A&E Clinical Quality Indicators for England

SUMMARY OF THE QUALITY OF PUBLISHED STATISTICS

This document sets out a summary of the quality of the published statistics on A&E Clinical Quality Indicators for England, and caveats associated with their publication. These statistics are sourced from Provisional A&E Hospital Episode Statistics derived from the A&E Commissioning Data Set (CDS v6 Type 010). The statistics are produced by the Urgent and Emergency Care Team in the Department of Health and published by the NHS Information Centre for Health and Social Care.

Summary of caveats associated with this publication
These statistics are being published as experimental statistics. There are some caveats associated with the ways in which they have been derived, and these are listed below

- The A&E current CDS definitions do not match the definitions for the A&E clinical quality indicators. Work is ongoing with the Information Standards Board (ISB) to align these two definitions.
- The methodologies that have been developed to generate these indicators have not been assured by the Indicator Pipeline Assurance Process (IAPP). These methods are in the process of being assured by the IAPP, and it should be noted that they may subsequently change.
- The clinical codes used to derive the ambulatory care indicator were sourced from the NHS Institute for Innovation and Improvement's Directory of Ambulatory Emergency Care for Adults, with additional clarification from the National Clinical Director for Emergency Care (e.g. concerning safeguarding of patients with orbital cellulitis). These clinical codes have not been through the IC’s standard assurance channels.
- It should be noted that the three waiting time indicators apply to different groups of patients, and for this reason they are not directly comparable with each other. The Time to Initial Assessment is only reported for patients brought to A&E by ambulance; the Time to Treatment is, by definition, not reported for patients who did not have treatment (e.g. patients who left the A&E department before treatment or refusing treatment); and the Total Time in A&E is reported for all patients (with further information on the Total Time in A&E reported separately for admitted, and non-admitted patients).
- These indicators apply to all types of A&E department, including major 24-hour consultant-led departments, monospeciality departments (e.g. dental A&Es) and lower acuity units such as walk-in centres and minor injury units. These indicators do not adjust for patient casemix or department type, which will inhibit comparability across providers.
- There is an assumption in the derivation of these indicators that no patient ever waits in A&E for longer than 24 hours.
It is anticipated that the IAPP will further highlight and review these and other issues.

Relevance
There are approximately 20 million attendances at A&E departments in England each year\(^1\). The delivery of high quality, timely and effective care in A&E departments is a priority for the Department and the Operating Framework for the NHS in England stated:

“To reflect the move to a more outcomes focussed approach, the Revision to the NHS Operating Framework for 2010/11 ended performance management of 18 weeks waiting times and changed the four hour A&E standard. As we move to a transparency and outcomes approach, both of these areas will still be important during 2011/12 but will be approached differently in performance terms…. Working with the College of Emergency Medicine and the Royal College of Nursing, the National Clinical Director for Urgent and Emergency Care has developed a set of indicators to look at the performance of A&E departments in the round. For 2011/12, the expectation is that there is an improvement in performance across this set of indicators.”

The new clinical quality indicators have been introduced to provide a balanced and comprehensive view of the quality of care delivered in A&E, and remove the isolated focus on faster care. The indicators aim to stimulate the discussion and debate in health communities that are needed to deliver continuous improvement.

Information on the indicators is centrally collected via the A&E Commissioning Data Set (CDS), from which A&E Hospital Episode Statistics (HES) are derived. The A&E commissioning data set has been mandated for some years, but it is acknowledged that there are departments that do not yet submit A&E CDS data; this issue particularly affects Type III (Minor Injury Unit, Walk in Centre) departments. The coverage of A&E HES data will be monitored on a monthly basis against A&E attendance volume data collected by the Department in its Situation Report (SitReps) collections.

Published information on these indicators has been provided from the existing A&E CDS (CDS v6 Type 010). It is acknowledged that the current A&E CDS definitions do not exactly match the definitions for the A&E clinical quality indicators. For example, the duration to departure information in the A&E CDS may include time that is spent by the patient in the department awaiting private transport to home following the conclusion of their A&E care, or time spent in Acute Medical Units rather than time spent in A&E itself; both of these waiting time periods should be excluded from the Total Time in A&E

---

\(^1\) Quarterly Monitoring of A&E statistics 2010/11, Department of Health
indicator. The Department is working with the Information Standards Board to align the A&E CDS and A&E indicator definitions.

These indicators have been developed by the National Clinical Director for Urgent & Emergency Care, working with the College of Emergency Medicine, the Royal College of Nursing, and patient representatives. The NHS Information Centre for Health and Social Care has not applied additional quality assurance to these indicators above that provided by the producing or publishing organisation. Fuller finalised definitions for the indicators will follow, after the A&E indicators have been assessed as part of the NHS Information Centre’s Indicator Pipeline process.

**Accuracy**

As noted above, the Department is working with the Information Standards Board and the NHS IC to ensure that published statistics on the A&E indicators will provide as accurate a picture as possible of the quality of care delivered by A&E services. It is recognised that A&E HES data are published as Experimental Statistics by the NHS Information Centre to reflect the coverage and quality issues with the data.

To assess the quality of the data used to produce the A&E indicators a range of data quality checks are used to flag up areas where data quality could be improved. These checks were drawn up with the help of the South West SHA Performance and Information team.

The data quality checks assess the proportion of attendances with unknown values, and the proportion of attendances where it is likely that default values have been used. These checks include monitoring of the:

**Attendances with unknown values**

- Percentage of attendances with unknown attendance category
- Percentage of attendances with unknown attendance disposal
- Percentage of attendances with unknown duration to initial assessment (for ambulance cases only)
- Percentage of attendances with unknown duration to treatment (excluding patients who leave before treatment, leave refusing treatment, and cases where the attendance disposal is unknown)
- Percentage of attendances with unknown duration to departure

**Possible use of default values**

- Percentage of attendances with an attendance disposal of "Other"
- Percentage of attendances with a duration to initial assessment of 0 minutes (for ambulance cases only)
• Percentage of attendances with a duration to treatment of 0 minutes (excluding patients who leave before treatment, leave refusing treatment, and cases where the attendance disposal is unknown)

• Percentage of attendances with a duration to departure of 0

• Percentage of attendances have an arrival time of exactly midnight (00:00)

• Percentage of attendances have an initial assessment time of exactly midnight (00:00) (for ambulance cases)

• Percentage of attendances have a time of treatment of exactly midnight (00:00) (excluding patients who leave before treatment, leave refusing treatment, and cases where the attendance disposal is unknown)

• Percentage of attendances have a time of departure of exactly midnight (00:00)

To assess the coverage of A&E HES data, the number of attendances in A&E HES (excluding planned follow-ups and attendances where the attendance category was unknown) is compared with the with the number of A&E attendances provided to DH separately as part of the Situation Report (Sitreps) collection.

• This comparison is done at organization level, with further national analysis split by type of A&E department (i.e. identifying that coverage levels are particularly low for walk in centres and minor injury units). It is acknowledged that coverage may vary for different types of department within the same organization even if the total number of attendances in A&E HES is similar to the total number of attendances in SitReps for an organization.

• SitRep data are collected on a weekly basis and are scaled to match the monthly data provided from A&E HES; weekly Sitrep data have been scaled using the simple quotient of "number of days in the calendar month / number of days in SitReps weeks falling within the month" (e.g. 5 weeks of sitrep data were attributed to the month of January 2011 therefore the scaling factor used to apportion SitRep data into a calendar month was 31/35).

• Organizations that report data to SitReps but not to A&E HES are flagged as "no data".

• Some organizations report more data to A&E HES than SitReps. For assessing national coverage levels of A&E HES data, "capped" figures cap the number of A&E HES attendances at the level of SitRep attendances for the organization.
• Some organizations report data to A&E HES but not Sitreps; this is usually due to cases where services have been reconfigured or renamed in one dataset and these changes have not yet been made in the other data set.

**Quality assurance for producing the indicators**

In addition to the quality assurance of the raw data, the following steps are made to monitor the quality of the production of the indicators:

• The indicators are produced by statisticians in the Department who are trained HES users.

• The calculation sheets and validation checks used to produce the indicators have been audited by the two senior statisticians who work on A&E statistics in the Knowledge & Intelligence branch of the Department, and a senior statistician in the Commissioning, Analysis & Intelligence Team.

• The following checks are made of the production process:

  o Basic checks of **equivalence**. For example:
    - Check that organization totals sum to national totals;
    - Check that at organization level: “number of attendances in the Time to Departure indicator” = “attendances in the Time to Departure (admits) measure + Time to Departure (non-admits) measure + attendances with an unknown disposal category”
    - Check that at organization level: “number of attendances in the Time to Treatment indicators” = “total number of first and unplanned follow-up attendances” – “sum of: attendances with an attendance disposal category of Left before treatment, Left refusing treatment, Unknown”.

  o Basic checks of **process**.
    - For example, the method of calculation of the median, 95th percentile and longest wait for the timeliness indicators requires that there be one row of data for each of the 1440 minutes in a calendar day. When raw data are extracted there may be missing rows, if no patients waited for a particular duration (e.g. if no patient in England waited exactly 742 minutes before initial assessment this month, then there would be no row for 742 minutes provided in the raw data extract). Checks are made to ensure that row spaces for these missing minutes are inserted where necessary.
    - Checks are also made to compare the calculated median duration to initial assessment/treatment/departure (for all patients; admitted patients only; non-admitted patients only) with the median duration information available in the Hospital Episode Statistics Business Objects interface.

  o Basic checks of **logic**. For example:
- Checks are made for the timeliness indicators to ensure the median does not exceed the 95th percentile, that the 95th percentile does not exceed the longest wait, and that the median does not exceed the longest wait.
- Checks are also made to monitor whether the longest wait for the Total Time in A&E for all patients equals either the longest wait for the Total Time in A&E for admitted patients, or the Total Time in A&E for non-admitted patients; if there is a lack of agreement then it is verified whether this is due to the longest wait occurring for a patient with an unknown A&E disposal category (who therefore would be included in the measure for all patients, but wouldn't be included in the admitted or non-admitted sub-measures).

  - In addition, the NHS Information Centre HES team have advised on data quality issues, and HES protocol issues concerning the release of patient identifiable information. With the exception of attendances where the value (e.g. duration to treatment) was unknown, data are suppressed and replaced with an asterisk ("*") for attendance figures between 1 and 5, and any rates generated using these figures are rounded to protect patient confidentiality.

**Timeliness of Statistics**

These statistics are published as rapidly as possible, subject to the necessary validation, assurance and publication processes within the Department and the NHS Information Centre.

It is noted that as these reports are provided from A&E Hospital Episode Statistics, HES users will be able to extract data themselves to construct the indicators, though these may differ to the published statistics depending on the quality assurance and validation rules used. It is also noted that these reports may be provided from Secondary Uses Service (SUS) data in advance of HES data being made available.

**Accessibility**

The data are pre-announced before publication and placed on the NHS Information Centre website with a statistical release highlighting the publication of the data and key headlines.

**Comparability**

The A&E clinical quality indicators were introduced in April 2011. It is recognised that time series information on the indicators will be affected by improvements in the quality and coverage of A&E HES data over time. It must also be noted that there will be a discontinuity in the time series where changes to the A&E CDS are implemented.

It is noted that as these reports are provided from A&E Hospital Episode Statistics, HES users will be able to extract data themselves to construct the indicators, though these may differ to the published statistics depending on the quality assurance and validation rules used. It is also noted that these
reports may differ from similar material provided by the NHS from Secondary Uses Service (SUS) data in advance of HES data being made available; data submitted centrally via the A&E CDS undergo further data cleaning and validation checks before being released as A&E HES data.

Coherence
The A&E clinical quality indicators will be published in a similar format to other information on A&E attendances sourced from A&E HES. The data will also include links to the sections of the Department’s website which set out information on the proportion of patients who wait more than four hours in A&E before admission, transfer or discharge.

Last updated: September 2011