Seven-day Services
England, April 2018 – March 2019: Background quality report

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# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Relevance</td>
<td>3</td>
</tr>
<tr>
<td><strong>Accuracy and reliability</strong></td>
<td>5</td>
</tr>
<tr>
<td>Data sources</td>
<td>5</td>
</tr>
<tr>
<td>Quality assurance of HES data</td>
<td>6</td>
</tr>
<tr>
<td>Quality assurance of death registrations data</td>
<td>8</td>
</tr>
<tr>
<td>Accuracy and reliability of the data linkage</td>
<td>8</td>
</tr>
<tr>
<td>Data quality issues affecting this publication</td>
<td>9</td>
</tr>
<tr>
<td>Statistical models</td>
<td>10</td>
</tr>
<tr>
<td><strong>Timeliness and punctuality</strong></td>
<td>11</td>
</tr>
<tr>
<td><strong>Accessibility and clarity</strong></td>
<td>12</td>
</tr>
<tr>
<td><strong>Coherence and comparability</strong></td>
<td>12</td>
</tr>
<tr>
<td><strong>Trade-offs between output quality components</strong></td>
<td>15</td>
</tr>
<tr>
<td><strong>Assessment of user needs and perceptions</strong></td>
<td>15</td>
</tr>
<tr>
<td><strong>Performance, cost and respondent burden</strong></td>
<td>15</td>
</tr>
<tr>
<td><strong>Confidentiality, transparency and security</strong></td>
<td>16</td>
</tr>
<tr>
<td>Confidentiality</td>
<td>16</td>
</tr>
<tr>
<td>Transparency</td>
<td>16</td>
</tr>
<tr>
<td>Security</td>
<td>16</td>
</tr>
</tbody>
</table>
**Introduction**

The Seven-day Services indicators provide information on how we can effectively measure both improvement and variation in care provision across the week. Indicators on the following topics are included:

- Emergency readmissions within seven days of discharge from hospital by day of discharge
- Mortality within 30 days of admission by week-part\(^1\) of admission to hospital
- Length of stay following an emergency admission to hospital by day of admission

This document aims to provide users with an evidence based assessment of the quality of the publication outputs. It reports against the nine European Statistical System (ESS) quality dimensions and principles\(^2\).

**Relevance**

Relevance is the degree to which the statistical product meets user needs in both coverage and content.

Prior to October 2018, the Seven-day Services indicators were published as experimental official statistics. Due to the inherent complexities of the methodology and the range of academic opinion on the construction of the indicators, the resource required to refine the statistics through a Technical Advisory Group process would be prohibitive, and the achievement of a robust outcome would be uncertain. Also, these indicators have been accessed less frequently than other comparable statistics.

Therefore, these indicators are now being produced as management information for local use by NHS trusts rather than as experimental official statistics. Management information describes aggregate information collated and used in the normal course of business to inform operational delivery, policy development or the management of organisational performance. This may not be quality assured to the same extent as other official statistics.

Indicator values are published at the level of individual NHS trusts. Activity for providers other than NHS trusts (e.g. independent sector providers) is considered to be outside the scope of this publication, and so these data have been excluded from the analysis.

Trusts are excluded from the mortality indicator if the number of deaths in any of the three week-parts over the reporting period is less than 100, as the indicator would be unreliable in such cases. Similarly, trusts are excluded from the emergency readmissions indicator if the number of emergency readmissions within seven days of discharge for any day of discharge is less than 100 over the reporting period, as the indicator would be unreliable in such cases.

\(^1\) For this indicator, the week is divided into the following three week-parts: midweek (Tuesday, Wednesday and Thursday), weekend (Saturday and Sunday), and transition (Monday and Friday).

\(^2\) The original quality dimensions are: relevance, accuracy and reliability, timeliness and punctuality, accessibility and clarity, and coherence and comparability; these are set out in Eurostat Statistical Law. However more recent quality guidance from Eurostat includes some additional quality principles on: output quality trade-offs, user needs and perceptions, performance cost and respondent burden, and confidentiality, transparency and security.
In light of concerns around whether the statistical models adequately address the differences in case-mix for patients treated in specialist trusts, community trusts and mental health trusts compared to non-specialist acute trusts, only non-specialist acute trusts are included in the mortality and emergency readmissions indicators.

Both emergency and non-emergency admissions are included in the mortality indicator. Contextual information including only emergency admissions is also presented in the data files and interactive data visualisation which accompany this publication. Discharges with both an emergency and non-emergency admission method are included in the emergency readmissions indicator. Contextual information including only discharges where the patient was admitted in an emergency is also presented in the data files and interactive data visualisation which accompany this publication. The length of stay indicator includes emergency admissions only.

The diagnosis groupings used in the calculation of the emergency readmissions indicator are the same as those used in the calculation of the mortality indicator. However, this grouping was designed specifically for use with mortality indicators. Similarly, the methodology used to adjust for comorbidities in the emergency readmissions indicator was originally designed for use in mortality indicators.

In the calculation of the mortality indicator, a death is assigned to the spell if the patient died within 30 days of the admission date. This means that it is possible for one death to be included multiple times in the indicator if there are multiple admissions for the same patient in this time period. For example, if a patient is admitted to trust A on 1 January, and then admitted to trust B on 20 January and dies on 23 January, a death is assigned to both provider spells.

In the calculation of the emergency readmissions indicator, emergency readmissions are attributed to the trust from which the patient was last discharged. For example, if a patient is discharged from trust A on 1 January, and then admitted to trust B as an emergency on 3 January and discharged on 4 January, the emergency readmission at trust B is attributed to trust A. If the same patient was subsequently admitted to trust A again as an emergency on 6 January, the emergency readmission at trust A would be attributed to trust B.

Adjustments for various patient characteristics are included in the methodology used to calculate the mortality and emergency readmissions indicators. However, there may be differences in the characteristics of patients admitted or discharged at the weekend compared to midweek that it is not possible to adjust for. For example, no adjustments have been made for patients who are recorded as receiving palliative care. This is because there is considerable variation between trusts in the coding of palliative care. Also, it is difficult to fully adjust for the severity of the condition of the patient, because this information is not recorded in the HES dataset upon which the indicator is based. This means that it is not possible to determine whether any variation in outcomes across the week is due to differences in patient case-mix which are not included in the methodology or due to other factors such as provision of services both in and outside of the hospital (including social care).

No case-mix adjustments have been applied to the length of stay indicator. Therefore, comparisons between results for different trusts or between trusts and the national level results are not appropriate. It is not possible to determine whether variations in length of stay for admissions on different days of the week are due to differences in quality of care and/or service provision, or due to differences in the characteristics of the patients admitted.
Accuracy and reliability

Accuracy and reliability relates to the proximity between an estimate and the unknown true value.

Data sources

The indicators in this publication are calculated using data from two administrative sources:

- NHS Digital Hospital Episode Statistics (HES) data (used for all of the Seven-day Services indicators)
- Office for National Statistics (ONS) death registrations data (used only for the mortality indicator)

Administrative data are data collected primarily for administrative reasons (e.g. for registration, record-keeping and other operational purposes) where their use in the calculation of statistical outputs is secondary.

HES is a data warehouse containing details of all NHS funded admissions, outpatient appointments and A&E attendances at English hospitals. Healthcare providers collect administrative and clinical information locally to support the care of the patient and store this in their Patient Administration System (PAS). These data are submitted to the Secondary Uses Service (SUS) to enable providers to be paid for the care they deliver. The data are then processed by NHS Digital to create HES data. HES extracts are taken from the SUS data warehouse on a monthly basis, at pre-arranged dates during the year. HES represents a series of fixed positions aligned to extracted data, while SUS is continuously updated whenever data are submitted.

HES is a unique data source, whose strength lies in the richness of detail at patient level. HES data includes specific information about the patient (such as age and sex), clinical information (such as diagnoses), administrative information (such as dates and methods of admission and discharge) and geographical information (such as where the patient was treated and the area in which they live).

Link to further information on HES data: [http://digital.nhs.uk/hes](http://digital.nhs.uk/hes)

Deaths in England must be registered with the local registrar within five days of the date of death (there are a number of exceptions e.g. if the death is referred to a coroner). Details of death registrations are sent electronically to ONS from register offices to create the death registrations dataset. The death registrations dataset includes information on the date of death, date of registration of the death, place and cause of death. However, only the date of death is used in the calculation of the Seven-day Services mortality indicator.

Link to further information on ONS death registrations data: [https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/methodologies/mortalitystatisticsinenglandandwalessqm](https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/methodologies/mortalitystatisticsinenglandandwalessqm)

HES data are linked to the ONS death registrations data to enable deaths which occur outside of hospital to be captured. This linked dataset is used to calculate the Seven-day Services mortality indicator. The data flows described above are illustrated in Figure 1.
Quality assurance of HES data

The accuracy of HES data is the responsibility of the providers who submit the data to SUS. These data are required to be accurate to enable providers to be correctly paid for the care they deliver. However, following data submission several levels of quality assurance are routinely carried out prior to the data being used in the calculation of the indicators presented in this publication.

The data submitted to SUS must adhere to the Commissioning Data Sets (CDS) data standard and providers submit data to SUS using an xml schema, meaning that the data must comply with certain validation rules before they can be submitted. NHS Digital leads on schema changes and consults with data submitters about proposed changes. Further data quality checks are then carried out, and each month NHS Digital makes data quality dashboards available to providers to show the completeness and validity of their data submissions to SUS. This helps to highlight any issues so that corrections can be made to the data as part of the next submission.

Link to further information on submitting data to SUS and SUS data quality:  
http://digital.nhs.uk/sus/  

Information on the patient's primary diagnosis (the condition that they are in hospital for) and any secondary diagnoses are coded using the 10th revision of the World Health Organisation's International Classification of Diseases (ICD-10), which is an internationally recognised classification.

Link to further information on ICD-10 codes:  
http://apps.who.int/classifications/apps/icd/icd10online/
An external auditor, acting on behalf of the Department of Health and Social Care, audits the data submitted to SUS to ensure that organisations are being paid correctly for the care they deliver. Although the most recent audit shows that there is variation between trusts in the accuracy of clinical coding, the use of diagnosis groupings in the calculation of the mortality and readmissions indicators means that they are more robust to minor errors in clinical coding and the accuracy of clinical coding in the HES data is therefore considered sufficient for the purpose of calculating these indicators.

Link to the results of the latest external audit report:

HES extracts are taken from the SUS data warehouse on a monthly basis, at pre-arranged dates during the year. Further validation and data cleaning is then carried out before additional data items are derived and the data are made available to users.

The HES Data Quality team discuss data quality issues with the information leads in organisations who have submitted the data, and data quality notes are updated with each HES publication. These specify known data quality issues which need to be considered when analysing the data e.g. shortfalls in the data for particular organisations and problems with particular data fields. Details of specific data quality issues affecting this publication are listed in the ‘Data quality issues affecting this publication’ section of this report.

Link to HES data quality notes and data cleaning rules:

Provisional HES data are published on a monthly basis approximately two months after the end of the reporting period. Finalised HES data are published on an annual basis around six months after the end of the reporting period. A combination of finalised and provisional HES data is used in the preparation of this publication to ensure that the indicators are as timely as possible. Provisional HES extracts are taken from the SUS data warehouse on a monthly basis, at pre-arranged dates during the year. Each extract is cumulative and contains data submitted by trusts for the financial year so far, e.g. the month 1 extract will contain only data submitted with an activity date in April, but the month 5 extract will contain data with an activity date from April to August.

Provisional data may be incomplete or contain errors which have not yet been corrected and counts produced from provisional data are likely to be lower than those generated for the same period using the finalised dataset. This shortfall is likely to be most pronounced in the latest month of the provisional dataset, and for this reason activity for the latest month is not used in the preparation of this publication e.g. when using the month 5 extract, only activity in the period April to July is used.

Further analysis on the scale of the differences between the provisional and finalised HES data can be found in the data quality section of the final year publication. Similarly, information on data completeness compared to previous provisional extracts is provided as part of the provisional monthly publications.

Link to finalised and provisional HES publications:
https://digital.nhs.uk/hes
Quality assurance of death registrations data

Routine data validation checks are carried out by the registrar when a death is registered. Further checks (e.g. to identify duplicate records and to check for consistency between dates of birth, death and registration) are carried out when the data are received by ONS and suspect records are referred back to register offices. Full details of the quality assurance process are available on the ONS website.

Link to the Mortality Statistics Quality and Methodology Information: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/methodologies/mortalitystatisticsinenglandandwalesqmi

Provisional death registrations statistics are published on a monthly basis by ONS approximately four weeks after the end of the reporting period. Finalised death registrations data are published on an annual basis around six months after the end of the reporting period. Provisional ONS death registrations data are sent to NHS Digital on a weekly basis so that up-to-date information is available for linkage with the HES dataset. The provisional data are refreshed with the annual death registrations dataset when this becomes available.

The provisional data have not been subject to the full quality assurance process and so may not contain all deaths which were registered or which occurred during the reporting period. In England, deaths must be registered within five days of the date of death. However, there are a number of situations when the registration of a death will be delayed e.g. if the death is referred to a coroner for investigation. Comparing the monthly and annual death registrations data for the calendar year 2009 showed a difference of less than 1 per cent in the counts of deaths registered between the two datasets, suggesting that the coverage and quality of the provisional monthly data are high.


Accuracy and reliability of the data linkage

HES data are linked with ONS death registrations data to enable those deaths which occurred outside of hospital to be captured. This is an established data linkage which is routinely carried out by NHS Digital. Matching is performed by comparing patient identifiable fields, such as date of birth, sex, NHS number and/or postcode, which are present in both the HES and death registrations datasets.

Some deaths in the ONS death registrations dataset cannot be matched to records in HES e.g. because the individual has not attended hospital. Although all deaths in England must be registered, some deaths in the HES dataset cannot be linked to deaths in the death registrations dataset e.g. due to a delay in the registration of the death (because of an ongoing coroner’s inquest) or because of missing or inaccurately recorded patient identifiers meaning that the records could not be linked. Based on analysis using death registrations data from 2011, approximately 2 per cent of deaths recorded in HES cannot be linked to a record in the ONS death registrations dataset. These records are included in the final HES-ONS linked dataset along with HES records which have been successfully linked to a record in the death registrations dataset.
Further details of this analysis, along with further information on the data linkage methodology are available in the HES-ONS linked mortality data guide: https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/linked-hes-ons-mortality-data

On rare occasions patients may appear to have activity in HES after the date of death in the HES-ONS linked dataset. This is called ‘subsequent activity’ and is a data quality issue related to either a patient being incorrectly coded in the HES dataset (e.g. an outpatient appointment recorded as attended after the date of death) or incorrectly submitted patient identifiers resulting in incorrect linkage between HES and ONS death registrations data. In the calculation of the mortality indicator, records with subsequent activity in HES are excluded from the HES-ONS mortality data prior to linkage with the HES provider spells dataset.

**Data quality issues affecting this publication**

This publication uses provisional data for the financial years 2019-20 (month 4 extract) and 2018-19 (month 13 extract) and finalised HES data for earlier financial years.

A large proportion of records for East Sussex Healthcare NHS Trust (trust code RXC) have missing information for the condition the patient was in hospital for and other conditions the patient suffers from, and this will have affected the calculation of the mortality and emergency readmissions indicators. Values for this trust should therefore be interpreted with caution.

There are some trusts with shortfalls in the HES data and/or problems with particular data fields for some reporting periods. The indicator values for these trusts are based on incomplete data and should therefore be interpreted with caution. Further details are available in the HES data quality notes for admitted patient care.

There is a shortfall in the number of records in the reporting period for the following trusts: Central and North West London NHS Foundation Trust (trust code RV3), Devon Partnership NHS Trust (trust code RWV), Lancashire Care NHS Foundation Trust (trust code RW5), Lincolnshire Partnership NHS Foundation Trust (trust code RP7) and Tameside and Glossop Integrated Care NHS Foundation Trust (trust code RMP). Results for these trusts are based on incomplete data and should therefore be interpreted with caution.

A very small number of discharge episodes for patients who have died in hospital have been submitted with different values in the date of discharge (DISDATE) and episode end date (EPIEND) date fields. This discrepancy has resulted in these episodes being reclassified as non-discharge episodes by the HES data cleaning rules, meaning that these episodes have not been included in the dataset used in the calculation of these indicators. Further details are provided in the HES data quality notes. The following trusts are affected by this issue: Barking, Havering and Redbridge University Hospitals NHS Trust (trust code RF4), East Suffolk and North Essex NHS Foundation Trust (trust code RDE), Lancashire Teaching Hospitals NHS Foundation Trust (trust code RXN), Maidstone and Tunbridge Wells NHS Trust (trust code RWF) and Surrey and Sussex Healthcare NHS Trust (trust code RTP). As the number of affected records is very small, this is likely to have a small impact on the indicator values for these trusts.

SUS released an expanded list of legally restricted diagnosis codes in December 2017 before reverting back to the original list in May 2018. This led to an increase in the volume of anonymised patient identifiers in the 2017-18 HES data, which will have affected the linkage
to the ONS death registrations data and the linkage carried out to identify emergency readmissions for the same patient. Around 1.1 per cent of records in the 2017-18 HES data are affected and so the impact on mortality and emergency readmissions indicators is likely to be small. More information, including a list of affected diagnosis codes, is available at https://digital.nhs.uk/services/secondary-uses-service-sus/secondary-uses-service-sus-whats-new#april-2018.

When death records are received from ONS, any that cannot be automatically traced to an NHS number are sent to the National Back Office (NBO) for manual tracing of the NHS number. As a result of activity to transition data controllership of the death registrations data in NHS Digital and make efficiencies to data processing, there is currently a backlog of records with the NBO meaning that some deaths do not yet have a traced NHS number, potentially affecting the linkage to HES data. It is still possible for a death registration without an NHS number to be linked to HES data, but the quality of the match will be lower. For the reporting period covered by this publication around 1.9 per cent of death records are affected and so the impact on the mortality indicator will be small.


There are variations between trusts in the recording of zero length of stay emergency admissions. For example, some trusts may not submit this activity as part of the Admitted Patient Care (APC) dataset, and so these records will not appear in the HES APC dataset. This has the potential to impact on the calculation of the Seven-day Services indicators. It is not known which trusts do not include all zero length of stay emergency admissions in their APC data submissions.

Although the HES APC dataset includes the dates of admission and discharge, it does not include information on the time of admission and discharge. Therefore, the calculations on length of stay are based on admission and discharge dates and do not provide enough granularity to measure differences in short stays. For example, because these calculations only rely on dates, a zero day length of stay can be anywhere between 0 and 24 hours, a one day length of stay can be anywhere strictly between 0 and 48 hours, a two day length of stay can be anywhere strictly between 24 and 72 hours, etc.

**Statistical models**

The mortality and emergency readmissions indicators are produced using logistic regression models which estimate the risk of mortality or an emergency readmission based on the case-mix adjustment variables.

Although case-mix adjustments have been applied to the mortality and emergency readmissions indicators, it is difficult to fully adjust for all factors e.g. the severity of the patient’s condition, as this information is not recorded in the HES dataset upon which this publication is based. An adjustment has been included for ethnicity, although the data quality of the ethnicity field in the HES dataset is known to be of relatively poor data quality\(^3\).

In light of concerns around whether the statistical models adequately address the differences in case-mix for patients treated in specialist trusts, community trusts and mental health trusts compared to non-specialist acute trusts, only non-specialist acute trusts are included in the mortality and emergency readmissions indicators.

The success of the case-mix adjustment in predicting the outcome is evaluated using the c statistic for each logistic regression model. For example, for the mortality model, the c statistic is the probability of estimating a lower risk of death for a randomly selected patient who survived compared to a randomly selected patient who died and can take values in the range 0.5-1.0. Models are typically considered to have a reasonable predictive ability if the c statistic is 0.7 or higher.

Table 1 provides further information on the c statistics for each of the statistical models used in this publication.

**Table 1: c statistics for logistic regression models for the emergency readmissions and mortality indicators, April 2018 – March 2019**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>c statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency readmissions – all discharges</td>
<td>0.688</td>
</tr>
<tr>
<td>Emergency readmissions – discharges with an emergency admission method only</td>
<td>0.582</td>
</tr>
<tr>
<td>Mortality – all admissions</td>
<td>0.916</td>
</tr>
<tr>
<td>Mortality – emergency admissions only</td>
<td>0.883</td>
</tr>
</tbody>
</table>

No case-mix adjustments have been applied to the length of stay indicator. Therefore, comparisons between results for different trusts or between trusts and the national level results are not appropriate. It is not possible to determine whether variations in length of stay for admissions on different days of the week are due to differences in quality of care and/or service provision, or due to differences in the characteristics of the patients admitted.

**Timeliness and punctuality**

Timeliness refers to the time gap between the publication and the reporting period. Punctuality refers to the gap between planned and actual publication dates.

These indicators are published biannually approximately six months after the end of the reporting period. This time lag is due to the timescales for the availability of the HES data upon which the indicators are based. In particular, the calculation of both the mortality and emergency readmissions indicators requires HES data for the next month after the end of the reporting period to allow all deaths within 30 days of admission and all emergency readmissions within seven days of discharge to be captured.

Planned publication dates are announced on NHS Digital’s publication calendar. This publication was released on the pre-announced planned publication date. The next edition of this publication is due to be released in April 2020.

*Link to NHS Digital’s publication calendar*

https://digital.nhs.uk/pubs/calendar
**Accessibility and clarity**

Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.

The Seven-day Services indicators are published on NHS Digital’s corporate website, along with guidance on how to appropriately interpret them. Files containing data at hospital trust level are published in both Excel and csv format. An interactive data visualisation of the data is also available.

*Link to this publication on NHS Digital’s website:*
https://digital.nhs.uk/data-and-information/publications/clinical-indicators/seven-day-services

Requests for access to the record level data which have been used to calculate the indicator values presented in this publication should be directed to NHS Digital's Data Access Request Service (DARS).

*Link to information on the Data Access Request Service:*
http://digital.nhs.uk/dars

**Coherence and comparability**

Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar. Comparability is the degree to which data can be compared over time and domain.

No case-mix adjustments have been applied to the length of stay indicator, which limits the usefulness of comparisons of trust level values to the national average values. Similarly, it is not possible to determine from the analysis presented here whether variations in length of stay for admissions on different days of the week are due to differences in quality of care and/or service provision, or due to differences in the case-mix of patients.

These indicators are published to reflect organisational structures at the time of publication processing. Therefore, combined data are published for trusts that have merged.

South Tyneside NHS Foundation Trust (trust code RE9) merged with City Hospitals Sunderland NHS Foundation Trust (trust code RLN) on 1st April 2019. The new trust is called South Tyneside and Sunderland NHS Foundation Trust (trust code R0B). Results are presented to reflect the updated organisational structure from this publication onwards.

The following mergers took place on 1st October 2019: Cumbria Partnership NHS Foundation Trust (trust code RNN) merged with North Cumbria University Hospitals NHS Trust (trust code RNL). The new trust is called North Cumbria Integrated Care NHS Foundation Trust (trust code RNN). Aintree University Hospital NHS Foundation Trust (trust code REM) merged with Royal Liverpool and Broadgreen University Hospitals NHS Trust (trust code RQ6). The new trust is called Liverpool University Hospitals NHS Foundation Trust (trust code REM). 2Gether NHS Foundation Trust (trust code RTQ) merged with Gloucestershire Care Services NHS Trust (trust code RJ1). The new trust is called Gloucestershire Health and Care NHS Foundation Trust (trust code RTQ). However, as we received notification of these changes after data processing for this publication began,
separate indicator values have been produced for this publication. The next publication in this series will reflect the updated organisation structures.

**Further information on previous methodological changes:**
http://digital.nhs.uk/pubs/methchanges

SUS+ has replaced SUS with a more efficient and flexible system. This has resulted in some changes to the way that sensitive records are dealt with, meaning that there may be an increase in the number of records without identifiers such as NHS number and date of birth. This will have a negligible impact on the Seven-day Services publication.

**Link to further information on SUS+:**
http://digital.nhs.uk/sus/replacement

Editions of this publication prior to the October 2016 release did not include data on mortality as the methodology for this indicator was still under development. Also, the methodology for the emergency readmissions indicator did not include any risk adjustment to account for variations in the case-mix of patients, meaning that the results are not comparable with later publications.

**Link to previous editions of this publication:**
https://digital.nhs.uk/data-and-information/publications/clinical-indicators/seven-day-services

Progress against NHS England’s clinical standards for Seven-day Services has previously been measured by a biannual self-assessment survey of acute hospital trusts. However, this survey placed a significant administrative burden on trusts. To reduce this burden and to allow trust boards to provide direct oversight of Seven-day Services progress, this is now measured through a board assurance framework, consisting of a standard template to assess progress in delivering Seven-day Services.

**Links to further information on the Seven-day Services clinical standards:**
https://www.england.nhs.uk/seven-day-hospital-services/
https://improvement.nhs.uk/resources/seven-day-services/

There are several tools available to organisations in England to monitor mortality associated with hospitalisation. For example, the Summary Hospital-level Mortality Indicator (SHMI) is the ratio between the actual number of patients who die following hospitalisation at the trust and the number that would be expected to die on the basis of average England figures, given the characteristics of the patients treated there.

The SHMI can be used to compare a trust’s mortality outcomes to the national baseline, whereas the purpose of the mortality indicator presented in this publication is to compare outcomes for patients admitted to a particular trust at the weekend with outcomes for patients admitted midweek at the same trust. The comparison is strictly within the same trust and is independent of the overall mortality rate for that trust. Similarly, the readmissions indicator presented here compares outcomes for patients discharged on a particular day of the week with outcomes for patients discharged on a Wednesday. The comparison is strictly within the same trust and is independent of the overall readmission rate for that trust.

Due to the distinct purposes of the two indicators, the methodologies used to calculate them are different. In particular, the adjustments made for various patient characteristics differ between the two indicators.

**Link to further information on the SHMI:**
http://digital.nhs.uk/SHMI
NHS Digital publishes emergency readmissions indicators as part of the NHS Outcomes Framework, the Clinical Commissioning Group Outcomes Indicator Set and the Compendium of Population Health. These indicators, which cover emergency readmissions within 30 days, are presented as indirectly standardised percentages and allow for comparisons between the various geographies and health organisations (e.g. local authorities, clinical commissioning groups, hospital trusts) and the national figure in any given year. These indicators also exclude hospital admissions for certain diagnoses, including cancer and obstetrics.

The Seven-day Services emergency readmissions indicator has been designed to give trusts additional evidence about the care they deliver at different times of the week. The results are presented as odds ratios and the comparison is strictly within the same hospital trust and is independent of the overall emergency readmission rate for that trust. The shorter readmission period of seven days is used as, in some cases, a readmission within a short period following discharge from hospital would be considered indicative of the patient being discharged before they were fit or a lack of availability of rehabilitation and support services when a patient was discharged home following hospital treatment.

Other indicators on similar topics can be found on our Clinical Indicators homepage.


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4 The decision to look at readmissions within seven days of discharge is based on evidence in the following reports:
http://www.rand.org/content/dam/rand/pubs/technical_reports/2012/RAND_TR1198.pdf and
http://www.hsj.co.uk/Journals/2/Files/2011/6/15/Sg2_Service%20Kit_Reducing%2030-Day%20Readmissions.pdf.
Trade-offs between output quality components

Trade-offs are the extent to which different aspects of quality are balanced against each other.

Prior to October 2018, the Seven-day Services indicators were published as experimental official statistics. Due to the inherent complexities of the methodology and the range of academic opinion on the construction of the indicators, the resource required to refine the statistics through a Technical Advisory Group process would be prohibitive, and the achievement of a robust outcome would be uncertain. Also, these indicators have been accessed less frequently than other comparable statistics.

Therefore, these indicators are now being produced as management information for local use by NHS trusts rather than as experimental official statistics. Management information describes aggregate information collated and used in the normal course of business to inform operational delivery, policy development or the management of organisational performance. This may not be quality assured to the same extent as other official statistics.

Assessment of user needs and perceptions

This section describes the processes for finding out about users and uses and their views on this publication.

Feedback on this publication can be provided using any of the contact details below:

- Email: enquiries@nhsdigital.nhs.uk
- Telephone: 0300 303 5678
- Twitter: @nhsdigital

Any user feedback will be taken into consideration as part of the future development of this publication.

Performance, cost and respondent burden

This section describes the effectiveness, efficiency and economy of the statistical output.

The source of this data is through administrative systems in secondary care and administrative data on death registrations; there is no respondent burden.
Confidentiality, transparency and security

This section describes the procedures and policies used to ensure sound confidentiality, security and transparent practices.

Confidentiality

This publication is subject to a standard NHS Digital risk assessment prior to issue. Disclosure control has been implemented where necessary in accordance with the protocols associated with the underlying data sources. Further details of the risk assessment are available in NHS Digital’s Disclosure Control Procedure. Where disclosure control is deemed necessary, the methodology used is described in the corresponding indicator methodology specification document.

Link to NHS Digital’s Disclosure Control Procedure

Link to guidance on how NHS Digital looks after information:

Link to the indicator methodology specifications:
https://digital.nhs.uk/data-and-information/publications/clinical-indicators/seven-day-services

Transparency

Detailed methodology specifications are provided as part of this publication, and users are invited to provide feedback and comments on these to inform the future development of the indicators.

Link to the indicator methodology specifications:
https://digital.nhs.uk/data-and-information/publications/clinical-indicators/seven-day-services

Security

Even though these indicators are published as management information rather than official statistics, the Code of Practice for Statistics is followed as closely as possible, including sections regarding the security and release of information prior to publication.

Link to the Code of Practice for Statistics:
https://www.statisticsauthority.gov.uk/code-of-practice/