<td>0.00</td>
</tr>
<tr>
<td>Discharged - GP follow up</td>
<td>3,579,338</td>
<td>3,583,077</td>
<td>0.10</td>
</tr>
<tr>
<td>Discharged - no follow up</td>
<td>8,482,814</td>
<td>8,491,670</td>
<td>0.10</td>
</tr>
<tr>
<td>Referred</td>
<td>2,327,280</td>
<td>2,329,889</td>
<td>0.11</td>
</tr>
<tr>
<td>Others</td>
<td>2,818,600</td>
<td>2,819,951</td>
<td>0.05</td>
</tr>
</tbody>
</table>

source: NHS Digital

Table 3 shows the number of attendances occurring in the last three submission periods of 2017-18, including annual refresh. The number of records per month of activity generally increases as more submissions are made; the completeness of the data improves over time.

Table 3: Monthly variation in submitted records, 2017-18

<table>
<thead>
<tr>
<th></th>
<th>M12</th>
<th>M13</th>
<th>Annual Refresh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr 2017</td>
<td>1,743,817</td>
<td>1,741,082</td>
<td>1,742,535</td>
</tr>
<tr>
<td>May 2017</td>
<td>1,860,518</td>
<td>1,857,517</td>
<td>1,859,099</td>
</tr>
<tr>
<td>Jun 2017</td>
<td>1,799,285</td>
<td>1,797,123</td>
<td>1,798,579</td>
</tr>
<tr>
<td>Jul 2017</td>
<td>1,867,081</td>
<td>1,866,672</td>
<td>1,868,235</td>
</tr>
<tr>
<td>Aug 2017</td>
<td>1,742,295</td>
<td>1,739,640</td>
<td>1,741,005</td>
</tr>
<tr>
<td>Sep 2017</td>
<td>1,747,633</td>
<td>1,745,627</td>
<td>1,747,012</td>
</tr>
<tr>
<td>Oct 2017</td>
<td>1,829,398</td>
<td>1,824,563</td>
<td>1,825,908</td>
</tr>
<tr>
<td>Nov 2017</td>
<td>1,751,424</td>
<td>1,759,354</td>
<td>1,760,628</td>
</tr>
<tr>
<td>Dec 2017</td>
<td>1,762,766</td>
<td>1,763,260</td>
<td>1,764,589</td>
</tr>
<tr>
<td>Jan 2018</td>
<td>1,743,665</td>
<td>1,755,345</td>
<td>1,756,659</td>
</tr>
<tr>
<td>Feb 2018</td>
<td>1,588,066</td>
<td>1,606,146</td>
<td>1,607,366</td>
</tr>
<tr>
<td>Mar 2018</td>
<td>1,768,317</td>
<td>1,805,469</td>
<td>1,806,889</td>
</tr>
</tbody>
</table>

source: NHS Digital

Timeliness and Punctuality

HES data is published as early as possible. The production of the underlying annual HES data sets takes several months after the reference period. The final submission deadline for NHS providers to send annual data to SUS is normally at the end of May, almost two months after that year has finished. It then takes approximately two months to produce the HES data set and a further month to complete publication production and data investigation.

In addition to annual data NHS Digital also publishes provisional monthly HES data approximately two months after the reference period.
The final annual data includes some additional data cleaning and more up-to-date reference data used with the derivations, compared to Month 13 data.

**Coherence and Comparability**

Users can misinterpret HES data as relating to numbers of patients but care should be taken as the standard unit of HES data relates to hospital activity, not individuals.

In the case of A&E data, this is presented as attendances, which may include people attending more than once in the reporting period.

**Other Comparable Data**

**UK Comparisons**

Separate collections of hospital statistics are undertaken by Northern Ireland, Scotland and Wales. There are a number of important differences between the countries in the way that data measures are collected and classified, and in the organisation of health and social services. For these reasons, any comparisons made between HES and other UK data should be treated with caution.

ONS used to produce UK Health Statistics which contained key figures about the use of health and social services, including hospital admitted patient activity and waiting times across the UK. The last version of this discontinued series can be found at: https://www.ons.gov.uk/ons/rel/ukhs/united-kingdom-health-statistics/2010/edition-4--2010.pdf

**Other UK Data**

Hospital data for the other administrations can be found at:
- Northern Ireland – Hospital Statistics
- Scotland – Hospital Care
- Wales – Health and social care statistics

as mentioned in the Data Comparability section above. NHS England also publish other hospital activity data: https://www.england.nhs.uk/statistics/statistical-work-areas

**Wider International Comparisons**

HES and similar statistics from the devolved administrations are used to contribute to World Health Organisation (WHO), Organisation for Economic Co-operation and Development (OECD) and Eurostat compendiums on health statistics.

**Improvements Over Time**

HES data is available from 1989-90 onwards whilst outpatient HES data is available from 2003-04 onwards, and A&E data is available from 2007-08. Changes to the figures over time need to be interpreted in the context of improvements in data quality and coverage.
(particularly in earlier years), improvements in coverage of independent sector activity (particularly from 2006-07) and changes in NHS practice.

Payment by Results (PbR) is a system whereby hospitals are paid for the number of patient treatments, known as activity, they perform and the complexity of these treatments. It was introduced in a phased way from 2003-04 onwards. In order to be paid correctly, care providers need to record the activity they perform and the clinical codes that outline the patients’ conditions and treatment.

The introduction of PbR increased private sector involvement in the delivery of secondary care and brought about some changes in clinical practice (including some procedures occurring as outpatient appointments instead of hospital admissions). It is likely that these changes will have affected trends.

This has provided a major financial incentive for care providers to ensure all of the activity they perform and the clinical coding is fully recorded. This improved recording of information captured by HES could be one of the factors leading to the reported activity increases. In order to manage patients’ waiting times there has been the need for additional elective operations to be performed as well as a requirement for more capacity in NHS funded care to perform this activity. In the middle of the last decade, additional capacity was brought in from the private sector via treatment centres, with the NHS funding some patients to be treated there for routine operations.

Improvements in technology and the need to increase efficiency to allow more patients to be treated have led to a reduction in the length of time patients need to stay in hospital for certain planned operations. In particular, many operations that would have involved an overnight stay at the start of the period are now routinely performed as day cases. In addition, many operations where a patient would have been admitted to hospital at the start of the period are now routinely performed in outpatients. This has led to increases in day case rates and outpatient attendances over the period.

The recent period has also seen a rise in the number of emergency admissions. One factor contributing to this is likely to be the increased demand on health services from an ageing population. Alongside this there has been the introduction of observation or medical assessment units at many hospitals to which patients arriving in A&E departments are admitted, often for around a day, to enable observation and tests to be performed on them.

**Comparisons of Annual HES Data**

Care should be taken when comparing annual HES data over time, as improvements in coverage in HES will contribute alongside growth from increased activity through the years.

Extra care should be taken when looking at clinical data, as changes in NHS practices (such as the introduction of new procedures and interventions) can have an effect on changes through time.

Comparisons of Annual data for certain fields and reported activity is now no longer directly comparable since the phased introduction of the new Emergency Care Data Set commenced in October 2017. Since this point urgent and emergency care providers have been asked to submit data to the ECDS. Those that do this will no longer submit data via the A&E Commissioning Data Set (CDS 010), which means that their A&E data would no longer be
automatically processed into Hospital Episode Statistics (HES) for that provider. However in order to seek a continuity in the data during this transition period during the phased implementation of ECDS NHS Digital with guidance from nominated representatives from the Royal College of Emergency Medicine (RCEM) put in place a mapping process of reported activity within ECDS to A&E CDS to allow data to be populated for the providers who have switched to submitting ECDS so that data can still be used in this and other statistical releases.

Details of this mapping methodology can be found within the Technical Output Specification Document on the ECDS project website.


Additional detail may be found in the following methodological change notice paper published by NHS Digital
-assets/publications/publications-admin-pages/methodological-changes/methchange20171212_hes.pdf

The change should not impact upon overall total counts of activity presented within the data. However, changes are expected in the composition of data from those trusts that have submitted to ECDS and have subsequently been mapped to the A&E Commissioning Data Set format. A key driver of the ECDS is to improve current clinical data quality and make the data that is captured compatible with other modern data sets. Therefore, several codes that either represent clinical practice that no longer takes place in the A&E department or the coding adds no clinical value have been retired. Additionally, under SNOMED there is no ‘other’ code therefore it will no longer be possible for activity submitted by organisations via ECDS to be mapped to a small number of codes. The codes and fields identified as being affected are listed in the methodological change paper referenced earlier. Comparisons across time of activity before and after the 1st October 2017 of activity using these codes or using other codes within these specific fields therefore may not be comparable. Further analyses on the impact of the introduction of ECDS to this reporting accompanies this statistical release.

**Early Years’ Data**

The first A&E submission from providers in England was for the 2007-08 financial year; these reports were experimental until 2012-13.

**Changes to Organisation Codes and Geographical Boundaries**

The Organisation Data Service (ODS) is responsible for the publication of all organisation and practitioner codes and national policy and standards with regard to the majority of organisation codes.

For more information about the ODS and changes to organisation codes and geographical boundaries visit:
https://systems.digital.nhs.uk/data/ods
Accessibility and Clarity
As HES is such a rich source of data it is not possible to publish aggregate tables covering all permutations of possible analysis. Underlying HES data is also made available to facilitate further analysis that is of direct relevance to users. There are no restrictions to accessing the published data.

Trade-offs between Quality Components
As discussed in the Accuracy and Reliability section, providers have the opportunity to submit data each month, which is centrally assessed for data quality and issues is reported back to providers in order to give an opportunity to address any issues found. The dataset is then finalised for the full financial year, and issues remaining after that point are published on NHS Digital’s website, but no attempt is made to amend the data.

Assessment of User Needs and Perceptions
Users of the data and this publication are encouraged to report and feedback their views and suggestions. We have a dedicated e-mail address for users to e-mail their queries or concerns and if anything is identified as being unclear, we address that as soon as we possibly can.

We consult users when proposing significant changes to the content of or methodologies used in the publications. NHS Digital conducted a wider consultation exercise on all its publications and services, including HES, and the outcome is available to all. https://content.digital.nhs.uk/article/7041/Consultation-on-changes-to-HSCIC-Statistics-201617---201819-Now-Closed

Cost, Performance and Respondent Burden
The production of HES data is a secondary use of data collected during the care of patients in the NHS and submitted for NHS Providers to be paid for the care they deliver. Therefore HES does not incur additional costs or burden on the providers of the data.

Confidentiality, Transparency and Security
Although certain information is considered especially sensitive, all information about someone’s health and the care they are given must be treated confidentially and in accordance with legislation and NHS Digital protocols at all times.

There are a limited number of people authorised to have access to the record level data, all of whom must adhere to the written protocol issued by NHS Digital on the dissemination of HES data. For example, guidance is given on handling the very small numbers that sometimes occur in tables to reduce the risk that local knowledge could enable the identification of either a patient or clinician.

HES is a record level data warehouse and it contains information that could (if it was made freely available) potentially identify patients or the consultant teams treating them. In some cases, record level data may be provided for medical / health care research purposes. For example, data is likely to be required by the Care Quality Commission and other such bodies. The information may be given following a stringent application procedure, where the
A project can justify the need and where aggregated data will not suffice. Any request involving sensitive information, or where there may be potential for identification of an individual, is referred to the appropriate governance committee. NHS Digital publishes a quarterly register of data releases, which includes releases of HES data.

HES data is stored to strict standards: a system level security protocol is in place. This details the security standards that are in place to ensure data is secure and only accessed by authorised users.
Information and technology for better health and care

www.digital.nhs.uk
0300 303 5678
enquiries@nhsdigital.nhs.uk
@nhsdigital


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