# Performance Measure Definition

**Patients Admitted from Emergency Department within 8 hours**

<table>
<thead>
<tr>
<th><strong>Name and Definition</strong></th>
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<tbody>
<tr>
<td><strong>Full Name</strong></td>
<td>Emergency Department Length of Stay: Percent of patients treated and admitted to hospital from Emergency Department within 8 hours</td>
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<tr>
<td><strong>Short Name</strong></td>
<td>Patients Admitted from Emergency Department within 8 hours</td>
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<tr>
<td><strong>Definition</strong></td>
<td>The Emergency Department (ED) length of stay (LOS) for admitted patients is the earliest reported time between either the triage or registration time after arrival in emergency to the time the patient enters the hospital as an inpatient (discharged from ED). This metric does not apply to Urgent Care facilities as these facilities do not have inpatient spaces. For data sources submitted via abstracting (not operational source systems) the time the patient leaves the emergency department is determined through investigation of the inpatient visit record. This applies only to records prior to March 31st, 2010 and is done by linking the Inpatient Discharge Abstract Data (DAD) and the Alberta Ambulatory Care Reporting System (ACCRS) records.</td>
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| **Domain** | Health Services Delivery |
| **Dimension** |  |
| **Acceptability** | Efficiency | Appropriateness |
| No | No | No |
| **Effectiveness** | Accessibility | Safety |
| No | Yes | No |

| **Category of Measure** | Strategic |
| **Type of Measure** | Output Measure |

| **Context** |  |
| **Business Context** | AHS Strategic Direction 2010-2012 |
| | AHS 2010 -2015 Health Plan: Improving Health for All Albertans |
| | Becoming the Best: Alberta's 5-Year Health Action Plan |
| | 2011-2015 Health Plan |
| | 2010-2013 Ministry Business Plan |
| | 2011-2014 Ministry Business Plan |
| **Rationale** | Patients treated in an Emergency Department or Urgent Care Centre (ED/UCC) should be assessed and treated in a timely fashion. The length of stay in Emergency Department (ED LOS) is used to assess the timeliness of care delivery. |
| | Patients who are treated and then discharged from ED/UCC will typically have a distinctly shorter stay than patients subsequently admitted to hospital relating to complexity, admission processes and other factors. Therefore ED LOS is measured distinctly for these groups. Other discharge categories are also separated due to dissimilar ED LOS. These include left without being seen, left against medical advice, or death. |
| | Alberta is taking action to reduce wait times throughout the health system. Goal 1 of Alberta's 5-Year Health Action Plan is improved quality, safety and access for patients to acute care services [that] will be demonstrated by lower wait times across the province. The target length of stay in emergency departments is: Four hours for patients not needing admission to hospital, and Eight hours for patients needing admission to hospital. This performance measure is used to track progress toward reducing wait times for emergency department services and achieving these wait time targets. |

| **Notes for Interpretation** | Variation in complexity of patients, site capacity limitations and access to other primary care options (urgent care centres, family physicians, walk-in clinics) in a community vary and can contribute to significant variation in demand for Emergency Department services. |
| | Some emergency departments use a ticketing system that patients pull on arrival; this is not what is used as the start time. The triage date and time or registration date and time we capture may be between 1 to 30 minutes after a patient walks in the door. |
### Performance Measure Definition

The same methodology is applied at all sites in calculating the Emergency Department or Urgent Care Centre LOS.

This indicator captures the entire time spent in the ED for admitted patients. This time reflects care provided by the Emergency Department, including both diagnostic and treatment, waiting to be seen in ED for an inpatient treatment (for example operating theatre readiness) or space (unit bed). Therefore, this is a metric whose performance is not singularly attributable to one area.

### Organizational Strategy

Develop and implement initiatives for hospital-wide improvement of patient flow by decreasing length of stay as identified in Transformational Improvement Programs (TIP) #2: Improving Access & Reducing Wait Time.

Work with primary care, Emergency Medical Services (EMS) and Health Link to increase the number and availability of community-based services such as physician clinics and urgent care centres (who provide expanded hours that provide care for less serious emergencies).

Establish an Emergency Clinical Network Development of contingency plans for surge periods of patient demand.

### Benchmark Comparisons

For those patients being admitted, a target of 90% of patients having ED LOS of less than 8 hours has been set by 2015 as per Alberta’s 5-year Health Action Plan 2010-2015.

### Cited References

- ED Quality Indicator Report: [http://www.caep.caltemplate.asp?id=4DCA2D0014A4408FACB06DC5CCOE81 D3#cjem](http://www.caep.caltemplate.asp?id=4DCA2D0014A4408FACB06DC5CCOE81 D3#cjem)

### Technical Specifications

**Metric**

```
1) Minutes 2) Percent
```

**Preferred Display Format**

```
1) 9,999  2) 99%
```

**Numerator**

1. Length of Stay will be captured in minutes between Start Time and End Time where the Start Time is the earliest of either the ED Triage Time or the ED Visit (Registration) Time and the End Time of the ED visit is recorded as discharge time on the ED record.

2. Count of all valid records with a length of stay less than 8 hours. Valid records are defined by the inclusion and exclusion criteria for the numerator below.

**Inclusion Criteria for Numerator**

Include Emergency visits. Urgent care categories are used for discharged LOS calculations but will not be relevant for admitted cases as this is only calculated for patients admitted within same facility, urgent care centres do not have inpatient beds.

Emergency Visits:
National Ambulatory Care Reporting System (NACRS):
Abstract_Type =E
Includes visits with MIS Primary (MISPRIME) codes of
- 713100000 -Emergency
- 713102000 -General Emergency
- 713104000 -Observation
- 713106000 -Trauma
AND
- Scheduled ED Visit (SCHEDULED_ED) =N or blank

Alberta Ambulatory Care Reporting System (AACRS):
Abstract_Type =E
Includes visits with MIS Primary (MISPRIME) codes of
- 71310 -Emergency
- 7131020 -General Emergency
- 7131025 -Hospital Urgent Care Centre
- 7131040 -Interim Emergency Assessment
- 7131060 -Trauma Emergency

Include admitted patients only based on disposition code as per Appendix 1
Disposition 6-Admitted into reporting facility as an in-patient to critical care unit or operating room directly from an ambulatory care visit functional centre
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Disposition 7 - Admitted into reporting facility as an in-patient to another unit of the reporting facility directly from the ambulatory care visit functional centre.

**Exclusion Criteria for Numerator**

Exclude patients where a link cannot be established to an inpatient record as the time cannot be determined. Relevant for cases up to March 31st, 2010 only.

Exclude patients where a many to one link is established between an inpatient record and an ED record or vice versa.

Exclude patients where the calculated time is negative reflecting a data error.

Exclude patients where the calculated time is greater than 7 days (168 hours) reflecting a likely data error.

**Data Source(s) for Numerator**

Data is collected by Coding Specialists in Health Information Management utilizing coding and abstracting software for both ED and Inpatient Records. Data is collected using the National Ambulatory Care Reporting System (NACRS) and the Discharge Abstract Database (DAD) for inpatient data.

The EDIS and REDIS sources are transactional Emergency Department information system.

**Refresh Rate for Numerator**

Monthly

**Data Steward for Numerator**

Health Information Management (HIM)

**Denominator**

1. No denominator for number of minutes
2. Count of all valid records for percent calculation

**Inclusion Criteria for Denominator**

Same as numerator

**Exclusion Criteria for Denominator**

Same as numerator

**Data Source(s) for Denominator**

Same as numerator

**Refresh Rate for Denominator**

Same as numerator

**Data Steward for Denominator**

Same as numerator

**Technical Notes**

Data Sources:

Alberta Ambulatory Care Reporting System format (AACRS)
Includes data up to March 31, 2010 when AACRS is replaced by NACRS.

AHSDRFFLAT.Ambulatory_View
CP1RUP Server (temporary until data is available in the DIMR Data Repository)

AHSDRFFLAT.Ambulatory

National Ambulatory Care Reporting System format (NACRS) Will also include data prior to NACRS implementation with AACRS values mapped to NACRS values.

AHSDRRFLAT.NACRS_View

or

AHSDRR3NF.NACRS_View

Transactional Emergency Department Information Systems

CDR9 Server (temporary until data is available in the DIMR Data Repository)

has_tgt.EDIS_Visits

has_tgt.REDIS_Visits

Data Source Selection:

For the 9 urban sites the Emergency Department Information System (EDIS) and Regional Emergency Department Information System (REDIS) sources are used. For the other sites, AACRS is used up to March 31, 2010. From April 1, 2010 forward, NACRS is used.

EDIS sites:

- Grey Nuns Community Hospital
- Leduc Community Hospital
- Misericordia Community Hospital
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- North East Community Health Centre
- Royal Alexandra Hospital
- Sturgeon Community Hospital
- University of Alberta Hospital
- Westview Health Centre

REDIS sites:
- Alberta Children's Hospital
- Foothills Medical Centre
- Peter Lougheed Centre
- Rockyview General Hospital
- Sheldon M Chumir Centre
- South Calgary Health Centre

All other sites use NACRS.

Data Linking:
AACRS End Time timestamp: The End Time of the ED visit is determined by linking to inpatient visit to determine when the patient left ED as recorded on the Inpatient DAD record in fields ERDEPTDATE and ERDEPTTIME. Linking uses the sex, PHN or ASN, and a comparison of the ED disposition date and the IP ED departure date.

Peer Group:
Linking is done by matching the 3 digit institution number from the source data to the CPIRUDBA.ahs_institutions table (temporary until institutions table is available in AHSDRRP).

Timestamp Definitions:
Start Time:
ACCS -Earliest of either the ED Triage Time or the ED Registration Visit Time
NACRS -Earliest of either the ED Triage Time or the ED Registration Visit Time
REDIS -Earliest of either the ED Triage Time or the ED Registration Arrival Time
EDIS -Earliest of either the ED Triage Time or the ED Registration Arrival Time

End Time:
ACCS -Determined by linking to inpatient visit to determine when the patient left ED as recorded on the Inpatient DAD record in fields ERDEPTDATE and ERDEPTTIME
NACRS -Left ED as recorded in fields ERDEPTDATE and ERDEPTTIME
REDIS -Discharge time
EDIS - Discharge time

Institution Issues:
Data for the Stollery Children’s Hospital are included within the University of Alberta Hospital. Any patient less than 16 years of age (AGE_ADMIT field) at the time of the visit to the University of Alberta Hospital (INST 88044) is recorded to be a patient of the Stollery Children’s Hospital (INST 88153).

Peer Group Issues:
The Coaldale Health Centre (Inst 028) peer group classification is “pending.” Therefore before any grouping the “pending” status must be removed and the grouping should be changed to “Community Ambulatory Care Centre.”

Calculation
1. Length of Stay will be captured in minutes between a Start Time and End Time where the Start Time is the earliest of either the ED Triage Time or the ED Visit (Registration) Time and the End Time is the valid discharge date and time.
2. “% of Admitted ED Visits < 8 hours” is calculated by dividing the number of valid records with a length of stay of less than 8 hours (480 minutes) by the total number of valid records multiplied by 100.

Relationship to Other Indicators
n/a

Level of Reporting
- National: No
- Provincial: Yes
- Zone: Yes
- Site: Yes

Reporting Notes

Frequency of Reporting
- Annually: Yes
- Quarterly: Yes
- Monthly: Yes
- Other: No

Other Reporting Frequency
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Limitations

- Data for Emergency visits is collected by Coding Specialists in Health Information Management utilizing coding and abstracting software. Month end reconciliation ensures data has been collected on all ED visits. The ED discharge time is used to assist in matching to the Inpatient record. This time is sometimes recorded as 2359 when unknown or 2359 was collected as a default time to March 31, 2010 under Alberta Ambulatory Care Reporting System (AACRS) and now 9999 is being collected as of April 1, 2010 under National Ambulatory Care Reporting System (NACRS). Currently this time is used at high frequency at some sites, therefore reducing the ability and accuracy of linking to the Inpatient record. In order to capture the time the patient left ED from the Inpatient record we are relying on linking which in some cases (known %?) fails to match to an Inpatient record. In these cases the time cannot be determined and is therefore not included in subsequent LOS calculations (for instance average or % under specified time).

- AACRS standards and guidelines have been in place since 1995. The Inpatient data for this metric is obtained from the Discharge Abstract Database (DAD).

Planning Documents

Reference Documents

<table>
<thead>
<tr>
<th>Name</th>
<th>Business Planning Document URL</th>
</tr>
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<tbody>
<tr>
<td>AHS Health Plan</td>
<td><a href="http://www.albertahealthservices.ca/3238.asp">http://www.albertahealthservices.ca/3238.asp</a></td>
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