

HL11.1 Attachment 1

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Table of Contents

Background	2
Data sources	2
Data limitations	2
Key Findings	3
Police-Reported Violent Crime in Toronto	5
Trends in police-reported violent crime by sex	5
Trends in police-reported violent crime in Toronto and select Canadian cities	7
Trends in police-reported violent crime by weapon causing injury	8
Trends in firearm-related violent crime by age group of the accused	9
Homicide Rates in Toronto	10
Trends in homicide rates by sex	10
Firearm-related homicide rates in Toronto and select Canadian cities	11
Gang-related homicide victims and persons accused by age group and sex	12
Violent Crime Injury Rates in Toronto	14
Emergency department visits for all assault and firearm-related injuries by age group and sex	14
Emergency department visits for assault-related injuries by neighbourhood	16
Emergency department visits for assault-related injuries and firearm-related injuries by neighbourhood socio-economic status	17
Ranking of Assault as a Cause of Death	19
Assault-related mortality and potential years of life lost	19
Data Gaps	21
Data Notes	23

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Background

While community violence has been identified as an important public health issue, limited research has been done in Toronto examining the magnitude of the problem, the extent to which violence has changed over time, and the sub-groups that are most affected. To help fill this gap, Toronto Public Health examined trends over time and the demographic patterns of violent crime in Toronto. The purpose of this report is to provide a snapshot of the extent of community violence in Toronto. It does not explore the complex range of factors that are contributing to community violence. Additional research and engagement with the affected populations and communities is required to identify these factors. For this analysis, community violence was defined as violence between persons who are not family members or intimate partners. Where it was not possible to distinguish between community violence and other forms of violence, we examined all violent crime.

Data sources

The extent of violent crime is generally assessed using two different data sources - police-reported violent crime data and self-reported data collected from victimization surveys. There is currently no population survey data available for the City of Toronto to assess the prevalence of self-reported violent victimization. Therefore, the results presented in this report on rates of community violence are from police-reported violent crime and homicide data that do not include violence between persons who are family members or intimate partners. Police data were provided to Toronto Public Health by the Canadian Centre for Justice Statistics at Statistics Canada using the Uniform Crime Reporting Survey (UCR) and the Homicide Survey. The analysis also examined emergency department (ED) visits for injuries resulting from an assault using data from the National Ambulatory Care Reporting System (NACRS). More information on the data sources is included in the Data Notes section.

Data limitations

Given the available data in Toronto, this analysis likely underestimates the rates of community violence because it only captures incidents that come to the attention of the police or that involve serious injuries resulting in an ED visit. The data sources used also had limited information on the demographic characteristics of victims and persons accused of a violent crime (i.e., mainly age and sex). We were able to augment these results with analyses conducted by Public Health Ontario that used the Ontario Marginalization Index (ON-Marg)¹, which is an index that includes indicators of neighbourhood socio-economic status (SES). Public Health Ontario's analyses examined the relationship between rates of ED visits for injuries from an assault with neighbourhood SES.

¹ F. I. Matheson and T. van Ingen (2018). *2016 Ontario Marginalization Index*. Toronto, ON: St. Michael's Hospital. Joint publication with Public Health Ontario.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Some analyses conducted for this report include all violent occurrences rather than just those considered community violence (i.e., ED visits, some police-reported violent crime). It is difficult with ED visit data to reliably differentiate community violence from violence perpetrated by family members or intimate partners. Though it is possible to differentiate these cases with police-reported violent crime, data on firearm-related violent crime and gang-related homicide that could be defined as community violence were not available for the current report. Therefore, each section indicates whether only community violence was examined or all violent incidents.

Finally, in addition to measuring the prevalence of being a victim or perpetrator of community violence, there is growing interest in measuring indirect exposure to community violence. This can include the prevalence of having witnessed an incident of community violence or of knowing someone who has been victimized by community violence. There are currently no population-level survey data to examine the prevalence of indirect exposure to community violence in Toronto.

Key Findings

- The rate of police-reported community violence in Toronto decreased by 26% between 2009 and 2014 (759.0 vs. 562.1 per 100,000), then increased by 14% between 2014 and 2017 (562.1 vs. 641.0 per 100,000).
- Between 2013 and 2017, the rate of firearm-related violent crime in Toronto more than doubled among youth (46.2 vs. 102.6 accused persons per 100,000) and adults 18 years of age and older (10.2 vs. 25.1 accused persons per 100,000).
- The majority of victims of police-reported community violence, homicide and gang-related homicide in Toronto between 2013 and 2017 were males (62%, 86%, 93% respectively) and were disproportionately youth and young adults.
- Between 2011 and 2015, assault-related mortality was the second leading cause of death among those 15 to 24 years of age, and the third leading cause among adults 25 to 29 years of age.
- Rates of emergency department (ED) visits for assault-related injuries varied substantially across Toronto neighbourhoods based on where people were living at the time of their ED visit.
- Toronto neighbourhoods with higher levels of material deprivation (based on indicators of income, quality of housing, education, employment, and family structure) had higher rates of ED visits for injuries resulting from assaults and from assaults involving firearms. The rate of all assault-related ED visits was 2.6 times higher in the most materially deprived neighbourhoods compared to the least deprived, while the rate for firearm-related ED visits was 9.8 times higher in the most deprived versus the least deprived neighbourhoods.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

- Among the nine cities examined with populations over 500,000, Toronto had the third highest rate of firearm-related homicide (0.32 victims per 100,000), only preceded by Edmonton (0.46 per 100,000) and Winnipeg (0.48 per 100,000).

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Police-Reported Violent Crime in Toronto

Police-reported violent crime includes the use or threat of violence against a person including homicide, attempted homicide, physical assault, sexual assault, and robbery. The term 'community violence' is used when the analysis excludes crimes committed by someone who was an intimate partner or family member. It also excludes cases where the relationship between the victim and the accused person was unknown. The latter exclusion may result in underestimating the rate of community violence. For example, cases where an accused person has not been identified would be excluded.

The rate of community violence was estimated using police-reported victimization data rather than incident data.² Each incident of violence may have involved one or more victims. Finally, rates are presented for the City of Toronto, rather than for the Toronto Census Metropolitan Area (CMA). In contrast, Statistics Canada typically uses CMA-level data for cross-jurisdiction comparisons.

This section describes the trends over time in police-reported community violence in Toronto between 2009 and 2017 and compares these trends to those observed in a select number of cities in Canada. It also examines whether there has been any change over time in Toronto in the use of weapons such as firearms or knives among victims of police-reported violence. Finally, it describes the trends over time in the rates of firearm-related violent crime and how these trends vary by the age group of the accused.

Trends in police-reported violent crime by sex

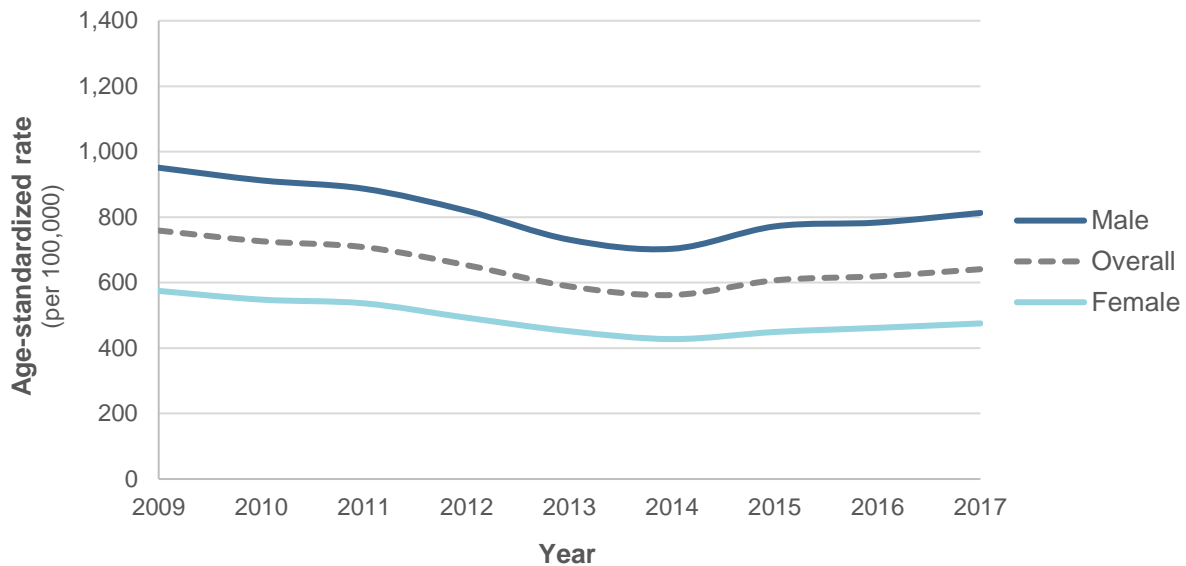
- In 2017, there were 27,335 victims of police-reported violent crime in Toronto. 71% of these cases (19,398 of 27,335) were defined as community violence (i.e., the accused person was not an intimate partner or family member).
- The proportion of all police-reported violent crime that was defined as community violence varied by sex. For males, 85% of all cases were classified as community violence compared to about half (55%) for females.
- In 2017, the overall rate of police-reported community violence in Toronto was 641.0 victims for every 100,000 residents.
- As shown in Figure 1, the rate of police-reported community violence decreased by 26% in Toronto between 2009 and 2014 (759.0 vs. 562.1 per 100,000). The rate then increased by 14% between 2014 and 2017 (562.1 vs. 641.0 per 100,000). This general trend was similar for males and females.
- Males were consistently about 70% more likely to be a victim of police-reported community violence compared to females. For example, in 2017, the rate for

² Statistics Canada, in collaboration with police services across Canada, developed indicators to monitor crime rates across the country. The indicator of police-reported violent crime uses victimization data in the calculation. Toronto Public Health reports this standard indicator, excluding cases involving intimate partner or family violence.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

males was 812.9 per 100,000 compared to 475.4 per 100,000 for females (Figure 1).

Figure 1: Age-standardized rates of police-reported victims of violent crime committed by someone who was not an intimate partner or family member, by sex of the victim, Toronto, 2009 to 2017



Data Source: Incident-based Uniform Crime Reporting Survey (UCR) trend database, 2009-2017. Data provided to Toronto Public Health by the Canadian Centre for Justice Statistics, Statistics Canada.

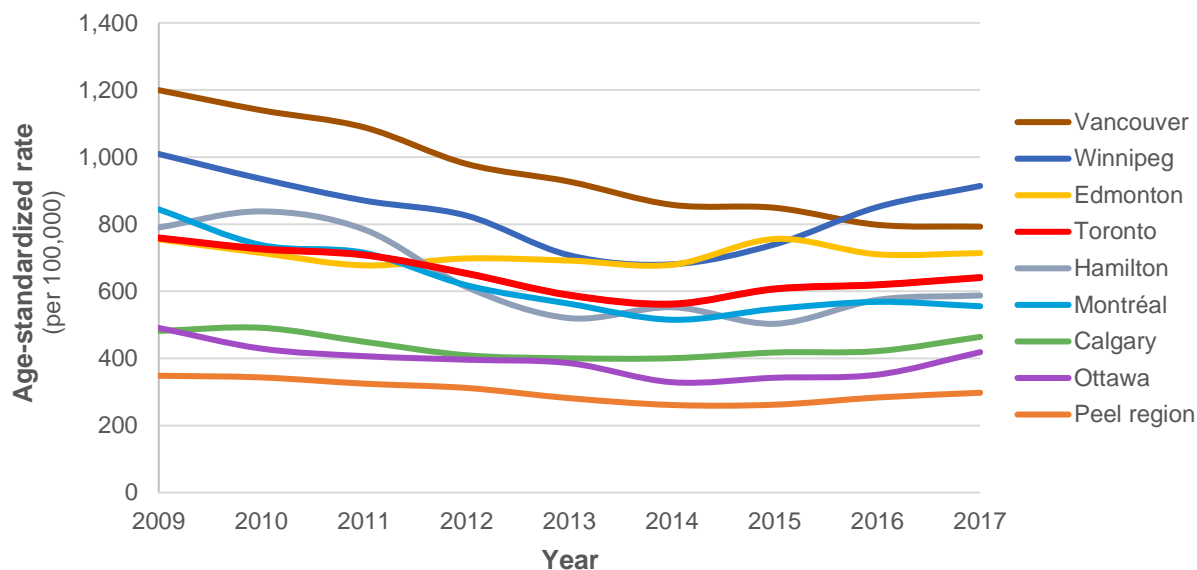
Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Trends in police-reported violent crime in Toronto and select Canadian cities

This analysis examines trends over time in the rates of police-reported community violence in Toronto between 2009 and 2017 compared with a number of large Canadian cities with populations of 500,000 or more (Vancouver, Edmonton, Calgary, Winnipeg, Hamilton, Ottawa, and Montreal). The analysis also included Peel region in Ontario. The analysis presents data for each municipality, rather than data for the Census Metropolitan Area (CMA).

- The rates of police-reported victims of community violence varied across the cities examined (Figure 2). The rates for Toronto were lower than some cities in Western Canada (Vancouver, Winnipeg) but were higher than some other cities or regions including Peel Region, Ottawa, and Calgary.
- The trends over time in the rates of community violence also differed across cities. For example, the rates initially decreased then increased between 2009 and 2017 in Toronto and Winnipeg; whereas, the rates decreased in Vancouver and remained relatively stable in Calgary (Figure 2).

Figure 2: Age-standardized rates of police-reported victims of violent crime committed by someone who was not an intimate partner or family member in select Canadian cities, 2009 to 2017



Data Source: Incident-based Uniform Crime Reporting Survey (UCR) trend database, 2009-2017. Data provided to Toronto Public Health by the Canadian Centre for Justice Statistics, Statistics Canada.

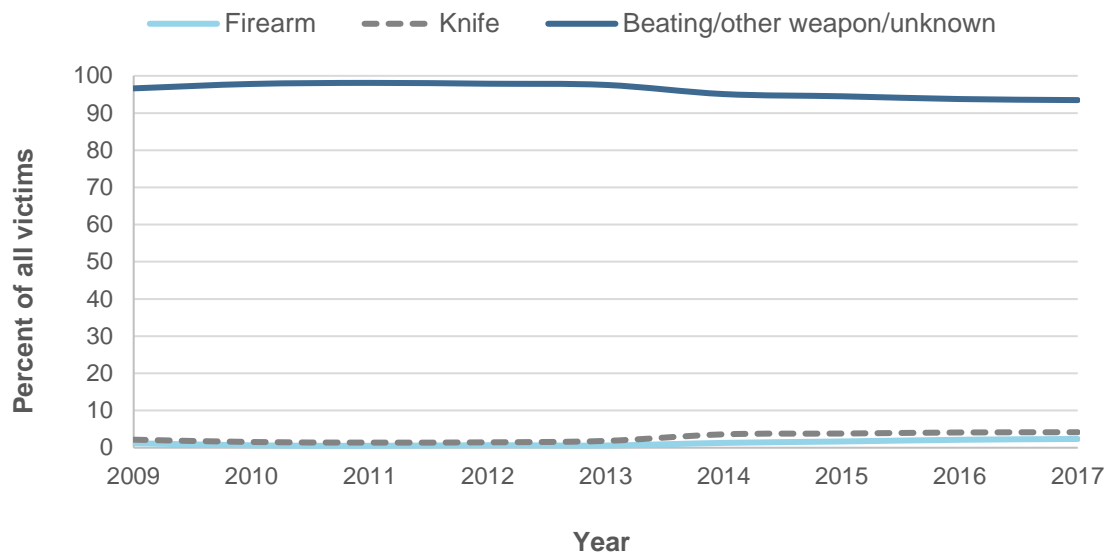
Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Trends in police-reported violent crime by weapon causing injury

This analysis examines police-reported victims of violent crime by the weapon causing injury. It includes all violent crimes between 2009 and 2017, including those defined as community violence and those committed by an intimate partner or family member.

- The vast majority of police-reported violent crimes in Toronto between 2009 and 2017 (over 90%) did not involve a firearm or knife. Most involved physical force (e.g., beatings), other weapons, no weapon, or an unknown weapon (Figure 3).
- In 2017, 2.4% of all police-reported violent crimes involved firearms, 4.2% involved a knife or other piercing or cutting instrument, and 93.5% involved beatings, other weapons, no weapon, or an unknown weapon.
- The proportion of assaults involving firearms or knives increased between 2013 and 2017 from 2.4% to 6.5%, while the proportion of assaults involving beatings, weapons, no weapons, or unknown weapons decreased from 97.6% to 93.5%.

Figure 3: Percent of police-reported victims of violent crime by weapon causing injury, Toronto, 2009 to 2017



Data Source: Incident-based Uniform Crime Reporting Survey (UCR) trend database, 2009-2017. Data provided to Toronto Public Health by the Canadian Centre for Justice Statistics, Statistics Canada.

Firearm-related violent crime include those committed with a fully automatic firearm, handgun (semi-automatic guns and revolvers), rifle, shotgun and sawed-off rifle/sawed-off shotgun, other firearm-like weapon (e.g., zip guns, flare guns, nail guns, pellet rifles/pistols) and other firearms where the type was unknown.

Knife includes other piercing/cutting instrument.

Beating/other weapon/unknown includes club/blunt instrument, explosives, fire, physical force, other weapon, motor vehicles, rope/strangulation, burning liquid or spray, no weapons involved or injury caused and unknown.

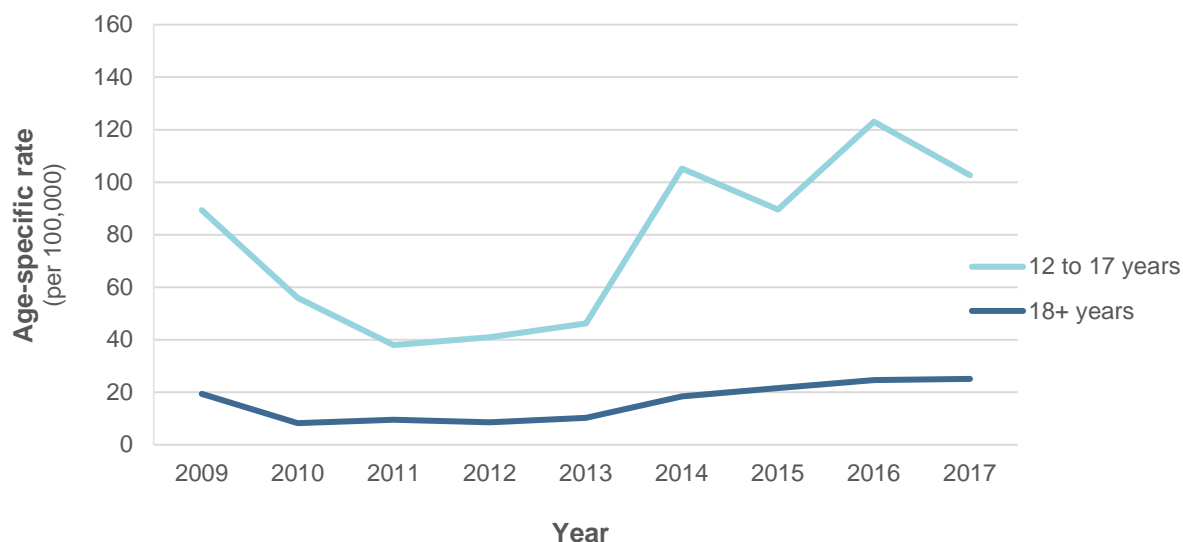
Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Trends in firearm-related violent crime by age group of the accused

This analysis examines trends over time in firearm-related violent crime in Toronto between 2009 and 2017 and how it varied by the age of the person accused of committing the offence. It includes all firearm-related violent crimes, including those defined as community violence and those committed by an intimate partner or family member.

- Between 2009 and 2017, 1,118 youth 12 to 17 years of age and 3,338 adults 18 years of age and over were accused of a firearm-related violent crime in Toronto.
- The rate of firearm-related violent crime was consistently higher for youth 12 to 17 years of age compared to adults (Figure 4). In 2017, the rate for youth was 102.6 per 100,000 compared to 25.1 per 100,000 for adults.
- Among those 12 to 17 years of age, the rates of firearm-related violent crime decreased between 2009 and 2011 from 89.3 per 100,000 to 38.0 per 100,000. The rate then increased substantially between 2013 and 2017 from 46.2 to 102.6 per 100,000. The rates for adults followed a similar pattern.
- Data were unavailable to examine the rates of firearm-related violent crime for young adults (e.g., 18-24, 25-34). However, Toronto Public Health has requested these data from Statistics Canada.

Figure 4: Age-specific rates of firearm-related violent crime by age group of the accused, Toronto, 2009 to 2017



Data Source: Incident-based Uniform Crime Reporting Survey (UCR) trend database, 2009-2017. Data provided to Toronto Public Health by the Canadian Centre for Justice Statistics, Statistics Canada.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

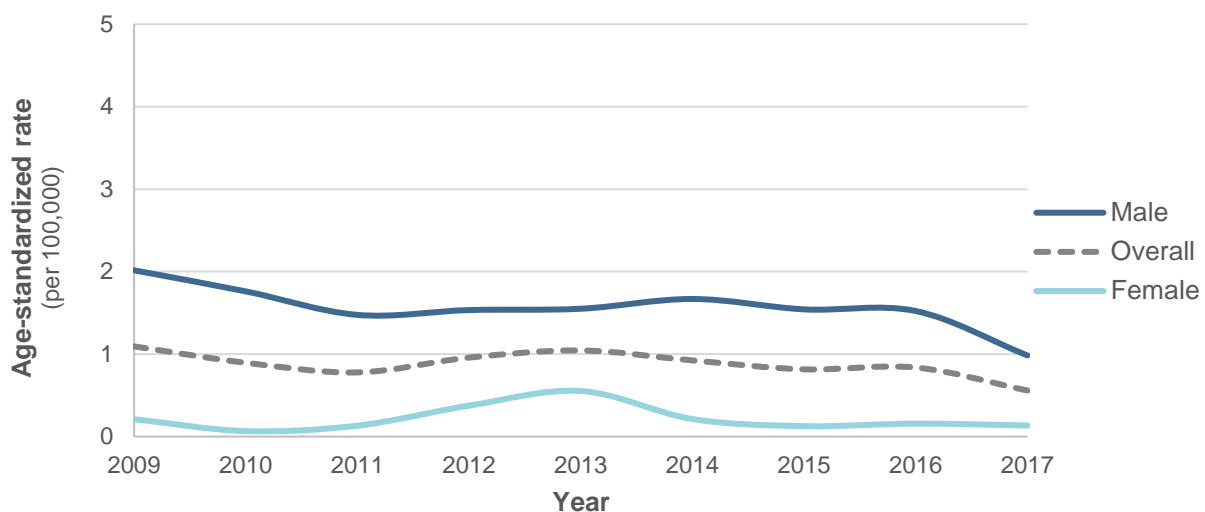
Homicide Rates in Toronto

Homicide includes Criminal Code offences including murder, manslaughter and infanticide. This analysis examines trends over time in the homicide rate in Toronto between 2009 and 2017. It also compared the firearm-related homicide rate in Toronto with the rates for a select number of Canadian cities. Finally, this section examines gang-related homicides in Toronto and the demographic characteristics (i.e., age and sex) of the victims and accused persons. Each section specifies whether the analysis includes all homicides or only those defined as community violence.

Trends in homicide rates by sex

- Between 2009 and 2017, there were 541 homicides in Toronto, of which 237 (43.8%) were defined as community violence.
- The majority of victims of homicide defined as community violence over this period were male (88%) and 12% were female.
- The overall community violence homicide rate in Toronto over this period varied from 1.09 victims per 100,000 in 2009 to 0.56 victims per 100,000 in 2017 (Figure 5).
- Between 2009 and 2017, the community violence homicide rate decreased for males, but did not change for females (Figure 5). However, given the low number of homicides annually in Toronto, a small change in the number of homicides year-over-year can result in a large fluctuation in the rates.

Figure 5: Age-standardized rates of victims of homicide committed by someone who was not an intimate partner or family member by sex, Toronto, 2009 to 2017



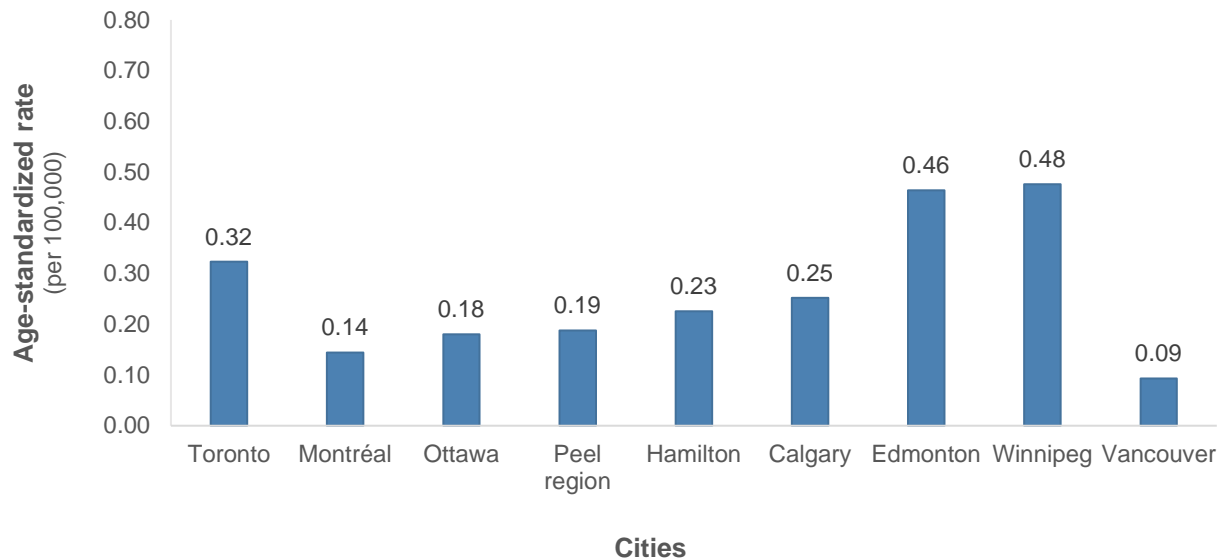
Data Source: Homicide Survey, 2009-2017. Data provided to Toronto Public Health by the Canadian Centre for Justice Statistics, Statistics Canada.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Firearm-related homicide rates in Toronto and select Canadian cities

- Between 2009 and 2017, 39% of all homicides in Toronto defined as community violence involved a firearm (92 of 237). As noted previously, this may be an underestimate because it excludes cases where the relationship between the victim and the accused was unknown.
- Among the nine cities examined, Toronto had the third highest rate of firearm-related homicide (0.32 victims per 100,000). The highest rates were in Edmonton (0.46 per 100,000) and Winnipeg (0.48 per 100,000). Vancouver had the lowest rate (0.09 per 100,000) (Figure 6).

Figure 6: Age-standardized rates of victims of firearm-related homicide committed by someone who was not an intimate partner or family member in select Canadian cities, 2009 to 2017 combined



Data Source: Homicide Survey, 2009-2017. Data provided to Toronto Public Health by the Canadian Centre for Justice Statistics, Statistics Canada.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Gang-related homicide victims and persons accused by age group and sex

The criteria for labelling violent crimes or homicides as gang-related vary across jurisdictions and agencies and have been the subject of much debate.³ For the current data, a homicide was classified as gang-related if the police confirmed or suspected that the accused person and/or victim involved in the homicide was either a member, or a prospective member, of an organized crime group or street gang or was somehow associated with an organized crime group or street gang, and the homicide was carried out as a result of this association. Homicides of innocent bystanders killed as a result of gang-related disputes are also identified as victims of gang-related violence.

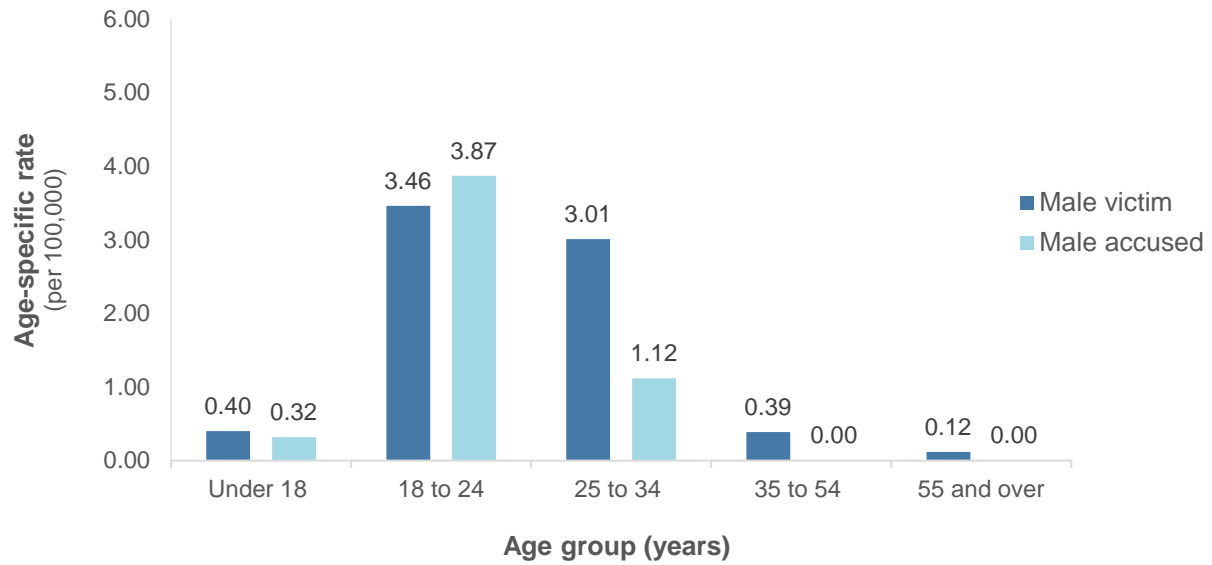
It was not possible with the available data to distinguish between crimes committed by members of an organized crime group or members of a street gang or to determine the circumstances of these homicides or the nature of the connection of the victim or accused person to a gang. This analysis includes all violent crimes classified as gang-related, including crimes committed by an intimate partner or family member.

- 26% of all homicide victims in Toronto between 2013 and 2017 were classified as gang-related homicides (81 of 308).
- Between 2013 and 2017, there were 81 victims and 45 individuals accused of a gang-related homicide in Toronto.
- The majority of victims and accused persons were male (93% of victims, 100% of accused persons).
- Victims of gang-related homicide ranged in age from under 18 years to 55 years and older. However, most victims were between the ages of 18 and 34 years. The rates of gang-related homicide victims were 3.46 per 100,000 for males 18 to 24 years of age and 3.01 per 100,000 for those 25 to 34 years of age (Figure 7).
- Individuals accused of gang-related homicide were most likely to be 18 to 24 years of age (3.87 per 100,000) followed by 25 to 34 years (1.12 per 100,000). Some accused persons were under the age of 18 years (0.32 per 100,000) (Figure 7).

³ Wortley, S. (2010). *Identifying Street Gangs: Definitional Dilemmas and their Policy Implications*. Ottawa, ON: Queen's Printer. Available at: <http://publications.gc.ca/site/eng/412380/publication.html>

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Figure 7: Rates of gang-related homicide victims and persons accused among males by age group, Toronto, 2013 to 2017 combined



Data Source: Homicide Survey, 2013-2017. Data provided to Toronto Public Health by the Canadian Centre for Justice Statistics, Statistics Canada.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Violent Crime Injury Rates in Toronto

This section examines the rates of emergency department (ED) visits for all assault-related injuries and for firearm-related injuries among Toronto residents by age group and sex of the victim. It also examined neighbourhood variation in assault-related ED visits across Toronto's 140 neighbourhoods. Finally, it examines the relationship between neighbourhood socio-economic status using the Ontario Marginalization Index (ON-Marg)⁴ and rates of assault-related ED visits.

The ability of these data to accurately capture assault-related injuries is affected by a number of factors including whether people choose to or are able to seek medical care for their injuries, whether medical providers screen for violence, whether people feel safe disclosing this information, and whether this information is recorded within the medical record. Because patterns of help-seeking behaviour and exposure to different forms of violence may differ by sex, it is possible that there may be differences in how well these data are able to identify assault-related injuries for males and females.

Finally, because these data are limited in their ability to identify the relationship between the perpetrator and the victim, these analyses include all assault-related ED visits, including assaults from intimate partners and family members.

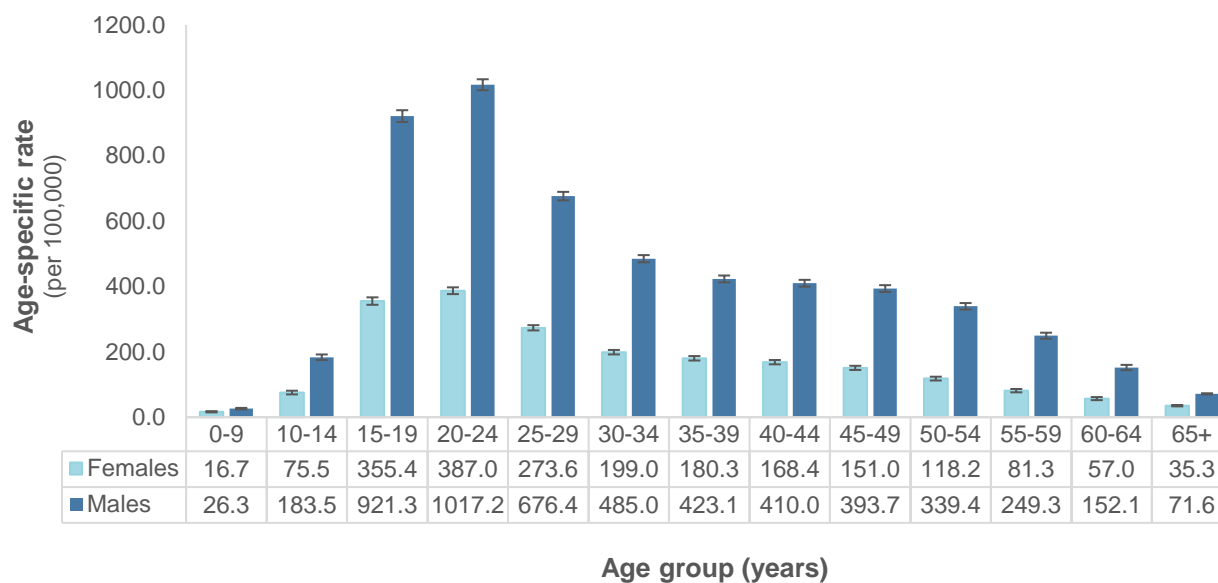
Emergency department visits for all assault and firearm-related injuries by age group and sex

- Between 2004 and 2017, there were almost 102,000 ED visits among Toronto residents for an assault-related injury and 1,133 ED visits for a firearm-related injury.
- Males were more likely than females to have had an ED visit for assault and for a firearm-related injury. 71% of all assault-related ED visits occurred among males, while 94% of all firearm-related ED visits occurred among males.
- Figure 8 shows the rates of ED visits for all types of assault across age groups for males and females. The rates were highest for youth and young adults. The rate for males 15 to 19 years was 921.3 per 100,000 individuals while the rate for males 20 to 24 years was 1,017.2 visits per 100,000.
- Figure 9 shows firearm-related ED visits for males. Similar to the results for assault overall, males 15 to 24 years of age had the highest rates of firearm-related ED visits between 2004 and 2017. The rate for males 15 to 19 years was 20.1 per 100,000 and the rate for males 20 to 24 years was 23.5 per 100,000. Half (52%) of all firearm-related ED visits for males occurred among those 15 to 24 years of age.

⁴ F. I. Matheson and T. van Ingen (2018). *2016 Ontario Marginalization Index*. Toronto, ON: St. Michael's Hospital. Joint publication with Public Health Ontario.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

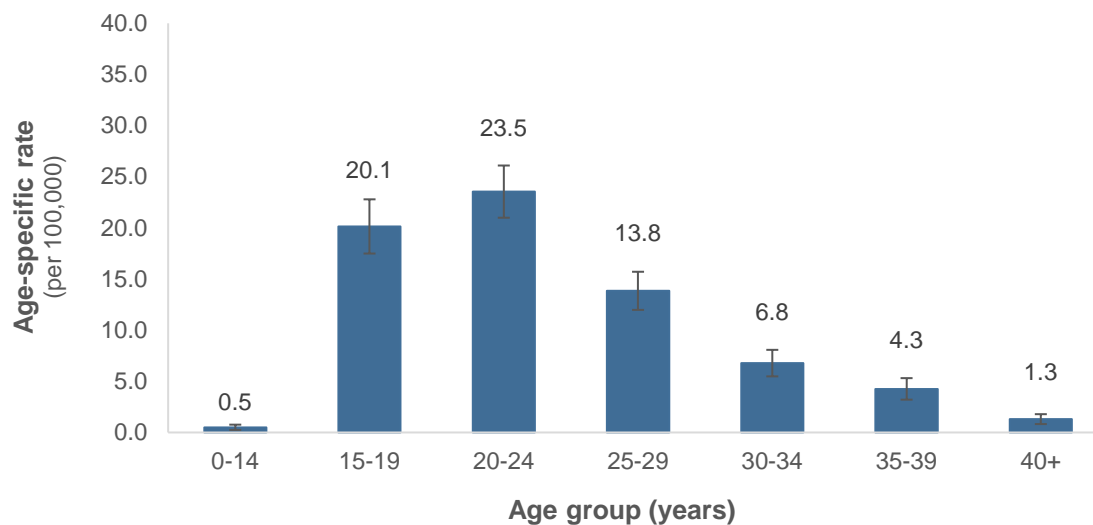
Figure 8: Rates of emergency department visits for assault-related injuries among Toronto residents by age group, 2004 to 2017 combined



Data Source: National Ambulatory Care Reporting System (NACRS), 2004 to 2017, Ministry of Health, IntelliHEALTH Ontario. Date extracted: February 2019. Population Estimates and Projections 2004 to 2017, Ministry of Health, IntelliHEALTH ONTARIO. Date Extracted: November 2018. Analysis conducted by Toronto Public Health.

Error bars (I) represent 95% confidence intervals.

Figure 9: Rates of emergency department visits for firearm-related injuries among male residents of Toronto by age group, 2004 to 2017 combined



Data Source: See Figure 8 for data source.

Error bars (I) represent 95% confidence intervals.

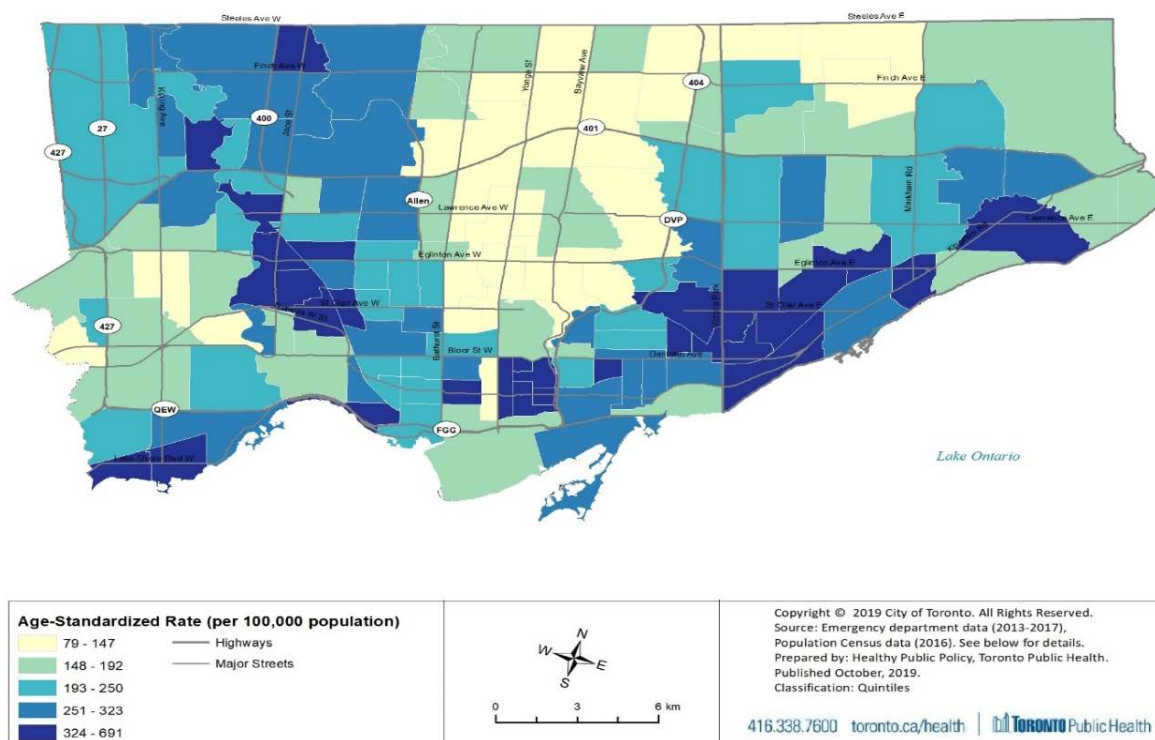
Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Emergency department visits for assault-related injuries by neighbourhood

Public Health Ontario examined the rates of ED visits for assault-related injuries across Toronto's 140 neighbourhoods between 2013 and 2017. Emergency department data are based on place of residence of the individual and may not reflect the neighbourhood in which the assault occurred. The analysis includes all assault-related ED visits, including those perpetrated by an intimate partner or family member.

- Between 2013 and 2017, the rates of ED visits for assault-related injuries varied substantially across neighbourhoods in Toronto (Figure 10). Although the overall rate for Toronto was 227.5 per 100,000 over this period, the rates varied from 79.2 to 690.5 per 100,000 across neighbourhoods.

Figure 10: Age-standardized rates of emergency department visits for assault-related injuries among Toronto residents by neighbourhood of residence, 2013 to 2017 combined



Data Source: National Ambulatory Care Reporting System (NACRS), 2013 to 2017, Ministry of Health, IntelliHEALTH Ontario. Extracted: September, 2018. Population Estimates for 2016, Statistics Canada. 2016 census of population – dissemination area: Census profile - age and sex for Canada, provinces, territories, census divisions, census subdivisions and dissemination areas, 2016 census [Internet]. Ottawa, ON: Statistics Canada; 2017. Extracted: April 2018. Analysis conducted by Public Health Ontario.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Emergency department visits for assault-related injuries and firearm-related injuries by neighbourhood socio-economic status

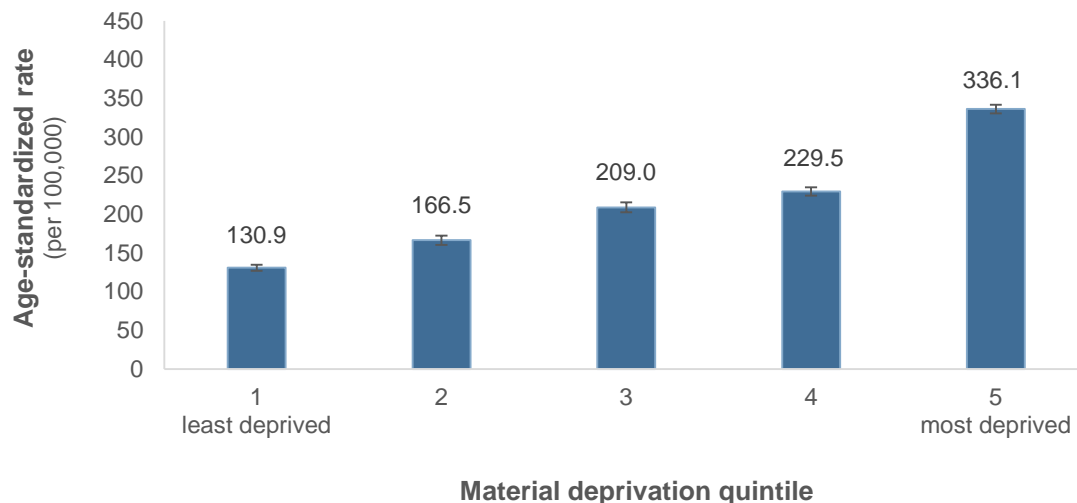
Public Health Ontario also examined the relationship between neighbourhood socio-economic status and rates of emergency department (ED) visits for all assault-related injuries and for firearm-related injuries among Toronto residents between 2013 and 2017. Neighbourhood socio-economic status was measured using the 2016 Ontario Marginalization Index (ON-Marg)⁵, which assesses different dimensions of neighbourhood deprivation using 2016 Canadian Census data. This report describes the results of one dimension related to neighbourhood material deprivation, which includes measures of neighbourhood income, quality of housing, education, and family structure. The analysis categorized neighbourhoods into five groups (quintiles) based on material deprivation scores and compared the rates of ED visits within each of these groups.

- Neighbourhoods with the highest material deprivation scores (most deprived) had the highest rate of ED visits for assault-related injuries (Figure 11) and firearm-related injuries (Figure 12), while neighbourhoods with the lowest scores (least deprived) had the lowest rate.
- This suggests that residents living in the most socio-economically deprived neighbourhoods were more likely to be seen in the ED for assault and firearm-related injuries.
- The rate of all assault-related ED visits was 2.6 times greater for residents living in the most materially deprived neighbourhoods compared to the least deprived (336.1 vs. 130.9 per 100,000). The results for firearm-related ED visits show even larger inequities; the rate was 9.8 times greater for residents living in the most deprived versus the least deprived neighbourhoods (5.9 vs. 0.6 ED visits per 100,000).

⁵ F. I. Matheson and T. van Ingen (2018). *2016 Ontario Marginalization Index*. Toronto, ON: St. Michael's Hospital. Joint publication with Public Health Ontario.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

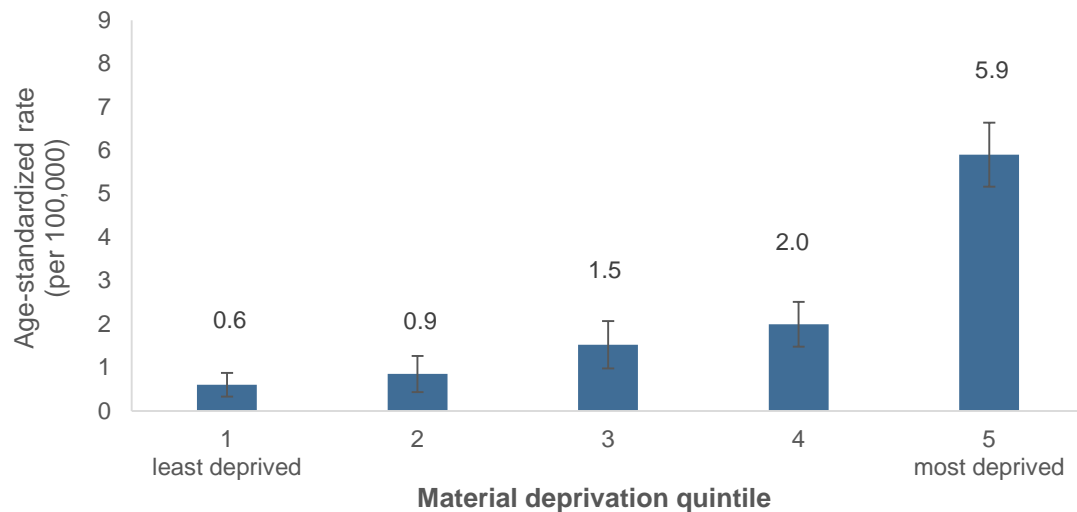
Figure 11: Age-standardized rates of emergency department visits for assault-related injuries by neighbourhood material deprivation quintile among Toronto residents, 2013 to 2017 combined



Data Source: National Ambulatory Care Reporting System (NACRS), 2013 to 2017, Ministry of Health, IntelliHEALTH Ontario. Extracted: September, 2018. Population Estimates for 2016, Statistics Canada. 2016 census of population – dissemination area: Census profile - age and sex for Canada, provinces, territories, census divisions, census subdivisions and dissemination areas, 2016 census [Internet]. Ottawa, ON: Statistics Canada; 2017. Extracted: April 2018. Analysis conducted by Public Health Ontario.

Error bars (I) represent 95% confidence intervals.

Figure 12: Age-standardized rates of emergency department visits for firearm-related injuries by neighbourhood material deprivation quintile among Toronto residents, 2013 to 2017 combined



Data Source: See Figure 11 for data source.

Error bars (I) represent 95% confidence intervals.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Ranking of Assault as a Cause of Death

This section examines violence as a cause of death in Toronto. The first analysis examines the ranking of assault as a cause of death among youth and young adults in Toronto between 15 and 29 years of age.

Another way to examine the public health impact of violence is to estimate the potential years of life lost (PYLL) from assault, which is defined as the number of years a person would have lived had they not died prematurely. It is calculated by subtracting the age of the person at the time of their death from age 75. For example, a person who died at age 25 would have 50 potential years of life lost. The second analysis examines the top 20 causes of premature mortality in Toronto, as measured by PYLL, and highlights the PYLL due to assault.

The analyses in this section include all deaths attributed to assault, including those perpetrated by an intimate partner or family member.

Assault-related mortality and potential years of life lost

- Assault is a leading cause of death for youth and young adults in Toronto. Although assault-related mortality was the 46th leading cause of death overall in Toronto between 2011 and 2015, it was the second leading cause of death for those 15 to 24 years of age and the third leading cause of death for those 25 to 29 years of age (Table 1).
- Assault was the 12th cause of premature mortality in Toronto from 2011 to 2015, resulting in a total of 10,292 PYLL and an average of 2,058 PYLL per year (Figure 13). Its ranking as a cause of premature mortality was higher than other common types of injury, including transport accidents and falls, as well as chronic diseases such as diabetes. This is partly because assault-related mortality is highest for youth and young adults, and the person years of life lost for these individuals is high.

Table 1: Leading causes of death in Toronto among youth and young adults, 2011 to 2015 combined*

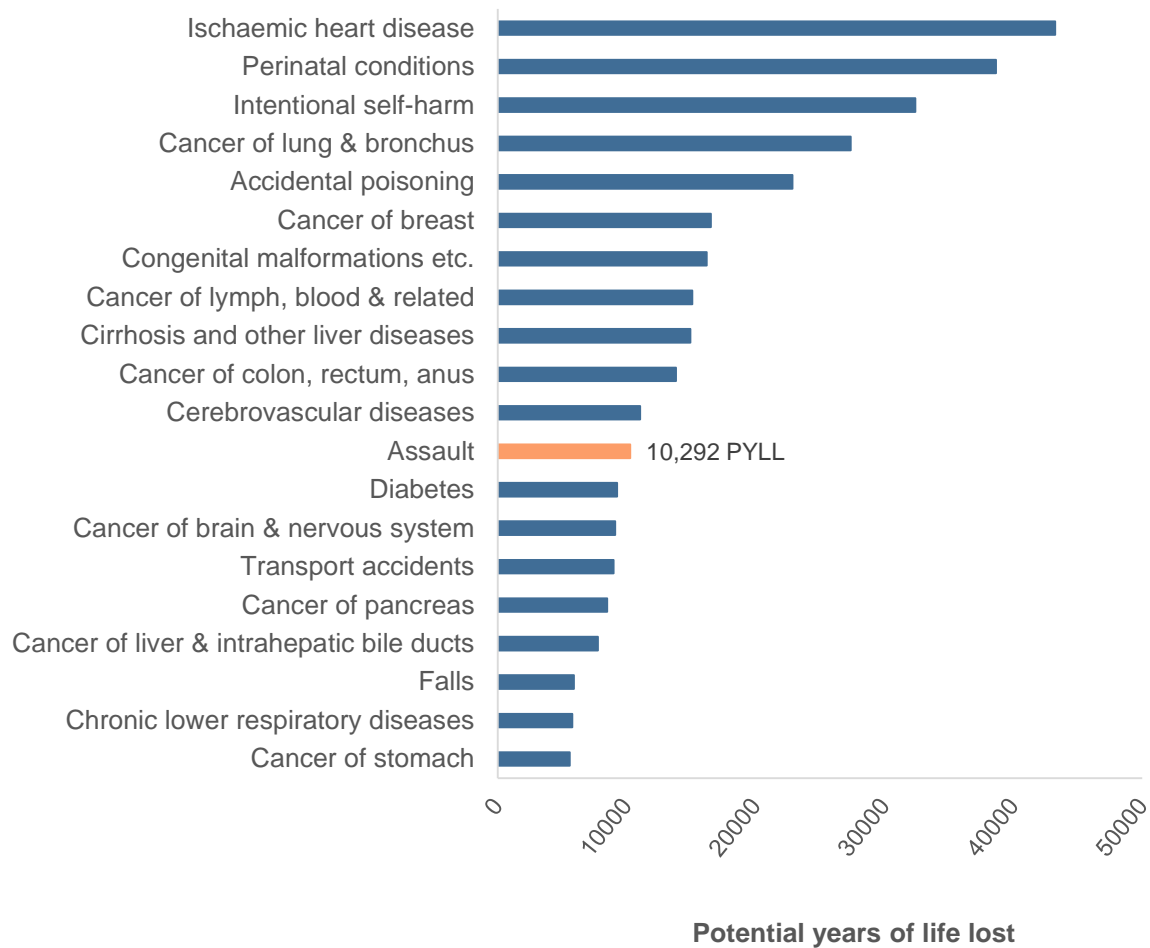
Rank	Ages 15 to 19	Ages 20 to 24	Ages 25 to 29
1	Intentional self-harm 32*	Intentional self-harm 93	Intentional self-harm 92
2	Assault 22	Assault 56	Accidental poisoning 69
3	Transport accidents 20	Accidental poisoning 35	Assault 47

Data Source: Vital Statistics, 2011 to 2015, Ministry of Health, IntelliHEALTH Ontario. Date extracted: September 2019. Analysis conducted by Toronto Public Health. Leading cause of death was based on ICD-10-CA classification of primary cause of death, with modifications recommended by the Association of Public Health Epidemiologists in Ontario (APHEO).

* The numbers in the table represent number of deaths.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Figure 13: Top 20 causes of premature mortality among Toronto residents based on potential years of life lost (PYLL), 2011 to 2015 combined



Data Source: Vital Statistics, 2011 to 2015, Ministry of Health, IntelliHEALTH Ontario. Date extracted: September 2019. Analysis conducted by Toronto Public Health.

Leading cause of death was based on ICD-10-CA classification of primary cause of death, with modifications recommended by the Association of Public Health Epidemiologists in Ontario (APHEO).

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Data Gaps

The analyses described in this report provide a snapshot of the extent of community violence in Toronto using available administrative data for the city of Toronto, including police-reported crime and homicide data, emergency department data, and mortality data. While these data sources provide valuable information about the magnitude of the problem and the health impact of community violence in Toronto, this picture is incomplete because of the acknowledged data gaps and limitations.

Police-reported data underestimate the extent of community violence because many violent occurrences do not come to the attention of the police. Emergency department data also underestimate the health impact of violence for various reasons. They only include assaults that result in injuries severe enough to require an emergency department visit. Some individuals with serious injuries may not be seen in the ED. In addition, the identification of an assault with these data may be influenced by whether medical providers screen for violence, whether people disclose the source of their injury to their medical provider, and whether this information is recorded within the medical record.

Another limitation of the data sources used for this report is that, for the most part, they do not include sociodemographic information beyond age and sex. The recent decision of the Toronto Police Services Board to develop a policy for collecting, analyzing and reporting race-based data will help fill this gap. Although the report examined some specific forms of violence (e.g., firearm, gang-related, homicide), there may also be sex differences or other socio-demographic differences in other specific forms of violence (e.g., sexual assaults).

The analysis also examined neighbourhood variation in ED visits in Toronto based on neighbourhood of residence of the victim. Emergency department data are based on place of residence of the individual and may not reflect the neighbourhood in which the assault occurred. We were unable to examine neighbourhood variation in police-reported rates of community violence, which identify the location of violent incidents. Similar analyses have been conducted by Statistics Canada using 2006 violent crime data^{6,7} and other researchers.⁸

The map described in this report provides a snapshot in time of ED visits across neighbourhoods in the city. The analysis did not explore how rates of community

⁶ M. Charron (2009). *Neighbourhood Characteristics and the Distribution of Police-reported Crime in the City of Toronto*. Canadian Centre for Justice Statistics, Statistics Canada.

⁷ M. Charron (2011). *Neighbourhood Characteristics and the Distribution of Crime in Toronto: Additional Analysis on Youth Crime*. Canadian Centre for Justice Statistics, Statistics Canada.

⁸ S. K. Thompson and R. Gartner (2014). The Spatial Distribution and Social Context of Homicide in Toronto's Neighbourhoods. *Journal of Research in Crime and Delinquency*, 51(1), 88-118.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

violence are changing over time within neighbourhoods and how other risk and protective factors within neighbourhoods are also changing.

A current data gap is the lack of population-based survey data at the municipal-level assessing the prevalence of community violence in Toronto. Survey data would complement existing administrative data sources by assessing self-reported exposure to community violence. Self-reported data are important because they capture violent occurrences that may not be reported to the police and those that may not have resulted in a visit to the emergency department.

Survey data would also provide more information about the socio-demographic groups at increased risk of experiencing and perpetrating community violence, and the physical and mental health impacts of community violence in Toronto. It would also enable data collection related to the prevalence and health impact of indirect exposure to community violence (e.g., witnessing violence or knowing someone who was a victim of violence). Surveys can also collect information about exposure to different forms of violence (e.g., intimate partner violence, community violence, elder abuse) and enable examining the relationships between different forms of violence.

Another data gap is that there is no population-level data in Toronto examining exposure to community violence among groups that are not well represented in population surveys and/or that cannot be specifically examined within administrative data sources, including members of Indigenous and specific ethno-cultural and racialized communities; those who identify as lesbian, gay, bisexual, transgender, queer, and Two Spirit (LGBTQ2S); and those experiencing homelessness. Finally, there is limited data with information about the direct and indirect exposure to community violence and its impacts among children in Toronto.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

Data Notes

Notes

- Age-standardized rates using police-reported violent crime data and homicide data are standardized using the 2016 Canadian Census of Population, whereas age-standardized rates using emergency department data are standardized using the 2011 Canadian Census of Population. Age-standardization allows for comparison over time and geography by removing the age differences in the comparison groups. Because the standard population is younger than the current Toronto population, the age-standardized rates are lower than the true rates.
- Victims of police-reported violence refer to those 89 years and under. Victims aged 90 years and older are excluded from these analyses due to possible instances of miscoding of unknown age within this age category.
- Police-reported violent crime involves the use or threat of violence against a person including homicide, attempted murder, assault, sexual assault, and robbery. Robbery is considered a violent offence because it involves the use or threat of violence. Counts are based on the most serious violation.
- Police-reported violent crime committed by someone who was not an intimate partner or family member includes a crime committed by a close friend, casual acquaintance, roommate, neighbour, authority or reverse authority figure, business relationship, casual relationship, criminal relationship and stranger. It excludes victims where the relationship to the accused was reported as unknown.
- Homicide includes Criminal Code offences of murder, manslaughter and infanticide. The total count of a given year's number of homicides could include incidents that occurred in previous years. Homicides are allotted to the year in which they become known to police, according to the date on the report submitted to Statistics Canada.
- A homicide is classified as gang-related when police confirm or suspect that the accused person and/or victim involved in the homicide was either a member, or a prospective member, of an organized crime group or street gang or was somehow associated with an organized crime group or street gang, and the homicide was carried out as a result of this association. Homicides of innocent bystanders killed as a result of gang-related disputes are also identified as victims of gang-related violence.
- Firearm-related violent crime and homicides include those committed with a fully automatic firearm, handgun (semi-automatic guns and revolvers), rifle, shotgun and sawed-off rifle/sawed-off shotgun, other firearm-like weapon (e.g., zip guns, flare guns, nail guns, pellet rifles/pistols, etc.) and other firearms where the type was unknown.

Attachment 1: Community Violence in Toronto - Trends and Selected Demographic Patterns

- Assault and firearm-related injuries in emergency department data and Vital statistics (mortality) data were identified using ICD-10-CA codes. ICD-10 is the International Classification of Diseases, 10th Revision, an international standard for reporting clinical diagnoses developed by the World Health Organization. ICD-10 classifies diseases, injuries and causes of death, as well as external causes of injury and poisoning. It is used to monitor the incidence and prevalence of diseases and other health problems. ICD-10-CA diagnosis codes X85-Y09 and Y87.1 were used to identify records associated with assault. The codes for firearm-related injuries were X93-X95.
- The analysis conducted by Public Health Ontario examining rates of emergency department visits by neighbourhood and by neighbourhood material deprivation quintile are based on place of residence of the victim and not where the assault occurred.

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 in two or more populations.
- Leading Causes of Death are based on a standard list developed by Becker, et al. (2006) for the World Health Organization (WHO) that was modified by the Association of Public Health Epidemiologists of Ontario (APHEO) in 2008. The original methodology and WHO categories can be found at <http://www.who.int/bulletin/volumes/84/4/297.pdf>, and the APHEO modifications can be found at http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwia_le98fvkAhVBZN8KHWttBaIQFjAAegQIBBAC&url=http%3A%2F%2Fcore.apheo.ca%2Fresources%2FIndicators%2FAPHEO%2520Modifications%2520to%2520Lead%2520CauseDeath%2520Becker%2520at%2520al.%2C16Dec2008.pdf&usq=AOvVaw38_ag4Ft9cCleacQwl32wf

Prepared by: Donna Ansara, Heather Rilkoff, Dia Mamatis, Toronto Public Health
Analyses conducted by: Statistics Canada, Public Health Ontario, and Toronto Public Health
Date: October, 2019