

Summary Hospital-level Mortality Indicator (SHMI)

Hospital Episode Statistics (HES) SHMI
data guidance

Clinical Indicators Team
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Introduction

The Summary Hospital-level Mortality Indicator (SHMI) reports on mortality at trust level across the NHS in England. This indicator is produced and published quarterly as a National Statistic by NHS Digital.

The data used to produce the SHMI are generated from data the trusts submit to the Secondary Uses Service (SUS). The data are processed by NHS Digital to create Hospital Episode Statistics (HES) data. This process is explained in detail at <http://digital.nhs.uk/hes>. The data are then linked with death registrations data from the Office for National Statistics (ONS) to allow deaths which occurred outside of hospital to be captured.

The purpose of this document is to provide detailed information on the HES data extracts that are used in the calculation of the SHMI.

SHMI data usage

The SHMI draws on multi-year HES data from the Admitted Patient Care (APC) Commissioning Data Set (CDS) and uses a combination of provisional monthly data and fixed annual data to ensure that the indicator is as timely as possible.

The statistical models which underpin the calculation of the SHMI are derived using thirty-six months of data from trusts throughout England. The final twelve months of this period are used to calculate the SHMI for each individual trust. Data for the month following the end of the reporting period are required to identify deaths which occurred within 30 days of discharge. Details of the reporting periods for each SHMI publication can be found in the SHMI publication timetable which is available on the NHS Digital website at <http://digital.nhs.uk/SHMI>.

Provisional monthly HES data

At pre-arranged dates during the year HES extracts are taken from the SUS data warehouse on a monthly basis. The HES extract then has a number of cleaning rules and validations applied, before new items are derived and the data are made available. HES represents a series of fixed positions aligned to extracted data, while SUS is updated when data are submitted. This is why there can be differences between SUS and HES even when looking at a similar reporting period.

Each HES extract contains data submitted for the financial year so far, i.e. the month 1 extract will only contain the data submitted with an activity date in April, but the month 6 extract will contain data submitted with an activity date from April to September. One of the reasons for this is that additional data may be needed to update patient records from earlier in the year, e.g. an episode may potentially run for several months or an amendment may need to be made as clinical coding usually takes place following the discharge of the patient.

Annual refresh / final year HES data

Each final year publication of HES collects and holds data based on a financial year. At the end of each year after the twelve monthly submissions, there is an additional submission date to support what is called the 'annual refresh'. This gives providers the opportunity to revise and update their submissions for the year.

A provisional extract is generated from the annual refresh submission and is referred to as the 'month 13' extract, which allows HES users an early provisional view of the final year data before the final publication.

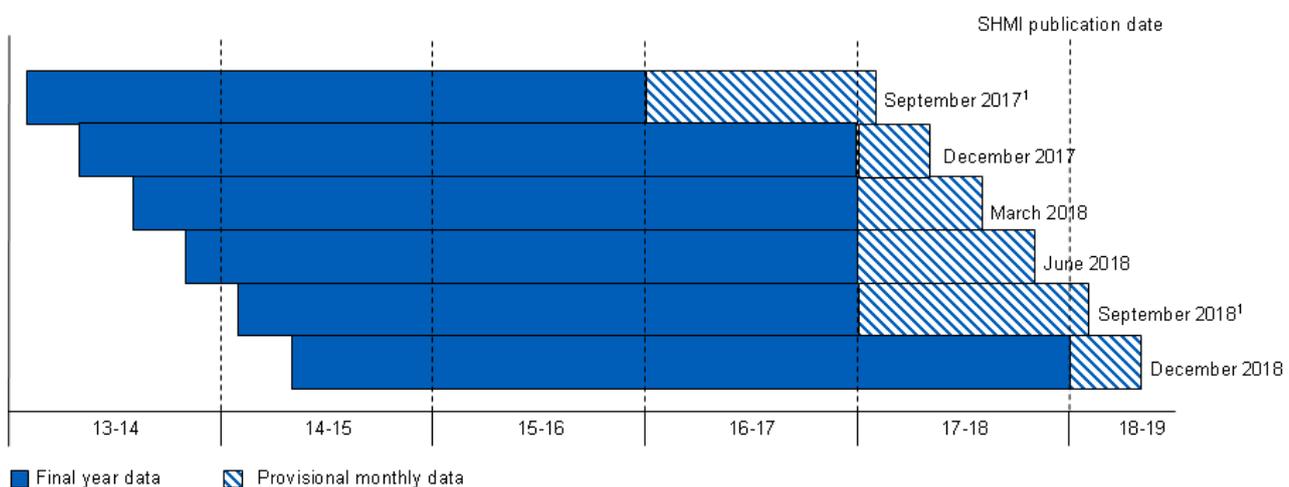
The final publication is subject to consultation with providers to ensure that the removal of any duplicate records found in the data has the provider's consent.

While data relating to episodes and spells for a particular year can be amended and updated in SUS long after the year has passed, no further SUS updates are applied to HES which is fixed after the final year data publication.

Multi-year breakdown of HES data for SHMI

The SHMI draws on four years of APC data, spanning five distinct financial years, (as shown in Figure 1) to allow for spells starting in the previous year. However, the indicator calculation only uses information relating to spells where a discharge occurred in the specified activity period used for the SHMI publication listed in Table 1.

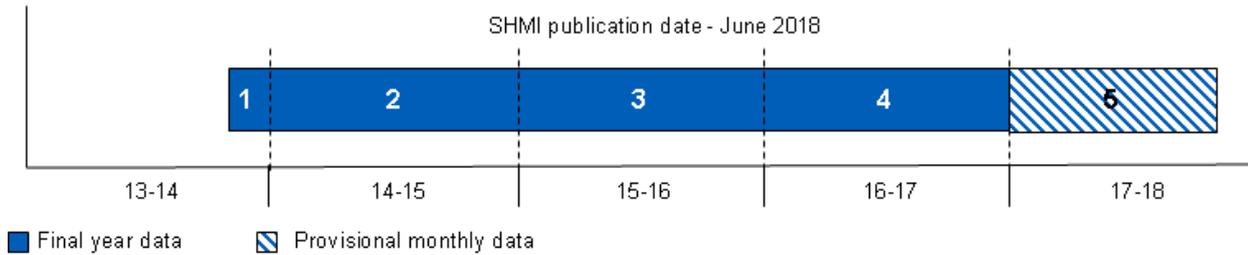
Figure 1: Provisional monthly and final year HES APC data used in the calculation of the SHMI



¹ The use of provisional end of year data (month 13 extract) in the production of these SHMI publications is due to the timescales for the publication of the finalised HES data.

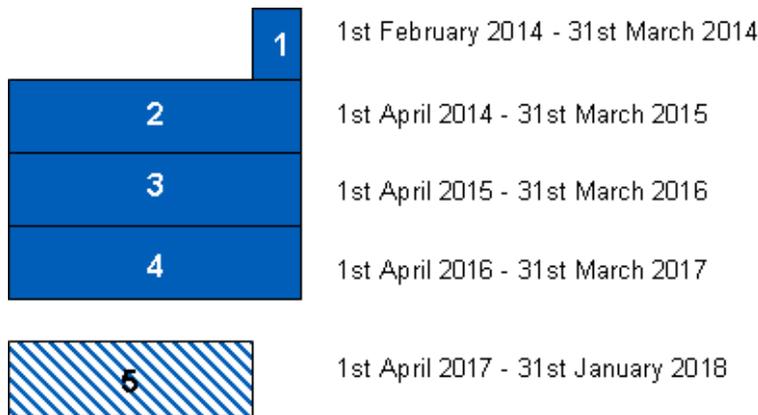
For example the SHMI published in June 2018 will use HES data from 1st February 2014 to 31st January 2018, as illustrated in Figure 2.

Figure 2: HES data used for June 2018 SHMI publication



This is based on annual refresh / final year data for the years 13-14, 14-15, 15-16, 16-17 and provisional data for the year 17-18. Therefore, the June 2018 SHMI publication will use finalised HES data from February 2014 to March 2017 and provisional monthly data from April 2017 to January 2018, as illustrated in Figure 3.

Figure 3: Breakdown by financial year of HES data used for June 2018 SHMI publication



Data submission timetables

Table 1 shows the timetable for submitting data to SUS, the corresponding HES publication date and the SHMI publication that the HES extract is used in.

Table 1: Timetable of SUS / HES submission deadlines and how they relate to the SHMI publication (all dates are provisional)

HES extract	Financial year	SUS / HES submission deadline	HES publication month	SHMI publication month	Four year period used for creating provider spells		Activity used for SHMI publication
					Start date	End date	
Month 2*	2017-18	19 Jun 2017	Aug 2017	Sep 2017	01 May 2013	30 Apr 2017	01 Apr 2014 - 30 Apr 2017
Month 3*	2017-18	19 Jul 2017	Aug 2017				
Month 4*	2017-18	17 Aug 2017	Sep 2017				
Month 5*	2017-18	19 Sep 2017	Oct 2017				
Month 6*	2017-18	18 Oct 2017	Nov 2017	Dec 2017 ¹	01 Aug 2013	31 Jul 2017	01 Jul 2014 - 31 Jul 2017
Month 7*	2017-18	17 Nov 2017	Dec 2017				
Month 8*	2017-18	18 Dec 2017	Jan 2018	Mar 2018	01 Nov 2013	31 Oct 2017	01 Oct 2014 - 31 Oct 2017
Month 9*	2017-18	18 Jan 2018	Feb 2018				
Month 10*	2017-18	19 Feb 2018	Mar 2018				
Month 11*	2017-18	19 Mar 2018	Apr 2018	Jun 2018	01 Feb 2014	31 Jan 2018	01 Jan 2015 - 31 Jan 2018
Month 12*	2017-18	19 Apr 2018	May 2018				
Month 13* / Annual refresh+	2017-18	21 May 2017 ^Δ	Month 13 – Jun 2018, Annual refresh – TBC				
Month 1*	2018-19	TBC	Jul 2018				
Month 2*	2018-19	TBC	Jul 2018	Sep 2018	01 May 2014	30 Apr 2018	01 Apr 2015 - 30 Apr 2018
Month 3*	2018-19	TBC	Aug 2018				
Month 4*	2018-19	TBC	Sep 2018				
Month 5*	2018-19	TBC	Oct 2018	Dec 2018	01 Aug 2014	31 Jul 2018	01 Jul 2015 - 31 Jul 2018
* Provisional data + Fixed annual data Δ Final submission date for the financial year TBC: To be confirmed							

¹ M6 provisional 2017-18 data were used rather than the M5 extract (as originally planned) due to a delay in the availability of the HES-ONS linked dataset used for this SHMI publication.

Description of fields

- HES extract – HES extract month containing data submitted for the financial year so far, i.e. the month 6 extract will contain data submitted from April to September.
- Financial year – financial year the HES extract is taken from.
- SUS / HES submission deadline – final date for submitting data to SUS to be included in the HES extract.
- HES publication month – month the HES extract is published following processing.
- SHMI publication month – month the SHMI is published.
- Four year period used for creating provider spells – this is the data period used in the construction of the provider spells for SHMI. Provider spells are created over a four year period to ensure information is captured for the beginning of spells that start before but end during the activity period and are eligible for inclusion in the calculation of the SHMI.
- Activity used for SHMI publication – provider spells ending in this period are included in the construction and calculation process. Spells are included for an additional month following the end of the reporting period so that deaths occurring within 30 days of discharge are captured. For details of how the data are used in the construction of the SHMI please refer to the SHMI methodology specification document, which is available to download from <http://digital.nhs.uk/SHMI>.

Where data quality issues arise with the APC CDS used to generate the indicator, Table 2 should be used to establish when corrected data needs to be resubmitted to SUS and when this will be reflected in the SHMI publication.

Table 2: Timetable for correcting incorrect data identified in the SHMI publication (all dates are provisional)

HES extract	Financial year	SUS / HES submission deadline	HES publication month	SHMI publication month	Provisional data available for resubmission	Submission dates available before next publication	SHMI publication month resubmission seen
Month 2*	2017-18	19 Jun 2017	Aug 2017	Sep 2017	01 Apr 17 to 31 May 17	18 Oct 2017 17 Nov 2017	Mar 2018
Month 3*	2017-18	19 Jul 2017	Aug 2017				
Month 4*	2017-18	17 Aug 2017	Sep 2017				
Month 5*	2017-18	19 Sep 2017	Oct 2017				
Month 6*	2017-18	18 Oct 2017	Nov 2017	Dec 2017 ²	01 Apr 17 to 31 Aug 17	18 Jan 2018 19 Feb 2018	Jun 2018
Month 7*	2017-18	17 Nov 2017	Dec 2017				
Month 8*	2017-18	18 Dec 2017	Jan 2018	Mar 2018	01 Apr 17 to 30 Nov 17	19 Apr 2018 21 May 2018 ^Δ	Sep 2018
Month 9*	2017-18	18 Jan 2018	Feb 2018				
Month 10*	2017-18	19 Feb 2018	Mar 2018				
Month 11*	2017-18	19 Mar 2018	Apr 2018	Jun 2018	01 Apr 17 to 28 Feb 18	Data can be resubmitted to SUS but will not be reflected in HES extracts used for future indicator generation.	
Month 12*	2017-18	19 Apr 2018	May 2018				
Month 13* / Annual refresh+	2017-18	21 May 2017 ^Δ	Month 13 – Jun 2018, Annual refresh – TBC				
Month 1*	2018-19	TBC	Jul 2018				
Month 2*	2018-19	TBC	Jul 2018	Sep 2018	01 Apr 18 to 31 May 18	TBC	Mar 2019
Month 3*	2018-19	TBC	Aug 2018				
Month 4*	2018-19	TBC	Sep 2018				
Month 5*	2018-19	TBC	Oct 2018	Dec 2018	01 Apr 18 to 31 Aug 18	TBC	Jun 2019
* Provisional data		+ Fixed annual data	^Δ Final submission date for the financial year		TBC: To be confirmed		

² M6 provisional 2017-18 data were used rather than the M5 extract (as originally planned) due to a delay in the availability of the HES-ONS linked dataset used for this SHMI publication.

Description of fields

- HES extract – HES extract month containing data submitted for the financial year so far, i.e. the month 6 extract will contain data submitted from April to September.
- Financial year – financial year the HES extract is taken from.
- SUS / HES submission deadline – final date for submitting data to SUS to be included in the HES extract.
- HES publication month – month the HES extract is published following processing.
- SHMI publication month – month the SHMI is published.
- Provisional data available for resubmission – provisional data that can be amended to improve data quality.
- Submission dates available before next publication – the submission dates available between SHMI publications.
- SHMI publication month resubmission seen – the SHMI publication date that uses the HES extract containing resubmitted data.

Timetable links

For further information about how the data within the activity period for the SHMI publication are used, please see the SHMI methodology specification document, which is available to download from <http://digital.nhs.uk/SHMI>.

The deadlines for monthly data submission and annual refresh submission are made available at <http://digital.nhs.uk/sus/pbrguidance>.

The SHMI publication timetable can be downloaded from <http://digital.nhs.uk/SHMI>.

Data quality issues

If your organisation feels that there is a data quality issue with the APC CDS used to generate the indicator, there are opportunities to resubmit data until the final submission date of the year. In order to make a correction and resubmission to SUS, please consult both the information managers responsible for your local source of SUS / HES data (this may be your Patient Admin System (PAS)) and the SUS submitters for your organisation. The resubmission will need to be within the data timetable (Table 2 above) to improve the APC CDS that is used to generate the SHMI.

As mentioned earlier, while data quality issues found in a data year cannot be corrected in HES once the annual refresh deadline has passed, data can continue to be amended in SUS. Data submitters are encouraged to correct errors found locally and resubmit to SUS, as SUS is the source of data for a number of reports and extracts.

Please see the SUS guidance on the NHS Digital website for further information on submitting data to SUS at <http://digital.nhs.uk/susguidance>.

Data quality dashboards / Key performance indicators (KPIs)

Organisations should use the data quality dashboards and KPIs to check the quality of their data submitted to SUS. Further information about these can be found at <http://digital.nhs.uk/susguidance>.

HES data quality notes

Data quality notes are updated with each release of HES data. This documentation contains details of known data quality issues and can be found at <http://digital.nhs.uk/article/1825/The-processing-cycle-and-HES-data-quality>.

While provider issues found in a final HES publication cannot be amended, they can be recorded and highlighted in the HES data quality notes. Please contact enquiries@nhsdigital.nhs.uk for the attention of the HES Data Quality Team for further information.