

Technical Appendix

Health Status Reporting Series Seven

Unintentional Injuries

Saskatoon Health Region

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Description of Data

Data Sources

The main data source for this report was the Discharge Abstract Database (DAD), which tracks inpatient hospital discharges. The Saskatchewan Ministry of Health provides year end hospital files for all residents living within Saskatoon Health Region boundaries. Hospital discharges include all acute care inpatient and psychiatric inpatient discharges for Region residents. The data is based on total number of hospital discharges; irrespective of how many times the same individual is discharged. For example, one person could present to hospital five times in a fiscal year for an injury, and it would be counted as five discharges. A patient may be admitted to one hospital and be transferred to another hospital, which would count as two discharges, even though the individual was hospitalized for the same event.

All acute care inpatient and psychiatric inpatient hospital discharges are included for Region residents no matter where the hospital discharge took place (i.e. all provincial hospitals and out of province hospitals are included). Hospital discharges are reported by fiscal year, which runs from April 1 through to March 31.

The second data source used in the report is Emergency Department discharge data. This data is specific to the three urban hospitals in Saskatoon (St. Paul's, City, and Royal University Hospital). It therefore excludes any emergency discharges for injuries that occurred in any of the rural Region hospitals. Emergency codes were not utilized in the period April 1, 2010 to March 31, 2011. For this reason, the calendar years 2010 and 2011 are not reported in the statistics.

Main Stratifiers Used in the Analysis

Time

For much of the analysis, two distinct five year time periods were used. The first was from fiscal year 2003/04 to 2007/08. The second five year time period was from 2008/09 to 2012/13. A grouping of five years was needed for most injury categories given the relatively small numbers of hospitalizations that occur in any one year. Comparing the 2003/04 to 2007/08 time period with the 2008/09 to 2012/13 time period gives some indication of trend over time.

Sex

Male or female are the only two choices allowed in hospital discharge data.

Age Group

For most of the indicators, 5 year age groupings were used.

Deprivation Index

This index is based on six questions from the 2006 census. Click [here](#) for more information on how the deprivation index was derived for Saskatoon. Patient's postal code was converted to Dissemination Area and then to a deprivation index area in order to complete the socio-economic analysis.

Rural/Urban

Patients are considered urban if they lived within the boundary of the city of Saskatoon. Anyone living outside this boundary but within the Saskatoon Health Region boundary was considered a rural SHR resident.

Rural Planning Zones

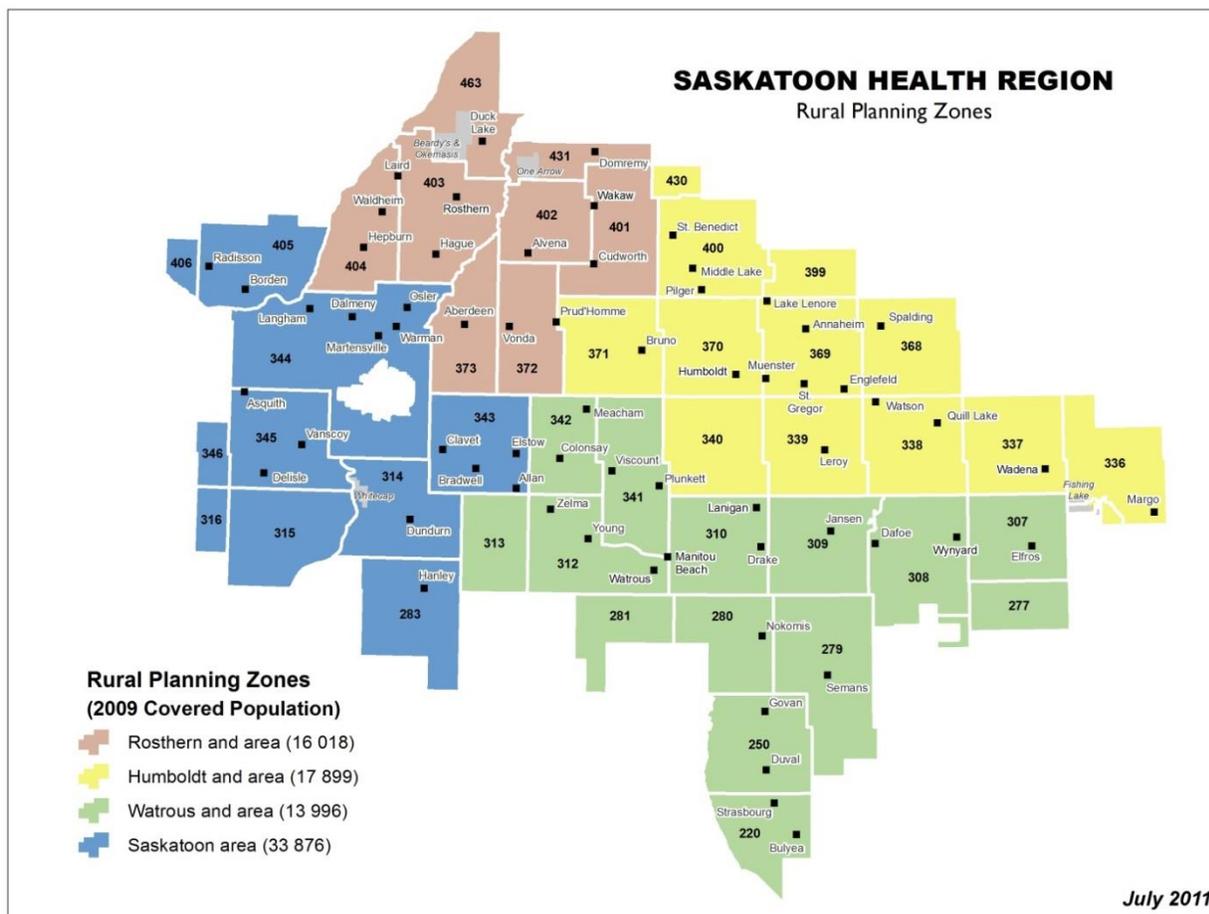
Saskatoon Health Region is divided into four rural planning zones, each with a population of approximately 15,000 (Figure 1).

Type of Analysis

Most analysis in this release utilizes age-sex standardization. Age-sex standardization helps to control for the influence of age and sex on the condition of interest, making comparisons between sub-groups more accurate. The direct method of age sex standardization is utilized with the 1991 Canadian Census as the reference population. Where graphs or tables do not state age-sex standardization, crude rates are presented. Most rates are presented per 100,000 population for ease of readability.

In some cases small numbers (less than six in a cell) are present. An asterisk (*) is presented to depict that numbers are too small to report in order to protect privacy.

Figure 1: Saskatoon Health Region Rural Planning Zones



Unintentional Injuries

Definition

Any person discharged from hospital with an unintentional injury.

Calculation

Unintentional injury rate is the number of inpatient hospital discharges due to unintentional injuries in a specific year in a particular 5 year age/sex group divided by the population in that age/sex group * 100,000. Covered Population is used as the denominator. Unintentional injuries are listed in the International Classification of Disease 10th version as V01-X59, Y85, Y86.

Source

Saskatchewan Ministry of Health.

References

- Public Health Agency of Canada. Injury in review: Spotlight on road and transport safety [Internet]. PHAC 2012. [cited 2015 Sept 10]; Available from: http://www.tirf.ca/publications/PDF_publications/Injury%20in%20Review%202012%20EN-WEB.pdf
- Minister of Public Works and Government Services Canada. Unintentional and intentional injury profile for Aboriginal people in Canada. Ottawa (ON): Community Health Program Directorate; 2001.
- Saskatchewan Workers Compensation Board. Annual Report 2014 [Internet]. WCB 2014.[cited 2016 Apr 6]; Available from: <http://www.wcbsask.com/wp-content/uploads/2015/04/2014-WCB-Annual-Report.pdf>

Falls

Definition

Any person discharged from hospital with an injury caused from a fall.

Calculation

Fall injury rate is the number of inpatient hospital discharges due to a fall in a specific year in a particular 5 year age/sex group divided by the population in that age/sex group * 100,000. Covered Population is used as the denominator. Fall injuries are coded as W00-W01, and W03-W19 in the International Classification of Diseases 10th edition (ICD-10). Note that W02 are coded in the sports related section.

Source

Saskatchewan Ministry of Health.

References

- Accreditation Canada, Canadian Institute for Health Information and Canadian Patient Safety Institute. Preventing falls: from evidence to improvement in Canadian health care [Internet]. Ottawa (ON): CIHI; 2014 [cited 2016 Apr 6]; Available from: <http://accreditation.ca/sites/default/files/falls-joint-report-2014-en.pdf>
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- Saskatoon Health Region. What is a fall? [Internet]. Saskatoon (SK): SHR; [cited 2016 Apr 6]; Available from: https://www.saskatoonhealthregion.ca/locations_services/Services/Falls-Prevention/Documents/AboutUs/What%20is%20a%20fall.pdf

Canadian Population Health Initiative. Reducing gaps in health: A focus on socio-economic status in urban Canada. Ottawa: CIHI, 2008.

Motor Vehicle

Definition

Any person discharged from hospital with an injury caused by being in a motor vehicle collision in traffic.

Calculation

Motor vehicle injury rate is the number of inpatient hospital discharges due to motor vehicle collision in a specific year in a particular 5 year age/sex group divided by the population in that age/sex group * 100,000. Covered Population is used as the denominator. Motor vehicle injuries are coded as V20-V28(.3-.9), V29-V79(.4-.9), V80(.3-.5), V81.1, V82.1, V83-V86(.0-.3), V87(.0-.8), V89.2 in the International Classification of Diseases 10th edition (ICD-10).

Source

Saskatchewan Ministry of Health.

References

Canadian Institute for Health Information. Trends in income-related health inequalities in Canada. Technical report [Internet]. Winnipeg: CIHI; 2015 [cited 2016 Apr 6]; Available from: https://secure.cihi.ca/free_products/trends_in_income_related_inequalities_in_canada_2015_en.pdf

Parachute. The cost of injury in Canada. Toronto (ON); Parachute; 2015.

Public Health Agency of Canada. Injury in review: Spotlight on road and transport safety [Internet]. PHAC; 2012 [cited 2015 Sept 10]; Available from http://www.tirf.ca/publications/PDF_publications/Injury%20in%20Review%202012%20EN-WEB.pdf

Bicycle

Definition

Any person discharged from hospital with an injury caused by being in bicycle collision.

Calculation

Bicycle injury rate is the number of inpatient hospital discharges due to bicycle collision in a specific year in a particular 5 year age/sex group divided by the population in that age/sex group * 100,000. Covered Population is used as the denominator. Bicycle injuries are coded as V10, V11, V12-V14, V15-V19 in the International Classification of Diseases 10th edition (ICD-10).

Source

Saskatchewan Ministry of Health.

References

Davison CM, Torunian M, Walsh P, Thompson W, McFaul S, Pickett W. Bicycle helmet use and bicycling related injuries among young Canadians: An equity analysis. *International Journal for Equity in Health*. 2013;12:48.

Hagel BE, Yanchar NL. Bicycle helmet use in Canada: The need for legislation to reduce the risk of head injury [Internet]. Canadian Pediatric Society Position Statement. 2013 [cited 2016 Apr 6]; Available from <http://www.cps.ca/documents/position/bike-helmets-to-reduce-risk-of-head-injury>

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Off-Road

Definition

Any person discharged from hospital with an injury caused from off-road related collisions. All terrain vehicles and snowmobiles are the most common off road vehicle.

Calculation

Off-road injury rate is the number of inpatient hospital discharges due to off-road collisions in a specific year in a particular 5 year age/sex group divided by the population in that age/sex group * 100,000. Covered Population is used as the denominator. Off-road injuries are coded as V86.08, V86.18, V86.2, V86.38, V86.4, V86.58, V86.68, V86.7, V86.98 in the International Classification of Diseases 10th edition (ICD-10).

Source

Saskatchewan Ministry of Health.

References

Parachute. The cost of injury in Canada. Toronto (ON); Parachute; 2015.

Public Health Agency of Canada. Injury in review: Spotlight on road and transport safety [Internet]. PHAC; 2015 [cited 2015 Sept 10]; Available from http://www.tirf.ca/publications/PDF_publications/Injury%20in%20Review%202012%20EN-WEB.pdf

Pedestrian

Definition

Any person discharged from hospital with an injury caused from pedestrian related collision.

Calculation

Pedestrian injury rate is the number of inpatient hospital discharges due to pedestrian collisions in a specific year in a particular 5 year age/sex group divided by the population in that age/sex group * 100,000. Covered Population is used as the denominator. Pedestrian injuries are coded as V01, V02, V03, V04, V05, V06, and V09 in the International Classification of Diseases 10th edition (ICD-10).

Source

Saskatchewan Ministry of Health.

References

Anthikkat AP, Page A, Barker R. Risk factors associated with injury and mortality from paediatric low speed vehicle incidents: A systematic review [Internet]. International Journal of Pediatrics; 2013 [cited 2015 Sept 10]; Available from <http://dx.doi.org/10.1155/2013/841360>

Canadian Council of Motor Transport Administrators. Countermeasures to improve pedestrian safety in Canada [Internet]. 2013 [cited 2015 Sept 10]; Available at <http://ccmta.ca/en/publications/road-safety-research/canadian-motor-vehicle-traffic-collision-statistics/item/countermeasures-to-improve-pedestrian-safety>

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Public Health Agency of Canada. Injury in review: Spotlight on road and transport safety [Internet]. PHAC; 2015 [cited 2015 Sept 10]; Available from http://www.tirf.ca/publications/PDF_publications/Injury%20in%20Review%202012%20EN-WEB.pdf

Transport Canada. Road safety in Canada [Internet]. 2011 [cited 2015 Sept 10]; Available from <http://www.tc.gc.ca/eng/motorvehiclesafety/tp-tp15145-1201.htm#s38>

Unintentional Poisonings

Definition

Any person discharged from hospital with an injury caused by unintentional poisoning.

Calculation

Unintentional poisoning hospitalization injury rate is the number of inpatient hospital discharges due to unintentional poisoning in a specific year in a particular 5 year age/sex group divided by the population in that age/sex group * 100,000. Covered Population is used as the denominator. Unintentional poisoning injuries are coded as X40-X49 in the International Classification of Diseases 10th edition (ICD-10). For illustrative purposes, X40, X41, X43 and X44 = "pharmaceuticals", X42 = "narcotics and hallucinogens", X45="alcohol", X49="Other and unspecified chemicals and noxious substances, and X46, X47, X48= "All others".

Source

Saskatchewan Ministry of Health.

References

Parachute Canada. Child poisoning prevention. Parachute; 2015 [cited 2015 Sept 10]; Available from <http://www.parachutecanada.org/child-injury-prevention/item/child-poisoning-prevention>

Yanchar NL., Warda LJ., Fuselli P, Canadian Paediatric Society injury prevention committee. (2012). Child and youth injury prevention: A public health approach. Position statement. Available at <http://www.cps.ca/documents/position/child-and-youth-injury-prevention>

Sports-related

Definition

Any person discharged from hospital with an injury caused by a fall, being struck by sports equipment or striking against or bumping into another person while playing sports.

Calculation

Sports related hospitalization injury rate is the number of inpatient hospital discharges due to sports in a specific year in a particular 5 year age/sex group divided by the population in that age/sex group * 100,000. Covered Population is used as the denominator. Struck by injuries are coded as W02, W21-22 and W51 in the International Classification of Diseases 10th edition (ICD-10).

Source

Saskatchewan Ministry of Health.

References

Billette JM & Janz T. Injuries in Canada: Insights from the Canadian Community Health Survey [Internet]. 2011 [cited 2016 Apr]; Available from <http://www.statcan.gc.ca/pub/82-624-x/2011001/article/11506-eng.htm>.

Parachute. The cost of injury in Canada. Toronto (ON); Parachute; 2015.

Fire/Burns

Definition

Any person discharged from hospital with an injury caused from exposure to fire, smoke or heat and hot substances.

Calculation

Fire/burn injury rate is the number of inpatient hospital discharges due to exposure to fire, smoke or heat and hot substances in a specific year in a particular 5 year age/sex group divided by the population in that age/sex group * 100,000. Covered Population is used as the denominator. Fire/burn injuries are coded as X00-X19 in the International Classification of Diseases 10th edition (ICD-10).

Source

Saskatchewan Ministry of Health.

References

Parachute. The cost of injury in Canada. Toronto (ON); Parachute; 2015.

Parachute. Burns and scalds prevention. 2015 [cited 2016 Apr 6]; Available from <http://www.parachutecanada.org/child-injury-prevention/item/burns-and-scalds-prevention>

World Health Organization. World report on child injury prevention [Internet]. Geneva: WHO. 2008 [cited 2016 Apr 6]; Available from http://apps.who.int/iris/bitstream/10665/43851/1/9789241563574_eng.pdf

Drownings

Definition

Any person discharged from hospital with an injury caused by drowning or submersion including bath tubs, swimming pools and natural waters like lakes, rivers or oceans.

Calculation

Drowning hospitalization injury rate is the number of inpatient hospital discharges due to a drowning in a specific year in a particular 5 year age/sex group divided by the population in that age/sex group * 100,000. Covered Population is used as the denominator. Drowning injuries are coded as W65-W74, V90 and V92 in the International Classification of Diseases 10th edition (ICD-10).

Source

Saskatchewan Ministry of Health.

References

Drowning Prevention Research Centre. Saskatchewan drowning report. Toronto (ON): Lifesaving Society Canada. 2014.

Parachute. (2015). The cost of injury in Canada. Parachute: Toronto, ON.