

**Renfrew County and District
Community Health Status Report
Issue #16, 2009**

Unintentional Injuries in Renfrew County and District



**Renfrew County and District Health Unit, 7 International Drive
Pembroke ON, K8A 6W5 www.rcdhu.com**

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Introduction

Injury is defined as unintentional or intentional damage to the body resulting from a transfer of energy. Types of energy that can cause injuries include mechanical, electrical, thermal and chemical.¹ *Unintentional injuries* are caused by motor vehicle crashes, falls, poisoning, scalds, burns, drowning, etc. *Intentional injuries* include suicide/self-harm and violence. A third category includes *injuries of undetermined intent*. This report focuses on unintentional injuries, which account for over two thirds of all injuries.

Injury as a Public Health Issue

Everyone is at risk of being injured. Injuries can occur at home, school, work and play. Every 30 seconds, someone visits an emergency department in Ontario because of an injury.²

The impact of injury is immense in terms of illness and loss of life, emotional suffering of individuals, families and communities and the cost of health care and lost productivity.

The burden of injury is greater for some groups than others: youth, seniors, males, and aboriginal people have an increased risk of injury.³ The chance of dying from an injury is higher in rural areas than urban areas for all age groups and sexes.⁴ (In the referenced study, Renfrew County and District is considered rural except for the Pembroke/Petawawa area.) Children living in families and neighborhoods with low socio-economic status are more likely to experience home, recreation/play and fall injuries than children living in families with a higher socioeconomic status.⁵

Prevention of Injuries

The overall rate of unintentional injury in Ontario has been declining due to concerted injury prevention efforts.^{6,7} Safer design of roads, cars, playground equipment and toys, legislated use of safety equipment such as seat belts and helmets, and adoption of injury prevention behaviours such as designated drivers are examples of progress in injury prevention. However, there is still much to learn about how to prevent injuries, and much progress to be made in reducing injuries.

Most injuries are predictable and preventable. The “three E’s” of injury prevention are Engineering, Enforcement and Education. The most successful injury prevention strategies combine all three approaches and involve several complementary interventions.⁸

Local injury prevention efforts have adopted or supported regional, provincial or national injury prevention initiatives. Several coalitions have or are currently addressing injury issues: The Renfrew County Car Seat Safety Coalition, the FOCUS Community Project, the Renfrew County Injury Prevention Committee for Older Adults, and the East Region Injury Prevention Network.

Unintentional Injuries in Renfrew County and District

Some examples of local injury prevention activities are listed below:

- *Operation Lookout* urges people to call 911 if they see an impaired driver
- The *Safer Bars* program aims to reduce violence and injuries in bars
- The *Last Drink* program trains bar staff and managers to modify serving practices, with the goal of reducing incidents of impaired driving
- *Drive for Life* increases awareness among grade 11 students of the consequences of alcohol use, including driving under the influence of alcohol
- Curriculum materials and consultations assist teachers to deliver alcohol and drug use prevention activities in the classroom
- Multi-media assemblies have brought high-energy drug and alcohol awareness and risk reduction messaging to high school audiences
- *Communication campaigns* have focused on ATV safety, boating safety, hunting safety, snowmobile safety and car seat safety

Prevention of injuries requires government leadership, good surveillance systems to tell us what types of injuries are occurring and why, research on how well injury prevention efforts are working, cooperation from national, provincial and community organizations, coordination and communication among those involved in injury prevention, and diligent use of safe practices by all of us in our daily lives.

Data Sources and Interpretation

Most data in this report has been extracted from *intelliHEALTH ONTARIO*, a gateway to a repository of healthcare data that describes the population and delivery of healthcare services in Ontario.

Illnesses and external causes of disease (injuries) are recorded by health care personnel and coded according to the International Classification of Disease and Related Health Problems, Tenth Version (ICD-10).⁹ See the Glossary for ICD-10 codes for groups of injuries used in this report.

Local Context

Renfrew County and District is comprised of the County of Renfrew, the City of Pembroke, the Township of South Algonquin, and most of Algonquin Provincial Park in Ontario, Canada. This area covers about 15,000 square kilometers. The population is estimated at 102,000 to 103,000 between 2005 and 2008, the main period covered in this report.¹⁰

Health Unit Mandate

The mandate of Ontario health units includes the prevention of injury and substance misuse. A public health goal is to reduce the frequency, severity and impact of preventable injury and substance misuse. The Renfrew County and District Health Unit is working towards this goal as directed in the Prevention of Injury and Substance Misuse Standard.¹¹

Unintentional Injuries in Renfrew County and District

Public health units in Ontario are mandated to use data and information to inform decision-making about Board of Health programs and services at the local level.¹² This includes carrying out population health assessment - measuring, monitoring, and reporting on the status of a population's health, including determinants of health and health inequities. Population health assessment provides the information necessary to understand health issues of local populations and plan strategies to improve health.

This report contributes to an assessment of population health in Renfrew County and District in the area of unintentional injuries, and provides a basis for planning local injury prevention efforts.

This report is the 16th in a series of health status reports published by the Renfrew County and District Health Unit. Most of these reports are available on our web site: <http://www.rcdhu.com/community-health-status/index.htm>.

For more information about community health indicators for Renfrew County and District, contact Peggy Patterson, Program Planning and Evaluation Coordinator at 613-735-8651 ext. 546 or ppatterson@rcdhu.com.

Unintentional Injury Deaths

Deaths

During the years 2000 – 2005, there were an average of 950 deaths per year in Renfrew County and District (RC&D). About 3.6% of deaths - or 34 deaths per year - were caused by unintentional injuries.

There were 206 deaths caused by unintentional injuries in RC&D from 2000 to 2005. Figure 1 shows the average number of deaths per year due to various causes of unintentional injuries.

39% of those who died from unintentional injuries were females and 61% were males. Almost half were under age 65, and 9% (18 deaths) were under age 20.

Causes of deaths

As shown in Figure 2, the largest proportion of unintentional injury deaths were caused by transport incidents (32%), followed by falls (17%) and poisonings (9%).

Transport incidents include collisions and non-collision injuries involving pedestrians, pedal cyclists, drivers and passengers of all types of vehicles, in traffic and non-traffic situations.

Deaths in the “other” category are mainly “exposure to unspecified factor” (27%). The rest are “exposure to inanimate mechanical forces” (2%) and “sequelae of other accidents” (1%).

Figure 1: Average number of deaths/year caused by unintentional injuries, RC&D, 2000 - 2005

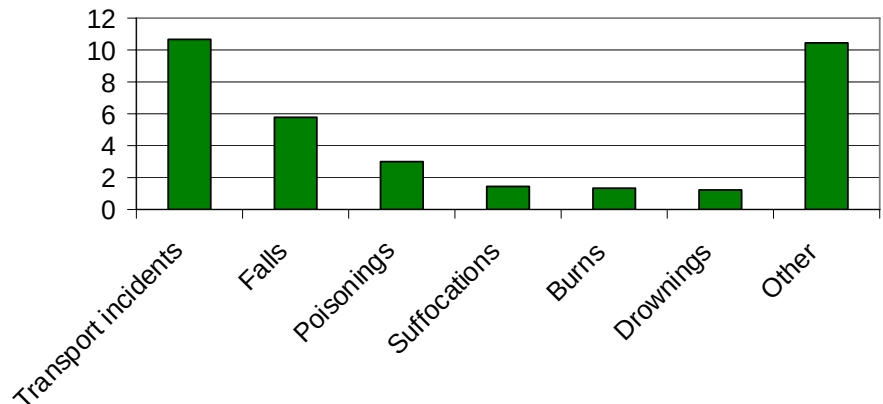
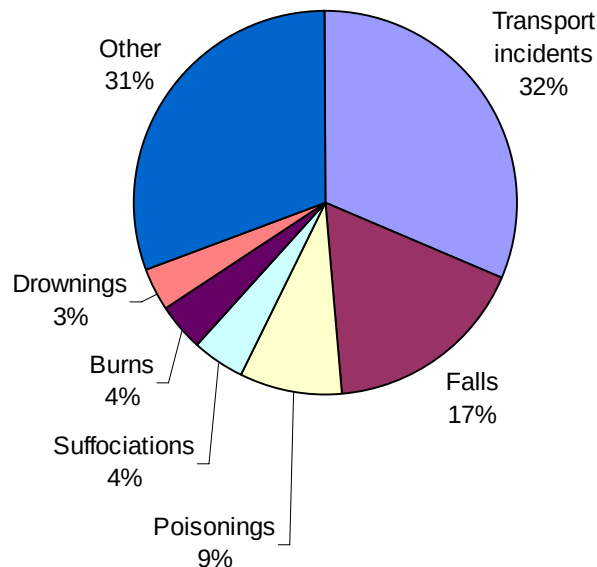


Figure 2: Causes of unintentional injury deaths in RC&D, 2000 - 2005



Source: IntelliHEALTH ONTARIO, Vital Statistics (Death Summary PHU)

Unintentional Injury Deaths

Age standardized mortality rates

Looking at rates rather than raw numbers enables us to compare events in different populations and time periods. In this report we use rates to compare RC&D with Ontario as a whole.

Figure 3 shows that males are more likely than females to die from an unintentional injury, both in RC&D and in Ontario.

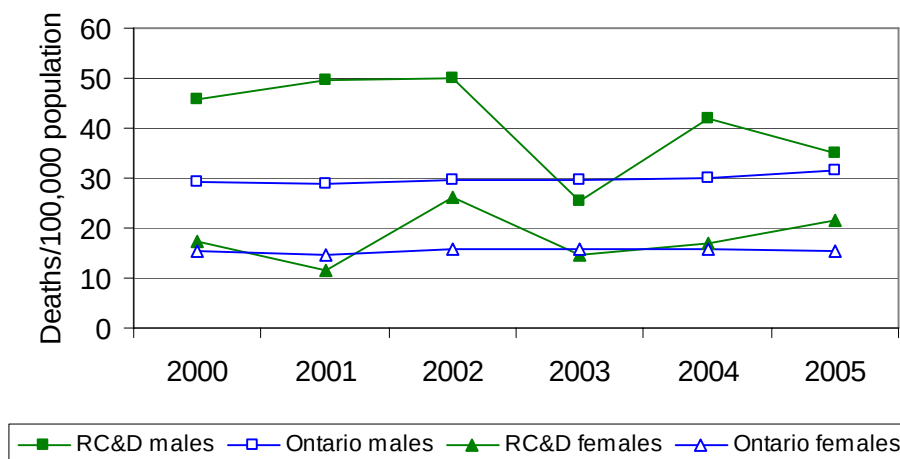
The difference in mortality rates between males in RC&D and Ontario was statistically significant in two years: 2001 and 2002.

Potential years of life lost rates

Everyone is at risk of being injured, and injury deaths occur at all ages. Potential years of life lost, or PYLL, is a measure of premature death. PYLL was calculated using the difference between the age at death (in 5-year age groups) and 75 years (the normal lifespan).

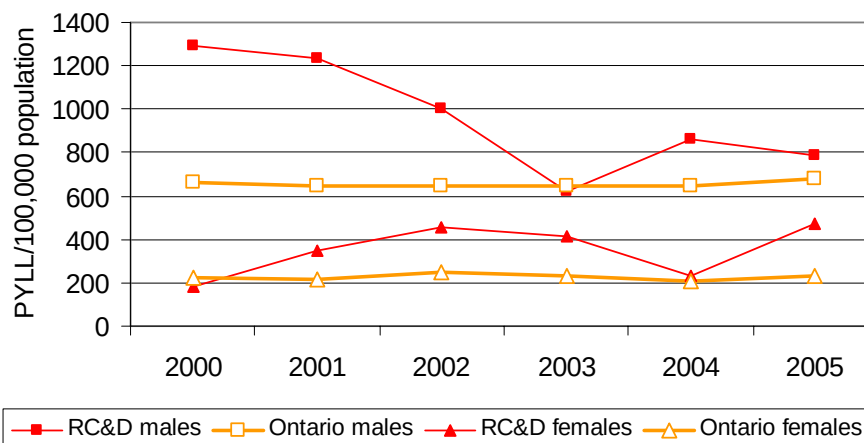
Between 2000 and 2005, PYLL rates for unintentional injuries were substantially higher in males than in females, both in RC&D and in Ontario as a whole (Figure 4). PYLL rates for RC&D males were double the Ontario rate in two of the years shown (2000 & 2001) but are closer to Ontario rates in more recent years.

Figure 3: Age-standardized mortality rates for unintentional injuries, RC&D and Ontario, 2000 - 2005



Mortality rates are age-standardized to the 1991 Canadian population.

Figure 4: Potential years of life lost rates for unintentional injuries, RC&D and Ontario, 2000 - 2005



Source: IntelliHEALTH ONTARIO, Vital Statistics (Deaths) and Population Estimates

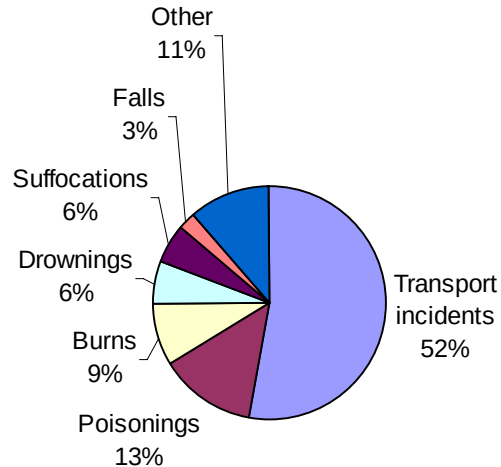
Unintentional Injury Deaths

Causes of potential years of life lost

Figure 5 shows that the largest proportion of PYLL from unintentional injuries in RC&D was due to transport incidents, followed by poisonings and burns.

Only 3% of PYLL was caused by falls. Figure 2 showed that 17% of unintentional injury deaths were caused by falls. Looking at PYLL tells us that deaths caused by falls occur mainly in older people.

Figure 5: Causes of unintentional injury-related potential years of life lost in RC&D, 2000 - 2005



Source: IntelliHEALTH ONTARIO, Vital Statistics (Deaths)

Unintentional Injury Hospitalizations

Hospitalization rates

Looking at hospital discharges due to injuries provides another perspective on the burden of illness caused by injuries. These numbers may be affected by the availability of hospital beds, alternatives to hospital care, and the age structure of the population. They can also be inflated by transfers to hospitals with more specialized services, resulting in double counting.

In Figure 6, hospitalization rates for all ages combined are consistently higher in RC&D than in Ontario as a whole, for both males and females.¹³

Causes of hospitalizations

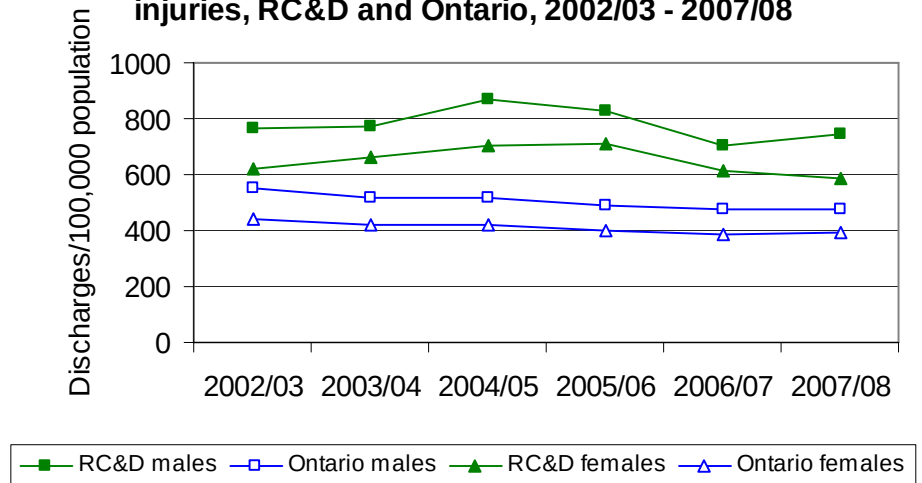
There were about 900 hospital discharges/year due to unintentional injuries among residents of RC&D during the time period in Figure 7.

The vast majority of unintentional injury hospitalizations in RC&D are due to falls (68%), followed by transport incidents (13%).

"Inanimate mec. forces" refers to a grouping of injuries caused by exposure to inanimate mechanical forces such as machinery, tools, sharp objects and sports equipment.

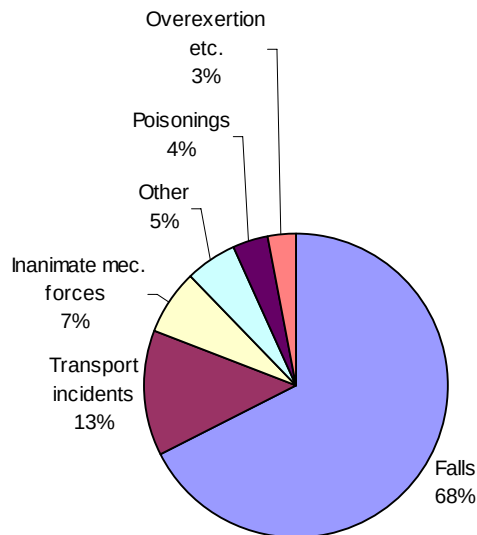
"Overexertion etc." refers to a grouping of injuries caused mainly by overexertion and strenuous or repetitive movements.

Figure 6: Hospitalization rates for unintentional injuries, RC&D and Ontario, 2002/03 - 2007/08



Hospitalization rates are age-standardized to the 1991 Canadian population.

Figure 7: Causes of unintentional injury hospitalizations in RC&D, 2005/06 - 2007/08



*Source: IntelliHEALTH ONTARIO, Inpatient Discharges (Inpatient Diagnosis and External Cause)
Hospitalization information is shown in fiscal years (April 1 to March 31)*

Unintentional Injury Hospitalizations

Age-specific hospitalization rates

Hospitalization rates among males in RC&D were lowest for the 1 – 9 age group (250/100,000), about 550/100,000 for the age groups 10 – 19 and 20 – 44, up to 1500/100,000 for age 65 – 74 and 3800/100,000 for the 75+ age group. See Figure 8.

Hospitalization rates were markedly higher here than in Ontario as a whole for the two oldest age groups.

Hospitalization rates among females in RC&D were lowest for the 20 – 44 age group (200/100,000), about 300/100,000 for the age groups 1 – 9 and 10 – 19, almost 1400/100,000 in the 65 – 74 age group and close to 6,000/100,000 in the oldest age group. See Figure 9.

As with males, hospitalization rates are higher than in Ontario as a whole for the two oldest age groups.

Figure 8: Age-specific hospitalization rates for unintentional injuries, males, RC&D and Ontario, 2005/06 - 2007/08

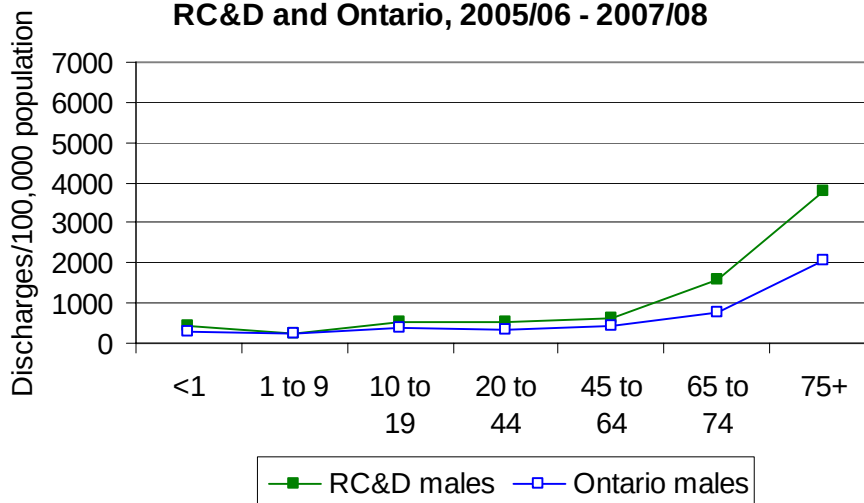
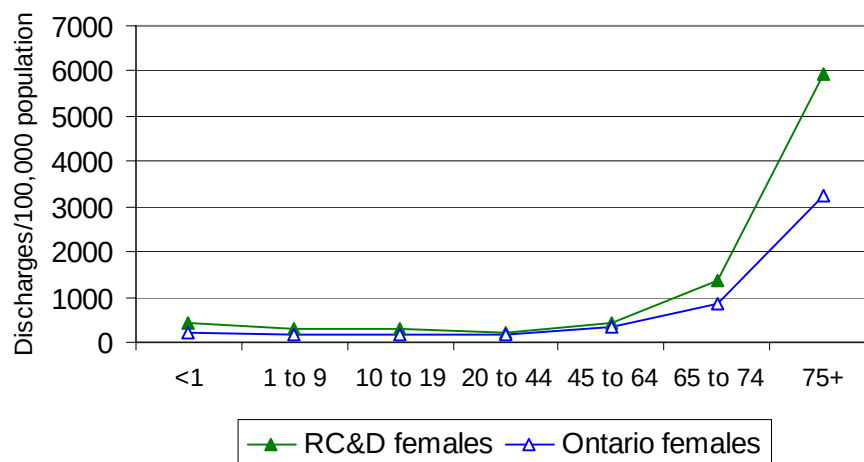


Figure 9: Age-specific hospitalization rates for unintentional injuries, females, RC&D and Ontario, 2007/08



Source: IntelliHEALTH ONTARIO, Inpatient Discharges (Inpatient Diagnosis and External Cause) and Population Estimates
Hospitalization rates for RC&D are an average of three fiscal years: 2005/06, 2006/07 and 2007/08. Hospitalization rates for Ontario are for 2006/07.

Unintentional Injury Emergency Department Visits

Emergency department (ED) visits

There were an average of 17,500 ED visits/year - or about 48 visits/day - because of unintentional injuries by residents of RC&D during the time period in Figure 10. There were about 10,000 visits/year by males and 7,500 visits/year by females.

Causes of ED visits

The greatest proportion of ED visits related to an unintentional injury in RC&D are due to exposure to inanimate mechanical forces (34%), followed by falls (27%) and "overexertion etc." (12%).

"Animate mechanical forces" refers to a grouping of injuries caused by striking against or into another person in sports and non-sports situations, and animal bites.

The "other" category includes poisoning (1%), heat and hot substances (1%), venomous animals and plants (1%), smoke, fire and flames (0.3%), forces of nature (0.3%) and other lesser causes.

In Figure 11, the injury grouping "animate mechanical forces" is broken down. 68% of ED visits in this category were by males. The largest subgroup (16% of visits) involved being struck by or against an inanimate object during sports activities. Of these, over 1/3 took place during hockey.

Figure 10: Causes of ED visits for unintentional injuries, RC&D, 2005/06 - 2007/08

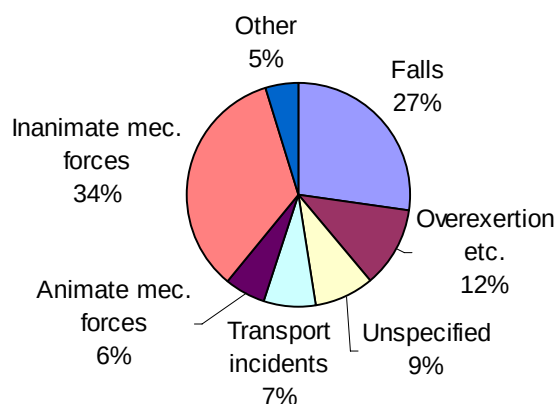
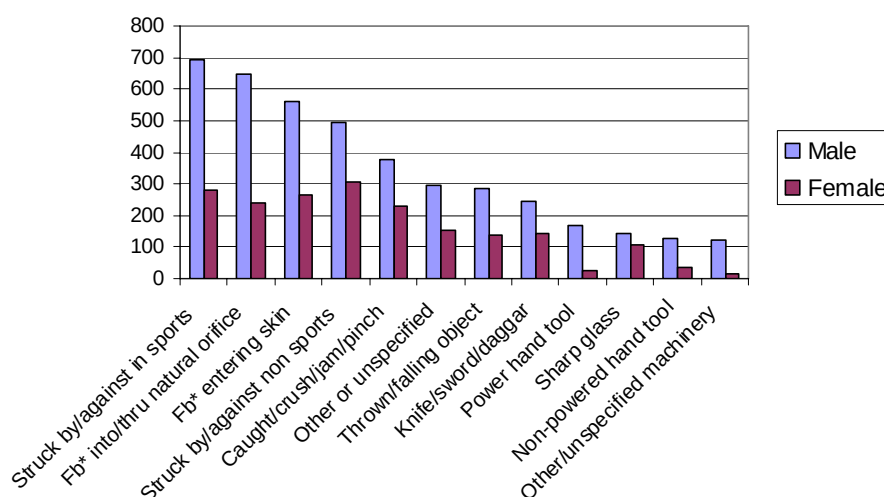


Figure 11: Average number of ED visits/year for exposure to inanimate mechanical forces, RC&D, 2005/06 - 2007/08



* Fb = foreign body

Source: IntelliHEALTH ONTARIO, Ambulatory Visits (Ambulatory All Visit Problem Dx and External Cause)

Ambulatory visit information is shown in fiscal years (April 1 to March 31)

Only "EMG case type" visits were extracted, which excludes scheduled visits, day surgery, clinics etc.

Unintentional Injury Emergency Department Visits

Age-specific emergency department (ED) visit rates

Males in the 10 - 19 age group are more likely than any other age group to visit an ED because of an unintentional injury. See Figure 12. Males living in RC&D are more likely to do so than the average Ontario male.

As shown in Figure 13, females age 10 – 19 and over age 74 are more likely than other age groups to visit an ED because of an unintentional injury. Like males, females in RC&D are more likely to visit an ED than their Ontario counterparts.

In RC&D and Ontario, male children, adolescents and younger adults are more likely than females to visit an ED for an unintentional injury. However, women age 75 and over are more likely than men to visit an ED for an unintentional injury.

In Ontario, ED visits for injuries vary slightly by the day of the week and peak on Mondays. They also vary seasonally, peaking in the summer months of June – August.¹⁴

Figures 12: Age-specific ED visit rates for unintentional injuries, males, RC&D and Ontario, 2005/06 - 2007/08

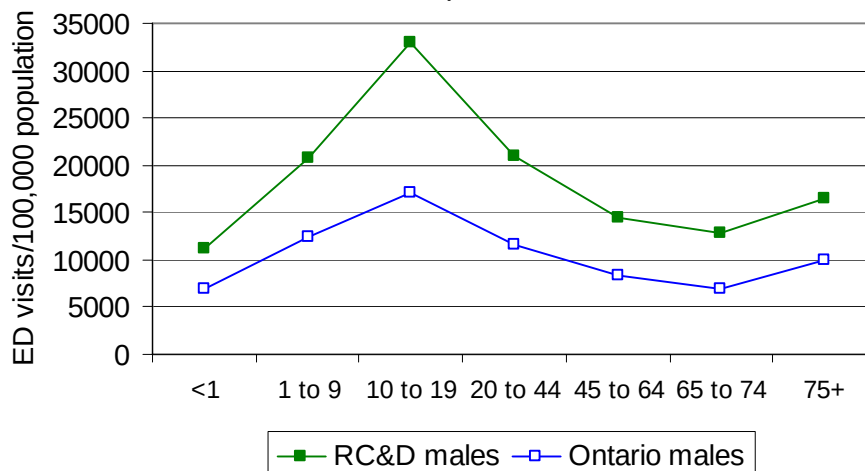
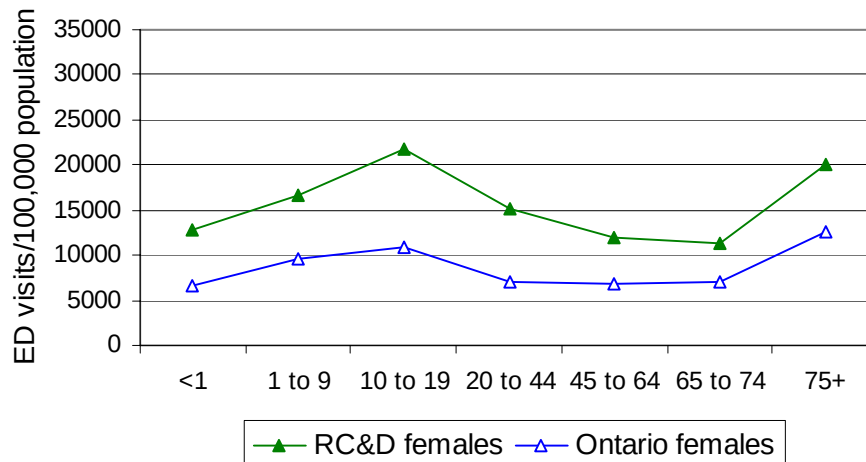


Figure 13: Age-specific ED visit rates for unintentional injuries, females, RC&D and Ontario, 2005/06 - 2007/08



Source: IntelliHEALTH ONTARIO, Ambulatory Visits (Ambulatory All Visit Problem Dx and External Cause) and Population Estimates
Hospitalization rates for RC&D are an average of three fiscal years: 2005/06, 2006/07 and 2007/08. Hospitalization rates for Ontario are for 2006/07.

Focus on Transport Incidents

Deaths

Transport incidents were the cause of 32% of unintentional injury deaths in RC&D (2000 - 2005). There were 68 deaths during this six-year period, or an average of 11 deaths/year.

Almost $\frac{3}{4}$ of these were males (72%). Male deaths were mainly in the age groups 20 – 44 (44%) and 45 – 64 (28%). Female deaths were mainly in the age groups 20 – 44 (39%) and 65 – 74 (33%).

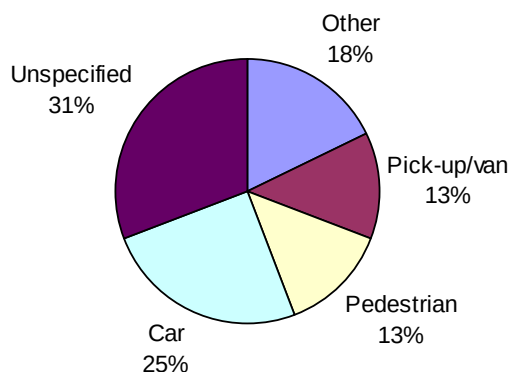
Figure 14 shows the type of vehicle in which the persons killed were a driver or passenger. The “other” category consists of agricultural vehicle, watercraft, motorcycle, heavy transport vehicle or bus, pedal cycle, and glider.

Fatality rates

One measure of road safety is the number of people killed in motor vehicle crashes per 10,000 registered vehicles. Figure 15 shows that motor vehicle fatality rates have been decreasing both in Renfrew County and in Ontario as a whole. However, the fatality rate was often higher in Renfrew County than the Ontario average.¹⁵

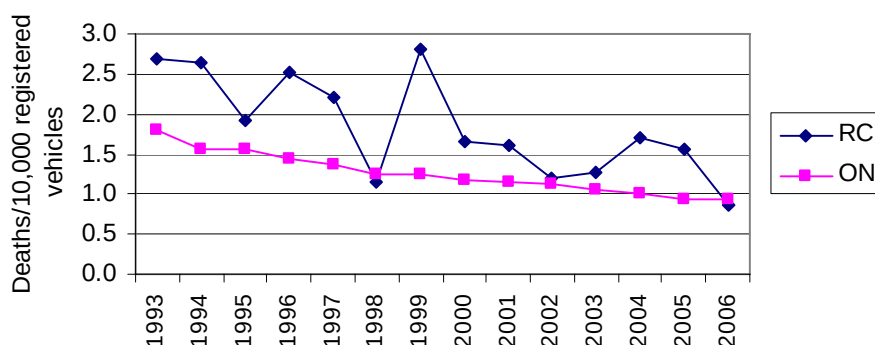
Causes of death in motor vehicle crashes in Renfrew County during a three-year period are shown in Figure 16.

Figure 14: Type of vehicle in which persons killed were driver or passenger, RC&D, 2000 - 2005



Source: IntelliHEALTH ONTARIO, Vital Statistics (Deaths)

Figure 15: Motor vehicle fatality rates, Renfrew County and Ontario



Source: Ontario Road Safety Annual Reports¹⁶

Figure 16: Causes of motor vehicle fatalities, Renfrew County, 2002 - 2004

Cause	Average # fatalities/year	Percent of total
Lack of seat belt use	4	33
Drinking and driving	3.7	31
Speed	1.3	11
Other	3	25

Source: Ministry of Transportation¹⁷

Focus on Transport Incidents

Hospitalizations

There were an average of 118 hospitalizations/year due to transport injuries among residents of RC&D during the period shown in Figure 17. This represents 13% of unintentional injury hospitalizations.

Almost 2/3 of these hospitalized were male (63%).

Hospitalizations due to car crashes (64/year) were divided equally between males and females.

Among the pedal cycle hospitalizations (11/year), 3/4 were male and just over half were under age 20.

“ATV/off-road” refers to off-road motor vehicles other than snowmobiles. Of these hospitalizations (10/year), 3/4 were males and they were spread over all ages.

Of the motorcycle hospitalizations (7/year), 4/5 were male. Of the snowmobile hospitalizations (5/year), all were male and spread over ages 15 to 64.

The “other” category consists of pick-up truck/van, animal or animal drawn vehicle, heavy transport, air transport, watercraft and unspecified vehicles.

Age-specific hospitalization rates

In Figure 18, hospitalization rates for transport injuries were higher in RC&D than in Ontario as a whole in some groups, particularly males age 10 – 19 and 75+.

Figure 17: Type of vehicle in which persons hospitalized were driver or passenger, RC&D, 2005/06 - 2007/08

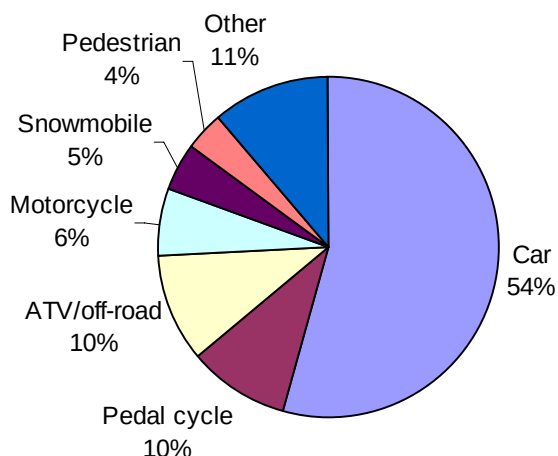
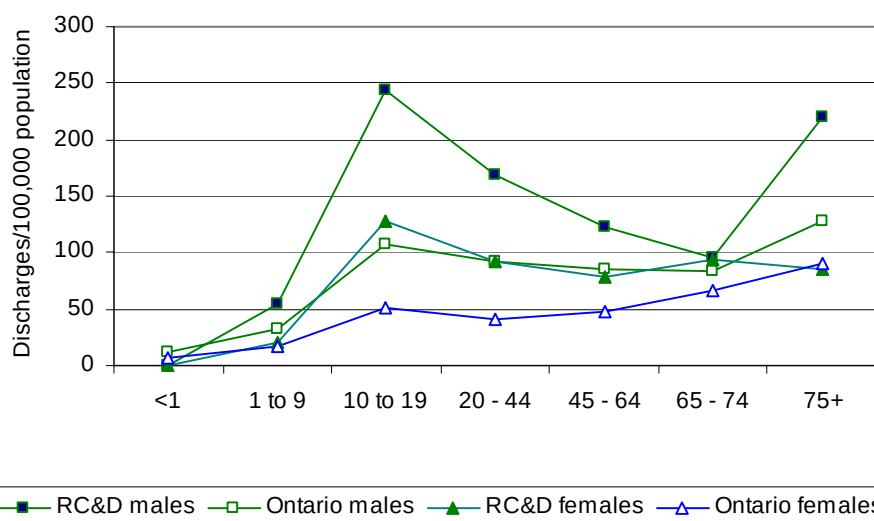


Figure 18: Age-specific hospitalization rates for transport incidents, RC&D and Ontario, 2005/06 - 2007/08



Source: IntelliHEALTH Ontario, Inpatient Discharges (Inpatient Diagnosis and External Cause) and Population Estimates

Hospitalization rates for RC&D are an average of three fiscal years: 2005/06, 2006/07 and 2007/08. Hospitalization rates for Ontario are for 2006/07.

Focus on Transport Incidents

Emergency department (ED) visits

There were an average of 1,285 ED visits/year due to transport injuries among residents of RC&D in the three fiscal years 2005/06 to 2007/08. This represents 7% of unintentional injury ED visits.

59% of these visits were made by males. Injuries to males were more prevalent with certain types of vehicles; motorcycles (84% male); snowmobiles (82% male); ATV/off-road motor vehicles (80% male); and pedal cycles (77% male).

In contrast, 85% of visits by animal riders or occupants of animal-drawn vehicles ("animal" category) were made by females.

56% of car occupants visiting an ED were females.

Age-specific emergency department visit rates

ED visit rates were highest in the 10 – 19 age group for both males and females, in RC&D and in Ontario as a whole.

ED visit rates were higher in RC&D than in Ontario in the 10 – 19 age group, particularly for males. See Figure 20.

Figure 19: Type of vehicle in which persons visiting an ED were driver or passenger, RC&D, 2005/06 - 2007/08

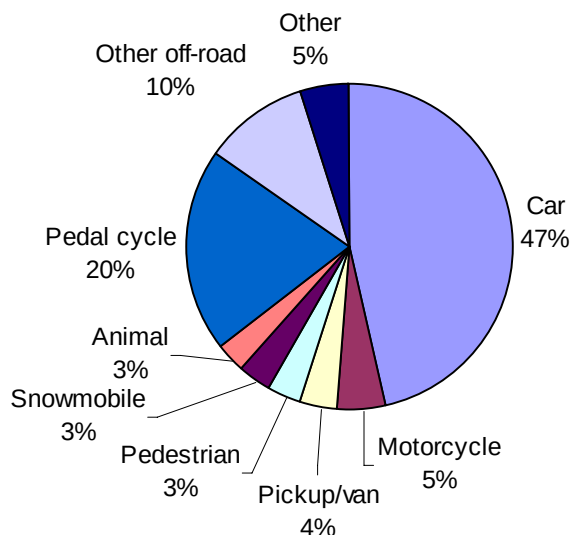
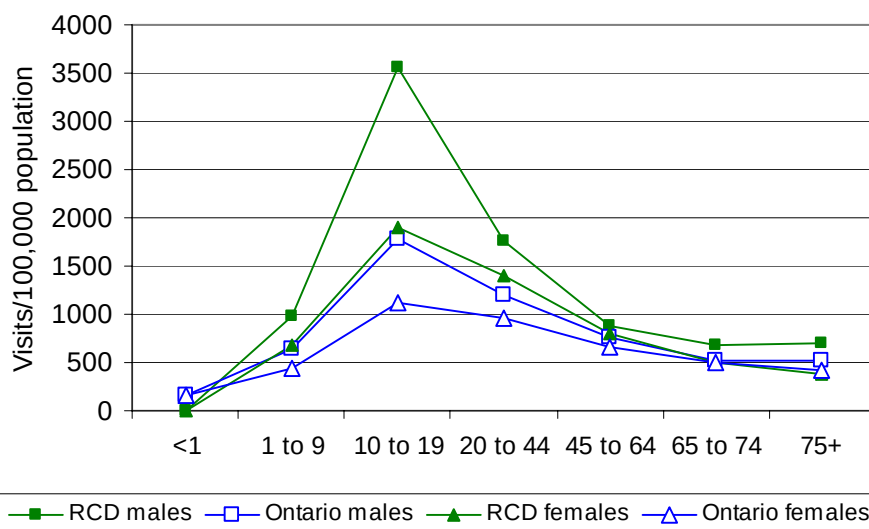


Figure 20: Age-specific ED visit rate for transport incidents, RC&D and Ontario, 2005/06 - 2007/08



Source: IntelliHEALTH Ontario, Ambulatory Visits (Ambulatory All Visit Problem Dx and External Cause) and Population Estimates
ED visit rates for RC&D are an average of three fiscal years: 2005/06, 2006/07 and 2007/08. Rates for Ontario are for 2006/07.
Only "EMG case type" visits were extracted, which excludes scheduled visits, day surgery, clinics etc.

Focus on Transport Incidents

In Renfrew County and District (RC&D), transport injuries cause more death and more potential years of life lost than any other type of unintentional injury. They are the second most common cause of unintentional injury hospitalizations and the fourth most common cause of unintentional injury emergency department visits. The chart below summarizes information from earlier in this report on transport injuries in RC&D.

Severity of injury	Vehicles most often involved	Gender and age groups most affected
Death	Car, pickup truck/van, pedestrian	Males age 20 - 64
Hospitalization	Car, pedal cycle, ATV/off-road motor vehicle	Males age 10 – 19 and 75+
Emergency department visit	Car, pedal cycle, ATV/off-road motor vehicle	Males age 10 – 19 Females age 10 - 19

Renfrew County and District appears to have higher motor vehicle fatality rates than the provincial average in some years, although the statistical significance of the differences was not assessed. A Canadian analysis of mortality from motor vehicle crashes found significantly higher mortality among people living in rural areas. There was an independent effect of place of residence, after controlling for socio-economic and demographic determinants of health. Most of Renfrew County and District falls into one of the four classes of rural areas defined in this study, although Pembroke/Petawawa is considered an urban area.¹⁸

Efforts to improve road safety and reduce motor vehicle incidents in Ontario are ongoing. Some recent provincial efforts involving legislation, education and enforcement include:

- Increased penalties for speeding
- Clarified requirements and increased penalties for drivers who fail to yield to pedestrians at traffic lights, crosswalks and school crossings
- Strengthening of driver education and increased restrictions on inexperienced drivers
- Improvements to public transportation, which reduces traffic congestion
- Repairing, improving and expanding highways¹⁹

Ontario has enacted comprehensive anti-drinking and driving measures over the years. The rate of drinking driver fatalities/10,000 licensed drivers decreased 79% between 1980 and 2005.²⁰ However, new and innovative strategies are needed to reach the individuals and groups that still are not getting the message that there is absolutely no place for drinking and driving on Ontario's roads.

In 2006, Ontario's roads were the safest in North America based on the number of fatalities per 10,000 licensed drivers. The number of fatalities has been decreasing at

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the same time as the number of licensed drivers and the number of registered vehicles has been increasing.²¹

Ontario roads are becoming progressively safer due to concerted efforts on the part of government agencies, the enforcement community, public health and drivers themselves. However, there is still plenty of room for improvement. Key road safety challenges for Ontario are drinking and driving, speeding/loss of control, pedestrian safety, cyclist safety and motorcycle safety.²²

Focus on Falls

Deaths

Falls were the cause of 17% of unintentional injury deaths in RC&D (2000 – 2005). There were about six deaths/year for which a fall was identified as the underlying cause. These deaths were divided equally among men and women. 86% were over age 65 and all were over age 50.

In addition to deaths caused by falls, a fall is sometimes identified on the death certificate of elderly people as a factor that contributed to the death.

Hospitalizations

Falls were the cause of 68% of unintentional injury hospitalizations, or an average of 597 hospitalizations/year among residents of RC&D during the three fiscal years 2005/06 to 2007/08.

People age 65 and older accounted for almost 3/4 of the hospitalizations and among these, 70% were women.

Figure 21 lists the most prevalent types of falls for the age groups at highest risk of hospitalization.

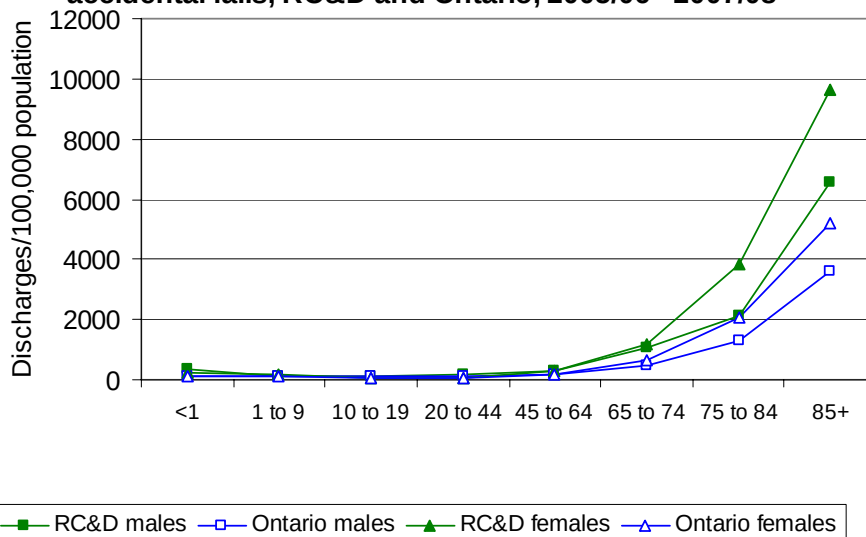
Age-specific hospitalization rates

In Figure 22, hospitalization rates for accidental falls in age groups up to age 64 were between 100 and 300/100,000 population. Rates were markedly higher for the three older age groups, particularly for females in RC&D.

Figure 21: Gender and type of fall for age groups at highest risk of hospitalization for a fall, RC&D, 2005/06 – 2007/08

Age	Number of hospitalizations /year	Gender	Type of falls
85+	161	23% male 77% female	40% on same level from slip, trip and stumble or other fall on one level; 10% involving furniture; 39% unspecified
75 - 84	186	29% male 71% female	42% on same level from slip, trip and stumble or other fall on one level; 6% on and from stairs and steps; 5% on same level involving ice and snow; 33% unspecified
65 - 74	93	45% male 55% female	1/3 on same level from slip, trip and stumble or other fall on one level; 13% on and from stairs and steps; 8% on same level involving ice and snow; 26% unspecified

Figure 22: Age-specific hospitalization rates for accidental falls, RC&D and Ontario, 2005/06 - 2007/08



Source: IntelliHEALTH Ontario, Hospital Discharges (Inpatient Diagnosis and External Cause) and Population Estimates

Hospitalization rates for RC&D are an average of three fiscal years: 2005/06, 2006/07 and 2007/08. Hospitalization rates for Ontario are for 2006/07.

Focus on Falls

Emergency department (ED) visits

Falls are the most common cause of injury-related ED visits, and account for ¼ of these visits, both in RC&D and Ontario.²³

There were an average of 4866 ED visits/year due to accidental falls among residents of RC&D in the three fiscal years 2005/06 to 2007/08. Below age 20 there were more visits by males, and above age 44 there were more visits by females.

Figure 23 shows the average annual number of visits and the most common types of falls for the three age groups with the highest ED visit rates.

Age-specific ED visit rates

Figure 24 shows the number of ED visits per 100,000 people in the population in different age groups.

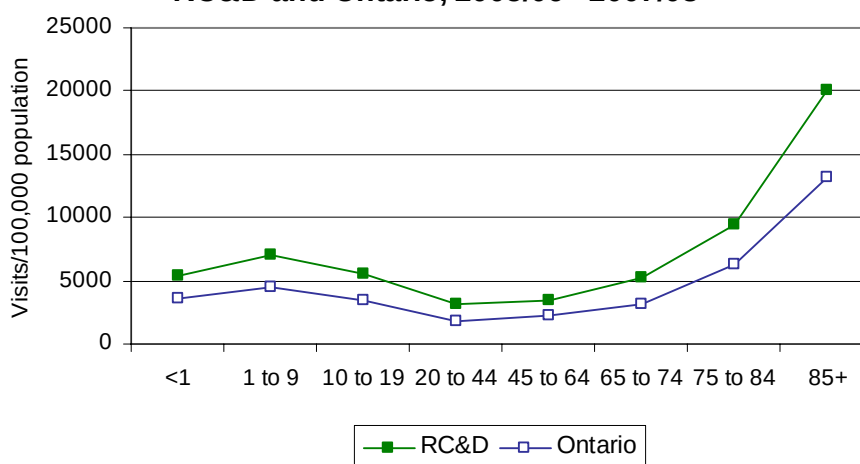
People aged 85+, 75 – 84 and 1 – 9 are more likely than other age groups to visit the ED because of a fall.

ED visit rates for falls are consistently higher in RC&D than in Ontario as a whole.

Figure 23: Gender and type of fall for age groups at highest risk of visiting an ED for a fall, RC&D, 2005/06 – 2007/08

Age	Number of ED visits/year	Gender	Type of fall
85+	1109	25% male 75% female	42% on same level from slip, trip and stumble or other fall one level 10% involving furniture 4% on and from stairs and steps 38% unspecified
75 - 84	553	31% male 69% female	42% on same level from slip, trip and stumble or other fall one level 10% on and from stairs and steps 6% involving furniture 29% unspecified
1 - 9	680	52% male 48% female	28% on same level from slip, trip and stumble or other fall one level; 15% involving furniture 13% involving playground equip. 10% on and from stairs and steps 10% other fall from one level to another 16% unspecified

Figure 24: Age-specific ED visit rates for accidental falls, both sexes combined, RC&D and Ontario, 2005/06 - 2007/08



Source: IntelliHEALTH Ontario (Ambulatory All Visit Problem Dx and External Cause) and Population Estimates

ED visit rates for RC&D are an average of three fiscal years: 2005/06, 2006/07 and 2007/08; rates for Ontario are for 2006/07.

Only "EMG case type" visits were extracted, which excludes scheduled visits, day surgery, clinics etc.

Unintentional Injuries in Renfrew County and District

Focus on Falls

In Renfrew County and District (RC&D), falls are the second most common cause of unintentional injury death, after transport injuries. These deaths occur mainly in older people, so falls are responsible for only 3% of potential years of life lost due to unintentional injuries. Falls are the leading cause of unintentional injury hospitalization and the second most common cause of unintentional injury emergency department visits. The chart below summarizes information from earlier in this report on unintentional falls in RC&D.

Severity of injury	Type of fall	Gender and age groups most affected
Death	Unspecified	Over age 64
Hospitalization	Fall on same level from slip, trip and stumble or other fall on one level	Females over age 64
Emergency department visit	Fall on same level from slip, trip and stumble or other fall on one level Also falls involving furniture, stairs and steps (young and old) and playground equipment (age 1 - 9)	Females over age 74 Males and females age 1 – 9

Falls occur across the lifespan, but the risk of serious injury from a fall is greater for those age 65 and over. Falls can have a devastating effect on the independence and well-being of seniors.

Some of the risk factors for falls are listed below:

- Lack of understanding of physical capabilities and vulnerability to risks, particularly for young children, adolescents and older adults
- Parent/caregiver perception of risks and ability to supervise children
- Economic disadvantage – families and communities at economic disadvantage are less likely to be able to maintain outdoor and indoor environments in accordance with safety standards
- Alcohol use and medication use, especially taking multiple medications
- Aging – as people age they are more likely to have a chronic disease, use medications, be less physically fit, have deteriorating vision and hearing and lower bone density, all of which increase risk of falls
- Outdoor and indoor hazards affect all ages, especially older adults. Outdoor hazards include sidewalk cracks, snow and ice, poor stair design, poor lighting, lack of handrails and lack of maintenance. Indoor hazards include throw rugs, loose carpets, pets, clutter, electrical cords, poor lighting, slippery floors, poorly designed stairs etc.²⁴

Efforts to reduce falls can focus on different age, gender and socioeconomic groups, and different causes of falls. They can address social issues such as alcohol use, lifestyle issues such as regular physical activity, and policy relating to engineering standards and outdoor safety measures as well as knowledge and skills for falls prevention.

Focus on Poisonings

Deaths

Poisoning was the cause of 9% of unintentional injury deaths in RC&D from 2000 –to 2005. There were 18 deaths during this six-year period, or an average of three deaths/year.

Half were female and half were male.

Figure 25 shows the type of poison that caused poisoning deaths. “Other and unspecified” refers to other and unspecified drugs, medicaments and biological substances.

Figure 26 shows that almost all RC&D residents who died from accidental poisoning from 2000 to 2005 were between the ages of 20 and 64.

Figure 25: Types of poison causing death, RC&D, 2000 - 2005

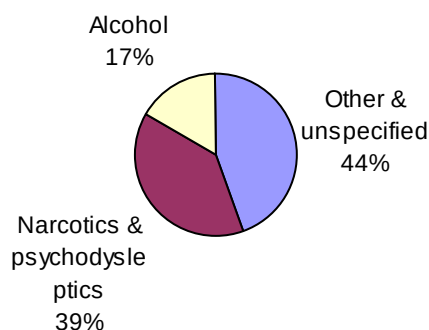
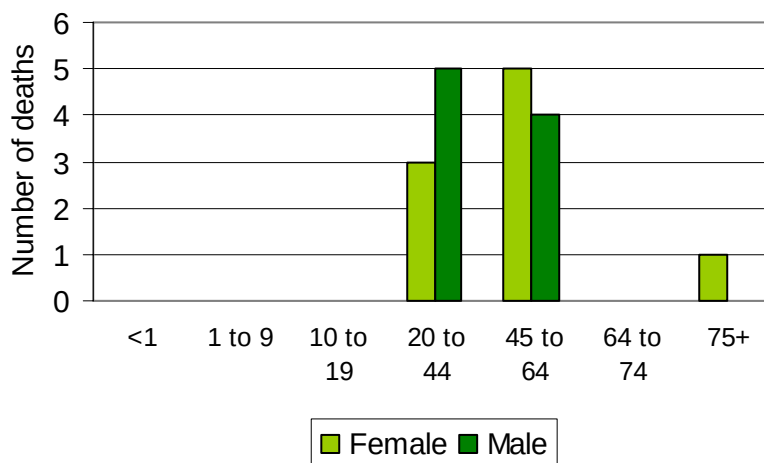


Figure 26: Age and sex of persons who died from accidental poisoning, RC&D, 2000 - 2005



Source: IntelliHEALTH Ontario, Vital Statistics (Deaths)

Focus on Poisonings

Hospitalizations

Poisonings were the cause of 4% of unintentional injury hospitalizations, or an average of 29 hospitalizations per year among residents of RC&D during the three fiscal years 2005/06 to 2007/08.

Figure 27 lists the poisonous agents involved when RC&D residents were discharged from a hospital for poisoning.

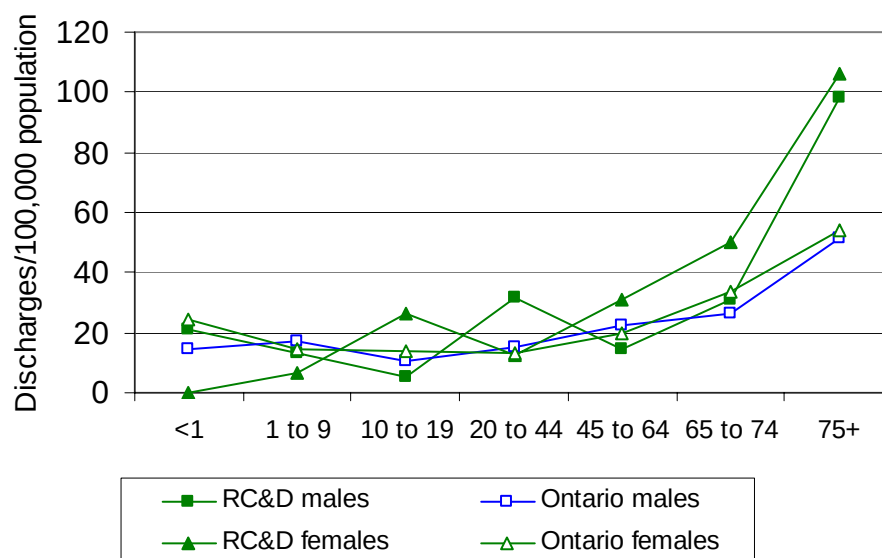
Figure 27: Type of poison causing hospitalization, RC&D, 2005/06 – 2007/08

Poisonous agent	Percent of discharges
Narcotics and psychodysleptics not elsewhere classified	28%
Other and unspecified drugs, medicaments and biological substances	25
Antiepileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drugs not elsewhere classified	18
Other gases and vapours	7
Nonopoid analgesics, antipyretics and antirheumatics	7
Alcohol	6
Other and unspecified chemicals and noxious substances	6
Other drugs acting on the autonomic nervous system	3

Hospitalization rates

Age-specific hospitalization rates for accidental poisoning in RC&D follow the same pattern as provincial rates. Rates are relatively constant from under age one to age 65 to 74, and rise in the 75+ age group. Hospitalization rates for RC&D residents over age 75 appear to be higher than for the province as a whole.

Figure Z: Age-specific hospitalization rates for poisoning, RC&D and Ontario, 2005/06 - 2007/08



Source: IntelliHEALTH Ontario, Hospital Discharges (Inpatient Diagnosis and External Cause) and Population Estimates
Hospitalization rates for RC&D are an average of three fiscal years: 2005/06, 2006/07 and 2007/08. Hospitalization rates for Ontario are for 2006/07.

Summary and Recommendations

The top ranked causes of unintentional injury deaths, potential years of life lost (PYLL), hospitalizations and emergency department visits in Renfrew County and District (RC&D) are shown in the chart below. Transport incidents, falls and poisonings are the three causes of unintentional injuries that are listed at least three times in Figure 29 below.

Figure 29: Top ranked causes of unintentional injury and the average number of deaths, hospitalizations and ED visits/year for each during the 2005/06 – 2007/08 period, RC&D

Rank	Deaths	PYLL	Hospitalizations	ED Visits
1	Transport incidents 11/year	Transport incidents	Falls 597/year	Inanimate mechanical forces 6,069/year
2	Falls 6/year	Poisoning	Transport incidents 118/year	Falls 4,866/year
3	Poisoning 3/year	Burns	Inanimate mechanical forces 69/year	Overexertion/ strenuous or repetitive movement 2,067/year
4	Suffocation/ Drowning/ Burns 1 – 2/year each	Suffocation/ Drowning	Poisoning 29/year	Transport incidents 1285/year

Unintentional injuries are a significant cause of disability and death in our community. Everyone is at risk of being injured every day. In general males, youth, older adults and children are at increased risk of injuries.

Most injuries are predictable and preventable. Local injury prevention efforts should:

- increase the profile of injury prevention as an important issue
- seek to address determinants of health and reduce health inequities relevant to injury prevention
- identify and work with local priority issues and population groups
- continue to collaborate with injury prevention partners
- make decisions that are informed by data in this report, research about best practices in injury prevention, community needs and interests and the political climate
- support and build on national and provincial injury prevention initiatives
- use all three injury prevention strategies (engineering, enforcement and education) and initiatives that complement and build on each other
- assess the impact and effectiveness of efforts

Much good work has been done to prevent unintentional injuries. Further success in reducing injuries can be achieved by continued collaboration and commitment.

Glossary

Age-standardized rates

Age-standardization adjusts or controls for differences in the age distribution of the populations of interest, and provides a summary measure for the comparison of these populations over place and time. Note that this rate is a hypothetical number. For example, the age-standardized mortality rate is the number of deaths that *would* occur if the populations had the same age structure as a standard population. In this report, the standard population is the 1991 Canadian population.

ICD 10 Codes

Term used in report	ICD 10 codes	ICD 10 block name
Transport incidents	V00 – V99	Transport accidents
Pedestrian	V01 – V09	Pedestrian injured in transport accident
Pedal cyclist	V10 – V19	Pedal cyclist injured in transport accident
Motorcycle rider	V20 – V29	Motorcycle rider injured in transport accident
Car occupant	V40 – V49	Car occupant injured in transport accident
Pick-up truck or van occupant	V50 – V59	Occupant of pick-up truck or van injured
Animal rider or occupant of animal-drawn vehicle	V800 – V809	(Part of) Other land transport accidents
Snowmobile	V860, V861, V863, V865, V8651, V866, V8661, V869, V8691	(Part of) Other land transport accidents
ATV/off-road	V8608, V8618, V862, V8638, V864, V8658, V8668, V867, V8698	(Part of) Other land transport accidents
Falls	W00 – W19	Falls
Inanimate mec. forces	W20 – W49	Exposure to inanimate mechanical forces
Animate mec. forces	W50 – W64	Exposure to animate mechanical forces
Drownings	W65 - W74	Accidental drowning and submersion
Suffocations	W75 – W84	Other accidental threats to breathing
Burns	X00 – X09	Exposure to smoke, fire and flames
Burns	X10 – X19	Contact with heat and hot substances
Poisonings	X40 – X49	Accidental poisoning, exposure to noxious substances
Poisonings	X41	Antiepileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drugs not elsewhere classified
Poisonings	X42	Narcotics and psychodysleptics (hallucinogens) not elsewhere classified

Unintentional Injuries in Renfrew County and District

Poisonings	X43	Other drugs acting on the autonomic nervous system
Poisonings	X44	Other and unspecified drugs, medicaments and biological substances
Poisonings	X45	Alcohol
Poisonings	X47	Other gases and vapours
Overexertion etc.	X50 – X57	Overexertion, travel and privation
Exposure to unspecified factor	X59	None
Sequelae of other accidents	Y86	None

IntelliHEALTH Ontario – Ambulatory Visits

The information in the Ambulatory Visits tables is obtained from the National Ambulatory Care Reporting System (NACRS) developed by the Canadian Institute for Health Information (CIHI) and the Ministry of Health and Long-Term Care of Ontario. The system has been in place since July 2000. The NACRS system collects patient level data on visits to a hospital's ambulatory services. (Ambulatory Visits User Guide Version 1.4)

IntelliHEALTH Ontario – Inpatient Discharges

The information for Inpatient Discharges tables was obtained from the Discharge Abstract Database System (DAD) originally developed in 1974 by the Ministry of Health of Ontario and the Hospital Medical Records Institute (HMRI), now known as the Canadian Institute for Health Information (CIHI). As of fiscal year 2006/2007, the only care type remaining in the DAD is acute inpatient plus a few specialized children's institutions offering rehab and mental health services. (Inpatient Discharges User Guide, version 1.6)

IntelliHEALTH Ontario – Vital Statistics

The information in the Vital Statistics tables is obtained from the Office of the Registrar General (ORG), which is part of the Ministry of Government Services of Ontario. The ORG is responsible for registering all live births, still births and deaths for Ontario. This includes:

- All such events that occurred in Ontario
- All such events that occurred out of the province to residents of Ontario

On annual basis, files of all births and deaths are sent to Statistics Canada. Statistics Canada both edits the data and may on occasion add additional records using information not available to the ORG. Once approval of the files has been obtained from the ORG, Statistics Canada sends copies of the edited files for Ontario occurrences only to the Ministry of Health and Long-Term Care. These files are then prepared for loading into the Vital Statistics folder in IntelliHEALTH Ontario. (Vital Statistics User Guide, version 1.3)

References

1. Ontario Ministry of Health and Long-Term Care, *2002 Chief Medical Officer of Health Report Injury: Predictable and Preventable* (Queen's Printer for Ontario, November 2002), p. 4.
2. Ontario Ministry of Health Promotion, *Ontario's Injury Prevention Strategy: Working Together for a Safer, Healthier Ontario* (Queen's Printer for Ontario, 2007), p. 2.
3. Ibid., p. 3.
4. Canadian Institute for Health Information, *How Healthy are Rural Canadians? An Assessment of their Health Status and Health Determinants* (Canadian Institute for Health Information, 2006), p. 99.
5. Ontario Ministry of Health and Long-Term Care, p. 14.
6. Ibid., p. 25.
7. SMARTRISK, *The Economic Burden of Injury in Canada* (Toronto: SMARTRISK, 2009), p.1.
8. Ontario Ministry of Health and Long-Term Care, p. 19.
9. World Health Organization, *International Classification of Diseases and Related Health Problems, Tenth Revision* (1990) Available online at <http://www.who.int/classifications/icd/en/index.html>.
10. intelliHEALTH Ontario, Population Estimates, Extracted December 6, 2009.
11. Minister of Health and Long-Term Care, *Ontario Public Health Standards 2008*, pp. 22–24.
12. Ibid., p. 12.
13. Higher hospitalization rates in RC&D have been observed overall and for chronic diseases such as cancer, ischemic heart disease, arthritis, stroke, depression, diabetes and hypertension. See *Profile of the Champlain Communities of Care – Focus on Renfrew County* by the Champlain Local Health Integration Network, June 2008, pp. 16 and 20.
14. AK Macpherson, M Schull, D Manuel, G Cernat, DA Redelmeier and A Laupacis. *Injuries in Ontario ICES Atlas* (Toronto: Institute for Clinical Evaluative Sciences, 2005) p. 14 -15.

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15. Note that Ministry of Transportation data on road crashes is based on the place of occurrence of the crash, not the residence of the persons injured. Other information in this report (from IntelliHEALTH Ontario) is based on place of residence.
16. Road Safety Program Office, Road Safety Policy and Education Branch, Ministry of Transportation, *Ontario Road Safety Annual Reports, 1993 to 2006* (Place of Collision sections) Available online at:
<http://www.mto.gov.on.ca/english/safety/orsar/index.shtml>
17. Ministry of Transportation, *Vision 2010 Ontario County Ranking 2004*, personal communication with Paul Allore, Regional Planner, East Region, Road Safety Marketing Office, Ontario Ministry of Transportation, November 24, 2009.
18. Canadian Institute for Health Information, p. 104.
19. Road Safety Program Office, Road Safety Policy and Education Branch, Ministry of Transportation, *Ontario Road Safety Annual Report 2005*, pp. 10 – 16.
20. Ibid., p. 18.
21. Road Safety Program Office, Road Safety Policy and Education Branch, Ministry of Transportation, *Ontario Road Safety Annual Report 2006*, p. 7.
22. Ibid., p. 8.
23. AK Macpherson, M Schull, D Manuel, G Cernat, DA Redelmeier and A Laupacis. *Injuries in Ontario ICES Atlas* (Toronto: Institute for Clinical Evaluative Sciences, 2005) p. 6.
24. Ontario Injury Prevention Resource Centre, *Falls Across the Lifespan Evidence-Based Synthesis Document* (Ontario Injury Prevention Resource Centre at SMARTRISK, November 2008), pp. 9 – 13.