Methodology for producing the A&E clinical quality indicator from provisional Hospital Episode Statistics (HES) data

In April 2011 a new set of clinical quality indicators was introduced to replace the four hour target and measure the quality of care delivered in A&E departments in England. This document sets out the methods used to produce the published statistics on A&E clinical indicators.

Since July 2012, monthly information on the indicators has been produced by the Health and Social care Information Centre (HSCIC), (publication: "Provisional A&E Hospital Episode Statistics data on the Accident & Emergency Clinical Quality Indicators for England"). Prior to this the information was produced by the Department of Health (DH).

The statistics included in the above publication are sourced from Provisional A&E Hospital Episode Statistics (HES) derived from the A&E Commissioning Data Set (CDS v6). A&E HES statistics are labelled as experimental to reflect the coverage and quality issues with the data.

Provisional HES data may be revised throughout the year (for example, activity data for April 2011 may differ depending on whether they are extracted in August 2011, or later in the year). The published indicator data are extracted using the earliest publishable information (e.g. April 2011 data were extracted and published in August 2011; May 2011 data will be extracted and published in September 2011). Indicator data published for earlier months have not been revised using updated HES data extracted in subsequent months.

The data presented here represent the output of the existing A&E Commissioning Dataset (CDS V6). It must be recognised that these data will not exactly match the data definitions for the A&E clinical quality indicators set out in the A&E data definitions and implementation guidance[1]. For example, the departure time in the A&E CDS records the time the patient leaves the department, while the departure time in the A&E clinical quality indicators excludes time spent awaiting private transport to home following the conclusion of A&E care, or time spent in acute medical units. The Department is working with the Information Standards Board to align the A&E CDS and A&E indicator definitions.

The report for April 2011 activity (published in August 2011) will set out data coverage, data quality and performance information for the following 5 clinical quality indicators:

- Left department before being seen for treatment rate

- Re-attendance rate

- Time to initial assessment rate

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[1]

http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_122868

- Time to treatment

- Total time in A&E

Further information on the full set of clinical quality indicators is available at the following website:
http://webarchive.nationalarchives.gov.uk/20130107105354/http:/www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_122868

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. Finalised definitions for the indicators will follow, after the A&E indicators have been assessed as part of the HSCIC's Indicator Pipeline process.

The following pages set out, for each indicator, the field codes and calculations used to produce information on the indicators. Questions on the indicators should be forwarded to enquiries@nhsdigital.nhs.uk.

Indicator 1: Ambulatory Care [Component A – A&E attendances ending in admission]

Data on ambulatory care will Data on ambulatory care will be published on a quarterly basis (i.e. the first publication of data will be for the period April – June 2011). This indicator is not published as part of the monthly HES A&E CQI.

Indicator 2: Unplanned re-attendance rate

Fields Used

A&E HES Field	National codes	Notes
A&E attendance category	• 1 First Accident and Emergency Attendance – the first in a series, or the only attendance, in a particular Accident and Emergency Episode • 2 Follow-up Accident and Emergency Attendance – planned: a subsequent planned attendance at the same department, and for the same incident as the first attendance • 3 Follow-up Accident and Emergency Attendance – unplanned: A subsequent unplanned attendance at the same department, and for the same incident as the first attendance • 9 Not known	• Used to exclude planned follow-up attendances (code 2) and attendances where the attendance category is unknown • Used to include first attendances (code 1) and unplanned follow-up (code 3)
Procodet (Provider code)	• A provider code is a unique code that identifies an organisation acting as a health care provider • Provider code (procodet) gives a combination of 3-character and 5-character provider codes, enabling you to view a combined list of codes and related data, from PCTs (3 char beginning with 5), NHS trusts (3 char beginning with R), NHS treatment centres (5 char), Independent providers (5 char beginning with 8), and Independent sector healthcare providers (5 char beginning with N)	• Used to determine provider (3 character organisation code routinely)
A&E arrival date	• ddmmyyyy = The arrival date of a patient in the A&E department	• Used to determine month of attendance

PseudoHESID	• 10n = Pseudonymised HESID	• A unique identifier for each individual patient. This allows an individual's care to be tracked across years and continuous periods to be identified. It is generated by matching records for the same patient using a combination of NHS Number, local patient identifier, provider code, postcode, sex and date of birth
Total attendances		• The number of individual attendance records within the selection

Data quality calculation

Numerator	Denominator	Calculation
Number of attendances with an unknown attendance category	Total number of first attendances + unplanned follow-up attendances + attendances within an unknown attendance category	Quotient of numerator and denominator, expressed as a crude percentage
[Attendances with attendance category 9 – Not known]	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups + 9 Not known]	[Attendances with attendance category 9 – Not known] / [Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups + 9 Not Known]

Indicator calculation

Numerator	Denominator	Calculation
Number of unplanned re-attendances within a month that occur within 7 days of a previous attendance (e.g. the number of re-attendances in April 2011)	Number of first attendances + number of unplanned follow-up attendances in the month (e.g. number of attendances in April 2011)	Quotient of numerator and denominator, expressed as a crude percentage. Where the numerator or denominator consists of between 1 and 5 attendances, the information is suppressed and presented as an asterisk
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups]	

Notes on the identification of re-attendances within 7 days

Re-attendance rates have been determined using the PseudoHESID, the date of arrival at A&E, and the number of attendances on each day. The PseudoHESID is a unique identifier for each individual patient in HES. This allows an individual's care to be tracked across years and continuous periods to be identified. It is generated by matching records for the same patient using a combination of NHS Number, local patient identifier, provider code, postcode, sex and date of birth]. http://www.hscic.gov.uk/media/1370/HES-Hospital-Episode-Statistics-Replacement-of-the-HES-patient-ID/pdf/HESID_Methodology.pdf.

Re-attendances are calculated as below;

- Data are sorted in ascending order by Organisation, then PseudoHESID, then by arrival date, and an incremental row number is assigned.

- The table is then joined to itself on the organisation code, PseudoHESID and row number to row number +1, i.e. for each patient in each organisation the attendance is joined to the prior attendance.

- The interval between the sequential attendances is calculated, if this is 7 days or less and the attendance is in the month being considered the record is flagged as being a re-attendance.

- Therefore, any attendance within 7 days of prior attendance is classified as being a re-attendance. This includes multiple attendances on the same day.

The numerator of the number of re-attendance volumes and the denominator of the total number of attendances (first + unplanned follow-up attendances) are used to determine re-attendance rates.

It should be noted that this method may not exactly match other re-attendance calculations. For example, some trusts use only NHS number to match patients on; some trusts use NHS number and other patient identifiable information (e.g. postcode, age, sex) to match patients on; and some trusts measure re-attendance where the re-attendance is at a different site to the first attendance.

Further notes of clarification

Should re-attendances only be reported if the patient returns to A&E for the same condition/complaint as the previous attendance?

A patient may re-attend for the same condition even though the presenting symptoms and clinical coding of the A&E episode differ to the original or previous attendance e.g. a patient may initially present with abdominal pain, and then a few days later re-present with dyspepsia; these re-attendances may be coded as first attendances depending on the clinical coding used by the department, but it is clear that patient care could be improved by investigating these two attendances to see if they are for related reasons, even if they have both been coded as first attendances.

Therefore, <u>all</u> re-attendances within 7 days of a previous attendance for a patient should be recorded and investigated, regardless of what A&E CDS attendance category they have been recorded in.

How should patients who are admitted from A&E be treated?

This indicator measures the number of unplanned re-attendances within 7 days of a previous A&E attendance. If a patient is admitted to hospital from A&E after an A&E attendance, they should only be included in the numerator for this indicator if they return to A&E within 7 days of their attendance.

For example, if a patient attends A&E on April 1st, is admitted to hospital that same day, is discharged from hospital on April 4th, and returns to A&E on April 6th, this second attendance should be counted as a re-attendance.

However, if a patient attends A&E on April 1st, is admitted to hospital that same day, is discharged from hospital on April 14th, and returns to A&E on April 16th, this second attendance should not be counted as a re-attendance, as it did not occur within 7 days of the previous attendance at A&E.

What start and end time points should be used for calculating re-attendance?

A strict application of "re-attendance within 7 days" might involve, for example, specifying that only re-attendances within 168 hours of the time the patient arrives (or leaves) the A&E department should be reported.

However, for practicality, the window that should be used for monitoring re-attendance is 7 days from the date of arrival in A&E e.g. if the patient arrives at any time on Monday 1st August, then any subsequent attendance up to the end of Monday 8th August should be regarded as a re-attendance.

The 7 day period applies on a rolling basis, with the start point for the period being the most recent attendance at A&E. For example, if a patient attends A&E on Sunday 31st July, then they would be classed as re-attending if they come back to A&E before the end of Sunday 6th August. However, if the patient re-attended on Monday 1st August, then the end point of the 7 day window would then change from Sunday 6th August: the patient would be regarded as re-attending A&E if they returned before the end of Monday 8th August.

Should each <u>episode</u> of re-attendance by patients be counted, or does the indicator measure the number of <u>patients</u> with a re-attendance?

The indicator measures the number or re-attendances, rather than the number of patients with a re-attendance. For example, if a single patient attends A&E on Monday 1st August, Tuesday 2nd August, Wednesday 3rd August and Friday 5th August, then the 3 re-attendances on Tues/Weds/Fri should be counted.

How should month boundaries affect reporting?

Re-attendances should be counted against the month in which they occur. For example, attendances in the first few days of April 2011 that are within 7 days of an attendance in late March 2011 will be reported as re-attendances in the April 2011 data.

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Indicator 3: Total Time Spent in A&E

Fields Used

A&E HES Field	National codes	Notes
A&E attendance category	• 1 First Accident and Emergency Attendance – the first in a series, or the only attendance, in a particular Accident and Emergency Episode • 2 Follow-up Accident and Emergency Attendance – planned: a subsequent planned attendance at the same department, and for the same incident as the first attendance • 3 Follow-up Accident and Emergency Attendance – unplanned: A subsequent unplanned attendance at the same department, and for the same incident as the first attendance • 9 Not known	• Used to exclude planned follow-up attendances (code 2) and attendances where the attendance category is unknown • Used to include first attendances (code 1) and unplanned follow-up (code 3)
A&E attendance disposal	• 01 = Admitted to hospital / became a lodged patient of the same health care provider • 02 = Discharged – follow-up treatment to be provided by general practitioner • 03 – Discharged – did not require any follow-up treatment • 04 – Referred to A&E clinic • 05 – Referred to fracture clinic • 06 – Referred to other outpatient clinic • 07 = Transferred to other healthcare provider	• Used to determine admission from A&E (code 01) (for admitted patients, excluding patients where the attendance disposal was unknown) • Used to determine non-admitted patients (disposal codes 02 to 14 inclusive, excluding patients where the attendance disposal was unknown) • For the aggregate measure (i.e. total time for all patients), attendances where the attendance disposal was unknown have not been excluded

	• 10 = Died in department • 11 = Referred to other healthcare professional • 12 = Left department before being treated • 13 = Left department having refused treatment • 14 = Other • 99 = Not known	
A&E duration to departure	• 4n = The time (in minutes) between the patient's arrival and departure from A&E	• Used to determine time from arrival to time of departure
A&E arrival date	• ddmmyyyy = The arrival date of a patient in the A&E department	• Used to determine month of attendance
Procodet (Provider code)	• A provider code is a unique code that identifies an organisation acting as a health care provider • Provider code (procodet) gives a combination of 3-character and 5-character provider codes, enabling you to view a combined list of codes and related data, from PCTs (3 char beginning with 5), NHS trusts (3 char beginning with R), NHS treatment centres (5 char), Independent providers (5 char beginning with 8), and Independent sector healthcare providers (5 char beginning with N)	• Used to determine provider (3 character organisation code routinely)
A&E arrival time	• hhmm = The time a patient arrives in the A&E department • The time of a patient arrival in the A&E department. For 'urgent transport requests' this is the time the vehicle arrives at the specified destination	• Used to assess data quality: the proportion of attendances that begin exactly at midnight (00:00)

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| A&E departure time | • hhmm = The time that a patient leaves the A&E department

• A&E departure time is the time that a patient leaves the A&E department after an A&E attendance has concluded and the department is no longer responsible for the care of the patient. Temporary absences from the A&E department are ignored. For example, during an A&E attendance the patient may leave the department for a short time for an X-ray, but they remain under the care of an A&E consultant. Note that A&E departure times will be different for patients who wait for transport or who are lodged patients prior to admission to a ward | • Used to assess data quality: the proportion of attendances that depart exactly at midnight (00:00) |
| Total attendances | | • The number of individual attendance records within the selection |

Data quality calculation

Numerator	Denominator	Calculation
Number of attendances with an unknown duration to departure	Total number of attendances	Quotient of numerator and denominator, expressed as a crude percentage
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups]	
Number of attendances with a duration to departure of exactly 0 minutes or 1439 minutes	Total number of attendances	Quotient of numerator and denominator, expressed as a crude percentage
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups]	

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Number of attendances with a time of departure of exactly midnight (00:00)	Total number of attendances	Quotient of numerator and denominator, expressed as a crude percentage
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups]	
Number of attendances with an arrival time of exactly midnight (00:00)	Total number of attendances	Quotient of numerator and denominator, expressed as a crude percentage
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups]	

Indicator Calculation

Data where the duration to departure are unknown are excluded from the indicator.

Where the number of attendances within with a known duration is between 1 and 5 attendances, the duration to departure information is suppressed and presented as an asterisk.

Presented separately for admitted patients, non-admitted patients, and all patients:

Median – Where the number of attendances (n) s odd the median value is taken as the value at position (n+1)/2. Where n is an even number, the median value is taken as the average of the value at positions (n/2) and (n/2+1).

95th percentile – It is recognised that there is some variation in how the 95th percentile is calculated. The following document describes how percentiles have been calculated in these indicators http://www.hscic.gov.uk/media/9921/Provisional-Accident--Emergency-Quality-Indicators-for-England-Experimental-Statistics-by-provider-for-March-2012-pdf-107kb/pdf/prov_ae_qual_indic_exp_stats_mar_2012.pdf.

Longest duration – the longest single duration for an A&E attendance. It is acknowledged that as only the arrival date is recorded in the A&E CDS (i.e. the assessment/treatment/departure date are not recorded, and it may be that these dates occur on a different day to the day of arrival e.g. where patients are kept in A&E (either in the main ward or a medical assessment unit) for stabilisation), the maximum duration recorded will not exceed 1439 minutes (23 hours, 59 minutes).

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Indicator 4: Left department before being seen for treatment rate

Fields Used

A&E HES Field	National codes	Notes
A&E attendance category	• 1 First Accident and Emergency Attendance – the first in a series, or the only attendance, in a particular Accident and Emergency Episode • 2 Follow-up Accident and Emergency Attendance – planned: a subsequent planned attendance at the same department, and for the same incident as the first attendance • 3 Follow-up Accident and Emergency Attendance – unplanned: A subsequent unplanned attendance at the same department, and for the same incident as the first attendance • 9 Not known	• Used to exclude planned follow-up attendances (code 2) and attendances where the attendance category is unknown • Used to include first attendances (code 1) and unplanned follow-up (code 3)
A&E attendance disposal	• 01 = Admitted to hospital / became a lodged patient of the same health care provider • 02 = Discharged – follow-up treatment to be provided by general practitioner • 03 – Discharged – did not require any follow-up treatment • 04 – Referred to A&E clinic • 05 – Referred to fracture clinic • 06 – Referred to other outpatient clinic • 07 = Transferred to other healthcare provider	• Used to determine admission from A&E (code 01) (for admitted patients, excluding patients where the attendance disposal was unknown) • Used to determine non-admitted patients (disposal codes 02 to 14 inclusive, excluding patients where the attendance disposal was unknown) • For the aggregate measure (i.e. total time for all patients), attendances where the attendance disposal was unknown have not been excluded

	• 10 = Died in department • 11 = Referred to other healthcare professional • 12 = Left department before being treated • 13 = Left department having refused treatment • 14 = Other • 99 = Not known	
A&E arrival date	• ddmmyy = The arrival date of a patient in the A&E department	• Used to determine the month of attendance
Procodet (Provider code)	• A provider code is a unique code that identifies an organisation acting as a health care provider • Provider code (procodet) gives a combination of 3-character and 5-character provider codes, enabling you to view a combined list of codes and related data, from PCTs (3 char beginning with 5), NHS trusts (3 char beginning with R), NHS treatment centres (5 char), Independent providers (5 char beginning with 8), and Independent sector healthcare providers (5 char beginning with N)	• Used to determine provider (3 character organisation code routinely)
Total attendances		• The number of individual attendance records within the selection

Data quality calculation

Numerator	Denominator	Calculation
The number of attendances with an unknown attendance disposal	Number of attendances at A&E	Quotient of numerator and denominator, expressed as a crude percentage
[Attendances with attendance disposal 99 – not known]	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups]	[Attendances with attendance disposal 99 – not known] / [Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups]
The number of attendances with an attendance disposal category of "Other"	Number of attendances at A&E	Quotient of numerator and denominator, expressed as a crude percentage
[Attendances with attendance disposal code 14 – Other]	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups]	[Attendances with attendance disposal code 14 – Other] / [Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups]

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Indicator Calculation

Numerator	Denominator	Calculation
The number of attendances with an attendance disposal of left before treatment	Number of attendances at A&E, excluding patients with an unknown attendance disposal	Quotient of numerator and denominator, expressed as a crude percentage. Where the numerator or denominator consists of between 1 and 5 attendances, the information is suppressed and presented as an asterisk
[Attendances with attendance disposal code 12 – Left department before being treated]	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups] – [Attendances with attendance disposal code 9 – Not known]	Attendances with attendance disposal code 12 – Left department before being treated] / [[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups] – [Attendances with attendance disposal code 9 – Not known]]

Indicator 5: Service Experience

A&E CDS data are not used for this indicator. Data on service experience will be locally published but will not be centrally collected.

Indicator 6: Time to initial assessment

Fields Used

A&E HES Field	National codes	Notes
A&E attendance category	• 1 First Accident and Emergency Attendance – the first in a series, or the only attendance, in a particular Accident and Emergency Episode • 2 Follow-up Accident and Emergency Attendance – planned: a subsequent planned attendance at the same department, and for the same incident as the first attendance • 3 Follow-up Accident and Emergency Attendance – unplanned: A subsequent unplanned attendance at the same department, and for the same incident as the first attendance • 9 Not known	• Used to exclude planned follow-up attendances (code 2) and attendances where the attendance category is unknown • Used to include first attendances (code 1) and unplanned follow-up (code 3)
A&E arrival mode	• The mode by which a patient arrived at an A&E department • 1 = Brought in by ambulance (including helicopter / Air Ambulance) • 2 = Other • 9 = Not known	• Used to exclude patients with an arrival mode of "other" (code 2) or an unknown arrival mode • Used to include patients with an arrival mode of "brought in by ambulance (including helicopter / air ambulance)" (code 1)
A&E duration to initial assessment	• 4n = The time (in whole minutes) between the patients arrival and their initial assessment	• Used to determine time from arrival to time of initial assessment
A&E arrival date	• ddmmyyyy = The arrival date of a patient in the A&E department	• Used to determine month of attendance

Procodet (Provider code)	• A provider code is a unique code that identifies an organisation acting as a health care provider • Provider code (procodet) gives a combination of 3-character and 5-character provider codes, enabling you to view a combined list of codes and related data, from PCTs (3 char beginning with 5), NHS trusts (3 char beginning with R), NHS treatment centres (5 char), Independent providers (5 char beginning with 8), and Independent sector healthcare providers (5 char beginning with N)	• Used to determine provider (3 character organisation code routinely)
A&E initial assessment time	• hhmm = The time when a patient is assessed by medical or nursing staff • The time when a patient is assessed by medical or nursing staff in an A&E department to determine • priority for treatment. The assessment should have been conducted by medical or nursing staff who have received appropriate training in triage	• Used to assess data quality: the proportion of attendances that are assessed exactly at midnight (00:00)
Total attendances		• The number of individual attendance records within the selection

Data quality calculation

Numerator	Denominator	Calculation
Number of attendances with an unknown duration to assessment	Total number of attendances where patient was brought in by ambulance	Quotient of numerator and denominator, expressed as a crude percentage
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups] where arrival mode is [1 = Brought in by amubulance (including helicopter / air	

	Ambulance)]	
Number of attendances with a time of assessment of exactly midnight (00:00)	Total number of attendances where patient was brought in by ambulance	Quotient of numerator and denominator, expressed as a crude percentage
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups] where arrival mode is [1 = Brought in by ambulance (including helicopter / Air Ambulance)]	
Number of attendances with a duration to assessment of exactly 0 minutes or 1439 minutes	Total number of attendances where patient was brought in by ambulance	Quotient of numerator and denominator, expressed as a crude percentage
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups] where arrival mode is [1 = Brought in by ambulance (including helicopter / Air Ambulance)]	

Indicator Calculation

Data where the duration to assessment are unknown are excluded from the indicator.

Unlike the Time to Treatment and Total Time in A&E indicators, the Time to Initial Assessment indicator is only calculated for attendances where the mode of arrival is "brought in by ambulance (including helicopter/air ambulance)" (Code 1).

Where the number of attendances with a known duration is between 1 and 5 attendances, the duration to departure information is suppressed and presented as an asterisk.

Median - Where the number of attendances (n) is odd, the median value is taken as the value at position (n+1)/2. Where n is an even number, the median value is taken as the average of the value at positions (n/2) and (n/2+1).

95th percentile – It It is recognised that there is some variation in how the 95th percentile is calculated.

95th percentile – It is recognised that there is some variation in how the 95th percentile is calculated. The following document describes how percentiles have been calculated in these indicators http://www.hscic.gov.uk/media/9921/Provisional-Accident--Emergency-Quality-Indicators-for-England-Experimental-Statistics-by-provider-for-March-2012-pdf-107kb/pdf/prov_ae_qual_indic_exp_stats_mar_2012.pdf.

Longest duration - the longest single duration for an A&E attendance. It is acknowledged that as only the arrival date is recorded in the A&E CDS (i.e. the assessment/treatment/departure date are not recorded, and it may be that these dates occur on a different day to the day of arrival e.g. where patients are kept in A&E (either in the main ward or a medical assessment unit) for stabilisation), the maximum duration recorded will not exceed 1439 minutes (23 hours, 59 minutes.

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Indicator 7: Time to Treatment

Fields Used

A&E HES Field	National codes	Notes
A&E attendance category	• 1 First Accident and Emergency Attendance – the first in a series, or the only attendance, in a particular Accident and Emergency Episode • 2 Follow-up Accident and Emergency Attendance – planned: a subsequent planned attendance at the same department, and for the same incident as the first attendance • 3 Follow-up Accident and Emergency Attendance – unplanned: A subsequent unplanned attendance at the same department, and for the same incident as the first attendance • 9 Not known	• Used to exclude planned follow-up attendances (code 2) and attendances where the attendance category is unknown • Used to include first attendances (code 1) and unplanned follow-up (code 3)
A&E attendance disposal	• 01 = Admitted to hospital bed / became a lodge patient of the same health care provider • 02 = Discharged – follow-up treatment to be provided by general practitioner • 03 = Discharged – did not require any follow-up treatment • 04 = Referred to A&E clilnic • 05 = Referred to fracture clinic • 06 = Referred to other outpatient clininc	• Used to exclude patients who leave the department before treatment (code 12); patients who leave having refused treatment (code 13) and patients where the attendance disposal is unknown

	• 07 = Transferred to other healthcare provider	
	• 10 = Died in department	
	• 11 = Referred to other healthcare professional	
	• 12 = Left department before being treated	
	• 13 = Left department having refused treatment	
	• 14 = Other	
	• 99 = Not known	
A&E duration to treatment	• 4n = The time (in minutes) between the patient's arrival and the start of their treatment	• Used to determine time from arrival to time of treatment
A&E arrival date	• ddmmyyyy = The arrival date of a patient in the A&E department	• Used to determine month of attendance
Procodet (Provider code)	• A provider code is a unique code that identifies an organisation acting as a health care provider • Provider code (procodet) gives a combination of 3-character and 5-character provider codes, enabling you to view a combined list of codes and related data, from PCTs (3 char beginning with 5), NHS trusts (3 char beginning with R), NHS treatment centres (5 char), Independent providers (5 char beginning with 8), and Independent sector healthcare providers (5 char beginning with N)	• Used to determine provider (3 character organisation code routinely)
Total attendances		• The number of individual attendance records within the selection

Data quality calculation

Numerator	Denominator	Calculation
Number of attendances with an unknown duration to treatment	Total number of attendances, excluding patients who do not have treatment	Quotient of numerator and denominator, expressed as a crude percentage
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups] – [Attendances with attendance disposal code 9 - Not known; 12 - Left department before being treated; 13 - Left department having refused treatment]	
Number of attendances with a time of treatment of exactly midnight (00:00)	Total number of attendances, excluding patients who do not have treatment	Quotient of numerator and denominator, expressed as a crude percentage
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups] – [Attendances with attendance disposal code 9 - Not known; 12 - Left department before being treated; 13 - Left department having refused treatment]	
Number of attendances with a duration to treatment of exactly 0 minutes or 1439 minutes	Total number of attendances, excluding patients who do not have treatment	Quotient of numerator and denominator, expressed as a crude percentage
	[Attendances with attendance categories 1 First attendances + 3 unplanned follow-ups] – [Attendances with attendance disposal code 9 - Not known; 12 - Left department before being treated; 13 - Left department having refused treatment]	

Indicator Calculation

Data where the duration to treatment are unknown are excluded from the indicator.

Unlike the Time to Initial Assessment and Total Time in A&E indicators, the Time to Treatment indicator excluded attendances with an attendance disposal category of leave the department before treatment (code 12); patients who leave having refused treatment (code 13) and patients where the attendance disposal is unknown.

Where the number of attendances with a known duration is between 1 and 5 attendances, the duration to departure information is suppressed and presented as an asterisk.

Median– Where the number of attendances (n) is odd, the median value is taken as the value at position (n+1)/2. Where n is an even number, the median value is taken as the average of the value at positions (n/2) and (n/2+1).

95th percentile - It is recognised that there is some variation in how the 95th percentile is calculated.

95th percentile – It is recognised that there is some variation in how the 95th percentile is calculated. The following document describes how percentiles have been calculated in these indicators http://www.hscic.gov.uk/media/9921/Provisional-Accident--Emergency-Quality-Indicators-for-England-Experimental-Statistics-by-provider-for-March-2012-pdf-107kb/pdf/prov_ae_qual_indic_exp_stats_mar_2012.pdf.

Longest duration – the longest single duration for an A&E attendance. It is acknowledged that as only the arrival date is recorded in the A&E CDS (i.e. the assessment/treatment/departure date are not recorded, and it may be that these dates occur on a different day to the day of arrival e.g. where patients are kept in A&E (either in the main ward or a medical assessment unit) for stabilisation), the maximum duration recorded will not exceed 1439 minutes (23 hours, 59 minutes).

Indicator 8: Consultant Sign-off

A&E CDS data are not used for this indicator. Data will be collected as part of a College of Emergency Medicine (CEM) audit.

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