

# HEALTH SURVEILLANCE INDICATORS: INTENTIONAL SELF HARM



## Public Health Relevance

Intentional self harm includes purposely self-inflicted poisoning or injury and may occur with or without the intent of suicide. In addition to its obvious physical effects it can negatively impact interpersonal relationships and worsen existing mental health issues.

Intentional self harm is associated with mental illness, substance misuse and abuse, and social isolation. Some people engage in it as a coping mechanism for emotional distress.

The most serious cases of intentional self harm result in emergency department visits and hospitalizations, but the majority of such cases go unreported.

## Highlights

1. Emergency department visit rates for intentional self harm in Toronto fluctuated over time from 2006 to 2015, while hospitalization rates remained relatively stable.
2. Compared to the rest of Ontario, residents in Toronto have significantly lower emergency department visit and hospitalization rates for intentional self harm.
3. Toronto females aged 10 to 24 were more likely to visit an emergency department or be hospitalized for intentional self harm compared to other age and sex groups.

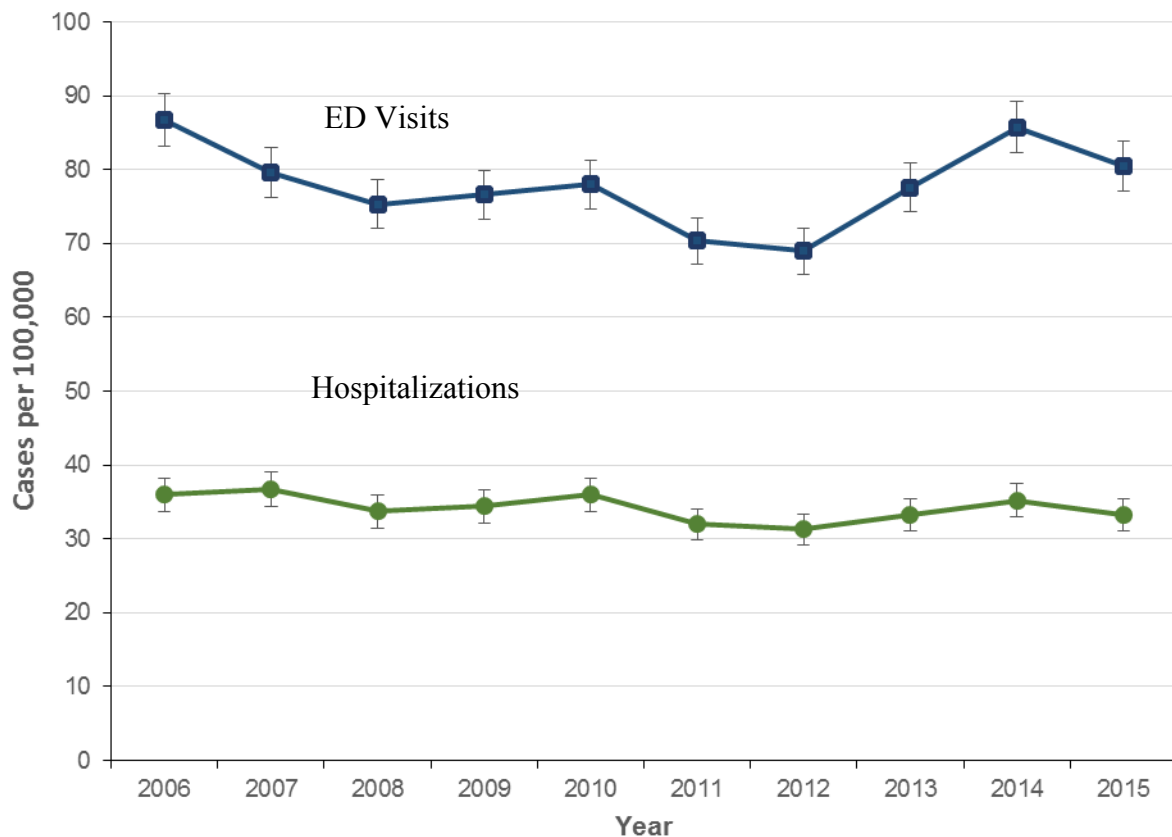
## Trends Over Time

Emergency department visit rates for intentional self harm in Toronto fluctuated over time from 2006 to 2015, while hospitalization rates remained relatively stable.

Figure 1 below shows age-standardized emergency department visit and hospitalization rates for intentional self harm in Toronto from 2006 to 2015. The emergency department visit rate significantly declined from 86.7 visits per 100,000 people in 2006 to 68.9 in 2012, but then increased again to 80.5 visits per 100,000 people in 2015.

The hospitalization rate for intentional self harm remained stable from 2006 to 2015, when it was 33.3 hospitalizations per 100,000 people.

**Figure 1: Age-Standardized Intentional Self Harm ED Visit and Hospitalization Rates, Toronto, 2006 to 2015\***



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

Data Sources: see Data Notes.

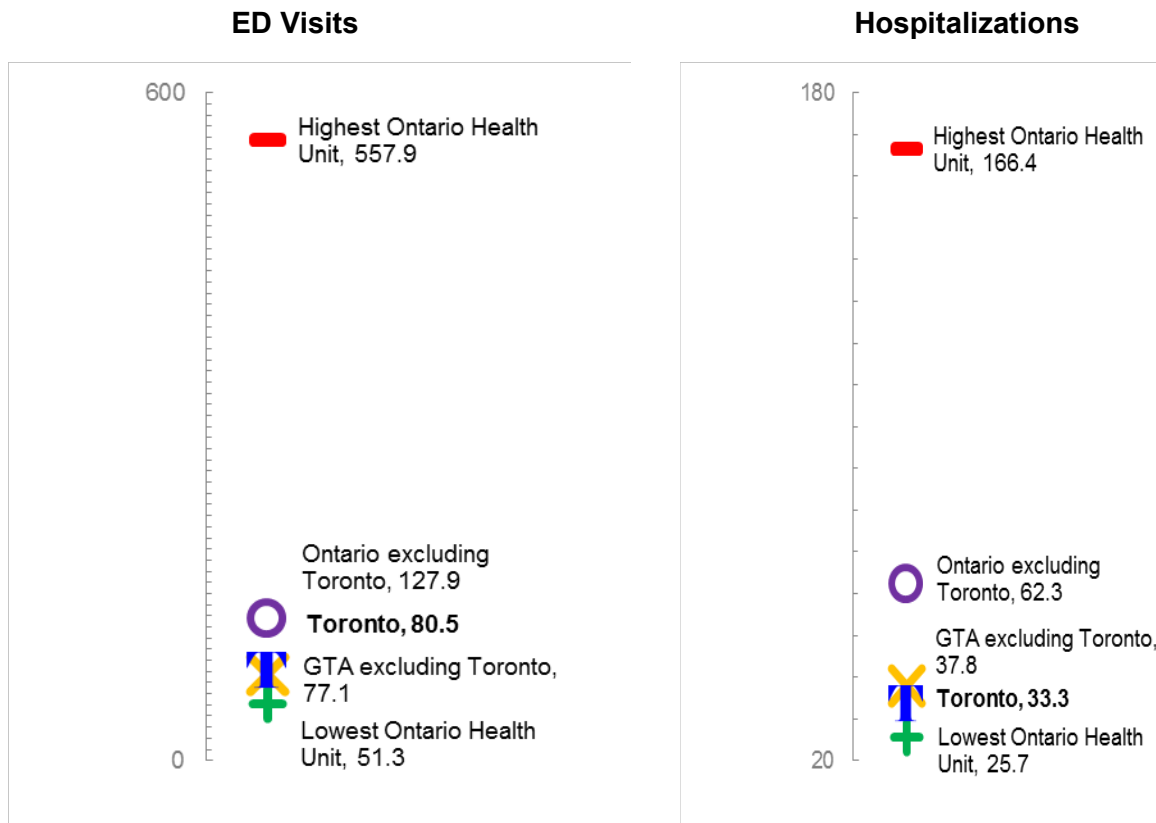
## Regional Comparisons

Compared to the rest of Ontario, residents in Toronto have significantly lower emergency department visit and hospitalization rates for intentional self harm.

Figure 2 below shows the emergency department visit and hospitalization rates for intentional self harm 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 emergency department visit rate was significantly lower than the rest of Ontario. Toronto ranked 4<sup>th</sup> out of 36 health units in Ontario, with the first ranked health unit having the lowest (most favourable) rate. Toronto's hospitalization rate was significantly lower than the rest of the GTA and the rest of Ontario. Toronto ranked 3<sup>rd</sup> out of 36 health units in Ontario, with the first ranked health unit having the lowest (most favourable) rate.

**Figure 2: Age Standardized Intentional Self Harm ED Visit and Hospitalization Rates per 100,000, Selected Regions in Ontario, 2015**



Data Sources: see Data Notes.

## Socio-demographics

Toronto females aged 10 to 24 were more likely to visit an emergency department or be hospitalized for intentional self harm compared to other age and sex groups.

Table 2 shows emergency department visit rates for intentional self harm by age group and sex in Toronto in 2015. Among people aged 10 to 24 years, emergency department visits were more common among females than males. Emergency department visit rates were similar between males and females for all other age groups. Emergency department visit rates declined with age among females, but were highest in the 10 to 44 age group among males.

**Table 1: Intentional Self Harm ED Visit Rates, by Sex and Age Group, Toronto, 2015.**

Age Group	Male	Female
10 to 24 years	93.5	220.3 <sup>H</sup>
25 to 44 years	102.4	104.2
45 to 64 years	64.5	68.8
65 plus years	32.6	28.3

<sup>H</sup> Significantly higher than the other sex indicating a less favourable result for this group.  
Data Sources: see Data Notes.

Table 3 shows hospitalization rates for intentional self harm by age group and sex in Toronto in 2015. Hospitalization rates among females aged 10 to 24 were significantly higher than males of the same age group. All other rates were similar by sex and age group.

**Table 2: Intentional Self Harm Hospitalization Rates, by Sex and Age Group, Toronto, 2015.**

Age	Male	Female
10 to 24 years	34.2	82.7 <sup>H</sup>
25 to 44 years	34.5	37.5
45 to 64 years	29.5	37.7
65 plus years	21.7	17.7

<sup>H</sup> Significantly higher than the other sex indicating a less favourable result for this group.  
Data Sources: see Data Notes.

## Data Notes

### Notes

- 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.
- Rates (except for age-specific rates) are age-standardized to the 2011 Canadian population. This allows for comparison over time and geography.
- IDC-10 codes used for this analysis are X60-X84 and Y870.
- Hospitalization and Emergency Department Visit rates due to intentional self harm are calculated for all age groups.
- Hospitalizations are derived from Emergency Department Visits using Disposition Status Codes 06, 07 and 08.

### Definitions

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

**Age Standardization** is a technique based on weighted averaging that removes the effects of the distribution of age when comparing two or more populations.

**Hospitalization** includes people who have stayed in a hospital bed overnight because of intentional harm.

**Sex** defines people based on their biological characteristics, whereas gender is a socially constructed concept. From a social determinants of health perspective, certain health conditions can be associated with gender, and from a biological perspective, health conditions can be associated with sex. Although reporting based on both concepts would be preferable, the data source used here only collects information on sex, and not gender.

## Sources

### Numerator Data:

**Emergency Department Visits and Hospitalizations:** Ambulatory Emergency External Cause, 2006 to 2015. Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO. Extracted February 2017. Used in:

- Figures 1 and 2
- Table 1 and 2

### Denominator data:

**Population for Toronto and Larger Areas:** Population Estimates County Municipality, 2006 to 2015, Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Extracted February 2017. Used in:

- Figures 1 and 2
- Tables 1 and 2

Health Surveillance Indicator: Intentional Self Harm

Category: Injury and Substance Misuse

Prepared: November, 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](http://www.toronto.ca/health)