Indicator Methodology

Hospital Group Name

Hospitals are grouped under the following categories based on their annual visit volume:

Hospital Group Definition

Under 7,000 ED Visits Treat less than 7,000 annual ED visits

Very Low-Volume Treat less than 17,500 annual ED visits

Low-Volume Treat between 17,500 and 29,999 annual ED visits

Medium-Volume Treat between 30,000 and 49,999 annual ED visits

High-Volume Treat between 50,000 and 85,000 annual ED visits

Very High-Volume Treat over 85,000 annual ED visits

Paediatric Hospital Treat only patients 18 years of age or less. Generally, they provide all types of paediatric services.

Teaching Hospital Provide acute and complex patient care and have membership in the Council of Academic Hospitals of Ontario (CAHO). They are affiliated with a medical or health sciences school, are involved in significant research activity, and provide training for interns and residents.

Urgent Care Centre Hospital-affiliated; no current MOH definition

Data Quality and Suppression Descriptions Criteria

The following designations are used on the Scorecard:

Designation	Description
LV	Low volume. When volume used to calculate a metric is 1 to 5, the data will be suppressed with 'LV'. This applies to rates where either the numerator or denominator is between 1 and 5.
RI	Reporting Issue

Indicator Definition and Inclusion/Exclusion Criteria

Overall Exclusion Criteria (April 2018 onwards)

Cases are excluded from calculations if they fall in ANY ONE of the following exclusion criteria:

1. Cases where Registration date/time and Triage date/time are both blank/unknown (9999)

2. Cases where the MIS functional centre not under General Emergency Department ('713102000' '723102000' '733102000') or Urgent Care Centre ('713102500' '723102500' '733102500') - as of January 2015 data

3. Duplicate cases within the same functional centre where all ED data elements have the same values except for Abstract ID number

4. Cases where ED visit indicator is = "0" (i.e. scheduled ED visit)

Indicator Name: Time to Physician Initial Assessment (PIA)

Definition/calculation:

Data sources: NACRS Level 1

Defined as the time from Registration Date/Time or Triage Date/Time (whichever is earlier and valid) to the Physician Initial Assessment Date/Time

Inclusion Criteria:

ED visits after overall exclusion with

1. Actual Date and Time for both Triage/Registration (whichever is first/valid) and PIA/NPIA (whichever is first), AND
2. Time to PIA*** is not negative by more than 24 hours, AND
3. Time to PIA*** < 100,000 minutes (1,666 hours), AND
4. PIA/NPIA Date and Time ≤ Disposition Date and Time, AND
5. PIA/NPIA Date and Time ≤ Patient Left ED Date/Time
6. (IF using NPIA) Valid NPIA types:

- Non-Physician Service Types such as Nurse Practitioner, Physician Assistants and Dentists

*** *TIME TO PIA = Earlier of the two assessment times (i.e., PIA Date/Time OR NPIA Date/Time) - Triage or Registration Date/Time (whichever is earlier)*

Exclusion Criteria:

1. Patients left without being seen
2. Cases where PIA Date/Time is unknown (9999) or blank
3. PIA Date/Time is AFTER Disposition Date/Time or Patient Left ED Date/Time

If NPIA is used:

1. Patients left without being seen
2. Cases where NPIA Date and Time is unknown (9999) or blank

3. Cases where NPIA Service is unknown or blank
4. NPIA Date/Time is AFTER Disposition Date/Time or Patient Left ED Date/Time
5. Exclude Non-Physician Service types other than Nurse Practitioner, Physician Assistants and Dentists*

*For the purposes of this indicator only the following NPIA Service types will be included: Nurse Practitioners, Physician Assistants or Dentists.

NOTE:

1. If PIA is less than or equal to 24 hours prior to Registration/Triage Date/Time i.e., when 'Time to PIA' is negative, the Time to PIA or PIA LOS will be set to 'zero'.
2. If NPIA is less than or equal to 24 hours prior to Registration/Triage Date/Time i.e. when Time to NPIA is negative and within 24 hours, the Time to NPIA will be set to 'zero'.
3. If both PIA AND NPIA are available AND Time to PIA or Time to NPIA is negative AND less than 24 hours prior to Registration/Triage Date/Time, Time to PIA will be set to 'zero'.
4. All negative values for Time to NPIA greater than 24 hours prior to Registration or Triage Date/Time will be considered as 'null/blank'.

The following are the Non-Physician Services and the CIHI Provider Service Numbers:

- Dentistry Group - 01000
- Dentistry - 01001
- Dental Surgery - 01002
- Oral Surgery - 01003
- Orthodontistry - 01004
- Paedodontistry - 01005
- Periodontistry - 01006
- Oral Pathology - 01007
- Endodontistry - 01008
- Oral Radiology - 01009
- Pediatric Oral Surgery - 01012
- Pediatric Dentistry - 01013
- Practitioner Nursing - 11003

- Physician Assistant Service - 30000*

**# From April 01, 2011 onwards only 30000 will be used for the Time to PIA calculation*

Indicator Name: Ambulance Offload Time (AOT)

Definition/Calculation:

Data sources: NACRS Level 1

AOT = Ambulance Transfer of Care Process Date/Time - Ambulance Arrival Date/Time

Inclusion Criteria:

Number of ED visits after overall exclusion with:

1. Actual Date and Time for both Ambulance Arrival and Ambulance Transfer of Care Process, AND
2. AOT is not negative, AND
3. AOT <= 1,440 minutes, AND
4. Ambulance Arrival Indicator of A (Air), G (Ground), or C (Combination).

Exclusion Criteria:

1. Overall Exclusion criteria
2. ED visits where Ambulance Arrival Date/Time or Ambulance Transfer of Care process Date/Time is missing
3. Negative AOT
4. AOT greater than or equal to 1,440 minutes
5. Non ambulance arrivals

Indicator Name: Daily Average Number of Patients Waiting for Inpatient Bed @ 8AM

Definition/Calculation:

Data sources: NACRS Level 1

Admitted patients who at 8:00 am had been waiting at least 2 hours since their disposition decision was made and who left the ED after 8:00 am

Daily Average Number of Patients Waiting for IPB @8AM = [Sum of (Number of Patients in ED Waiting for Inpatient Bed every day at 8:00 am)]

Total days of the month

Note: Effective September 2014 data, for the purposes of OH ED performance reports, the indicator "Daily Average # of Patients Waiting for an Inpatient Bed at 8AM" will show values to one decimal point at all levels of aggregation including Sub-Region and Province. This change will be applied to all historic months since April 2008.

Inclusion Criteria:

1. ED Visits ED visits where ED Visit Disposition Code = '06', '07'

- ED Visit Disposition Code '06': Admit to reporting facility as an inpatient to special care unit or Operating Room from ambulatory care visit functional centre
- ED Visit Disposition Code '07': Admit to reporting facility as an inpatient to another unit of the reporting facility from the ambulatory care visit functional centre

Exclusion Criteria:

1. Overall Exclusion criteria
2. ED visits where ED Disposition Date/Time is missing or unknown
3. ED visits where Patient Left ED Date/Time is missing or unknown
4. ED visits where time from ED Disposition Date/Time to Patient Left ED Date/Time is greater than 100,000 minutes (1,666 hours)

Indicator Name: ED Length of Stay (LOS) for Admitted and Non-admitted

Definition/Calculation:

Data sources: NACRS Level 1

ED LOS for ED Visits without designated Clinical Decision Unit (CDU): Date/Time Patient Left ED - ED Triage/Registration (whichever is earlier and valid) Date/Time

ED LOS for ED Visits with designated CDU1: ED LOS = Total ED LOS - CDU LOS

Prior to June 2015

CDU LOS = Patient Left ED Date/Time or CDU Date/Time Out - CDU Date/Time In

July 2015 onwards

CDU LOS = Patient ED Disposition Date/Time or CDU Date/Time Out - CDU Date/Time In

1 CDU Length of Stay: ED facilities who have NOT informed CCO about their designated CDU status will be excluded, even if CDU Flag is 'Y' and/or other CDU fields are completed

Inclusion Criteria:

ED visits after overall exclusion with

1. Actual Date and Time for Patient Left ED, AND
2. ED LOS is not negative, AND
3. ED LOS < 100,000 minutes, AND
4. Patient did not leave without being seen by a physician during their visit

For Admitted ED LOS, use unscheduled ED visits with ED Disposition Code equal to '06' or '07' (Admitted patients)

For Non-admitted ED LOS, use unscheduled ED visits with ED Disposition Code not equal to '06' or '07' (Non-admitted patients)

Exclusion Criteria:

1. Overall Exclusion criteria
2. Cases where Patient Left ED Date/Time are blank/unknown (9999)
3. Cases where patient has left without being seen by a physician during their visit (Disposition Code 02 & 03, or 61 & 63*);
4. ED LOS is greater than or equal to 100,000 minutes (1,666 hours)

**Note: Disposition Code 02, 03 was replaced with 61 and 63 starting with April 2018 data onwards*

<u>Indicator Name: Time to Inpatient Bed (IPB)- applies to admitted patients only</u>

Definition/Calculation:

Data sources: NACRS Level 1

Time to IPB = Date/Time Patient Left ED - ED Disposition Date/Time

Inclusion Criteria:

Admitted ED visits after overall exclusion criteria with:

1. Actual Date and Time for both Disposition Decision and Patient Left ED, AND
2. Time to IPB is not negative, AND
3. Time to IPB < 100,000 minutes, AND

4. Admitted disposition (ED Disposition =Code '06' or '07')

Exclusion Criteria:

1. Overall Exclusion criteria
2. Cases where Patient Left ED Date/Time are blank/unknown (9999)
3. Cases where Disposition Date/Time is 9999 (unknown) or blank
4. Time to Inpatient Bed is greater than or equal to 100,000 minutes (1,666 hours)

Indicator Name: Left Without Being Seen Rate

Definition/Calculation:

Data sources: NACRS Level 1

The number of patients that left the ED without being seen as a percentage of the total unscheduled ED visits

Left Without Being Seen = All ED Visits Left Without Being Seen x 100

All ED Visits (Unscheduled)

Inclusion Criteria:

1. ED Visits Left Without Being Seen defined by Disposition Code in (61, 63)*

** Note: disposition code '02', '03' was replaced with '61' and '63' starting with April 2018 data onwards*

Exclusion Criteria:

1. Overall Exclusion criteria
2. Disposition Code is missing or blank

Indicator Name: Acute Alternate Level of Care (ALC) Rate

Definition/Calculations:

Data Source: Wait Time Information System (WTIS-ALC) and Daily Bed Census Summary (dBCS)

- The day of ALC Designation is counted as an ALC Day but the date of Discharge or Discontinuation is not counted as an ALC Day

- For cases with an ALC Designation Date on the last day of a reporting period and no Discharge or Discontinuation Date, then ALC Days = 1
- The ALC Rate indicator methodology makes the assumption that the Inpatient Service data element (as defined in the WTIS) is comparable to the Bed Type data element (as defined in the dBCS)

Acute ALC Rate = Total number of ALC Days in a month x 100

Total number of Inpatient Days in the same month

Numerator: Total ALC Days

The total ALC days represents the number of ALC days contributed by patients designated ALC within the same reporting period as the Bed Census Summary data submitted.

Inpatient service type is identified in the WTIS.

Acute ALC days = ALC days for Inpatient Services Non-Surgical + Surgical Unit + Intensive Care

Denominator: Total Inpatient Days (October 2021 Data onwards)

Acute Admission, Discharge and Death data is submitted as of 12:00 AM midnight. Data on the number of patients occupying a bed is submitted as of 11:00 AM.

A snapshot of the data is taken on a defined date from the application to use for the total patient days

Acute Inpatient Days = the total number of inpatient days occupying Acute bed including Mental Health Children/Adolescent (AT) beds

Inclusion Criteria:

Numerator: Includes on acute Inpatient bed types Non-Surgical, Surgical Unit and Intensive Care types

Denominator: Include inpatient days occupying Acute bed including Mental Health Children/Adolescent (AT) beds

Exclusion Criteria:

Numerator:

1. ALC cases discontinued due to 'Data Entry Error'
2. ALC cases identified by the facility for exclusion
3. ALC Days is excluded for the portion of the time when Inpatient Service = Discharge Destination for Post-Acute Care (*Exception: Bloorview Rehab, CCC to CCC)

Denominator:

1. Patient days contributed by inpatients in the Emergency Department (Bed Type = Emergency (Emerg + PARR. Emergency +PARR))

2. Patient days contributed by newborns in bassinets and NICU bassinets
3. Patient days in Alternate Health Facility (AHF) or Reactivation Care Centre (RCC) beds are excluded based on unique Master Institution Number assigned to RCCs and AHFs.

Indicator Name: Acute Bed Occupancy Rate

Definition/Calculations:

Data Source: Daily Bed Census Summary

Average Bed Occupancy of each day in the month

Acute Bed Occupancy Rate = [# of Acute Patients admitted into conventional & unconventional space] x100

[# of Acute Beds physically available and operational]

Inclusion Criteria:

Include inpatient days occupying Acute bed including Mental Health Children/Adolescent (AT) beds

Exclusion Criteria:

Patient days contributed by inpatients in the Emergency Department (Bed Type = Emergency (Emerg + PARR. Emergency +PARR))

Patient days contributed by newborns in bassinets and NICU bassinets

Patient days in Alternate Health Facility (AHF) or Reactivation Care Centre (RCC) beds are excluded based on unique Master Institution Number assigned to RCCs and AHFs.

Indicator Name: eCTAS Override Rate

Definition/Calculation:

Data sources: NACRS Level 1

eCTAS Override Rate = Number of ED patients where the triage nurse has overridden the eCTAS score x 100

Number of ED patients triaged using eCTAS

Inclusion Criteria:

1. Override rate is only applicable for sites that have implemented eCTAS;

2. Override rate includes ED patients where the override score is equal to the calculated CTAS Score or Submitted CTAS Score as long as an Override Reason is entered. These cases indicate an attempt to override, which is included in the Override rate;
3. Override rate includes records where the triage nurse has used clinical judgement to override the calculated eCTAS score, according to clinical data entered by a nurse, for one of the following reasons:

o Patient Appears Sicker

o Past Medical History

o Patient Presentation History

o Patient/Caregiver Distress

4. If there are multiple triage assessments for one episode, then the data from the first triage assessment will be used;

Exclusion Criteria:

1. Cases with unknown CTAS score are excluded;
2. Cases with an invalid or missing site code are excluded

Indicator Name: ED Return Visit Rate within 7 days and within 30 days

Definition/Calculation:

Data sources: NACRS Level 1

Number of unscheduled ED revisits within 7 days or 30 days of the index visit as a percentage of the total unscheduled ED visit

ED Return Visit Rate within 7 or 30 days = All ED Revisits within 7 days or 30 days of an index visit x 100

All ED Visits (Unscheduled)

- **Index visit**: unique unscheduled ED visit by a patient
- **Revisit**: subsequent unscheduled ED visit that occurred after the index visit to the same or different ED site by the same patient within 7 days or 30 days of initial Registration Date

Inclusion Criteria:

1. Index visit Unique 10-digit Health Card Number excluding suffix
2. Unscheduled ED revisit can be at the same or different ED site

Exclusion Criteria:

1. Overall Exclusion criteria
2. Cases where Patient Left ED Date/Time are blank/unknown (9999)

ED Readmission Rate within 30 days

Definition/Calculation:

Data sources: NACRS Level 3 and DAD

ED readmission rate is the volume of ED readmissions within 30 days as a proportion of the total number of discharges from the acute inpatient site associated with the ambulatory site.

ED Readmission Rate within 30 days = All ED readmissions within 30 days of an index discharge from any site to site A x100

All Discharges from site A

Inclusion Criteria:

For numerator:

1) Index case is a patient who has a hospital admission and a subsequent discharge record in DAD (at any facility with or without an ER)

2) Index case patient has a ED Registration Date/Time within 30 days of the discharge with a disposition decision to admit (ie Disposition code in ('06', '07')). Disposition Decision Date/Time can be beyond the 30 days window.

3) Index cases are reported in the month of the ED Registration Date

Exclusion Criteria:

For numerator:

NACRS visits:

1) Scheduled visits

2) ED revisits that are not admitted (ie. Disposition code NOT in ('06', '07'))

3) ED registration Date/Time is earlier than Discharge Date/Time

4) Records missing and non-unique Registration Date/Time

For denominator:

DAD admissions:

1) Records with missing valid data on Discharge/Admission date, Ontario Health card number (unique 10-digit HCN excluding suffix)

2) Index cases coded as transfer (Discharge disposition code '10' or '20') to another acute inpatient hospitals, death or sign-outs

3) Exclude cases with Discharge disposition = '07' (death). For FY 2018 and onwards, exclude cases with discharge disposition = '72' (died in facility), '73' (medical assistance in dying (MAID)), '74' (suicide in facility).

Indicator Name: ED Return Visit Rate within 7 days (Sentinel Diagnosis Only)

Definition/Calculation:

Data Source: NACRS Level 3 and DAD

ED Return Visit Rate within 7 days (Sentinel Diagnosis only) = Volume Admitted with Sentinel Diagnosis within 7 days of Non-Admit ED Visit x100

Volume Non-Admit ED Visit with Paired Sentinel Diagnosis

- **Numerator**: # return visits of initial ED non-admit visits within 7 days (based on Index ED Visit Left ED Date/Time and Return ED Visit Registration Date/Time) to the same or different hospital that resulted in an inpatient admission (from DAD) with sentinel diagnosis on the ensuing hospitalization. Hospitalizations were identified where the 2nd ED Visit Disposition Date/Time and DAD Admission Date/Time were within 12 hours
- **Denominator**: Total # of unscheduled non-admitted emergency visits in the reporting period with paired sentinel diagnosis criteria (see age and first ED visit diagnosis criteria for each sentinel diagnosis group in the Sentinel Diagnosis Groups below)

Note: in instances where multiple admissions or ED visits occur, encounters with the earliest difference were chosen. Patients with prior history of sentinel diagnosis were excluded, please see Sentinel diagnosis groups section for more details.

Inclusion and Exclusion Criteria by Sentinel Diagnosis Groups:

A) **Acute Myocardial Infarction (AMI)**

Inclusion Criteria:

1. Age > 20 and < 95 years at hospital admission or First ED visit

2. Discharged inpatient cases (DAD) that have any of the following ICD-10 codes as the most responsible diagnosis: I21.0 to I21.9

3. First ED visit (NACRS) that has any of the following ICD-10 codes as the main problem diagnosis:

-Abdominal pain (R10.1, R10.3, or R10.4)

-Angina (I20)

-Chest pain (R07.1 to R07.4)

-Heartburn, esophagitis, or gastritis (R12, R13, K20, K21, K22.9, K23.8, K29, or K30)

-Shortness of breath or congestive heart failure (R06.0, R06.8, I50, or J81)

-Syncope/malaise (ICD- 10-CA R42, R53, or R55)

Exclusion Criteria:

1. Patients with inpatient discharge in the previous year with AMI (I21.0 to I21.9) as the most responsible diagnosis

B) **Subarachnoid Hemorrhage (SAH)**

Inclusion Criteria:

1. Age > 18 years at hospital admission or First ED Visit

2. Discharged inpatient cases (DAD) that have any of the following ICD-10 codes as the most responsible diagnosis: I21.0 to I21.9

3. First ED visit (NACRS) that has any of the following ICD-10 codes as the main problem diagnosis:

-Giant cell arteritis (M315-6)

-Hypertension (I100-1)

-Meningitis (A870-9, G000-9, G01, G020-8, G030-9, G042)

-Migraine/headache (F454, G430-9, G440-2, G448, R51)

-Neck pain (M436, M4642, M4782, M4792, M4802, M501-9, M530, M531, M542, S1340-2, S1348, S136, S168)

-Sinusitis (J010-9, J320-9)

-Stroke/transient ischemic attack (G450, G459, I64, I674)

-Syncope and collapse (R55)

Exclusion Criteria:

1. Patients with inpatient discharge in the previous year for SAH (I60.0 to I60.9) or cerebral aneurysm (I67.1) as the most responsible diagnosis

C) Pediatric Sepsis

Inclusion Criteria:

1. Age 30 days to 5 years at hospital admission or First ED Visit

2. Discharged inpatient cases (DAD) with minimum Total Length of Stay of 4 days or Discharge Disposition of Died ('07','72','73','74'),

and with any of the following ICD-10 codes as the Main Responsible Diagnosis:

Meningitis: A390, G000, G001, G002, G003, G008, G009, G01, G030, G039, A870, A871, A878, A879, B003, B010, B021, B051, B261, B375, G020

Septicemia/Sepsis: A021, A327, A392, A394, A400, A401, A402, A403, A408, A409, A410, A411, A412, A413, A414, A4150, A4151, A4152, A4158, A4159, A4180, A4188, A419, A483, R572

3. Direct Admission to ICU (Special Care Unit code not in '90','93','95','99' and Special Care Unit Admit Date/Time within 30 minutes of DAD Admission Date/Time)

4. First ED visit (NACRS) that has any of the following ICD-10 codes as the Main Problem diagnosis:

-Abdominal and pelvic pain (R10)

-Abnormalities of breathing (R06)

-Acute obstructive laryngitis [croup] and epiglottitis (J05)

-Back pain (M54)

-Convulsions, not elsewhere classified (R56)

-Cough (R05)

-Diarrhea and gastroenteritis of presumed infectious origin (A09)

-Headache (R51)

-Fever of unknown origin (R50)

-Malaise and fatigue (R53)

-Nausea and vomiting (R11)

-Other disorders of eye and adnexa (H57)

-Other functional intestinal disorders (K59)

-Other general symptoms and signs (R68)

-Other noninfective gastroenteritis and colitis (K52)

-Rash and other nonspecific skin eruption (R21)

-Symptoms and signs concerning food and fluid intake (R63)

-Viral infection (B349)

Exclusion Criteria:

1. Any acute inpatient admissions where a prior acute inpatient discharge occurred within 14 days (regardless of diagnosis)

Indicator Name: Pay for Results (P4R) Performance Rank

Definition/Calculation:

Data Source: NACRS Level 1 for the current month and NACRS Level 3 for previous months

Performance Rank is a measure of the variable component of the Funding Methodology. It is the Funding rank before volume adjustment based on the cumulative performance from December to November the next year.

Performance Rank is assigned based on the Performance Score, where the highest rank is assigned to the site with the highest score and each site is ranked best to worst

Performance Score is comprised of two components; Current Score and Improvement Score

Current Score = Sum of each site's score based on their rank* compared to all other sites in the P4R Program for the following six indicators:

a) 90th percentile ED LOS for admitted patients

b) 90th percentile ED LOS for non-admitted high acuity patients

c) 90th percentile ED LSO for non-admitted low acuity patients

d) 90th percentile Time to Physician Initial Assessment (PIA)

e) 90th percentile Time to Inpatient Bed (IPB)

f) 90th percentile Ambulance Offload Time (AOT)

*Rank based on the cumulative performance in the current Performance period from best (#1) to worst (#76), where the best performing site is awarded the highest score (ie. Score for 1st ranked site = 76 points)

Note: Please refer to earlier sections of this document for the methodology of the six indicators

Improvement Score = Sum of each site's score based on their rank** compared to all other sites in the P4R Program based on the same indicators as the Current Score *except AOT*.

**Rank based on the average monthly % improvement compared to the baseline performance of each indicator in FY15/16 from best (#1) to worst (#76), where the best performing site is awarded the highest score (ie. Score for 1st ranked site = 76 points)

Performance Score = (Current Score x 70%) + (Improvement Score x 30%)

Performance Rank = Site's Performance Score rank compared to all other sites in the P4R Program (Highest Performance score is assigned a rank of 1)

Inclusion Criteria:

1. Data submitted for the Performance period starting in December to November of the following year (Final data submission is in December)

Exclusion Criteria:

1. ED Sites with fiscal year ED volumes less than 30,000 for two consecutive years