Canadian Institute for Health Information
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Analysis in Brief
Taking health information further

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Emergency Departments and Children in Ontario

Introduction

This Analysis in Brief describes emergency department (ED) use by children, including how often they come, when they come, how long they wait and what happens at the end of their ED visit. It explores variations in ED use and wait times among Ontario's local health integration networks (LHINs) and variations among different types of EDs. A comparison of children's ED experiences to those of adults and seniors is also provided.

The report is intended to provide policy-makers and hospital planners with new information to consider when exploring options for primary care and emergency services for children at the local level.

Key Findings

In 2005–2006:

- Almost one-quarter (23%) of all ED visits in Ontario were made by children, newborn to 17 years.
- Just over 685,000 children made more than one million visits to EDs. Of these children, 31.8% made two or more visits in the year, with almost one-quarter (23.5%) of these children returning to the ED within 72 hours of their previous visit.
- Children aged 1 to 4 years were seen most often in the ED—30.1% of all visits were made by children in this age group.
- Newborns and babies in the age group 0 to 364 days had the highest rate of visits per 1,000 children at 802 and 42.6% came to the ED more than once in the year.
- More than half of the children (51.5%) waited one hour or less to be seen by a physician and 54.3% completed their ED visit in two hours or less. One in 10 children spent almost five hours or longer in the ED.
- The large majority of children (90.3%) returned home from the ED while 4.1% were admitted for inpatient care directly from the ED.

- Almost 50,000 children (4.6%) left the ED prior to their visit being completed, of which 33.5% were aged 1 to 4 years and 47.9% were triaged as requiring less-urgent care (level IV). Almost 13% of children who left prior to visit completion returned to an ED within 72 hours.
- The most common time of day for children to visit the ED was around 7 p.m.; the most common day of the week for children to visit an ED was Sunday.
- In comparison to adults and seniors, children, on average, had similar time to initial physician assessment but shorter total time spent in the ED and wait time for an inpatient bed.
- In comparison to other LHINs, EDs in northern Ontario had the highest number of visits per 1,000 children, among the highest proportion of children triaged as having non-urgent conditions (level V) and the highest proportion of children that made more than one visit to the ED in a year. They also had among the shortest wait times.
- In comparison to other ED peer groups, EDs in pediatric academic health sciences centres (PAHSCs) had the longest median wait times and admitted more children for inpatient care via the ED. These EDs also received the highest proportion of children transferred from other hospitals.

About This Report

This Analysis in Brief is based on National Ambulatory Care Reporting System (NACRS) data submitted from 171 hospital EDs in Ontario for the period April 1, 2005, to March 31, 2006. The data used were limited to Ontario hospital EDs, since only 2% of NACRS 2005–2006 data are from hospitals outside of Ontario. Review of ED utilization patterns for children in other provinces[1, 2, 3] suggests that our findings are applicable to other provinces in Canada.

Results have been grouped into the following categories to facilitate comparison:

- **Age:** Children—newborn to 17; adults—18 to 64; seniors—65 and older. Rates were calculated using 2001 Statistics Canada population files.
- **Triage level:** ED visits were grouped according to the five-level Canadian Triage and Acuity Scale (CTAS) developed by the Canadian Association of Emergency Physicians (CAEP).[4] Children were triaged using either CTAS or the Pediatric CTAS (P-CTAS). Both scales identify patients' needs for medical care based on the immediate threat to life or limb or potential for deterioration.

Triage Level	I	II	III	IV	V
Level of Acuity	Resuscitation	Emergent	Urgent	Less-Urgent	Non-Urgent

- **Local health integration network (LHIN):** ED visits were assigned to LHINs based on the LHIN in which the visit occurred.

ED Peer Groups

The 171 EDs were grouped into one of four categories based on their 2005–2006 ED volumes and pediatric teaching status:

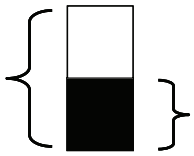
- **Low-volume EDs:** include 54 EDs with <3,350 visits made by children. (Note: This peer group includes 7 non-pediatric teaching hospitals that saw less than 3% of total ED visits made by children in Ontario in 2005–2006.)
- **Medium-volume EDs:** include 54 EDs with 3,351 to 6,750 ED visits made by children.
- **High-volume EDs:** include 54 EDs with >6,750 visits made by children.
- **PAHSC EDs:** Pediatric academic health sciences centres (PAHSCs) include nine EDs located in five hospitals specially designated by the Ontario Ministry of Health and Long-Term Care.

Measures of Wait Times

- **Time to initial physician assessment (TIPA):** the time from registration or triage (whichever is earliest) to the time the patient is examined by the physician.
- **Total time spent (TTS) in the ED:** the time from registration or triage (whichever is earliest) to the time of visit completion.
- **Bed wait time** for children admitted via the ED: the time from visit completion with a decision to admit to the time the patient leaves the ED (this is measured using Discharge Abstract Database data).

When interpreting the bars in the figures associated with wait time measures note the following:

median total time spent (TTS) in the ED



median time to initial physician assessment (TIPA)

When converting minutes to hours we used the following scale:

Hours	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Minutes	6	12	18	24	30	36	42	48	54	60

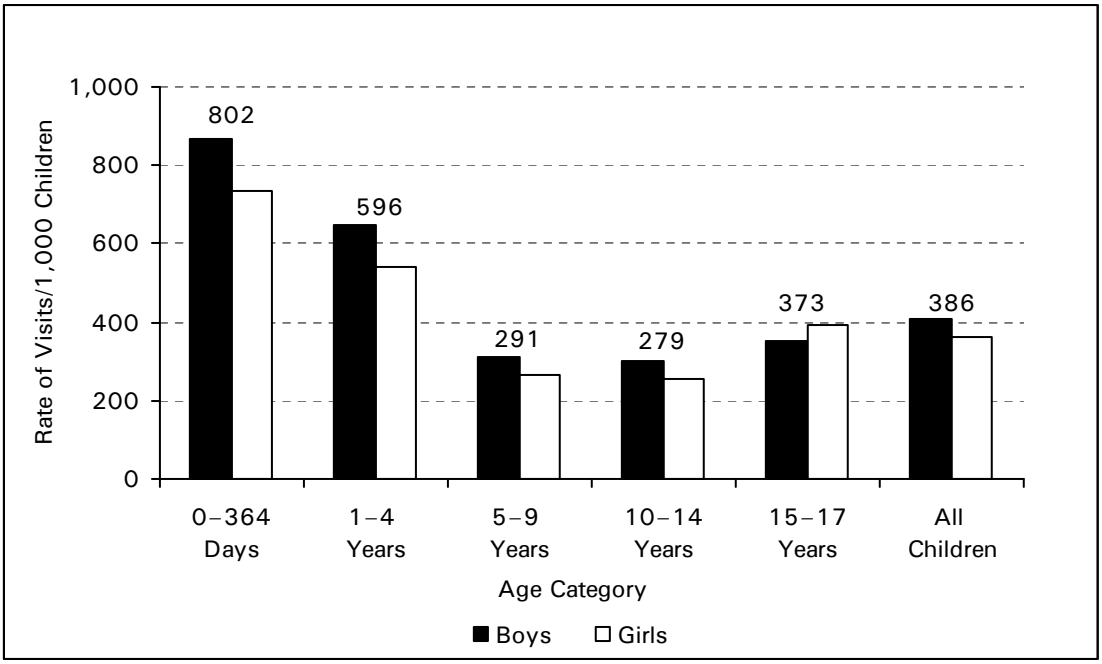
For additional details on data quality and methods refer to the methodological notes at the end of the report.

Children in Ontario's Emergency Departments

How Many Children Are Coming?

Just over 685,000 children made more than one million visits to EDs in Ontario in 2005–2006. Newborns and babies up to one year of age had the highest proportion of ED visits (802 per 1,000 children). This high visit rate reflects that 42.6% of newborns and babies up to one year of age came to the ED more than once in the year. The lowest rate of ED visits—279 per 1,000—was for children aged 10 to 14 years.

Figure 1 Rate of ED Visits per 1,000 Children by Age Category and Sex, Ontario, 2005–2006



Note
These data represent visits to 171 Ontario EDs. Rates presented in figure reflect boys and girls combined.

Sources
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.
Statistics Canada, 2001 Census of Population.

Children aged 1 to 4 years were seen most often in the ED—30.1% of visits were made by children in this age group. The overall distribution of visits by age was also similar across ED peer groups and LHINs—with some variation in the 15- to 17-year-old category (Appendix Table 1).

How Often Are Children Coming?

While most children made only one ED visit in the year, almost one-third (31.8%) made two or more visits. Almost one-quarter (23.5%) of children that made more than one visit to the ED in the year returned to the ED within 72 hours of their previous visit. Of these 218,106 children, we found that:

- 34.1% were aged 1 to 4;
- 45.7% had been triaged as requiring less- or non-urgent care at their initial visit;
- 48.7% had registered between 4 p.m. and 12 a.m. during their initial visit; and
- 12.6% had left the ED prior to their completing their initial visit.

Our findings related to patient age and time of day of initial visit are similar to a study conducted by a PAHSC in 2006,[5] but we found slightly different results related to triage score. The PAHSC study found that children with higher triage scores at the initial visit were more likely to return.

What Type of EDs Are Children Going To?

A study by the U.S. Institute of Medicine found that "the vast majority of ED visits made by children are not to children's hospitals or those with a pediatric ED, but to general hospitals, which are less likely to have pediatric expertise, equipment, and policies in place."[6] In our previous work, *Understanding Emergency Department Wait Times: How Long Do People Spend in Emergency Departments in Ontario?*,[7] we found that the majority of ED visits for all patients took place at high-volume EDs.

Similar to both of these studies, we found that 52.9% of visits for children took place at 54 high-volume EDs in community hospitals—medium-volume EDs saw 24.2% of visits, low-volume EDs saw 7.9% of visits and PAHSC EDs saw 14.9% of ED visits.

Pediatric Academic Health Sciences Centres

Nine EDs, located within five hospitals in Ottawa, Toronto, London, Hamilton and Kingston[8] have been designated by the Ontario Ministry of Health and Long-Term Care as PAHSCs. Two of the hospitals treat children exclusively while the others see children and adults in their EDs. Compared to other ED peer groups, PAHSC EDs:

- had among the fewest children who left prior to visit completion (3.9%);
- had the highest admission rate via the ED (7.2%);
- saw the largest percentage of patients triaged as level I; and
- had the longest TIPA and TTS in the ED.

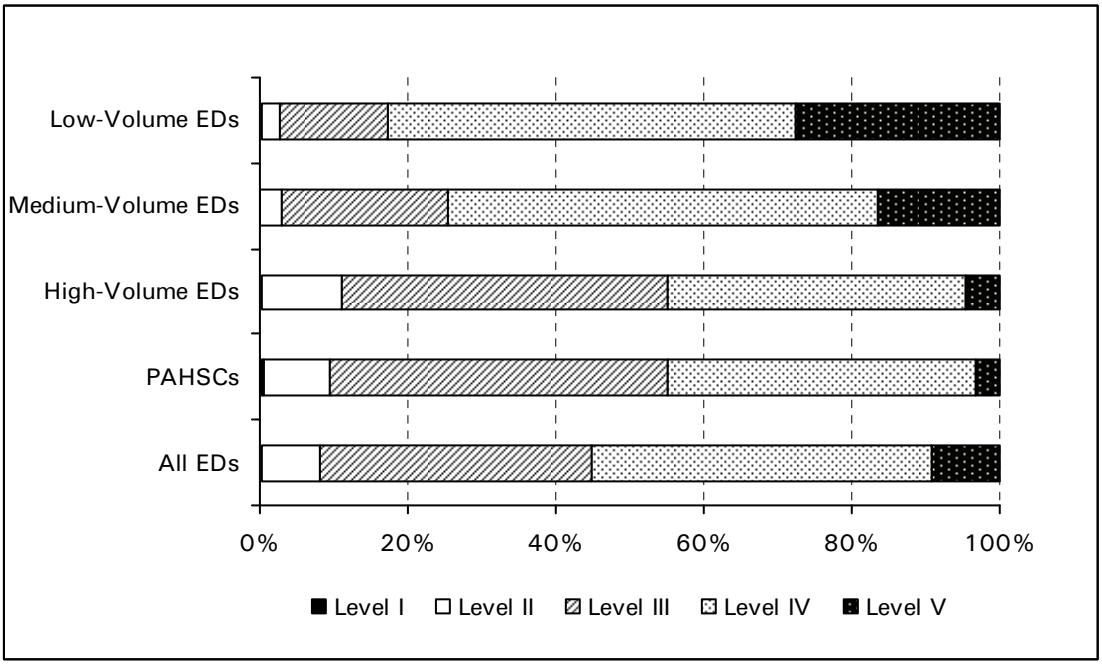
PAHSC EDs received 7 out of 10 children transferred from other hospital EDs.

How Sick or Injured Are Children When They Arrive at the ED?

ED patients are triaged based on a protocol which is designed to systematically ensure that those who need the most immediate care are assessed by physicians first. For our analyses, the five-level triage rating was used as a proxy to describe the severity of illness or acuity. More than half (55.1%) of children were triaged as requiring less-urgent (level IV) or non-urgent (level V) care and less than 1% (0.3%) were triaged as requiring resuscitation (level I).

While less than 1% of all children who visited EDs in Ontario were triaged as level I, PAHSCs saw the largest percentage of patients triaged as level I (0.6%). This was nearly three times the percentage seen in low-volume EDs (0.2%) and double that seen in high-volume EDs (0.3%).

Figure 2 Distribution of ED Visits Made by Children by Triage Level and Peer Group, Ontario, 2005–2006



Note
These data represent visits to 171 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

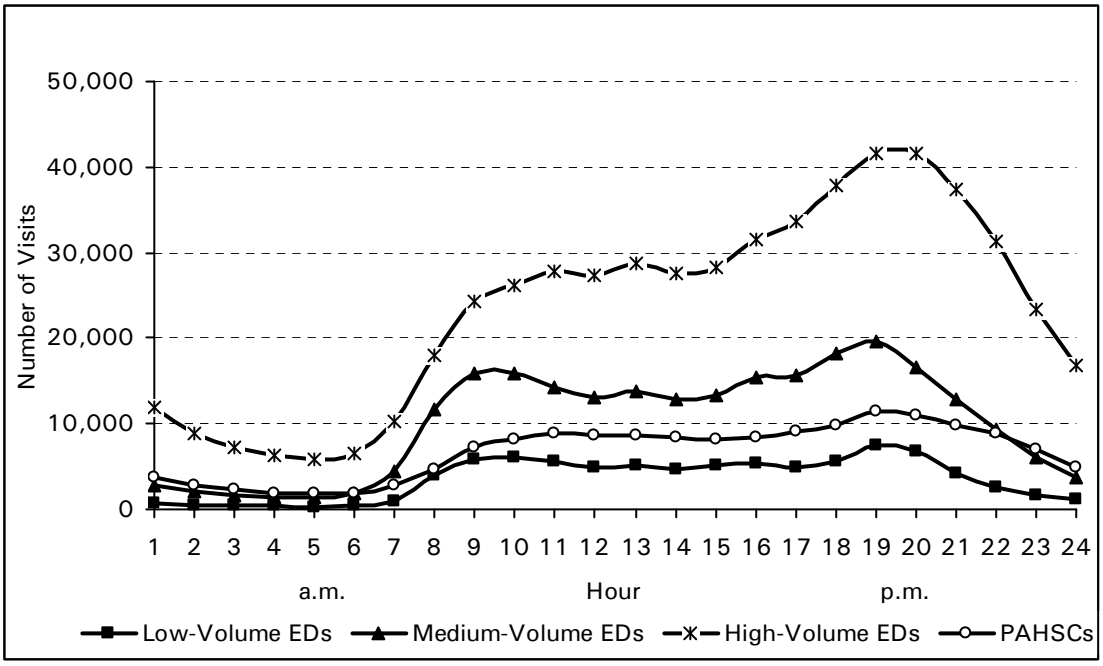
When Are Children Coming to EDs?

Studies related to children's ED visits have shown that there is a gradual increase in the frequency of visits beginning at 8 a.m. with a peak in visits in the early evening between 6 p.m. and 8 p.m.[9, 10] Similarly, we found that regardless of peer group, most children arrived at the ED between 7 p.m. and 8 p.m.

Studies have also shown that the most common days of the week for children's ED visits are Sunday and Monday.[9, 10, 11] We found that the most common day of the week for ED visits made by children was Sunday.

Children made an average of 90,000 ED visits per month. While there was little variation, the month of March had the most ED visits made by children, just over 105,000.

Figure 3 ED Visits Made by Children by Time of Day and Peer Group, Ontario, 2005–2006



Note
These data represent visits to 166 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

How Long Do Children Spend in the ED?

Overall, we found that just more than half (51.5%) of children had their **initial physician assessment** within one hour or less of arriving at the ED. The TIPA varied by triage level. Almost three-quarters of children (73.6%) triaged as requiring resuscitation (level I) had their initial physician assessment in 15 minutes or less.

In terms of **total time spent (TTS) in the ED**, more than half (54.3%) of children completed their ED visit in less than two hours, while 9.3% spent more than five hours in the ED. Children triaged as level I or II had the longest TTS in the ED, with just more than 20% of these children spending more than five hours in the ED. In contrast, almost two-thirds (63.2%) of the children triaged as level IV and more than three-quarters (76.3%) of the children triaged as level V had a TTS in the ED of two hours or less.

Figure 4 Percent of Children in Time Categories for Time to Initial Physician Assessment Total and Total Time Spent in the ED by Children, by Triage Level, Ontario, 2005–2006

	Triage Level					
	I	II	III	IV	V	I–V
Percent of Children With TIPA of:						
0 to 15 minutes	73.6	18.4	8.0	10.8	17.7	11.1
16 to 60 minutes	21.4	49.0	37.8	40.6	43.2	40.4
61 minutes to 2 hours	3.5	20.2	28.7	28.2	24.6	27.3
More than 2 hours	1.5	12.4	25.5	20.4	14.4	21.1
Percent of Children With TTS in the ED of:						
Up to 1 hour	12.2	9.6	15.7	30.4	45.1	24.7
Over 1 hour to 2 hours	19.5	21.3	26.9	32.8	31.2	29.6
Over 2 hours to 5 hours	47.4	48.4	43.0	32.2	21.5	36.5
More than 5 hours	21.0	20.8	14.3	4.6	2.2	9.3

Note
These data represent visits to 166 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

Another way to look at wait times is by percentile distribution where the median indicates the number of minutes/hours at which half (50%) of the children visiting the ED had shorter waits and the other half had longer waits. The **10th** and **90th percentiles** can be interpreted as 1 in 10 children at the lower and higher ends of the wait time of interest.

Half of the children triaged as levels III, IV or V had their initial physician assessment in 1 hour and 6 minutes or less. Half of the children completed their ED visit in 1 hour and 48 minutes or less while 1 in 10 children spent over five hours in the ED.

Figure 5 Percentile Distribution of Time to Initial Physician Assessment and Total Time Spent in the ED by Children, by Triage Level, Ontario, 2005–2006

Triage Level	Time to Initial Physician Assessment			Total Time Spent in ED		
	10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)	10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)
I, II	9	0.6	2.2	62	2.9	6.9
III	18	1.1	3.2	48	2.3	5.8
IV, V	14	1.0	2.8	30	1.5	3.8
I–V	15	1.0	2.9	35	1.8	4.9

Note
These data represent visits to 166 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

What Happens Once the ED Visit is Complete?

The majority of children (90.3%) returned home at the end of their ED visit.

Ontario's admission rate via the ED of 4.1% is similar to that reported in a 2007 study by the U.S. Institute of Medicine.[12] Of these children:

- newborns (0 to 28 days old) were more than twice as likely to be admitted to hospital as children in any other age category; and
- 45.5% were triaged as level I.

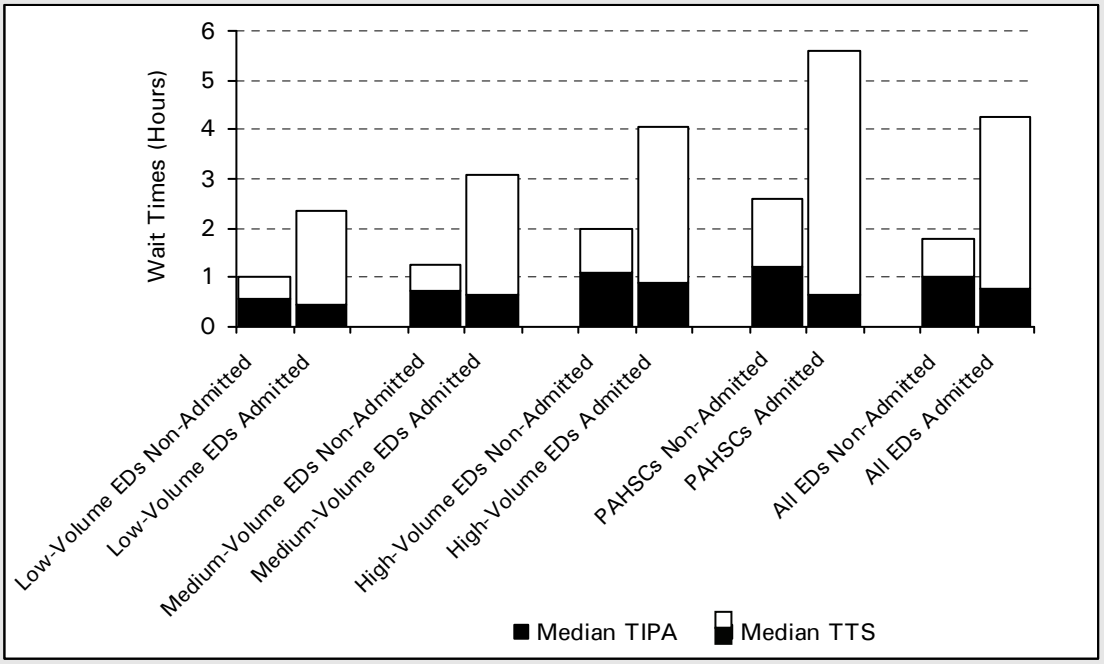
Almost 50,000 children (4.6%) left the ED prior to visit completion (this includes 3.9% that left without being seen by a physician, 0.5% that left without being treated and 0.2% that left against medical advice). Similar to a study conducted by a PAHSC in 2002,[13] we found that children with lower triage scores made up a large proportion of children who left the ED prior to visit completion. We also found that of those children who left prior to visit completion:

- 33.5% were 1 to 4 and 19.0% were 15 to 17 years of age;
- 57.2% were triaged as requiring less- or non-urgent care;
- 54.3% registered between 4 p.m. and 12 a.m.;
- 61.2% were waiting in high-volume EDs; and
- 12.6% returned to an ED within 72 hours.

Wait Times for Children Admitted Via the ED

Children admitted via the ED had a shorter median TIPA (48 minutes versus 1 hour) but a longer median TTS in the ED (4 hours and 15 minutes versus 1 hour and 48 minutes) than did children who were not admitted. This pattern is consistent across peer groups (Appendix Table 2).

Figure 6 Median Time to Initial Physician Assessment and Median Total Time Spent in the ED by Children by Peer Group, Ontario, 2005–2006



Notes
These data represent visits to 166 Ontario EDs. Admitted children comprised 1.3% of visits to low-volume EDs, 1.3% of visits to medium-volume EDs, 5.0% of visits to high-volume EDs, and 7.2% of visits to PAHSCs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

In addition to the time a child spends waiting for the physician to decide whether or not to admit the child, children that are to be admitted sometimes wait an additional amount of time in the ED for access to an inpatient bed (referred to as **bed wait time**). The CIHI report *Understanding Emergency Department Wait Times: Access to Inpatient Beds and Patient Flow*[14] calculated bed wait times for a sample of 118 Ontario hospitals for calendar year 2005. The majority of children (63.8%) waited less than two hours in the ED to access a bed in an inpatient ward and less than 1% of children waited more than 24 hours (Appendix Table 3-A).

Comparing Children to Adults and Seniors

The distribution of ED visits made by children (23.0%), adults (58.6%) and seniors (18.4%) roughly corresponds to the distribution of these age groups among the population of Ontario. Differences in ED experience include the following:

- While Sunday between 7 p.m. and 8 p.m. was a peak registration time for children in the ED, for adults and seniors Monday was the day of week with the largest proportion of ED visits and between 10 a.m. and 11 a.m. was a peak registration time.
- EDs triage more children (55.1%) as levels IV and V compared to adults (51.2%) and seniors (34.1%).
- 27.6% of seniors were admitted via the ED versus 4.1% of children and 7.4% of adults.
- 1.9% of seniors left prior to visit completion compared to 5.1% of adults and 4.6% of children.
- Children and adults had similar multiple ED visit rates (31.8% and 31.9%, respectively). Seniors had a higher rate of visiting an ED more than once per year at 39.6%. There was little difference among age groups in the rate of return to ED within 72 hours of their initial visit.

While there were no differences between age groups for TIPA, children had shorter TTS in the ED compared to adults and seniors. Based on our analysis:

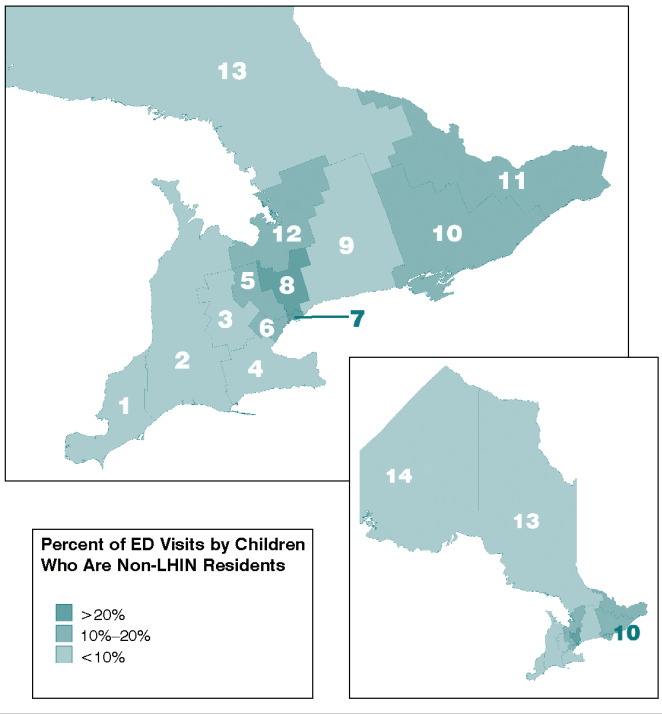
- 50% of children completed their ED visit in less than two hours, while 50% of adults completed their visit in 2 hours and 24 minutes or less and 50% of seniors completed their visit in 3 hours and 36 minutes or less;
- 1 in 10 children had a TTS in the ED of nearly five hours or longer compared to nearly seven hours or longer for 1 in 10 adults and nearly 10 hours or longer for 1 in 10 seniors; and
- children admitted via the ED had shorter bed wait times than adults and seniors—63.8% of children accessed an inpatient bed less than two hours after the time of decision to admit, compared to 54.7% of seniors and 47.5% of adults.

Across all LHINs, seniors spent more time in EDs compared to adults or children. In almost every LHIN, seniors had a median TTS in the ED that was twice as long as children's. Long wait times for seniors in EDs are due to their medically complex conditions and the higher rate of admissions via EDs—patients admitted via the ED tend to have longer TTS in the ED[14] (Appendix tables 3-A, 3-B and 3-C).

ED Utilization by LHIN

There were 2,785,092 children (newborn to 17 years) residing in Ontario's 14 LHINs in 2005. Children comprised between 20.1% and 24.2% of the overall population in each LHIN, and the age distribution of children was fairly consistent among the 14 LHINs (Appendix Table 1). For the most part, our findings suggest that children are using their local ED for emergency services. For example, in the Erie St. Clair and North West LHINs, more than 97% of visits were made by local children. In comparison, in the Toronto Central and Central LHINs, 39.2% and 20.7% of visits, respectively, were made by children who live outside of the LHIN.

Figure 7 ED Visits Made by Children Who Are Non-LHIN Residents, Ontario, 2005–2006



Number of EDs by Peer Group and LHIN

	LHIN	PAHSCs	Low-Volume EDs	Medium-Volume EDs	High-Volume EDs
1	Erie St. Clair	0	0	3	4
2	South West	3	13	10	3
3	Waterloo Wellington	0	2	2	3
4	Hamilton Niagara Haldimand Brant	3	2	8	4
5	Central West	0	0	0	3
6	Mississauga Halton	0	1	1	4
7	Toronto Central	1	5	0	2
8	Central	0	0	1	7
9	Central East	0	0	4	9
10	South East	1	1	6	2
11	Champlain	1	4	9	3
12	North Simcoe Muskoka	0	0	1	5
13	North East	0	18	5	4
14	North West	0	8	4	1

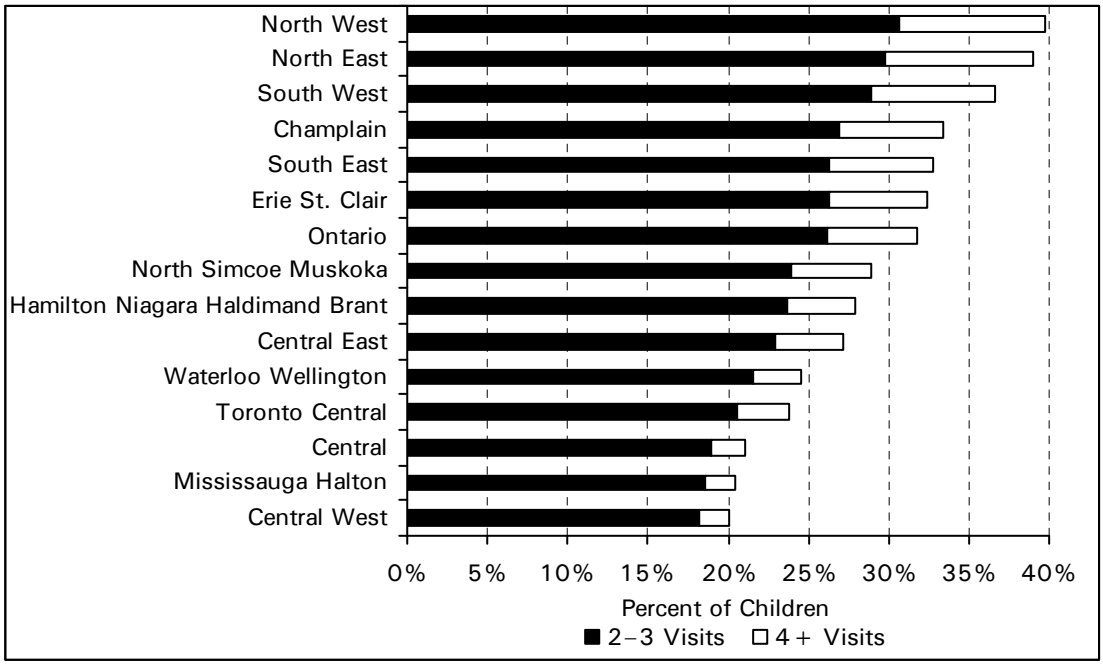
Note
These data represent visits to 171 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

For every 1,000 children in Ontario, there were 386 ED visits. This rate of visits ranged from just more than 220 visits per 1,000 children in the Central West and Mississauga Halton LHINs to more than 720 visits per 1,000 children in the North East and North West LHINs.

There is variation within LHINs related to the proportion of children who make multiple visits to EDs. Almost 40% of children who visited an ED in the North East and North West LHINs made two or more visits in the year. These findings support other research suggesting that across Canada residents of rural areas were more likely than their urban counterparts to use EDs.[2] According to data from the National Health Interview Survey in the U.S., undertaken as part of the Institute of Medicine study, 23% of rural children versus 20% of urban children visited an ED within the previous year.[15] This may be due to limited physician availability in some rural areas, with the physicians practising out of the community ED.

Figure 8 Number of Multiple ED Visits Made by Children, by LHIN, Ontario, 2005–2006

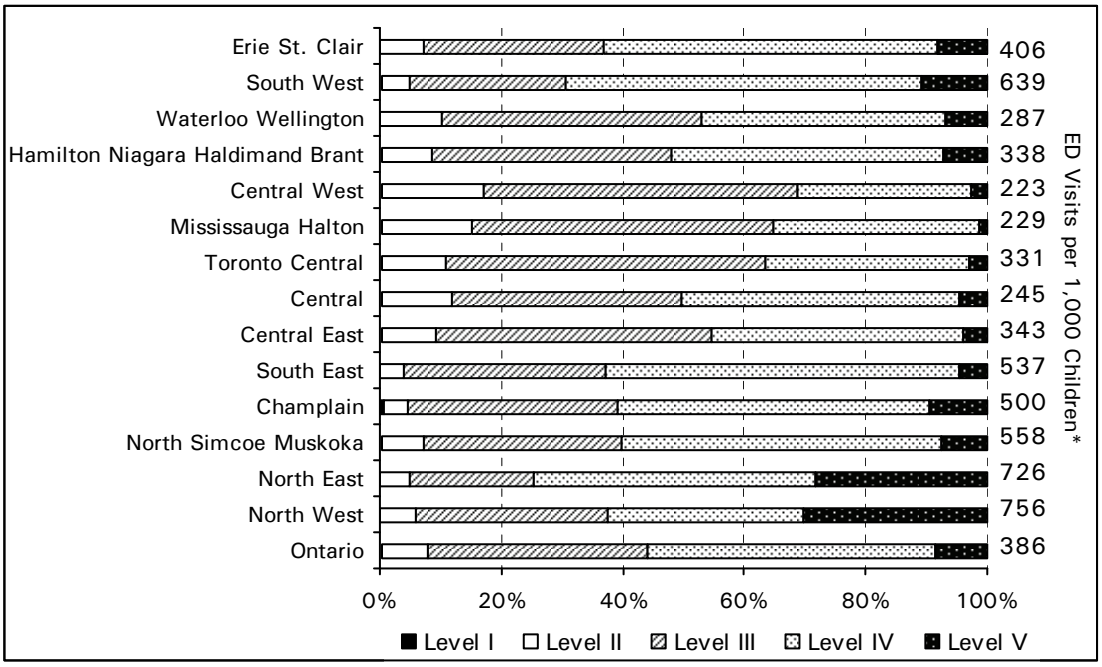


Note
These data represent visits to 171 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

There is also variation in the distribution of triage scores by LHIN. The South West and South East LHINs had the greatest percentage of children triaged as requiring less-urgent care, while the North West and North East LHINs had the greatest percentage of children requiring non-urgent care.

Figure 9 Distribution of ED Visits Made by Children, by Triage Level and LHIN, Ontario, 2005–2006



Notes

These data represent visits to 171 Ontario EDs.

* ED visits include children from other LHINs and provinces; rates are based on the number of children in that LHIN.

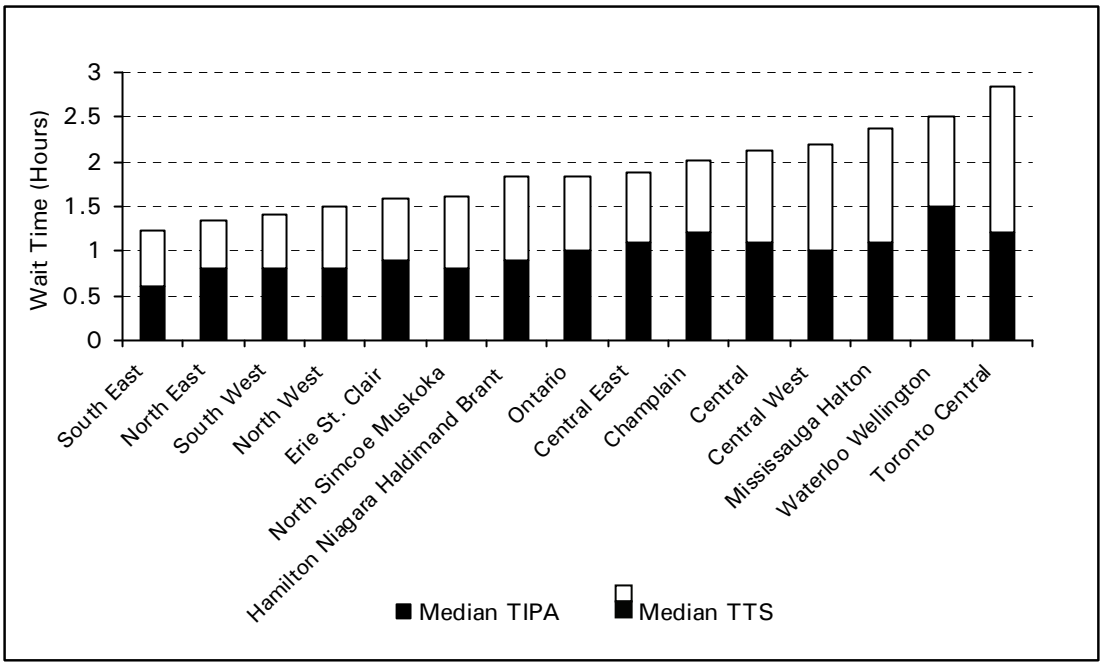
Sources

National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.
Statistics Canada, 2001 Census of Population.

Wait Times by LHIN

There are differences in wait times associated with the type of ED a child visits and the LHIN in which the ED is located. Children waited almost three times as long in EDs in the LHIN with the longest median TIPA (Waterloo Wellington) than they did in EDs in the LHIN with the shortest median TIPA (South East), 90 minutes versus 36 minutes, respectively. They also spent more than twice as long in EDs in the LHIN with the longest median TTS (Toronto Central) than they did in EDs in the LHIN with the shortest median TTS (South East), 2 hours and 48 minutes versus 1 hour and 12 minutes, respectively (Appendix Table 4).

Figure 10 Median Time to Initial Physician Assessment and Median Total Time Spent in the ED by Children, by LHIN, Ontario, 2005–2006



Note
These data represent visits to 166 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

An exploration into the availability of primary care and other community-based emergency services for children would help to explain some of the variation identified for wait times and ED utilization patterns.

Methodological Notes

When creating the dataset for this analysis, inconsistencies were observed among hospitals with respect to the interpretation and coding/abstracting of the NACRS time, date and triage-level data elements.

Time Measures

Variation exists across hospitals in the processes used to assign time and date for services in the ED. Records with obvious defaulted times (23:58 or 23:59, which are common abstraction default times for missing information) or missing data (time or date) were excluded from the calculations of time measures that used these data elements. Additionally, all of the records from five hospitals with more than 6% of records with default time elements were excluded from time measure analyses.

New date and time elements were introduced in NACRS in 2006–2007. CIHI's NACRS team is currently working with hospitals to assist them in accurately providing data for these elements to improve accuracy of reporting of ED wait times at the organizational and regional levels.

Triage Measures

Recognizing that there are differences between adults and children when determining triage categories, the Canadian Association of Emergency Physicians (CAEP) developed a triage scale derived from the adult Canadian Triage and Acuity Scale (CTAS) to be used for triage of children in the ED: the P-CTAS.[4] When preparing our data set for analysis we found variation in the number of hospitals that used P-CTAS to triage all ED visits by children. For example, while almost 100% of ED visits made to PAHSCs were triaged using P-CTAS, less than 16% of ED visits in low-volume EDs were triaged using P-CTAS. We consulted the NACRS abstracting manual[16] and reviewed other studies that measured ED wait times for children[8, 17] to determine if it was appropriate to make general comparisons related to the acuity and wait times for children regardless of whether the hospital used CTAS or P-CTAS to triage the child. While it is not ideal, it was decided that it is acceptable because the two scales were developed with the same objective in mind—to identify the patients' needs for medical care based on the immediate threat to life or limb or potential for deterioration and to define reasonable wait times based on the severity of the patients' conditions. While general comparisons can be made, it would be interesting in future analyses to compare triage patterns among EDs that use the two different scales.

Appendix

Table 1 Distribution of ED Visits Made by Children, by Age Category and LHIN, Ontario, 2005–2006

Local Health Integration Network (LHIN)	Age Category						Total Number of Visits
	0–28 Days (Number, Percent)	29–364 Days (Number, Percent)	1–4 Years (Number, Percent)	5–9 Years (Number, Percent)	10–14 Years (Number, Percent)	15–17 Years (Number, Percent)	
Erie St. Clair	736 (1.2)	5,336 (9.0)	18,175 (30.7)	11,814 (20.0)	12,159 (20.6)	10,894 (18.4)	59,114
South West	1,272 (1.0)	11,133 (8.4)	39,463 (29.8)	28,065 (21.2)	29,288 (22.1)	23,048 (17.4)	132,269
Waterloo Wellington	679 (1.5)	4,184 (9.0)	14,276 (30.7)	9,453 (20.3)	9,524 (20.5)	8,432 (18.1)	46,548
Hamilton Niagara Haldimand Brant	993 (1.0)	7,924 (7.9)	29,070 (28.9)	20,788 (20.6)	22,623 (22.5)	19,347 (19.2)	100,745
Central West	779 (1.9)	3,735 (9.3)	13,224 (33.0)	8,513 (21.2)	7,954 (19.8)	5,891 (14.7)	40,096
Mississauga Halton	1,034 (1.7)	5,380 (9.0)	19,673 (32.9)	12,440 (20.8)	12,378 (20.7)	8,898 (14.9)	59,803
Toronto Central	1,585 (2.1)	9,610 (12.5)	28,480 (37.1)	15,918 (20.7)	12,599 (16.4)	8,622 (11.2)	76,814
Central	1,506 (1.7)	6,884 (8.0)	26,710 (31.0)	17,869 (20.7)	19,250 (22.3)	13,996 (16.2)	86,215
Central East	1,257 (1.1)	8,616 (7.8)	31,984 (28.9)	23,551 (21.3)	25,238 (22.8)	19,953 (18.0)	110,599
South East	554 (1.0)	4,285 (8.0)	14,118 (26.5)	11,155 (20.9)	12,482 (23.4)	10,661 (20.0)	53,255
Champlain	1,523 (1.2)	11,296 (8.8)	39,578 (30.8)	27,089 (21.1)	27,627 (21.5)	21,289 (16.6)	128,402
North Simcoe Muskoka	523 (1.0)	3,958 (7.4)	14,891 (27.7)	11,054 (20.6)	13,106 (24.4)	10,203 (19.0)	53,735
North East	781 (0.9)	6,348 (7.4)	22,954 (26.9)	17,635 (20.7)	20,116 (23.6)	17,496 (20.5)	85,330
North West	440 (1.0)	3,923 (9.3)	11,136 (26.5)	8,416 (20.0)	9,582 (22.8)	8,509 (20.3)	42,006
Ontario	13,662 (1.3)	92,612 (8.6)	323,732 (30.1)	223,760 (20.8)	233,926 (21.8)	187,239 (17.4)	1,074,931 (100)

Note
These data represent visits to 171 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

Table 2 Time to Initial Physician Assessment and Total Time Spent in the ED by Children, by Peer Group and Triage Level, Ontario, 2005–2006

Peer Group	Discharge Disposition	Triage Level	Time to Initial Physician Assessment			Total Time Spent in ED		
			10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)	10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)
Low-Volume EDs	Admitted	I, II	0	0.3	1.7	56	3.1	12.5
		III	3	0.5	2.7	45	2.6	10.8
		IV, V	4	0.5	2.0	39	2.0	5.9
		I–V	1	0.4	2.2	45	2.3	9.7
	Non-Admitted	I, II	5	0.6	2.3	45	2.5	6.6
		III	7	0.8	3.0	35	1.8	5.0
		IV, V	4	0.5	1.9	20	1.0	2.5
		I–V	5	0.6	2.1	22	1.0	3.0
Medium-Volume EDs	Admitted	I, II	5	0.5	1.7	74	3.3	7.3
		III	11	0.8	2.9	73	3.2	7.8
		IV, V	10	0.6	2.2	55	2.7	6.2
		I–V	9	0.6	2.4	69	3.1	7.3
	Non-Admitted	I, II	5	0.5	1.7	49	2.2	5.5
		III	10	0.7	2.4	33	1.6	4.1
		IV, V	12	0.8	2.4	25	1.2	3.1
		I–V	11	0.8	2.4	26	1.3	3.4
High-Volume EDs	Admitted	I, II	8	0.6	2.2	88	3.7	7.6
		III	20	1.3	3.6	105	4.5	9.5
		IV, V	18	1.3	3.4	88	3.9	8.6
		I–V	12	0.9	3.1	95	4.1	8.7
	Non-Admitted	I, II	12	0.8	2.5	58	2.6	5.9
		III	20	1.2	3.4	48	2.3	5.3
		IV, V	17	1.1	2.9	37	1.7	3.9
		I–V	18	1.1	3.1	42	2.0	4.8
PAHSCs	Admitted	I, II	2	0.4	1.1	103	4.7	12.2
		III	20	0.9	2.7	146	6.2	16.5
		IV, V	29	1.4	3.4	191	7.1	17.3
		I–V	8	0.7	2.2	124	5.6	14.8
	Non-Admitted	I, II	7	0.5	1.3	76	3.5	8.4
		III	25	1.2	3.2	70	2.9	6.6
		IV, V	27	1.4	3.3	55	2.3	4.8
		I–V	23	1.2	3.2	62	2.6	5.9

Note
These data represent visits to 166 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

Table 3-A Wait Times to Access an Inpatient Bed—"Bed Wait Time"—by Children, Adults and Seniors, Ontario, 2005

Patient Group	Bed Wait Times Percentile			Percent of Patients in Bed Wait Time Intervals			
	10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)	0 to 2 Hours	2 to 6 Hours	6 to 24 Hours	Over 24 Hours
Children	2	1.4	5.6	63.8	26.8	8.5	0.9
Adults	0	1.7	14.8	54.7	25.3	15.8	4.2
Seniors	0	2.2	18.8	47.5	26.6	19.8	6.1
Overall	0	1.8	16.2	52.1	26.0	17.0	4.8

Note
These data represent a sample of patients admitted via ED to 118 Ontario acute care facilities during calendar year 2005. Ten percent of the sample are children (0 to 17 years old).

Source
Discharge Abstract Database, 2005 (calendar year), Canadian Institute for Health Information.

Table 3-B Percentile Distribution of Time to Initial Physician Assessment and Total Time Spent in the ED by Adults and Seniors, by Triage Level, Ontario, 2005–2006

Patient Category	Triage Level	Time to Initial Physician Assessment			Total Time Spent in ED		
		10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)	10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)
Adults (18 to 64 Years)	I, II	10	0.8	2.8	85	4.0	9.9
	III	17	1.3	3.8	63	3.3	8.2
	IV, V	14	1.0	3.1	31	1.7	4.5
	I–V	15	1.1	3.3	40	2.4	6.8
Seniors (65 Years and Older)	I, II	8	0.7	2.5	109	4.9	11.5
	III	18	1.2	3.8	93	4.5	11.0
	IV, V	14	1.0	3.1	36	2.1	6.1
	I–V	14	1.0	3.4	60	3.6	9.8

Note
These data represent visits to 166 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

Table 3-C Comparison of ED Visits Made by Children, Adults and Seniors, Ontario, 2005–2006

Characteristic	Children 0 to 17 Years (Percent)	Adults 18 to 64 Years (Percent)	Seniors 65 Years and Older (Percent)
Ontario population distribution	2,785,092 (22.2)	8,163,044 (65.0)	1,610,533 (12.8)
ED visit distribution	1,074,931 (23.0)	2,742,606 (58.6)	862,634 (18.4)
Patients	685,664 (24.3)	1,659,909 (58.9)	473,608 (16.8)
Patients with two or more visits in one year (of total)	218,106 (31.8)	529,122 (31.9)	187,783 (39.6)
Patients who return to ED within 72 hours of previous visit	51,287 (23.5)	144,260 (27.3)	42,066 (22.4)
ED Visit Discharge Disposition			
Discharged to Place of Residence	970,230 (90.3)	2,365,530 (86.3)	591,066 (68.5)
Admission to Hospital via the ED	44,559 (4.1)	203,108 (7.4)	237,691 (27.6)
Left Prior to Visit Completion*	49,190 (4.6)	140,262 (5.1)	16,697 (1.9)
Left Without Being Seen (LWBS)	41,601 (3.9)	109,767 (4.0)	12,467 (1.4)
Left Without Being Treated (LWBT)	5,006 (0.5)	15,762 (0.6)	2,002 (0.2)
Left Against Medical Advice (LAMA)	2,583 (0.2)	14,733 (0.5)	2,228 (0.3)
Transferred to Another Facility	8,258 (0.8)	21,837 (0.8)	10,909 (1.3)
Other (Internal Transfer/Death)	2,694 (0.3)	11,869 (0.4)	6,271 (0.7)

Note

These data represent visits to 171 Ontario EDs.

* Left prior to visit completion includes LWBS, LWBT and LAMA.

Sources

National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.
Statistics Canada, 2001 Census of Population.

Table 4 Time to Initial Physician Assessment and Total Time Spent in the ED by Children, by LHIN and Triage Level, Ontario, 2005–2006

Local Health Integration Network (LHIN)	Triage Level	Time to Initial Physician Assessment			Total Time Spent in ED		
		10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)	10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)
Erie St. Clair	I, II	15	0.6	1.8	52	2.5	5.7
	III	5	1.0	3.4	41	2.0	5.3
	IV, V	16	0.9	2.7	30	1.4	3.6
	I–V	15	0.9	2.9	33	1.6	4.3
South West	I, II	15	0.4	1.1	55	2.6	6.7
	III	11	0.8	2.1	44	1.8	4.5
	IV, V	30	0.9	2.4	26	1.2	3.1
	I–V	23	0.8	2.3	30	1.4	3.6
Waterloo Wellington	I, II	23	0.8	2.8	70	2.9	6.1
	III	8	1.7	4.6	65	2.9	6.3
	IV, V	15	1.5	4.2	35	2.0	5.0
	I–V	15	1.5	4.2	46	2.5	5.7
Hamilton Niagara Haldimand Brant	I, II	14	0.6	1.9	54	2.7	6.3
	III	13	1.0	3.0	41	2.1	5.4
	IV, V	17	1.0	2.8	30	1.6	3.9
	I–V	15	0.9	2.8	35	1.8	4.8
Central West	I, II	15	1.1	3.9	77	3.4	7.2
	III	12	1.3	3.7	47	2.4	5.9
	IV, V	19	0.8	2.5	33	1.5	3.7
	I–V	19	1.0	3.4	43	2.2	5.7
Mississauga Halton	I, II	17	0.7	2.3	68	3.2	7.0
	III	11	1.2	3.5	51	2.6	6.5
	IV, V	25	1.1	2.8	44	2.0	4.2
	I–V	24	1.1	3.1	49	2.4	5.9
Toronto Central	I, II	22	0.7	2.0	85	4.1	11.9
	III	13	1.2	3.1	73	3.1	8.4
	IV, V	22	1.3	3.0	57	2.3	5.1
	I–V	17	1.2	3.0	66	2.8	7.6
Central	I, II	18	0.9	2.4	72	3.1	6.8
	III	10	1.4	3.7	56	2.8	6.4
	IV, V	19	1.0	2.6	40	1.7	4.0
	I–V	15	1.1	3.1	46	2.1	5.5

Table 4 Time to Initial Physician Assessment and Total Time Spent in the ED by Children, by LHIN and Triage Level, Ontario, 2005–2006 (cont'd)

Local Health Integration Network (LHIN)	Triage Level	Time to Initial Physician Assessment			Total Time Spent in ED		
		10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)	10th Percentile (Minutes)	Median (Hours)	90th Percentile (Hours)
Central East	I, II	15	0.8	2.9	53	3.7	8.9
	III	15	1.2	3.1	42	2.1	5.0
	IV, V	10	1.1	2.8	30	1.6	3.7
	I–V	18	1.1	2.9	36	1.9	4.5
South East	I, II	3	0.4	1.2	47	3.2	8.1
	III	8	0.6	2.0	31	1.5	4.1
	IV, V	9	0.6	2.2	23	1.1	3.1
	I–V	8	0.6	2.1	25	1.2	3.5
Champlain	I, II	4	0.3	1.0	69	3.3	8.0
	III	23	1.3	3.3	56	2.7	6.2
	IV, V	17	1.1	3.3	30	1.6	4.3
	I–V	16	1.2	3.3	35	2.0	5.2
North Simcoe Muskoka	I, II	6	0.4	1.1	51	2.2	5.0
	III	13	0.8	2.8	48	1.9	4.7
	IV, V	10	0.8	2.3	35	1.5	3.3
	I–V	11	0.8	2.4	39	1.6	3.9
North East	I, II	9	0.9	3.0	60	2.8	5.6
	III	13	0.9	2.8	39	1.8	4.4
	IV, V	8	0.8	2.3	25	1.2	3.0
	I–V	9	0.8	2.5	27	1.3	3.5
North West	I, II	14	0.7	1.8	65	2.7	5.8
	III	20	1.0	2.2	50	2.0	4.4
	IV, V	5	0.7	2.1	24	1.2	3.1
	I–V	9	0.8	2.1	30	1.5	3.8

Note
These data represent visits to 166 Ontario EDs.

Source
National Ambulatory Care Reporting System, 2005–2006, Canadian Institute for Health Information.

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