

# Unarmed brawl or fight

On average, more than 75 people each day are seen in Ontario emergency departments and more than three people are hospitalized for injuries due to an unarmed brawl or fight.

## Results

For the purposes of this analysis, an unarmed brawl or fight was defined as assault by bodily force, excluding assault by strangulation, submersion, use of a weapon and sexual assault by bodily force.

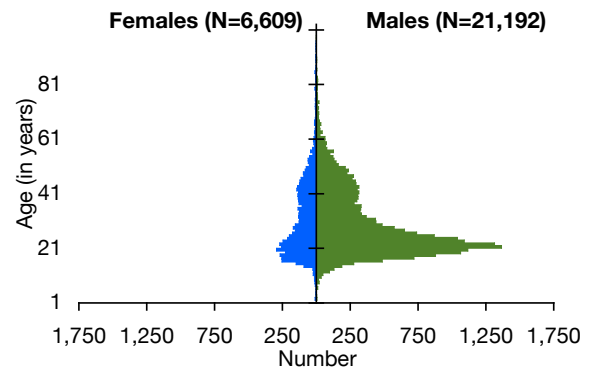
During the 2005/06 fiscal year, there were a total of 27,801 emergency department visits and 1,154 hospitalizations due to an unarmed brawl or fight (See Methods Section for Data Sources). These numbers translate into provincial rates of 237.2 per 100,000 population for emergency department visits and 9.7 per 100,000 for hospitalizations (Table 1).

Males accounted for 76% of emergency department visits and 85% of hospitalizations for injuries due to an unarmed brawl or fight.

For both emergency department visits and hospitalizations, injuries to the head were the most frequent, accounting for 59% and 65% of all injuries respectively (Figure 2). More specifically, an open wound of the head was the most common injury for emergency department visits and fracture of the skull and facial bones, in particular fracture of the mandible, was the most common injury for hospitalizations. Intracranial injuries were the second most common for hospitalized cases.

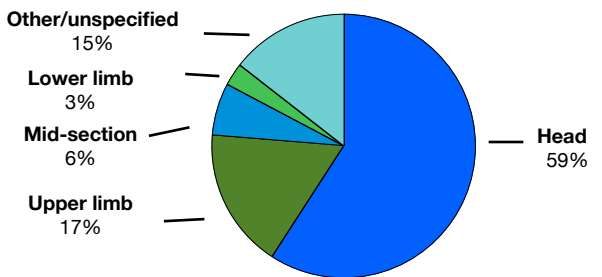
Injury rates varied by region with the highest overall rates reported in the North region of Ontario (Table 1). Regional variations in injury patterns were observed by age. In the Central East, South West, Central South and East region, the highest rate of emergency visits for injuries from an unarmed brawl or fight were among youth aged 15-19. In the North, Toronto, and Central West, the highest rates were among 20 to 24 year olds. The highest rates of hospitalization in all regions except the Central South region, were among 20-24 year olds (Table 2).

**FIGURE 1. Emergency department visits due to unarmed brawl or fight by age and sex (Ontario, 2005/2006)**

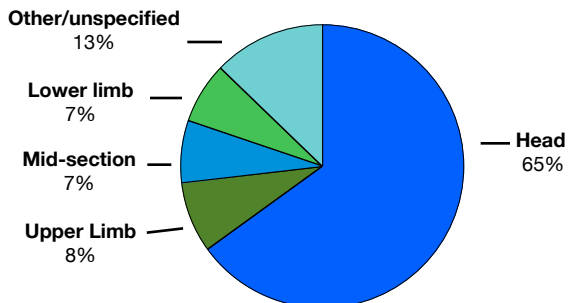


**FIGURE 2. Nature of injuries due to unarmed brawl or fight (Most responsible diagnosis, Ontario, 2005/2006)**

### Emergency Department Visits



### Hospitalizations



**TABLE 1. Regional comparison of injuries due to unarmed brawl or fight (Ontario, 2005/06)**

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
<b>Emergency Department Visits</b>								
Number	4,424	3,774	3,433	3,859	4,558	3,625	3,783	27,801
Rate per 100,000 <sup>a</sup>	302.2	344.3	152.4	188.6	179.2	236.4	497.5	237.2
Average Age	27	28	27	27	32	28	28	28
% male	78	75	80	80	74	76	71	76
<b>Hospitalizations</b>								
Number	195	132	123	126	221	131	206	1,154
Rate per 100,000 <sup>a</sup>	13.5	11.1	5.5	6.0	8.4	8.5	26.9	9.7
Average Age	30	36	30	34	36	31	32	33
% male	90	87	87	88	82	89	77	85

a. Age-standardized rate per 100,000 population. Note: Region of residence unknown/outside of Ontario for 129 emergency department visits and 25 hospitalizations.



## Ontario Injury Compass

is produced by

**SMARTRISK**

with support from

The Ontario Public

Health Association

and

The Government of Ontario



Edited by

**Philip Groff, PhD**

Director,

Research and Evaluation

Ontario Injury Prevention Resource

Centre at SMARTRISK

(416) 596-2718

pgroff@smartrisk.ca

Principal Analyst

**Pamela Farmer, MSc**

Research Associate

Ontario Injury Prevention Resource

Centre at SMARTRISK

(416) 596-2720

pfarmer@smartrisk.ca



Ontario Injury Prevention  
Resource Centre

1-888-537-7777

info@oninjuryresources.ca

www.OnInjuryResources.ca

**TABLE 2. Regional comparison of injuries due to unarmed brawl or fight by age group (Ontario, 2005/06)**

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
<b>Emergency Department Visits- Rate per 100,000<sup>a</sup></b>								
15-19 years	991.6 (1097)	1097.8 (900)	541.9 (873)	709 (1117)	515.5 (759)	773.4 (845)	1288 (796)	776.1 (6438)
20-24 years	948.2 (1052)	996 (804)	553.6 (905)	633.8 (907)	457.8 (824)	724.6 (801)	1462.4 (839)	736.9 (6235)
25-29 years	558.4 (553)	634.8 (457)	260.3 (422)	323.8 (402)	263.5 (588)	397 (420)	1041.8 (470)	404.8 (3365)
<b>Hospitalizations- Rate per 100,000<sup>a</sup></b>								
15-19 years	31.6 (35)	32.9 (27)	11.8 (19)	14 (22)	16.3 (24)	22 (24)	53.4 (33)	22.4 (186)
20-24 years	42.4 (47)	22.3 (18)	20.8 (34)	18.2 (26)	19.4 (35)	36.2 (40)	64.5 (37)	28.6 (242)
25-29 years	34.3 (34)	12.5 (9)	9.3 (15)	7.2 (9)	10.3 (23)	12.3 (13)	68.7 (31)	16.4 (136)

a. Age-specific rate per 100,000 population. Note: Region of residence unknown/outside of Ontario for 129 emergency department visits and 25 hospitalizations.

Over 85% of individuals who visited an emergency department for an injury due to an unarmed brawl or fight were discharged to their place of residence. For hospitalized cases, approximately 82% of patients were discharged home and just under 7% signed out of the hospital against medical advice. Fewer than 1% of individuals died after arrival in the emergency department and fewer than 1% died after hospital admission. The 1,154 hospitalized cases accounted for more than 3,900 days in acute care hospitals with an average length of stay of 3.4 days.

## Discussion

This Compass highlights patterns of injury for emergency department visits and hospitalizations in Ontario for individuals with injuries sustained from an unarmed brawl or fight.

As a result of the universal availability of health care in Canada, the reported patterns of injury in this Compass are likely not misconstrued by potential differences in access to health care.<sup>1</sup>

It is important for government and public health officials to be knowledgeable about the established risk factors associated with an increased propensity to violence as this can aid in the effort towards implementing injury prevention policies and reducing risk. For example, several studies have reported a positive correlation between drinking and aggression.<sup>2,3</sup> More specifically, alcohol intoxication has been found to be a contributing cause of intentional assault or violence, which includes unarmed brawls and fights.<sup>2,3</sup>

In addition, a Canadian study conducted on the association between alcohol retail sales and hospitalizations for injuries due to assault (including unarmed brawls) in Ontario found that when alcohol sales were at their peak, the risk of being hospitalized due to assault increased significantly.<sup>3</sup> This is further valuable information for carrying out effective injury prevention methods.

## References

1. Pickett W, Ardern C, Brison R. A population-based study of potential brain injuries requiring emergency care. *CMAJ* 2001; 165(3):288-92.
2. Quigley BM, Leonard KE. *Alcohol use and violence among young adults*. Online at: National Institute on Alcohol Abuse and Alcoholism.
3. Ray JG, Moineddin R, Bell CM, Thiruchelvam D, Creatore MI, Gozdyra P, Cusimano M, Redelmeier D. Alcohol sales and risk of serious assault. *PLoS Medicine* 2008; 5(5): e104.
4. National Clearinghouse on Family Violence. *Youth and Violence Fact Sheet*. Ottawa: Public Health Agency of Canada, 2005.
5. Wolfe DA, Jaffe PG. *Prevention of domestic violence and sexual assault*. Online at: National Online Resource Center on Violence Against Women. 2003

The higher injury rate in males 15 to 24 years of age compared to females of that age may be a result of the differing exposure to risk and drinking behaviour. In addition, the overall strong male bias has been reported in other studies.<sup>1,3,4</sup>

The large proportion of head injuries resulting from unarmed fights and the strong connection with alcohol consumption warrant special attention, especially when developing preventive measures, as head injuries have been established as a serious health concern in Canada.<sup>1</sup>

The relationship between alcohol and aggression, and ultimately risk of serious injury, is important to examine and understand. Continuous effort is needed in adopting and enforcing appropriate safety measures, including legislation at the federal and provincial levels.

## Managing the risk

- ❖ Males 15-24 years of age should be targeted with a specific preventative strategy.
- ❖ It is important to establish priorities and prevention methods to reduce the consumption of alcohol by male youth, as it has been shown to contribute to the occurrence of intentional violence-related injuries.<sup>2</sup>
- ❖ Preventive measures such as increasing the price of alcohol and making it more difficult to purchase may reduce the occurrence of assault and hospitalizations resulting from brawls or fights.<sup>2</sup>
- ❖ Effective primary prevention methods should be established in communities to reduce the occurrence of unarmed brawls and fights.<sup>5</sup> Examples are public awareness campaigns and secondary prevention techniques such as school based prevention programs aimed at youth who have exhibited violent/aggressive behaviour.

## For Further Information

[www.smartrisk.ca](http://www.smartrisk.ca)

Canadian Institute for Health Information

[www.cihi.ca](http://www.cihi.ca)

Ottawa University Institute for the Prevention of Crime

<http://www.socialsciences.uottawa.ca/ipc/eng/index.asp>

WHO Violence and Injury Prevention

[http://www.who.int/violence\\_injury\\_prevention/en/](http://www.who.int/violence_injury_prevention/en/)

## Methods

Emergency department data were obtained from the National Ambulatory Care Reporting System and acute care hospitalization data were obtained from the Discharge Abstract Database at the Canadian Institute for Health Information for the 2005/06 fiscal year. ICD-10 coding (Y4) was used to isolate all emergency department visits and hospitalizations for injuries resulting from an unarmed brawl or fight. Note that some persons were seen in an emergency department and then admitted to hospital; however, persons can be admitted to hospital without visiting an emergency department. Regions were defined according to place of residence using the Ontario Ministry of Health Region Codes. Deaths occurring outside of the hospital setting were not included in this analysis.

To subscribe to  
Ontario Injury Compass  
please email your request to:

[compass@oninjuryresources.ca](mailto:compass@oninjuryresources.ca)