

FOCUS on Emergency Departments: Technical Data Definitions and Data Sourcing^{1,2}

Patients waiting in the emergency department for a hospital bed	
Calculation	<p>Number of emergency inpatients (EIPs):³</p> $H_i = \frac{\sum(\text{minute – by – minute counts of all EIPs in hour } i)}{60 \text{ minutes}}$ $Avg(EIP) = \frac{\sum(H_i)}{\text{Total number of hours per month/quarter}}$ <p>Where H_i is the average hourly count of all EIPs and $Avg(EIP)$ is the average monthly/quarterly count of all EIPs per hour</p> <p>Metric: Average number of emergency inpatients (EIPs) per hour</p>
Description	<p>EIP: An emergency patient who has been admitted to the hospital (decision to admit time) but has not moved to an inpatient bed (ED last contact time).</p> <p>Decision to admit time: When an admission order or request is completed in an information system. If the admission order time is unknown, the request for an inpatient bed or admission time from the inpatient record is recorded as the decision to admit time.</p> <p>Emergency department last contact time: The last time there is a recorded emergency department entry in a patient's chart.</p>
Data source(s)	<p>Primary</p> <ul style="list-style-type: none"> - Emergency Department Information System (EDIS) - Regional Emergency Department Information System (REDIS) - Sunrise Clinical Manager (SCM) <p>Secondary</p> <ul style="list-style-type: none"> - National Ambulatory Care Reporting System (NACRS)
Assumptions	The data is comparable between NACRS and EDIS/REDIS/SCM.
Exclusions	1. Patients are excluded if their total emergency department length of stay is greater than 168 hours (7 days) or a recognized data entry error occurred. ⁴

¹ Documentation and sourcing for the reported emergency department measures is the result of collaborative work between members of the HQCA's Health System Analytics team and members of AHS' Analytics team. Credit regarding determining the appropriate data definitions should be attributed to the AHS Analytics team for most of the measures below.

² While the HQCA used all reasonable efforts to ensure the accuracy, completeness, and reliability of the data used in this website, data continues to expand in scope and completeness. As such, the values reported may change over time.

³ An emergency patient who has been admitted to the hospital but has not moved to an inpatient bed.

⁴ E.g., if the patient's total emergency department length of stay is less than 0 hours.

	2. Results from May and June 2016 are not reported for the Northern Lights Regional Health Centre due to the forest fire that affected Fort McMurray and forced the closure of the Northern Lights Regional Health Centre.
Limitations	<ol style="list-style-type: none"> 1. Final disposition (i.e., whether patients are recorded as admitted or discharged) can differ between the primary data sources (EDIS, REDIS, SCM) and the secondary data source (NACRS). These discrepancies may influence comparability between the regional sites, which rely heavily on NACRS data, and the Calgary and Edmonton sites. 2. There is a minimal amount of missing data for the emergency department last contact time. Overall, this amounts to less than 1% of the data at all of the emergency departments, except for the Northern Lights Regional Health Centre,⁵ during the 2016/17 fiscal year. This small amount of missing data is stable historically. 3. Patients might leave before the last contact time is recorded or stay in the emergency department for a variable amount of time after the emergency department last contact time. These times would not be captured.

Alberta Health Services, Analytics. "ED Census Summary." (2018) [Dashboard showing the average number of patients, per hour, in the emergency department waiting for a hospital bed, by month and facility]. *AHS Tableau Reporting Platform*. Retrieved from <https://tableau.ahs.ca>

⁵ The Northern Lights Regional Health Centre is missing 10% of its data on the emergency department last contact time during the 2016/17 fiscal year. Caution is urged when interpreting results for the Northern Lights Regional Health Centre, as the amount of missing data may make comparisons with this facility unreliable.