

HEALTH SURVEILLANCE INDICATORS: ADULT AND SENIOR UNINTENTIONAL INJURY



Public Health Relevance

Unintentional injuries include those caused by burns, drowning, falls, poisoning and road traffic collisions. Injuries result in emergency department visits, hospitalizations and adverse health outcomes like impairments and disabilities such as blindness, spinal cord or brain injuries. The large majority of injuries are both predictable and preventable. Most injuries can be prevented by recognizing and addressing unsafe environments, conditions and behaviours.

The rates and types of unintentional injuries for adults and seniors are notably different than those for children and youth, which are described in a separate report. For more information, see [Child and Youth Unintentional Injury](#).

Highlights

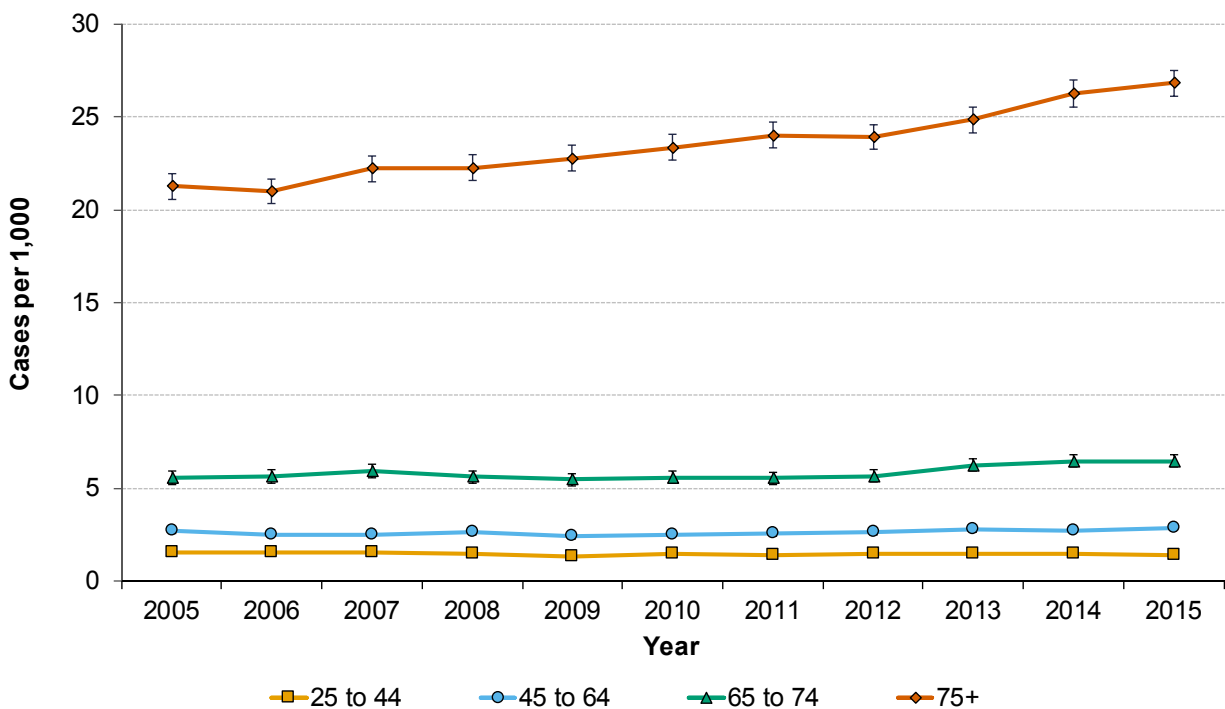
1. In Toronto, the rate of unintentional injuries resulting in hospitalizations has increased for those aged 75 years and older, while emergency department visits have increased for all age groups.
2. Compared to the rest of Ontario, adults and seniors in Toronto have lower rates of hospitalizations and emergency department visits for unintentional injuries.
3. Rates of unintentional injuries among adults and seniors vary across Toronto by service planning area and neighbourhood.
4. Falls were the main cause of unintentional injury for all age groups of adults and seniors. Other leading causes of unintentional injury vary by age group.

Trends Over Time

In Toronto, the rate of unintentional injuries resulting in hospitalizations has increased for those aged 75 years and older, while emergency department visits have increased for all age groups.

Figure 1 shows the rate of hospitalizations for adults and seniors in Toronto from 2005 to 2015 by age group. The rate of hospitalizations has remained constant for those aged 25 to 44, 45 to 64 and 65 to 74. However, the rate of hospitalizations in those aged 75 years and older has increased significantly over the ten year period.

Figure 1: Hospitalization Rate for Unintentional Injuries by Age Group, Adults and Seniors, Toronto, 2005 to 2015

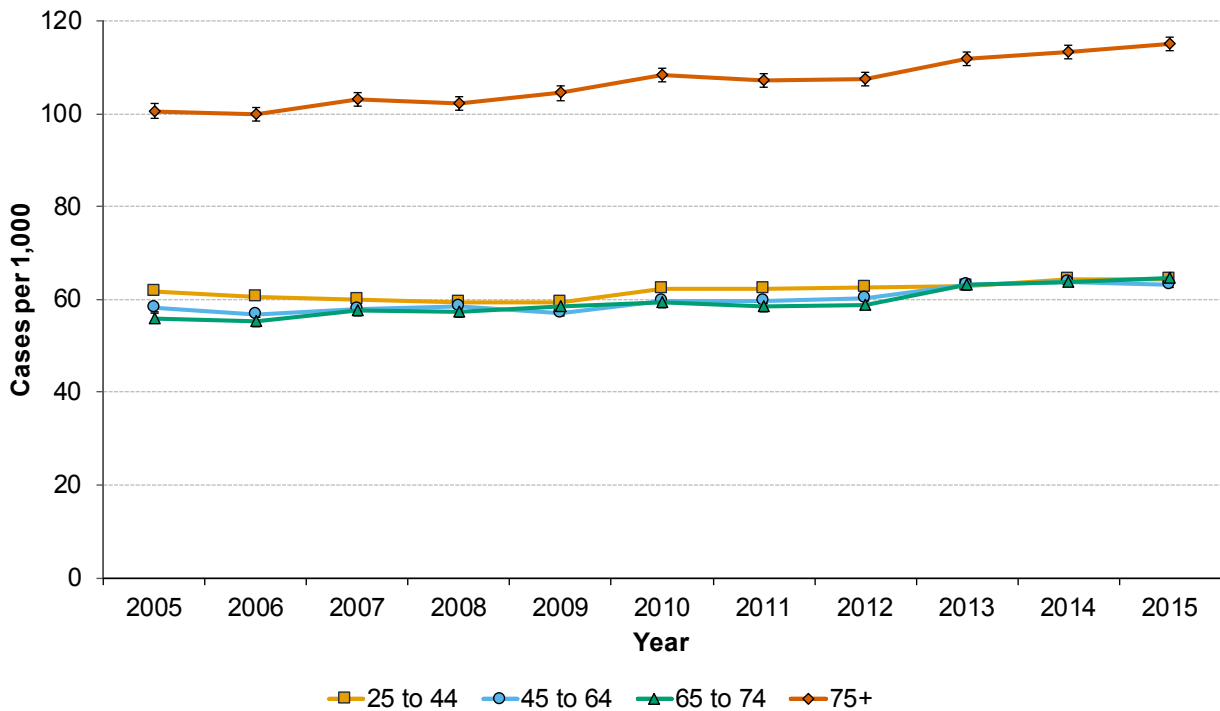


Error bars (I) represent the 95% confidence intervals.

Data Sources: Hospitalization and Population for Toronto, see Data Notes.

Figure 2 shows the rate of emergency department visits for adults and seniors in Toronto from 2005 to 2015. Over this period, there has been a significant increase in the rate of emergency department visits for all age groups. Those aged 75 years and older have seen the largest increase in emergency department visits.

Figure 2: Emergency Department Visit Rate for Unintentional Injuries, Adults and Seniors, Toronto, 2005 to 2015



Error bars (I) represent the 95% confidence intervals.

Data Sources: Emergency Department Visits and Population for Toronto, see Data Notes.

Regional Comparisons

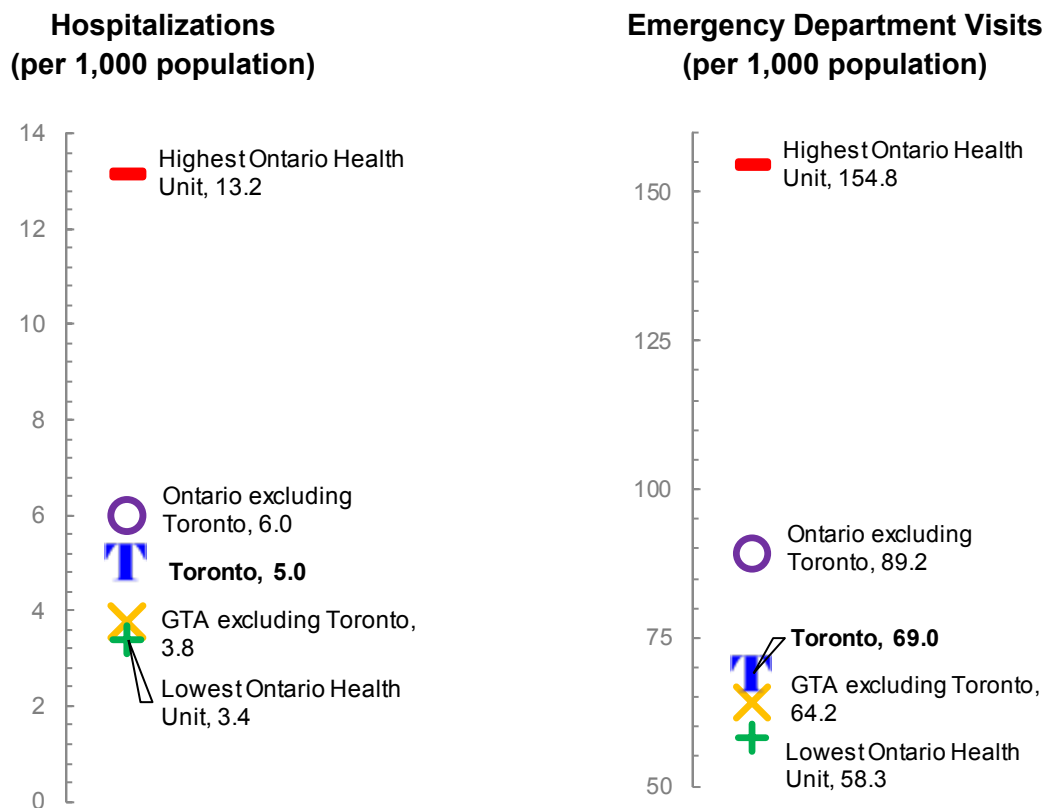
Compared to the rest of Ontario, adults and seniors in Toronto have lower rates of hospitalizations and emergency department visits for unintentional injuries.

Figures 3a and 3b below show the rate of hospitalization and emergency department visits in Toronto in 2015 compared to the rest of Ontario (Ontario excluding Toronto), the rest of the Greater Toronto Area (GTA excluding Toronto), and the health units in Ontario with the highest and lowest rates.

Toronto's hospitalization rate was significantly higher compared to the rest of the GTA. Compared to the rest of Ontario, Toronto's rate was significantly lower. Toronto ranked 5th of the 36 health units in Ontario, with the first ranked health unit having the lowest (most favourable) rate.

Toronto's emergency department rate was significantly higher compared to the rest of the GTA. Compared to the rest of Ontario, Toronto's rate was significantly lower. Toronto ranked 6th of the 36 health units in Ontario, with the first ranked health unit having the lowest (most favourable) rate.

Figure 3: Hospitalization and Emergency Department Visit Rates for Unintentional Injury, Adults and Seniors Combined, Selected Regions in Ontario, 2015



Data Sources: Hospitalization, Emergency Department Visits and Population for Toronto and Larger Areas, see Data Notes.

Toronto Neighbourhood Comparisons

Rates of unintentional injuries vary across Toronto by service planning areas and neighbourhoods.

Table 1 shows rate of hospitalization and emergency department visits by Toronto Public Health service planning areas for adults and seniors combined in 2015. Geographic location reflects where people are living at the time they are hospitalized or visit the emergency department.

The rate of hospitalizations was significantly higher in Rexdale Etobicoke and York South Humber, indicating a less favourable result for those areas. The rate of hospitalizations was significantly lower in Toronto Centre and East Scarborough, indicating a more favourable result in those areas.

The rate of emergency department visits was significantly higher in Rexdale Etobicoke, York South Humber and Humber Downsview, indicating a less favourable result for those areas. The rate of emergency department visits was significantly lower in Willowdale Don Mills, West Scarborough and East Scarborough, indicating a more favourable result in those areas.

Table 1: Hospitalization and Emergency Department Visit Rates for Unintentional Injury by Service Planning Area, Adults and Seniors Combined, Toronto, 2015

CDIP Service Planning Area	Hospitalization (per 1,000 population)	Emergency Department Visit (per 1,000 population)
Rexdale Etobicoke	6.1 H	79.5 H
York South Humber	6.4 H	87.8 H
Humber Downsview	4.9	76.8 H
Willowdale Don Mills	5.3	66.9 L
Toronto Centre	4.9 L	74.8
Danforth East York	5.4	72.7
West Scarborough	5.2	63.4 L
East Scarborough	4.0 L	71.7 L
Toronto	5.3	73.6

H Significantly higher than the Toronto total indicating a less favourable result for that area.

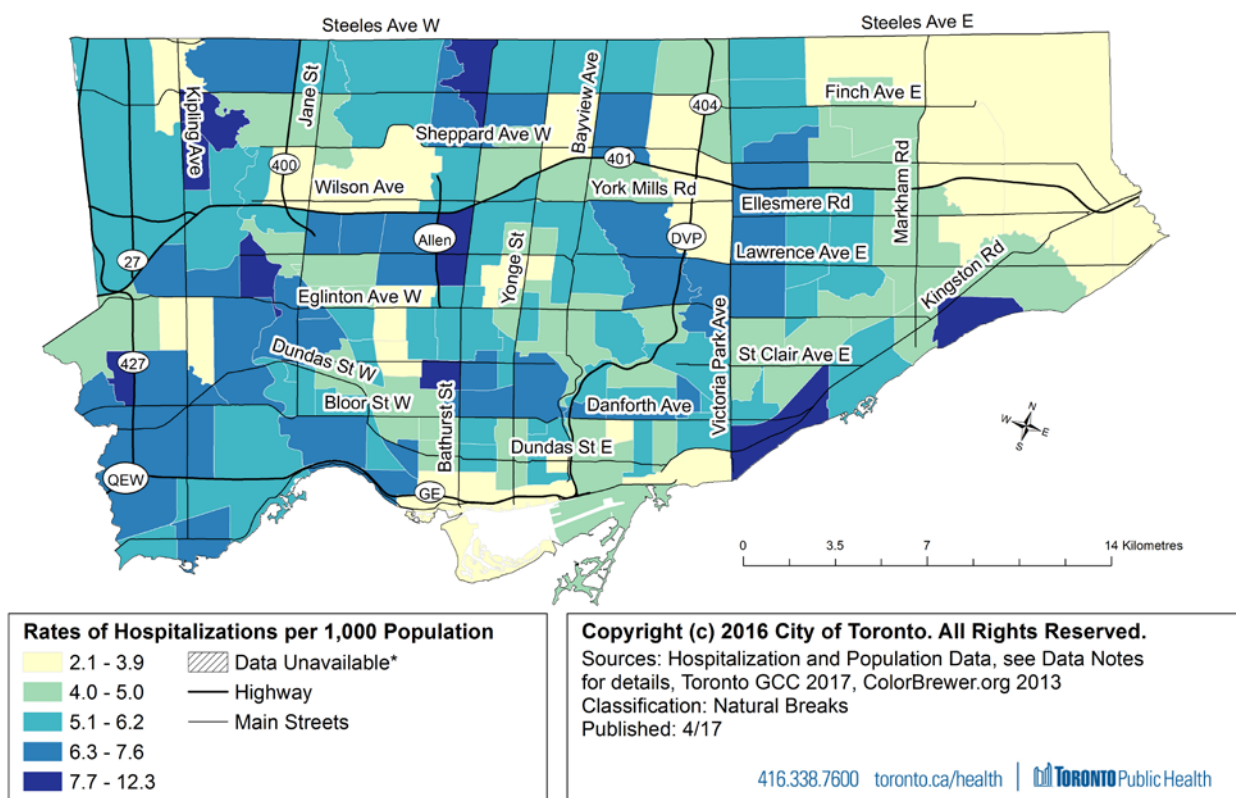
L Significantly lower than the Toronto total indicating a more favourable result for that area.

Data Sources: Hospitalization, Emergency Department Visits, and Population for Service Planning Areas, see Data Notes.

Map 1 shows the rate of hospitalizations for 140 Toronto neighbourhoods.

Hospitalization rates ranged from 2.1 to 12.3 per 1,000. Groups of neighbourhoods in parts of Scarborough, North Etobicoke and the downtown core had lower rates of hospitalizations. Neighbourhoods with higher rates of hospitalizations were scattered across Toronto.

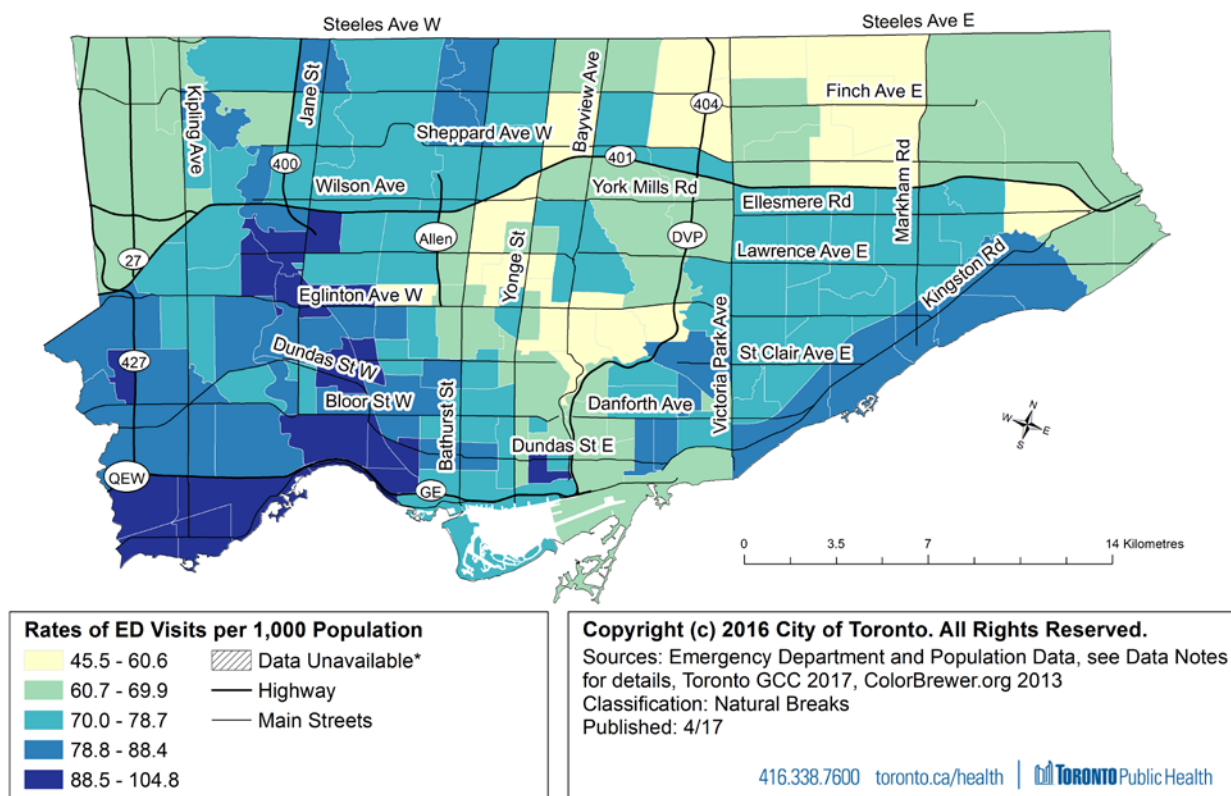
Map 1: Hospitalization Rates for Unintentional Injuries by Neighbourhood, Adults and Seniors Combined, Toronto, 2015



Map 2 shows the rates of emergency department visits for 140 Toronto neighbourhoods.

Emergency department rates ranged from 45.5 to 104.8 per 1,000 population. Parts of Scarborough and North York had groups of neighbourhoods with lower emergency department rates than Toronto as a whole. Neighbourhoods in parts of South Etobicoke had higher emergency department rates than Toronto as a whole.

Map 2: Emergency Department Visit Rates for Unintentional Injuries by Neighbourhood Adults and Seniors Combined, Toronto, 2015

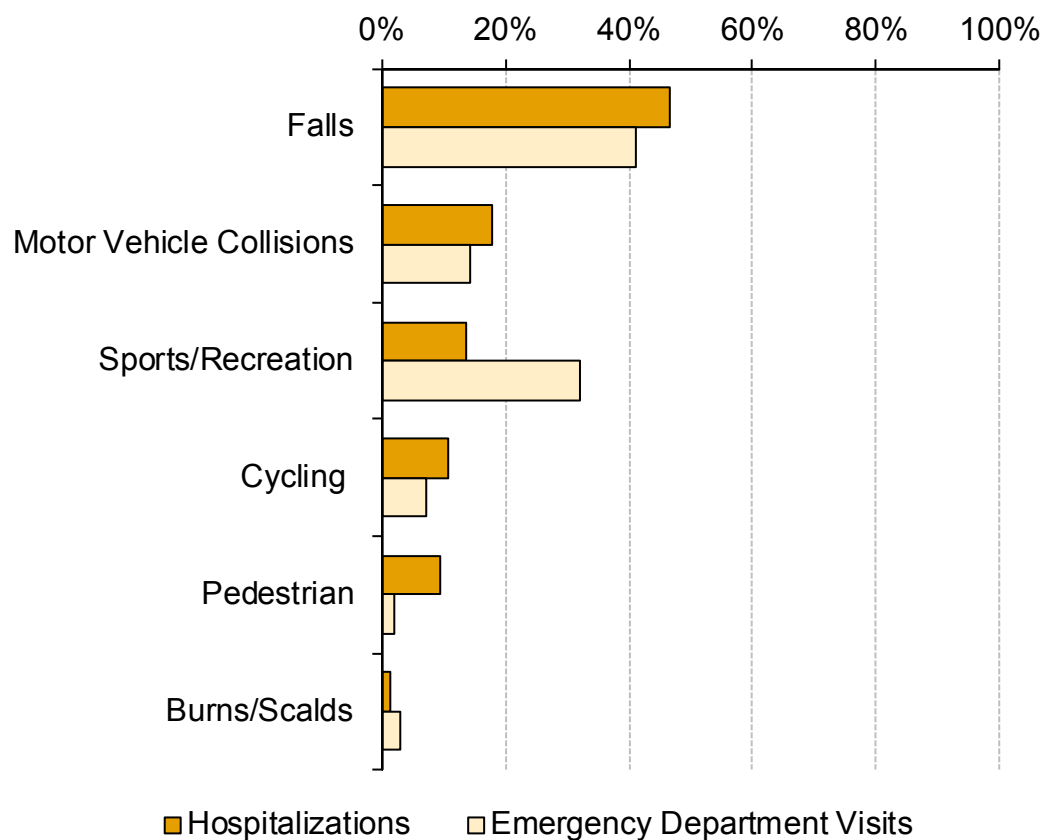


Type of Injury

Falls were the main cause of unintentional injury for all age groups of adults and seniors. Other leading causes of unintentional injury vary by age group.

Figure 4 shows the percent of hospitalizations and emergency department visits caused by specific types of unintentional injury for younger adults aged 25 to 44. For adults in this age group, the majority of hospitalizations and emergency department visits are caused by falls (47% and 41%, respectively). Sports/recreation were also important causes of emergency department visits.

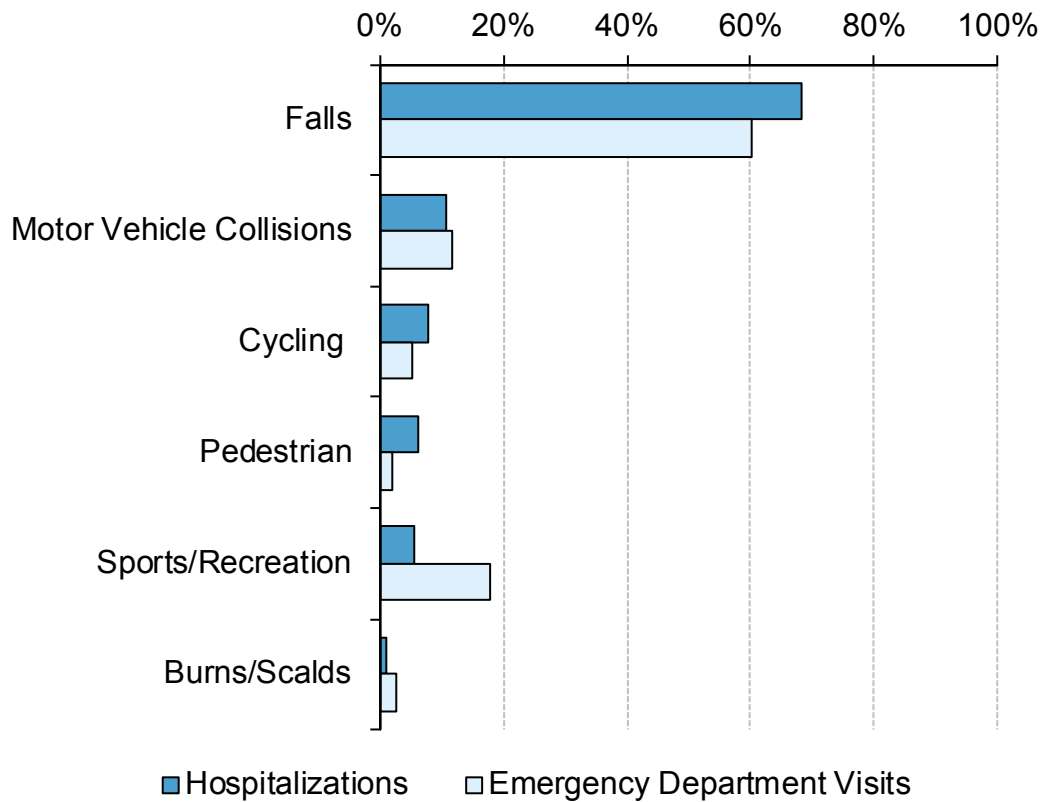
Figure 4: Percent of Hospitalizations and Emergency Department Visits by Type of Unintentional Injury, Adults Ages 25 to 44, Toronto, 2015



Data Sources: Hospitalization and Emergency Department Visits, see Data Notes.

Figure 5 shows the percent of hospitalizations and emergency department visits caused by specific types of unintentional injury for older adults aged 45 to 64. For adults in this age group, falls were the main cause of hospitalizations and emergency department visits (68% and 60%, respectively).

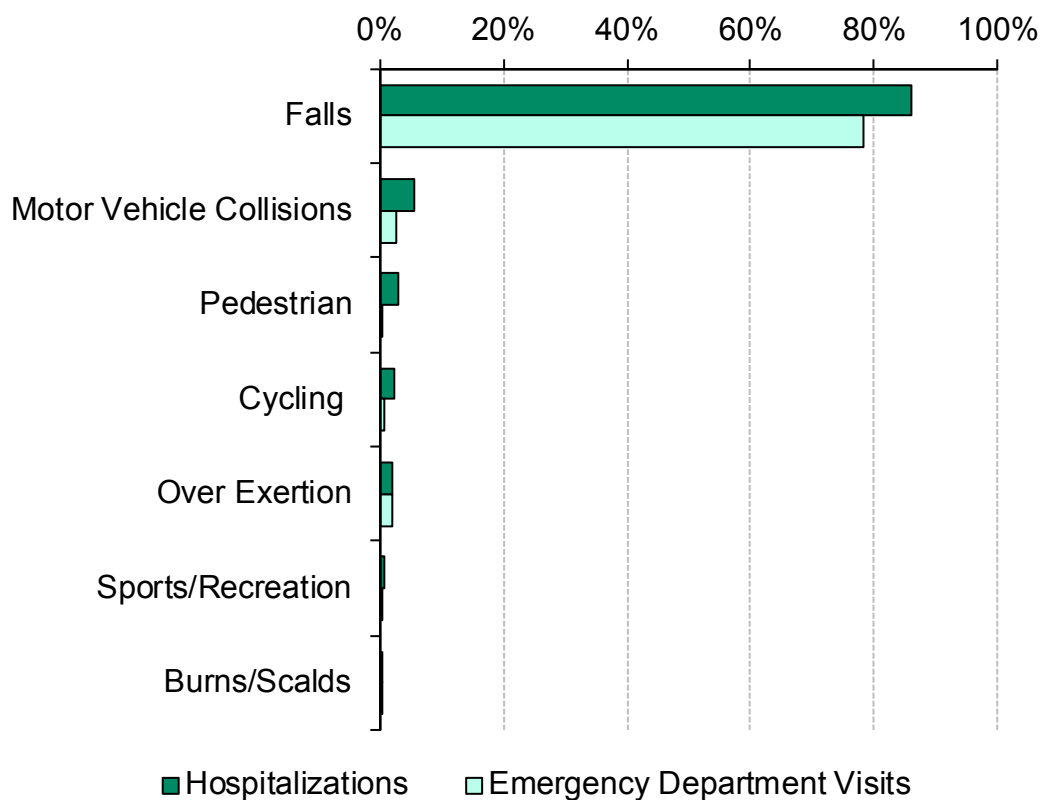
Figure 5: Percent of Hospitalizations and Emergency Department Visits by Type of Unintentional Injury, Adults Ages 45 to 64, Toronto, 2015



Data Sources: Hospitalization and Emergency Department Visits, see Data Notes.

Figure 6 shows the percent of hospitalizations and emergency department visits caused by specific types of unintentional injury for seniors aged 65 to 74. For those in this age group, falls were the main cause of hospitalizations and emergency department visits (86% and 78%, respectively).

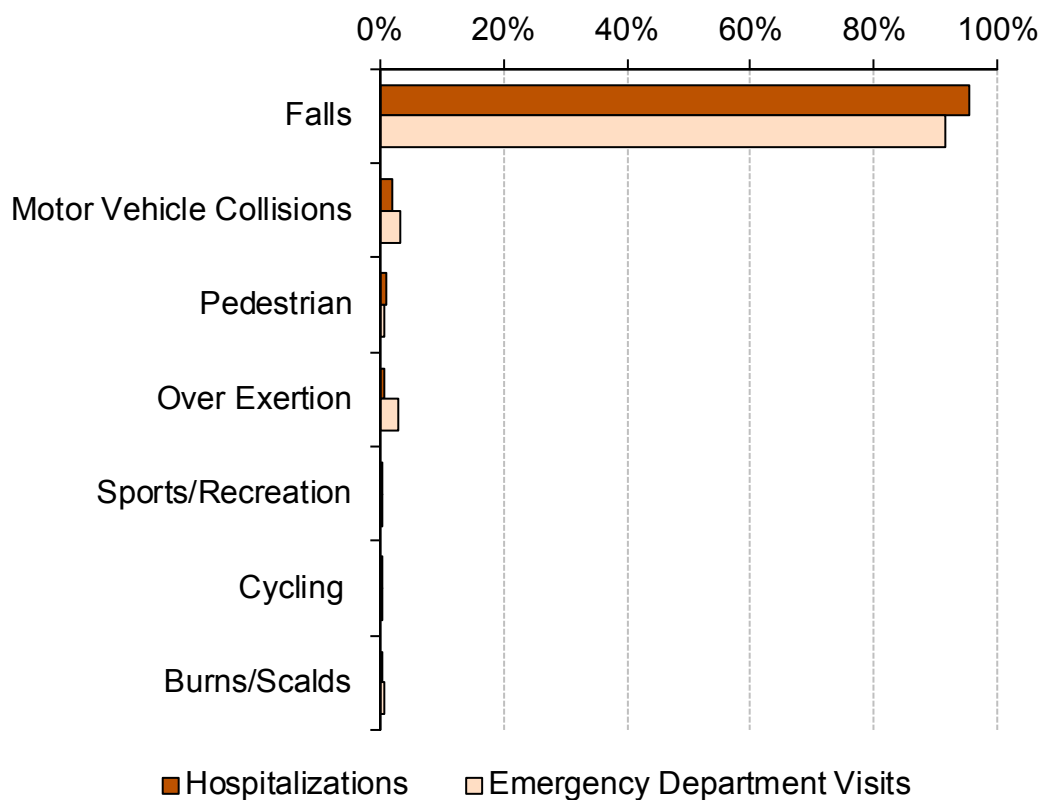
Figure 6: Percent of Hospitalizations and Emergency Department Visits by Type of Unintentional Injury, Seniors Ages 65 to 74, Toronto, 2015



Data Sources: Hospitalization and Emergency Department Visits, see Data Notes.

Figure 7 shows the percent of hospitalizations and emergency department visits caused by specific types of unintentional injury for older seniors aged 75 years and older. For those in this age group, falls were the main causes of hospitalizations and emergency department visits (95% and 92%, respectively).

Figure 7: Percent of Hospitalizations and Emergency Department Visits by Type of Unintentional Injury, Seniors Ages 75 and Older, Toronto, 2015



Data Sources: Hospitalization and Emergency Department Visits, see Data Notes.

Data Notes

Notes

- The World Health Organization defines injury as "the physical damage that results when a human body is suddenly subjected to energy in amounts that exceed the threshold of physiological tolerance, or from a lack of one or more vital elements". Unintentional injuries include all injuries that occur without intent of harm. Intentional injuries, such as those caused by assault, self-harm or other violence, are not included in this report.
- Significant differences were estimated using overlapping confidence intervals. Although this method is conservative ($\alpha \sim < 0.01$) and most appropriate when comparing mutually exclusive groups, it was chosen as an objective means of making conclusions on population-based data. Multiple comparisons performed in the analysis were not taken into consideration when choosing the level of significance to test.
- Toronto is compared to the rest of Ontario (Ontario with Toronto removed) as opposed to the Ontario total because Toronto comprises a large proportion of the Ontario population. Toronto is also compared to the rest of the Greater Toronto Area (GTA) for the same reason.
- Data used for the regional comparisons normally shows the rates for the Ontario health units with the highest and the lowest rates. The purpose of these comparisons is to show the rate for Toronto relative to other areas in Ontario. If data for the health unit with the lowest rate needs to be suppressed due to small numbers, the rate for the next lowest health unit with sufficient numbers is shown instead.
- For comparisons of smaller geographic areas, any person who could not be linked to a valid Toronto postal code was excluded from the total.
- Neighbourhoods identified as having significantly higher or lower rates than Toronto as a whole do not necessarily represent all such neighbourhoods. Cut-offs are arbitrary. For hospitalizations and emergency department visits shown in Map 1 and 2, a large proportion of neighbourhoods had a significantly higher or lower rate and it was therefore, not possible to list them all.
- Unintentional injuries include those coded as ICD-10 V01 to X59 and Y85 to Y86. The types of injuries included in this report include: falls (W00-W19), burns and scalds (X00 to X19 and W92), sports and recreation (W02, W09, W16, W21, W2200-2207, W51.00-51.07, W67-74, X50), motor vehicle collisions (V20 to V79, V81 to V85, V87, V88, V89.0, V89.2), pedestrian (V01 to V09) and cycling (V10 to V19). For seniors, sports and recreation does not include the code X50. Instead this code is captured in a separate category: overexertion.

Definitions

Unintentional Injury is any injury that occurs without intent of harm.

95% Confidence Interval is the range within which the true value lies, 19 times out of 20.

Sources

Emergency Department Visits: Ambulatory Emergency External Cause, 2005 to 2015. Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO. Extracted November 2016. Used in:

- Figures 1, 2, 3, 4, 5, 6 and 7
- Tables 1
- Map 1 and 2

Hospitalization: Inpatient Discharges 2005 to 2015, Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO. Date Extracted: November 2016. Used in:

- Figures 1, 2, 3, 4, 5, 6 and 7
- Tables 1
- Map 1 and 2

Denominator data:

Population for Toronto and Larger Areas: Population Estimates 2005 to 2015, Ontario Ministry of Health and Long-Term Care: IntelliHEALTH ONTARIO. Date extracted: November 2016. Used in:

- Figures 1, 2, 3, 4, 5, 6 and 7

Population for Neighbourhood or Service Planning Areas: 2011 Canada Census, Statistics Canada. Used in:

- Table 1
- Maps 1 and 2

Health Surveillance Indicator: Adult and Senior Unintentional Injury

Category: Injury

Prepared: June, 2017

This indicator report is part of a series that informs the ongoing assessment of Toronto's health status. For a full list of the indicators, please go to: www.toronto.ca/health