

# Injured Drivers

Each year in Ontario, more than 2,800 drivers of a car, truck, or van are hospitalized. Hospitalization rates are highest among drivers 70 years of age and older.

## Results

In Ontario, there were a total of 2,808 injury hospitalizations for drivers of a car, truck, or van during the 2002/03 fiscal year. Approximately 47% of the injury hospitalizations occurred as a result of a collision with another car, truck, or van. Other common types of injury included a non-collision incident, such as a vehicle rollover, and a collision with a fixed or stationary object, such as a guardrail or a tree (Table 1).

Males accounted for about 61% of the driving injury hospitalizations. These injury hospitalizations occurred across the age spectrum. The average age of hospitalized drivers was 45 years. One large peak in the number of injury hospitalizations was observed among young males 18-20 years of age (Figure 1).

For driving injuries, injuries to the chest, abdomen, pelvis, or back were the diagnoses most responsible for hospitalization in 30% of cases, followed by injuries to the head or neck (Figure 2). In particular, some of the most common injuries included intracranial injuries and fractures to the lower leg, pelvis, ribs, or sternum.

The 2,808 cases accounted for more than 23,000 days in acute care hospitals, with an average length of stay of 8.3 days. Some of the longest lengths of hospital stay were observed for injuries caused by a collision with a heavy transport vehicle or bus (average of 11.9 days) and a collision with a fixed or stationary object (average of 9.1 days). About 74% of cases were discharged home and 18% were transferred to another inpatient facility (e.g., rehabilitation centre). About 3% of injured drivers died during their hospital stay.

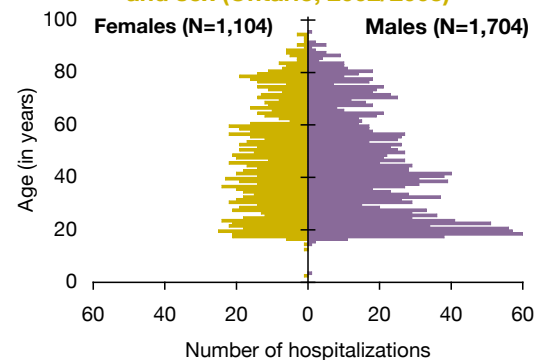
The highest number of driving injury hospitalizations occurred in December and the lowest number was observed in February (Figure 3).

In Ontario, the age-standardized hospitalization rate for driving injuries was 24.1 per 100,000 population (Table 2). By region, the highest number of injuries was observed in the Central East region and the highest injury rate was seen in the South West region. The lowest number and rate of driving injury hospitalizations was seen in Toronto.

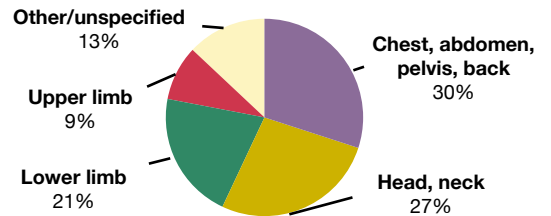
**TABLE 1. Type of driving injury hospitalization (Ontario, 2002/03)**

Driver of car, truck, or van injured in collision with	Number	%
Car, truck, van	1,324	47.2
Non-collision	690	24.6
Fixed or stationary object	435	15.5
Heavy transport vehicle, bus	156	5.6
Other/unspecified	203	7.1
Total	2,808	100

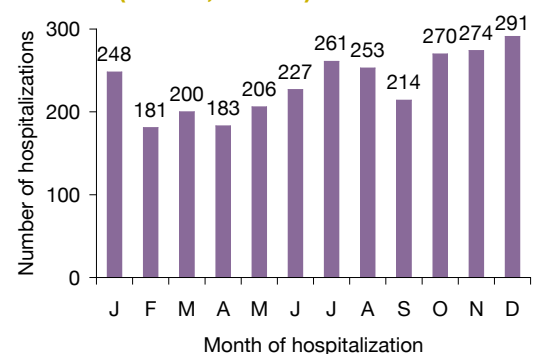
**FIGURE 1. Driving injury hospitalizations by age and sex (Ontario, 2002/2003)**



**FIGURE 2. Site of injury for driving injury hospitalizations (Most responsible diagnosis, Ontario, 2002/03)**



**FIGURE 3. Month of driving injury hospitalization (Ontario, 2002/03)**



**TABLE 2. Regional comparison of driving injury hospitalizations (Ontario, 2002/03)**

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
Number	556	323	423	568	271	315	284	2,808
Rate per 100,000 <sup>a</sup>	36.7	27.6	21.5	31.2	10.2	19.9	31.2	24.1
Average age (in years)	43	46	44	45	47	44	47	45
% male	57	66	60	60	66	58	58	61

a. Age-standardized rate per 100,000 population. Note: Region of residence unknown/outside of Ontario for 68 hospitalizations.

## Ontario Injury Compass

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**TABLE 3. Regional comparison of driving injury hospitalizations for select age groups (Ontario, 2002/03)**

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
<b>Rate per 100,000 population<sup>a</sup> (Number)</b>								
15-19 years	58.3 (62)	28.7 (22)	20.4 (28)	41.4 (54)	10.8 (15)	31.0 (31)	38.4 (25)	32.0 (241)
20-29 years	54.1 (109)	42.9 (63)	30.0 (86)	45.8 (103)	12.8 (50)	30.4 (63)	39.7 (45)	33.5 (526)
30-39 years	42.3 (98)	28.6 (51)	20.2 (74)	29.3 (93)	10.6 (50)	21.0 (54)	39.3 (53)	24.6 (482)
40-49 years	42.8 (97)	32.3 (56)	19.4 (61)	28.8 (88)	10.0 (37)	22.5 (55)	27.5 (38)	25.5 (452)
50-59 years	41.6 (70)	33.0 (43)	32.1 (71)	38.0 (79)	17.9 (48)	23.2 (42)	35.3 (37)	31.0 (397)
60-69 years	34.5 (43)	31.4 (31)	33.6 (45)	45.2 (64)	13.2 (27)	15.2 (19)	28.5 (23)	28.5 (259)
70-79 years	51.2 (51)	45.2 (38)	40.8 (37)	65.9 (66)	15.7 (25)	29.1 (28)	77.1 (44)	43.7 (300)
80+ years	53.4 (26)	50.8 (19)	40.5 (16)	48.6 (21)	24.9 (19)	48.4 (23)	75.4 (19)	45.9 (146)

a. Age-specific rate per 100,000 population. Note: Region of residence unknown/outside of Ontario for 68 hospitalizations.

In Ontario, the highest rates of driving injury hospitalization were observed among those 70-79 year and 80+ years of age (Table 3). Regional variations in injury patterns were observed by age. For example, in the South West region the highest rate was observed among those 15-19 years.

## Discussion

This Compass highlights patterns of injured drivers in Ontario. The highest rates of injury hospitalization are seen among seniors but the highest numbers of injury occur among youth. Similar patterns of injury have been reported in other provincial analyses.<sup>1-3</sup> There are some indications that the number of road fatalities and injuries are declining, but more work still needs to be done to reduce the numbers further.<sup>3</sup>

Many different factors, such as alcohol and drug use, age, sex, presence of a medical or physical condition, presence of passengers, and time of day, have been shown to be related to motor vehicle crashes.<sup>3-8</sup> The outcome or the severity of the crash can also be influenced by a number of factors such as speed, seat belt use, and road conditions.<sup>6,7</sup>

Various interventions, programs, laws, and policies, such as Graduated Licensing Systems, traffic calming, red light cameras, and alcohol policies have been suggested as ways to reduce motor vehicles crashes, injuries, and deaths and positive results have been found.<sup>8-11</sup>

## References

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## Managing the risk

**In Ontario, there are more than 8.5 million licensed drivers, which puts a large population at risk for injury. Here are some tips that can be used to help reduce the risk for injury:**

- ❖ Be aware of your surroundings, traffic, and other people on the road. Be respectful of other road users. Make sure other road users see you and they know what you are doing. Keep a safe distance from other vehicles.
- ❖ Drive sober. Alcohol is a common factor associated with collisions. Other factors, such as drugs, external distractions, and other passengers can also impair your ability to drive. Driving requires your full attention.
- ❖ Buckle up your seat belt and make sure passengers do too. Wearing a seat belt properly will dramatically increase your chance of surviving a crash. Air bags do not take the place of a seat belt as drivers and passengers can still be thrown from the vehicle if they are not wearing a seat belt.
- ❖ Familiarize yourself with the vehicle and make all adjustments, such as positioning mirrors and your seat, before you set out.
- ❖ Take an approved driver training course. There is no replacement for experience, provided you gain it in a way that manages risk. In Ontario, there is Graduated Licensing for novice drivers and also programs for senior drivers.

## For Further Information

Ontario Ministry of Transportation  
www.mto.gov.on.ca  
Alcohol Policy Network  
www.apolnet.ca  
CanDRIVE  
www.candrive.ca  
Transport Canada  
www.tc.gc.ca  
Traffic Injury Research Foundation  
www.trafficinjuryresearch.com  
SMARTRISK Catalogue of Best Practices  
www.smartrisk.ca/ListingSections.aspx?dd=4&sd=207

## Methods

Hospitalization data included acute care hospitalizations for driving injuries in Ontario from the 2002/03 fiscal year. Data were obtained from the Discharge Abstract Database at the Canadian Institute for Health Information (CIHI). Injured drivers of a car, truck, or van were included in the analysis. Driving injuries were classified according to the International Classification of Diseases, 10th revision (ICD-10) using codes V40-48 and V50-58 with a digit of .0, .4, or .5 and codes V49 and V59 with a digit of .0 or .4. About 3% of cases resulted in an in-hospital death. Regions were defined according to place of residence using the Ontario Ministry of Health Region Codes.