



Emergency Department Visits: Volumes and Median Lengths of Stay Metadata

As of December 2021, statistics on emergency department (ED) visits (including historical results) are available in pre-formatted supplementary data tables from the Canadian Institute for Health Information (CIHI). Previously, these results were available in interactive tables in CIHI's [Quick Stats](#) tool.

Metadata for the supplementary data tables follows the template below:

Name of file	General description of the file of interest
Data source(s)	Database(s) from which the data for the table of interest is derived
Available statistics	Figures available in the table of interest (e.g., number of visits, length of stay)
Available breakdowns	All possible methods by which the data for the table of interest may be grouped (e.g., by sex, by 5-year age groups)
Inclusions	Characteristics of records included in the data for the table of interest
Exclusions	Characteristics of records excluded from the data for the table of interest
Methodology	Analytical approach used to calculate the figures presented in the table of interest
Important notes	Additional information that is relevant to the table of interest (e.g., coverage in a particular fiscal year)
Contact details	Where to get more information on these tables





Quick Stats Metadata

Name of file	NACRS Emergency Department Visits: Volumes and Median Lengths of Stay, 2003–2004 to 2021–2022 — Supplementary Statistics
Data source(s)	National Ambulatory Care Reporting System (NACRS), Canadian Institute for Health Information (CIHI)
Available statistics	<ul style="list-style-type: none"> • Number of ED Visits • Median Length of Stay (LOS) (Minutes)
Available breakdowns	<ul style="list-style-type: none"> • Fiscal Year of Visit, Based on Registration Date <ul style="list-style-type: none"> – 2003–2004 to 2021–2022 • Triage Level <ul style="list-style-type: none"> – Total, resuscitation, emergent, urgent, less urgent, non-urgent, unknown • Visit Disposition (VD) <ul style="list-style-type: none"> – Total, discharged home or to place of residence, not seen or left, admitted, transferred, death, intra-facility transfer, unknown • Main Problem <ul style="list-style-type: none"> – Any, acute myocardial infarction (AMI), asthma, pneumonia, influenzal pneumonia, trauma, motor vehicle collision (MVC), unintentional fall • Sex <ul style="list-style-type: none"> – All, male, female • 5- and 20-year age groups
Inclusions	<ul style="list-style-type: none"> • ED visits from participating facilities in Prince Edward Island, Nova Scotia, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and Yukon are included. Note: ED visit data from Quebec is included in NACRS as of 2018–2019. <ul style="list-style-type: none"> – ED visits are defined by the Management Information Systems (MIS) Functional Centre Account Code Series = 7*310 or amcare group code = ED (as of 2010–2011). • Canadian and non-Canadian residents receiving care in participating Canadian EDs are included. • Records with invalid LOS are included in the number of ED visits. • Records with unknown triage level are included in the number of ED visits. • Records where sex is categorized as “other” are included in the “all” sex counts. • Records where birthdate is unknown are included in the “total” age counts.
Exclusions	<ul style="list-style-type: none"> • Visits from non-participating ED facilities are excluded. • Scheduled ED visits are excluded. <ul style="list-style-type: none"> – Scheduled ED visit indicator = “Y” or ED visit indicator = “0” (as of 2011–2012). • Records where sex is categorized as “undifferentiated” are excluded (as of 2012–2013). • Records with invalid LOS or patient registered but left without being seen or triaged (VD = 02 from 2013–2014 to 2017–2018, and VD = 61 as of 2018–2019) are excluded from the median LOS calculation. • Also excluded are duplicate records that were identified using all data elements except the following: am_care_key, abstract_id_number and date_recorded.



Methodology

1. Triage Level: The 5 levels of triage for ED visits were developed by the Canadian Association of Emergency Physicians (CAEP) with definitions according to the Canadian Emergency Department Triage and Acuity Scale (CTAS).
 - Resuscitation (Triage Level = 1): Conditions that are threats to life or limb (or imminent risk of deterioration) requiring immediate aggressive interventions.
 - Emergent (Triage Level = 2): Conditions that are a potential threat to life, limb or function, requiring rapid medical intervention or delegated acts.
 - Urgent (Triage Level = 3): Conditions that could potentially progress to a serious problem requiring emergency intervention. May be associated with significant discomfort or affect ability to function at work or activities of daily living.
 - Less urgent (Triage Level = 4): Conditions that are related to a patient's age, distress or potential for deterioration or complications that would benefit from intervention or reassurance within 1 to 2 hours.
 - Non-urgent (Triage Level = 5): Conditions that may be acute but non-urgent as well as conditions that may be part of a chronic problem, with or without evidence of deterioration. The investigation of or interventions for some of these illnesses or injuries could be delayed or even referred to other areas of the hospital or health care system.
 - Unknown (Triage Level = 9 or blank): Occurs when triage level is not documented or patient leaves before triage (VD = 02 from 2013–2014 to 2017–2018, and VD = 61 as of 2018–2019).
2. Visit Disposition: VD refers to one of the following types of separation from the ED as defined by CIHI–NACRS (refer to the NACRS Manual for specific VD legend):
 - VD codes and the VD groups shown in these supplementary tables were modified as of 2018–2019.
 - Discharged home includes VD = 16 (home with support/referral) or VD = 17 (private home) as of 2018–2019. VD = 01 (discharged home) or VD = 15 (discharged to place of residence) were included for fiscal years up to 2017–2018. Note: VD = 15 was introduced in 2005–2006. For previous fiscal years, only VD = 01 was included in this group.
 - Not seen or left includes VD = 61 (leave post registration), VD = 62 (leave post initial treatment), VD = 63 (left after triage) or VD = 64 (left after initial assessment) as of 2018–2019. VD = 02, 03, 04 or 05 were included in previous fiscal years.
 - Admitted includes VD = 06 (admit to reporting facility as inpatient to special care unit or OR from ambulatory care visit functional centre) or VD = 07 (admit to reporting facility as an inpatient to another unit of the reporting facility from the ambulatory care visit functional centre).
 - Transferred includes VD = 08 (transfer to another acute facility), VD = 09 (transfer to another non-acute care facility), VD = 30 (residential care), VD = 40 (group/supportive living) or VD = 90 (correctional facility). Note: VD = 30, 40 and 90 were introduced in 2018–2019; therefore, for previous fiscal years, only VD = 08 or 09 were included in this group.
 - Death includes VD = 71 (dead on arrival), VD = 72 (died in facility), VD = 73 (medical assistance in dying) or VD = 74 (suicide in facility) as of 2018–2019. VD = 10 (death after arrival) or VD = 11 (death on arrival) were included in previous fiscal years.
 - Intra-facility transfer includes VD = 12 (intra-facility transfer to day surgery), VD = 13 (intra-facility transfer to the ED) or VD = 14 (intra-facility transfer to clinic).



Methodology (continued)

3. Main Problem

- Acute Myocardial Infarction (AMI): ED visit record with any of the following ICD-10-CA codes documented as the Main Problem:
 - a. Versions 2003 and 2006: I21 or I22
 - b. Version 2007 patch, versions 2009, 2012, 2015, and 2018: I21, I22, R94.30 or R94.31*
- Pneumonia: ED visit record with any of the following ICD-10-CA codes documented as the Main Problem:
 - a. Versions 2003 and 2006: A481, J120, J121, J122, J128, J129, J13, J14, J150, J151, J152, J153, J154, J155, J156, J157, J158, J159, J160, J168, J180, J181, J182, J188, J189 or J851
 - b. Versions 2009, 2012, 2015, and 2018: A481, J120, J121, J122, J128, J129, J13, J14, J150, J151, J152, J153, J154, J155, J156, J157, J158, J159, J160, J168, J180, J181, J182, J188, J189, J851 or J123
- Influenzal Pneumonia:† ED visit record with any of the following ICD-10-CA codes documented as the Main Problem:
 - a. Version 2003: J10.0 or J11.0
 - b. Versions 2006, 2009, 2012 and 2015: J09, J10.0 or J11.0
 - c. Version 2015 and 2018 for fiscal years 2016–2017 to 2021–2022: J10.0 or J11.0
- Asthma: ED visit record with the following ICD-10-CA code documented as the Main Problem:
 - Versions 2003, 2006, 2009, 2012, 2015, and 2018: J45
- Trauma: ED visit record (excluding those where Main Problem equals AMI, pneumonia, influenza pneumonia or asthma) with any of the following ICD-10-CA codes documented as one of the Other Problems:
 - a. Version 2003: V01–V99, W00–W19, W20–W45, W49–W60, W64–W70, W73–W77, W81, W83–W94, W99, X00–X06, X08–X19, X30–X39, X50, X52, X58, X59, X70–X84, X86, X91–X99, Y00–Y05, Y07–Y09, Y20–Y34 or Y35–Y36
 - b. Versions 2006 and 2009: V01–V99, W00–W19, W20–W45, W46, W49–W60, W64–W70, W73–W77, W81, W83–W94, W99, X00–X06, X08–X19, X30–X39, X50, X52, X58, X59, X70–X84, X86, X91–X99, Y00–Y05, Y07–Y09, Y20–Y34 or Y35–Y36
 - c. Versions 2012, 2015, and 2018: V01–V99, W00–W19, W20–W44, W4509, W46, W49–W60, W64–W70, W73–W77, W81, W83–W94, W99, X00–X06, X08–X19, X30–X39, X50, X52, X58, X59, X70–X84, X86, X91–X99, Y00–Y05, Y07–Y09, Y20–Y34 or Y35–Y36
- Motor Vehicle Collision (MVC):‡ ED visit record (excluding those with Main Problem equal to AMI, pneumonia, influenza pneumonia or asthma) with any of the following ICD-10-CA codes documented as one of the Other Problems:
 - Versions 2003, 2006, 2009, 2012, 2015, and 2018: V01–V99
- Unintentional Fall:‡ ED visit record (excluding those with Main Problem equal to AMI, pneumonia, influenza pneumonia or asthma) with any of the following ICD-10-CA codes documented as one of the Other Problems:
 - Versions 2003, 2006, 2009, 2012, 2015, and 2018: W00–W19

Notes

* R94.30 and R94.31 are suggestive of potential cases of AMI and require further investigation in the acute care setting to determine the outcome.

† The counts of influenza pneumonia were not included in the counts of pneumonia.

‡ MVC and Unintentional Fall are subsets of the Trauma category. Other transport accidents (such as water, air and space transport accidents) were included in the MVC category as well; however, these accounted for less than 2% of MVC-related ED visits.



Quick Stats Metadata

Methodology (continued)

4. Age: Registration Date minus Date of Birth
5. Number of ED Visits: All records meeting the above inclusion and exclusion criteria
6. Median Length of Stay:
 - As of 2013–2014, Median LOS is calculated based on LOS_HOURS, which is a derived data element in NACRS. The median LOS (in minutes) was converted by multiplying LOS_HOURS by 60.
 - From 2010–2011 to 2012–2013, LOS = [Disposition Date/Time or Patient Left ED Date/Time] minus [Registration Date/Time or Triage Date/Time].
 - If VD = 02, use Registration Date/Time; otherwise, use whichever is earlier: Triage Date/Time or Registration Date/Time.
 - If VD = 06, 07, 08, 09, 12, 13 or 14, use Patient Left ED Date/Time if known; otherwise, use Disposition Date/Time.
 - If VD = 01, 02, 03, 04, 05, 10, 11 or 15, use Disposition Date/Time if known; otherwise, use Patient Left ED Date/Time.
 - From 2008–2009 to 2009–2010, LOS = [Disposition Date/Time or Patient Left ED Date/Time] minus [Registration Date/Time or Triage Date/Time].
 - If VD = 02, use Registration Date/Time; otherwise, use whichever is earlier: Triage Date/Time or Registration Date/Time.
 - If VD = 06, 07, 08 or 09, use Patient Left ED Date/Time if known; otherwise, use Disposition Date/Time.
 - If VD = 01, 02, 03, 04, 05, 10, 11, 12, 13, 14 or 15, use Disposition Date/Time if known; otherwise, use Patient Left ED Date/Time.
 - For 2007–2008, LOS = [Disposition Date/Time or Patient Left ED Date/Time] minus [Registration Date/Time or Triage Date/Time].
 - If VD = 02, use Registration Date/Time; otherwise, use whichever is earlier: Triage Date/Time or Registration Date/Time.
 - If VD = 06, 07, 08 or 09, use Patient Left ED Date/Time if known; otherwise, use Disposition Date/Time.
 - If VD = 01, 02, 03, 04, 05, 10, 11, 12, 13, 14 or 15, use Disposition Date/Time.
 - From 2003–2004 to 2006–2007, LOS = [Visit Completed Date/Time] minus [Registration Date/Time or Triage Date/Time].
 - If VD = 02, use Registration Date/Time; otherwise, use whichever is earlier: Triage Date/Time or Registration Date/Time.



Quick Stats Metadata

Important notes	<ul style="list-style-type: none">• While CIHI applies rigorous edit checks to NACRS data and provides coder training and vendor support, CIHI ultimately relies on submitting facilities to ensure that their data accurately and completely reflects the true patient ambulatory activity in those facilities.• The number of facilities that submit ED visit data to NACRS has varied since 2003–2004. Due to this variation, trending across fiscal years, especially for jurisdictions that did not have complete coverage, is not recommended. Users are advised to refer to the NACRS Data Quality documents for more details.• In addition to the supplementary tables, NACRS pre-formatted tables can be also accessed via Quick Stats. To access these tables on CIHI's website (cihi.ca), please click Access Data and Reports > Quick Stats (under Frequently accessed). Then search for "NACRS."• For detailed methodological information relating to Total Time Spent in Emergency Department (Hours, Percentile), please visit CIHI's indicator library.• Statistics presented reflect the number of visits, which does not necessarily equal the number of patients.• In 2003–2004, 2004–2005 and 2008–2009, some facilities reported a disproportionately high number of ED visit records (greater than 10%) coded as VD = 05 (left before medical treatment completed). These records were included in the number of ED visits but were excluded from the valid VD count.• For 2003–2004, 2004–2005 and 2005–2006, LOS for ED visits may be overestimated for some facilities due to the difficulty of collecting the exact time the visit was completed. When the exact time the visit is completed is not available, some vendor systems and abstractors may use 2359 as a proxy value.• LOS in the ED might not be comparable across historical fiscal years due to newly added and/or retired time elements related to the calculation of LOS in the ED; in 2007–2008, 4 data elements (Decision to Admit Date/Time and Date/Time Visit Completed) were deleted from NACRS because it was not possible to calculate key indicators. 4 new data elements (Disposition Date/Time and Date/Time Patient Left ED) were introduced in NACRS in 2007–2008 so that key indicators, such as Time Waiting for Inpatient Bed, could be calculated.
Contact details	<p>For information on the National Ambulatory Care Reporting System, please visit the NACRS metadata page or contact us at cad@cihi.ca.</p> <p>All other inquiries can be sent to</p> <p>Canadian Institute for Health Information 495 Richmond Road, Suite 600 Ottawa, Ontario K2A 4H6 Telephone: 613-241-7860 Fax: 613-241-8120</p>

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