

Analysis Method Notice

Time Spent in Major & Minor Emergency Care (A&E) Facilities Less Than 4 Hours

An accredited Analysis Method describes a method that has been agreed for use in the production of published national outcome indicators, performance measures and/or currencies

Analysis Methods are developed and / or agreed by the Analysis Methodologies Group. They are accredited by the Welsh Information Standards Board. For further details about the group, including Terms of Reference and membership, please visit the following website:

<http://howis.wales.nhs.uk/sites3/page.cfm?orgid=742&pid=56696>

WISB Reference: ISRN Ref. 2013/022

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<p>WISB Appraisal Assessment</p>	<p>Accredited This Analysis Method has been appraised by WISB and is felt to be fit for purpose in that it:</p> <ul style="list-style-type: none"> • Meets the business requirement; • Is reproducible by organisations, where appropriate.
<p>Status of Data Standards Assurance</p>	<p>WISB Reviewed The data used in this Analysis Method are based on data item standards that have been through the Information Standards Assurance Process.</p>
<p>WISB Outcome(s)</p>	<p>Outcome</p>

Indicator

The percentage of patients who spend less than 4 hours in all hospital major and minor emergency care (i.e. A&E) facilities from arrival until admission, transfer or discharge.

Target:

95%

Rationale / Context

To ensure that patients attending A&E are seen and, where appropriate, treated, transferred or discharged in a timely manner.

To meet this target NHS LHBs should provide efficient and effective A&E services to meet the needs of patients and educate patients to make best use of all the services available.

This measure forms part of the Welsh Government 2013/14 Tier 1 Measures.

Data Source

Emergency Department Data Set (EDDS).

Definitions:

Definitional Guidance:

The number of patients spending less than 4 hours in an emergency care unit is based on a calculation of time actually being less than 4 hours (i.e. up to and including 3 hrs 59 minutes 59 seconds (03:59:59)). An attendance of exactly 4 hours is classified as a 'breach'.

The following data items and terms are relevant

Data Items:

[Attendance Category](#)
[Administrative Arrival Date](#)
[Administrative Arrival Time](#)
[Administrative End Date](#)
[Administrative End Time](#)
[Treatment End Date](#)
[Treatment End Time](#)

Terms:

[Accident and Emergency Attendance](#)
[Accident and Emergency Department Type](#)
[Accident and Emergency Administrative Attendance Duration](#)
[Accident and Emergency Attendance Category](#)
[Administrative Arrival Date](#)
[Administrative Arrival Time](#)
[Administrative End Date](#)
[Administrative End Time](#)
[Treatment End Date](#)
[Treatment End Time](#)

The definitions associated with all the data items and terms above can be accessed via the NHS Wales Data Dictionary - <http://www.datadictionary.wales.nhs.uk>.

Detailed Specification

Acronyms:

AADT – Admin Arrival Date/Time

AEDT – Admin End Date/Time

TEDT – Treatment End Date/Time

Starting Point - All Attendances

Initial calculation is based on all attendances and attendances are extracted from EDDS based on their AEDT.

Step 1 – Remove Exclusions

Exclude:

- Known Planned Follow Ups (i.e. Attendance Category = “02”)
- Attendances where patient was dead on arrival* (i.e. Outcome of Attendance = “11” and/or Attendance Group = “30”)
 - * Patients who died in department (either Outcome of Attendance = “10”) are **not** to be excluded)

Step 2 – Perform measurement calculation

Actual calculation:

If TEDT is not blank, time spent in department = TEDT - AADT, otherwise time spent in department = AEDT - AADT

Step 3 – Remove (from numerator and denominator) Exclusions with Calculation Errors

Exclude:

- Attendances where the calculated time spent in department results in a blank, negative or invalid value

Calculation:

Numerator

The number of attendances who spend less than 4 hours at all emergency care (A&E) units.

Denominator

Total number of attendances at all emergency care (A&E) units.

Reporting Frequency

Monthly EDDS returns must be submitted and signed off by Local Health Boards (LHBs) / Trusts on the 10th calendar day of the month. If the 10th calendar day falls on a weekend (or bank holiday), the deadline for submissions is the next available working day.

Publication of the indicator takes place on a monthly basis.

Areas for Future Development

The following points reflect considerations raised by either the Analysis Methodologies Group or WISB in terms of aspects of the Analysis Method that require further investigation or development.

For a full breakdown of the issues considered, please refer to the formal WISB Outcome for this Analysis Method, which can be access via the Information Standards Assurance website:

<http://howis.wales.nhs.uk/sites3/page.cfm?orgid=742&pid=52532>

1. Clinical / Operational 'Exceptions' – Data Definitions

The guidance associated with the submission of data for patients classed as clinical and/or operational 'exceptions' is yet to be formally assured via the NHS Wales Information Standards Assurance process. There are known issues with the consistency of reporting and data quality of these data across Wales, which may impact on the consistency of reporting of 'time spent in emergency care facilities' performance.

It is recommended that the guidance associated with the submission of these data is assured via the NHS Wales Information Standards Assurance Process by relevant policy leads within Welsh Government (WG).

2. Major / Minor Emergency Care (A&E) Targets

Relevant policy leads within WG may wish to review the business requirement of better managing the care of patients in Emergency Departments by separating attendances into 'majors' and 'minors' with different targets for each clinical area, with separate monitoring of each stream. This could provide better insight into patient flows through these departments.

Appendix A – Additional Information

The criteria for including patients in the numerator / denominator for this indicator have changed over recent years. Those changes are set out below:

1. Monthly “official” reporting for attendances with an Admin End Date of 1 December 2011 or later (i.e. monthly data for December 2011 onwards).

The methodology for reporting time spent in emergency care units changed in December 2011 as a result of a change to A&E reporting, which was intended to more closely align the definitions for reporting EDDS activity data in Wales with those in England with regards to clinical and operational ‘exceptions’ (further described below). Consequently, in the following two scenarios, TEDT should be populated as per the guidance below for activity with an Admin End Date of 1st December 2011 onwards:

- a) Those who need the facilities of the main emergency department, often the resuscitation room:
- Patients in the resuscitation room undergoing active resuscitation whose clinical condition would be jeopardised by the transfer to another area;
 - Patients who unexpectedly deteriorate and need the continued care of emergency department specialists.
 - Patients who, despite the efforts of the emergency department team are expected to die imminently and should not be moved.
- b) Those patients who are cared for by Emergency Medicine specialists but do not need the specific facilities of the main department (i.e. best cared for in a ward environment, for example an observation area or clinical decision unit that is adjacent to the main department):
- Patients needing a short period of intensive investigation to rule out serious illness who are liable to go home – e.g. patients with chest pain who need tests several hours after onset of the pain (examples included patients awaiting Troponin T Test);
 - Patients needing a period of a few hours recovery – e.g. following sedation to enable a dislocation to be treated, after alcohol /drug ingestion, self-harm patients etc;
 - Patients requiring a period of brief treatment with the expectation of going home – e.g. a person with mild dehydration who is given some fluids over a few hours;
 - Patients requiring observation – e.g. minor head injury, patients after a seizure to ensure full recovery and no further fits or after possible ingestion of excessive amounts of drugs.

In these situations, patients who meet the above criteria should be identified at the time a clinical decision is made and the Treatment End Date/Time (TEDT) is populated within EDDS. This is subsequently used in the calculation of the time spent in department to ensure that 4 and 12 hour performance can be correctly recorded and reported (see below).

For attendances with an **Admin End Date of 1st January 2013 onwards**, any attendances where the time in department \geq 24 hours are included. These attendances were initially excluded as it was felt that they were due to data validation issues. However, analysis produced in the summer of 2012 showed that the majority of these patients had in fact spent over 24 hours in the department and hence the decision was made to include them from January 2013.

Appendix B – SQL Code (where applicable)

The SQL script for deriving the 4 hour measure is as follows

```
CASE WHEN AttendanceCategory NOT IN ('02','2') AND AttendanceGroup <> '30' AND  
OutcomeOfAttendanceEDDS <> '11' AND ((ValidTreatmentEndDateTime = 0 AND  
AdministrativeArrivalAdministrativeEndDuration BETWEEN 0 AND 14399) OR  
(ValidTreatmentEndDateTime = 1 AND AdministrativeArrivalTreatmentEndDuration BETWEEN 0  
AND 14399)) THEN 1 ELSE 0 END
```

Where

ValidTreatmentEndDateTime is a field that holds a value to identify valid or invalid treatment end date and time. If valid it is set to 1 otherwise it is set to 0 (zero).

The duration of stay fields are calculated as follows:-

AdministrativeArrivalAdministrativeEndDuration

```
DATEDIFF("YEAR",admin_arr_datetime,admin_end_datetime) < 66 &&  
DATEDIFF("YEAR",admin_arr_datetime,admin_end_datetime) > -66 ?  
DATEDIFF("SECOND",admin_arr_datetime,admin_end_datetime) : NULL(DT_I4)
```

AdministrativeArrivalTreatmentEndDuration

```
DATEDIFF("YEAR",admin_arr_datetime,treat_end_datetime) < 66 &&  
DATEDIFF("YEAR",admin_arr_datetime,treat_end_datetime) > -66 ?  
DATEDIFF("SECOND",admin_arr_datetime,treat_end_datetime) : NULL(DT_I4)
```

The first part of the script with <66 and >-66 excludes those with a duration of years greater than 66 or less than -66 as the application cant handles integers bigger than that.

All duration fields are held in seconds.