# **Indicator:** Motor Vehicle Traffic Injury Hospitalization

**Data Years:** 2001 to 2012

**Indicator Description:** Age-standardized rate of hospitalization due to injury resulting from motor vehicle traffic accidents (per 100,000)

**Rationale:** Motor vehicle injuries are a leading cause of unintentional injury hospitalization, particularly among younger Canadians.[1] Motor vehicle injuries are also a leading cause of premature death, with approximately 2,100 Canadians killed in 2012.[2]

**Data Sources:** Discharge Abstract Database (DAD) and Hospital Morbidity Database (HMDB), Canadian Institute for Health Information

**Income Disaggregator:** Neighbourhood-level income from the Postal Code Conversion File Plus, Statistics Canada

**Denominator Description:** Total population based on the 2001 and 2006 census counts, with linear-based extrapolation to derive population estimates for between-census years, as well as for 2011 and 2012[i]

**Numerator Description:** Total number of separations from acute care hospitals (including discharges, deaths, sign-outs and transfers) resulting from motor vehicle traffic accident injuries

Inclusion:

1. Admission to an acute care institution

Exclusions:

1. Newborn, stillbirth or cadaveric donor records
2. Records where the sex is not recorded as male or female
3. Records with invalid postal code or unassigned income information

**Method of Age-Standardization:** Direct age-standardization to the Canada 2011 standard population

**Age Groupings for Standardization:** 0–4; 5–9; 10–14; 15–19; 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; 75–79; 80–84; 85–89; 90+

**Geographic Assignment:** Patient's province of residence according to postal code in the database

**Geographic Coverage:** All provinces and territories

**Interpretation:** Lower rates are desirable.

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i.  Population counts are available upon request (cphi@cihi.ca).

## Case Selection Criteria:

| Descriptors | ICD-10 Codes | ICD-9 Codes | Qualifier |
|---|---|---|---|
| **Motor Vehicle Traffic — Driver** | V30.5, V31.5, V32.5, V33.5, V34.5, V35.5, V36.5, V37.5, V38.5, V39.4, V40.5, V41.5, V42.5, V43.5, V44.5, V45.5, V46.5, V47.5, V48.5, V49.4, V50.5, V51.5, V52.5, V53.5, V54.5, V55.5, V56.5, V57.5, V58.5, V59.4, V60.5, V61.5, V62.5, V63.5, V64.5, V65.5, V66.5, V6.75, V68.5, V69.4, V70.5, V71.5, V72.5, V73.5, V74.5, V75.5, V76.5, V77.5, V78.5, V79.4, V83.0, V84.0, V85.0, V86.00, V86.08 | E810.0, E811.0, E812.0, E813.0, E814.0, E815.0, E816.0, E818.0, E819.0 | Diagnosis type 9 (external cause of injury code) |
| **Motor Vehicle Traffic — Passenger** | V30.6, V31.6, V32.6, V33.6, V34.6, V35.6, V36.6, V37.6, V38.6, V39.5, V40.6, V41.6, V42.6, V43.6, V44.6, V45.6, V46.6, V47.6, V48.6, V49.5, V50.6, V51.6, V52.6, V53.6, V54.6, V55.6, V56.6, V57.6, V58.6, V59.5, V60.6, V61.6, V62.6, V63.6, V64.6, V65.6, V66.6, V67.6, V68.6, V69.5, V70.6, V71.6, V72.6, V73.6, V74.6, V75.6, V76.6, V77.6, V78.6, V79.5, V83.1, V84.1, V85.1, V86.10, V86.18 | E810.1, E811.1, E812.1, E813.1, E814.1, E815.1, E816.1, E818.1, E819.1 | Diagnosis type 9 (external cause of injury code) |
| **Motor Vehicle Traffic — Motorcycle Driver** | V20.4, V21.4, V22.4, V23.4, V24.4, V25.4, V26.4, V27.4, V28.4, V29.4 | E810.2, E811.2, E812.2, E813.2, E814.2, E815.2, E816.2, E818.2, E819.2 | Diagnosis type 9 (external cause of injury code) |
| **Motor Vehicle Traffic — Motorcycle Passenger** | V20.5, V21.5, V22.5, V23.5, V24.5, V25.5, V26.5, V27.5, V28.5, V29.5 | E810.3, E811.3, E812.3, E813.3, E814.3, E815.3, E816.3, E818.3, E819.3 | Diagnosis type 9 (external cause of injury code) |
| **Motor Vehicle Traffic — Pedestrian** | V02.1, V02.9, V03.1, V03.9, V04.1, V04.9, V09.2 | E810.7, E811.7, E812.7, E813.7, E814.7, E815.7, E816.7, E818.7, E819.7 | Diagnosis type 9 (external cause of injury code) |
| **Motor Vehicle Traffic — Pedal Cyclist** | V12.4, V12.5, V12.9, V13.4, V13.5, V13.9, V14.4, V14.5, V14.9, V19.4, V19.5, V19.6 | E810.6, E811.6, E812.6, E813.6, E814.6, E815.6, E816.6, E818.6, E819.6 | Diagnosis type 9 (external cause of injury code) |
| **Motor Vehicle Traffic — Other and Unspecified** | V20.9, V21.9, V22.9, V23.9, V24.9, V25.9, V26.9, V27.9, V28.9, V29.6, V29.8, V29.9, V30.7, V30.9, V31.7, V31.9, V32.7, V32.9, V33.7, V33.9, V34.7, V34.9, V35.7, V35.9, V36.7, V36.9, V37.7, V37.9, V38.7, V38.9, V39.6, V39.8, V39.9, V40.7, V40.9, V41.7, V41.9, V42.7, V42.9, V43.7, V43.9, V44.7, V44.9, V45.7, V45.9, V46.7, V46.9, V47.7, V47.9, V48.7, V48.9, V49.6, V49.8, V49.9, V50.7, V50.9, V51.7, V51.9, V52.7, V52.9, V53.7, V53.9, V54.7, V54.9, V55.7, V55.9, V56.7, V56.9, V57.7, V57.9, V58.7, V58.9, V59.6, V59.8, V59.9, V60.7, V60.9, V61.7, V61.9, V62.7, V62.9, V63.7, V63.9, V64.7, V64.9, V65.7, V65.9, V66.7, V66.9, V67.7, V67.9, V68.7, V68.9, V69.6, V69.8, V69.9, V70.7, V70.9, V71.7, V71.9, V72.7, V72.9, V73.7, V73.9, V74.7, V74.9, V75.7, V75.9, V76.7, V76.9, V77.7, V77.9, V78.7, V78.9, V79.6, V79.8, V79.9, V82.1, V83.2, V83.3, V84.2, V84.3, V85.2, V85.3, V86.2, V86.30, V86.38, V87.0, V87.1, V87.2, V87.3, V87.4, V87.5, V87.6, V87.7, V87.8, V89.2 | E810.4, E811.4, E812.4, E813.4, E814.4, E815.4, E816.4, E818.4, E819.4, E810.5, E811.5, E812.5, E813.5, E814.5, E815.5, E816.5, E818.5, E819.5, E810.8, E811.8, E812.8, E813.8, E814.8, E815.8, E816.8, E818.8, E819.8, E810.9, E811.9, E812.9, E813.9, E814.9, E815.9, E816.9, E818.9, E819.9 | Diagnosis type 9 (external cause of injury code) |

**Percentage Missing Due to Income:**

|  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percentage Missing*** | 4.6 | 4.3 | 3.9 | 3.9 | 3.5 | 3.7 | 3.5 | 3.3 | 3.3 | 2.9 | 3.0 | 3.3 |

**Note**

\* Percentage missing refers to the proportion of hospital separation records for this indicator that are missing or have invalid postal code information for patient's place of residence and are therefore excluded from analyses based on neighbourhood-level income quintiles.

**Data Source Descriptions:**

*Discharge Abstract Database:* The DAD is a national-level database that captures administrative and clinical information from inpatient separation records (discharges, deaths, sign-outs and transfers) from acute care hospitals within a fiscal year (April 1 to March 31) from all provinces and territories in Canada, with the exception of Quebec. Selected day surgery, rehabilitation, psychiatric, long-term care and other data is also captured in the DAD.[3]

*Hospital Morbidity Database:* The HMDB captures administrative, clinical and demographic information on inpatient separation records from acute care hospitals across Canada (including Quebec). Data sources include the DAD and the ministère de la Santé et des Services sociaux du Québec.[4]

# References

1. Public Health Agency of Canada. *Injury in Review 2012: Spotlight on Road and Transport Safety*. Ottawa, ON: PHAC; 2012.

2. Transport Canada. *Canadian Motor Vehicle Traffic Collision Statistics 2011*. Ottawa, ON: Transport Canada; 2013. http://www.tc.gc.ca/media/documents/roadsafety/ TrafficCollisionStatisitcs_2011.pdf.

3. Canadian Institute for Health Information. Discharge Abstract Database (DAD) metadata. http://www.cihi.ca/CIHI-ext-portal/internet/en/document/types+of+care/hospital+care/ acute+care/dad_metadata. Updated 2014. Accessed February 2, 2015.

4. Canadian Institute for Health Information. The Hospital Morbidity Database (HMDB). http://www.cihi.ca/cihi-ext-portal/internet/en/document/types+of+care/hospital+care/ acute+care/hmdb_metadata. Updated 2014. Accessed February 2, 2015.