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Injuries in Canada: Insights from the Canadian Community Health Survey

by Jean-Michel Billette and Teresa Janz



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Health at a Glance

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by Jean-Michel Billette and Teresa Janz

Highlights

- An estimated 4.27 million Canadians aged 12 or older suffered an injury severe enough to limit their usual activities in 2009-2010. This represents 15% of the population, an increase from 13% in 2001.
- Overall, falls were the leading cause of injury. About 63% of seniors and one-half of adolescents were injured in falls, as were 35% of working-age adults.
- Young people aged 12 to 19 had the highest likelihood of injury. More than one-quarter (27%) of this age group suffered an injury, almost twice the proportion of adults (14%) and three times the proportion of seniors (9%).
- Two out of three (66%) injuries among adolescents were linked to sports. Among working-age adults (20 to 64), sports and work were related to almost half (47%) of injuries. Over half (55%) of seniors' injuries occurred while walking or doing household chores.

Introduction

Injuries affect almost everyone at some point in their life. The severity can range from bumps and scrapes to those requiring medical attention or even causing death. In fact, in 2007, 15,064 people died of injury-related causes (6% of all fatalities). Of these deaths, 24% were suicides, 21% were transport-related deaths, 18% were the result of a fall, 9% were due to poisoning, and 3% were homicides. Injury is the leading cause of death for young people aged 1 to 34¹ and an important cause of hospitalization, impairment and disability for children, young adults and seniors².

Estimates of the economic burden to society that results from both unintentional and intentional injuries amounted to \$19.8 billion in 2004 including direct health-care costs and indirect costs arising from reduced productivity due to hospitalization, disability and premature death³.

This article explores injuries among Canadians aged 12 or older living in households, using the Canadian Community Health Survey (CCHS). Two years of data were combined in order to produce an average annual estimate for 2009-2010. The three age groups examined are adolescents aged 12 to 19, working-age adults aged 20 to 64, and seniors aged 65 or older, because each of these age groups has different injury experiences. The estimates in this article are based on data for the single most serious **activity-limiting injury** reported

in the past year, so they do not reflect *all* injuries. Injuries causing death or institutionalization were also not included. Nevertheless, the CCHS is a unique source of data on the nature and context of injuries among Canadians.

An activity-limiting injury is the result of an incident that occurred in the past 12 months that was severe enough to limit normal daily activities for at least one day—for example, a broken bone, a sprain, a bad cut, a burn or a poisoning. It is not possible to distinguish between unintentional and intentional injuries because the question was not asked on the survey.

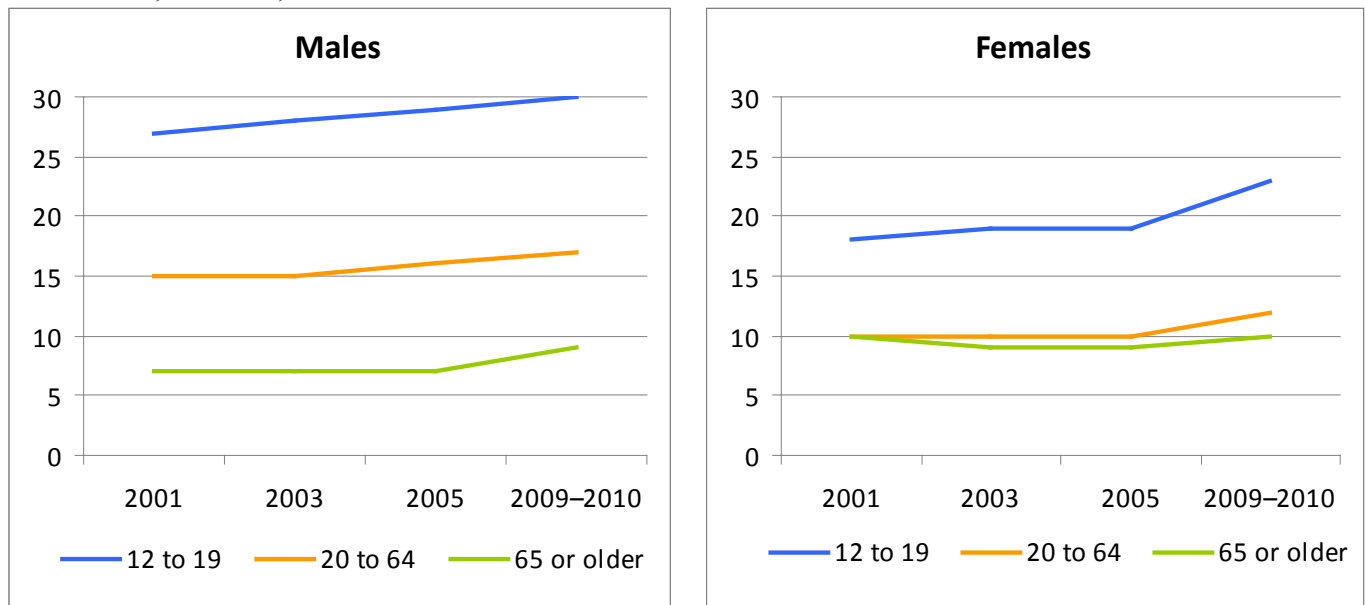
Who is most at risk of injury?

An estimated 4.27 million Canadians aged 12 or older suffered an injury severe enough to limit their usual activities in 2009–2010 (Appendix 1). This represents 15% of the population in this age range, up from 13% in 2001. A closer look at the injury trends in Chart 1 reveals different patterns related to age and sex. Overall, young people aged 12 to 19 had the highest likelihood of injury (27%) - twice as high as all other

age groups (13%). Adolescents have experienced an increase in injuries over the past decade, especially among girls (from 18% to 23%).

Although males, in general, were more likely than females to be injured, young males (aged 12 to 19) were most at risk (30%). Likewise for females, it was the youngest age group (12 to 19) who were most likely to be injured (23%).

Chart 1 Percentage injured in previous year by sex and age group, household population aged 12 or older, Canada, 2001 to 2010



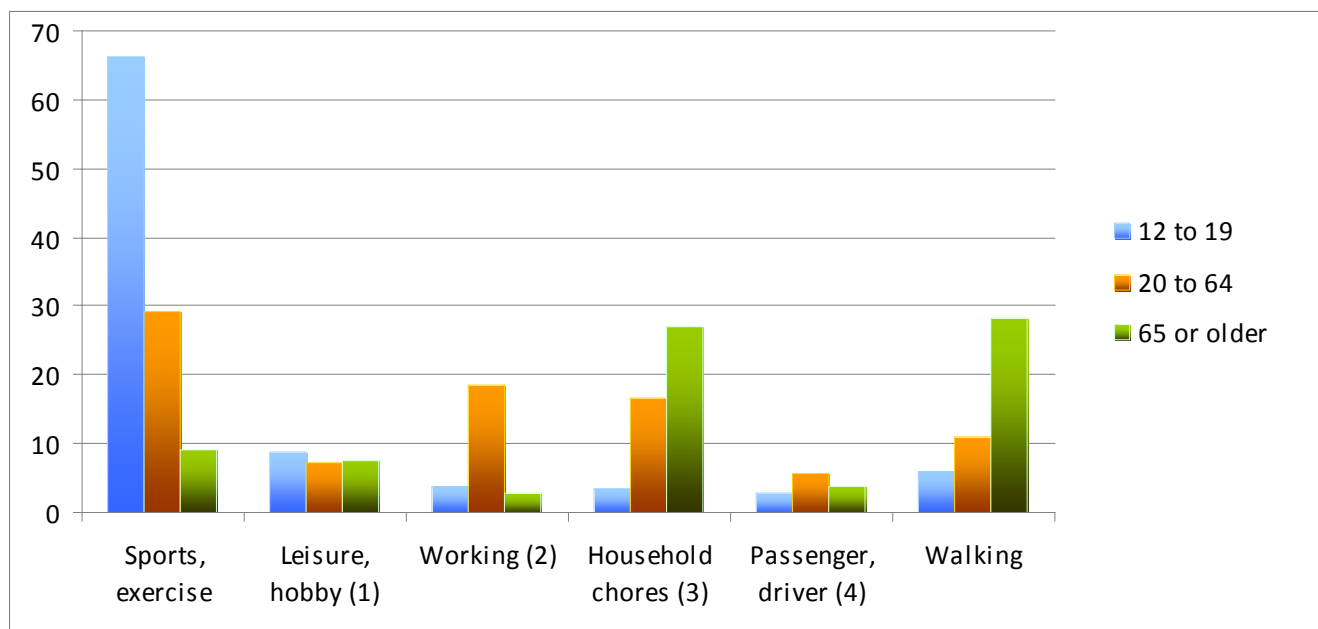
Source: Statistics Canada, Canadian Community Health Survey, Cycles 1.1, 2.1, 3.1, and Annual Component, 2009-2010 combined.

Where do injuries happen?

In Canada, 35% of injuries occurred during participation in some type of sports or exercise. Two-thirds (66%) of injuries among young

people (aged 12 to 19) were related to sports. This was more than twice as high as working-age adults (29%) and about seven times higher than seniors (9%) (Chart 2 and Appendix 2).

Chart 2 Activity when injured, by age group, household population aged 12 or older, Canada, 2009-2010



1. Includes volunteering.
2. Working at a paid job or business.
3. Unpaid work at home, including gardening, home renovations and other unpaid work.
4. Excludes cyclists and pedestrians involved in motor vehicle traffic collisions.

Source: Statistics Canada. Canadian Community Health Survey – Annual Component. 2009-2010 combined.

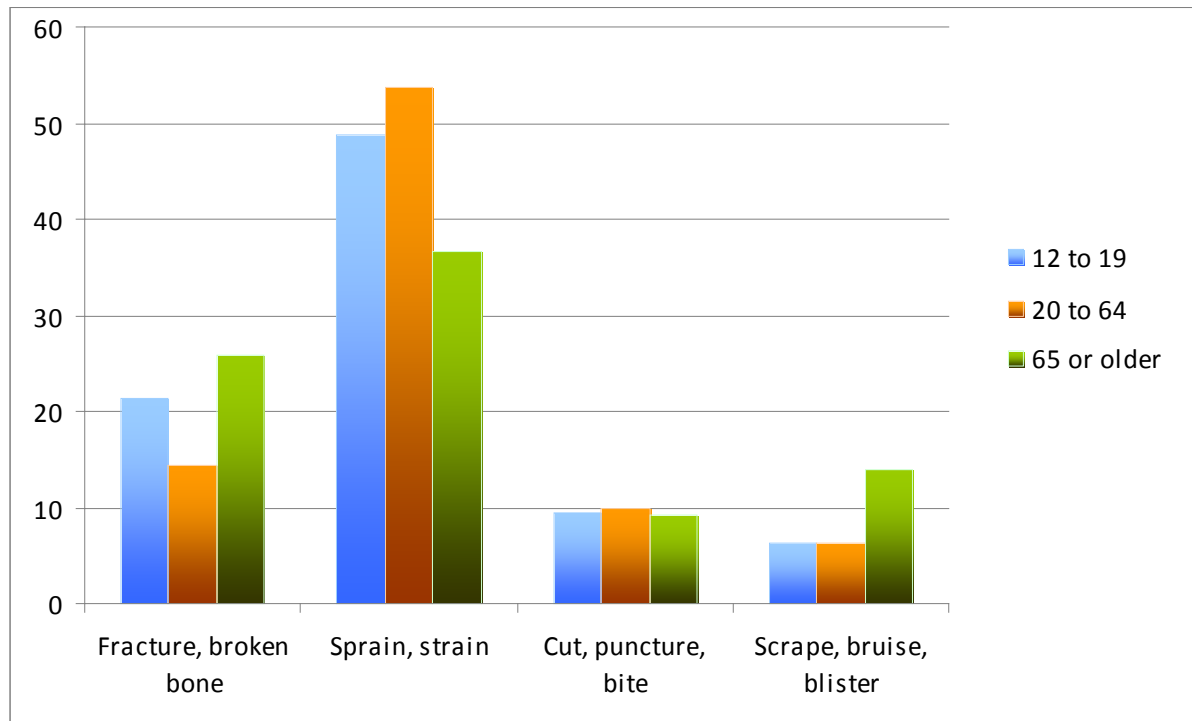
For seniors, everyday activities like household chores (27%) and walking (28%) accounted for over half of their injuries. Not surprisingly, work injuries were highest in the population of working-age adults, accounting for about 18% of all their injuries. Other research has found that one-third of all on-the-job injuries occurred among workers in trades, transport and equipment operation⁴.

Injuries that resulted from being a driver or passenger in a motor vehicle represented about 5% of all injuries. This estimate, however, does not take into account individuals who died or were institutionalized as a consequence of the injury.

What types of injuries do people have?

Sprains and strains were, by far, the most common type of injury (51%), followed by fractures and broken bones (17%) (Chart 3 and Appendix 3). For some types of injuries, there were clear differences according to age. Scrapes, bruises and blisters represent 14% of all injuries among seniors, double what was reported among those aged 12 to 64 (6%). About 26% of seniors and 21% of adolescents sustained fractures and broken bones, compared with 14% of working-age adults.

Chart 3 Type of injury, by age group, household population aged 12 or older, Canada, 2009-2010



Source: Canadian Community Health Survey - Annual component, 2009-2010 combined.

The most commonly injured body part among young people (aged 12 to 19) was their feet or ankles (33%). This was more than double the proportion reported by seniors (14%). A similar pattern occurred for injured wrists or hands, which accounted for 22% of injuries in adolescents compared to 14% for seniors (see Box 1 - Protective equipment use). In contrast, injuries of the upper body (e.g., shoulders, elbows and arms) accounted for 18% of injuries for seniors, compared with 11% in adolescents. Lower-back injuries were more common among working-age adults (16%) than among seniors (11%) and adolescents (5%) (Appendix 4).

Although head injuries occur relatively less often, they are noteworthy because they may have serious consequences. In 2009-2010, an estimated 98,440 people, 2.4% of the population aged 12 and over, sustained a head injury. Of those, 57% (55,910) were working-age adults, 23% (22,720) were adolescents, and 20% (19,810) were seniors (Appendix 4).

Protective equipment use - Less than half of Canadians who participated in sports, such as cycling, in-line skating, snow-sports and skateboarding, reported that they always wore a helmet. A closer look indicates that for certain sports, like downhill skiing and snowboarding, adolescents were more likely to wear a helmet. That is, over three out of five adolescents wore a helmet for downhill skiing or snowboarding, compared with about two out of five in other age groups. Adolescents were less likely (31%) to report always wearing a helmet while biking, compared with adults (38%) and seniors (39%). Even though 22% of injured adolescents reported a wrist or hand injury, less than one in ten reported always wearing wrist guards when practicing in-line skating, snowboarding or skateboarding.

What are the consequences of injuries?

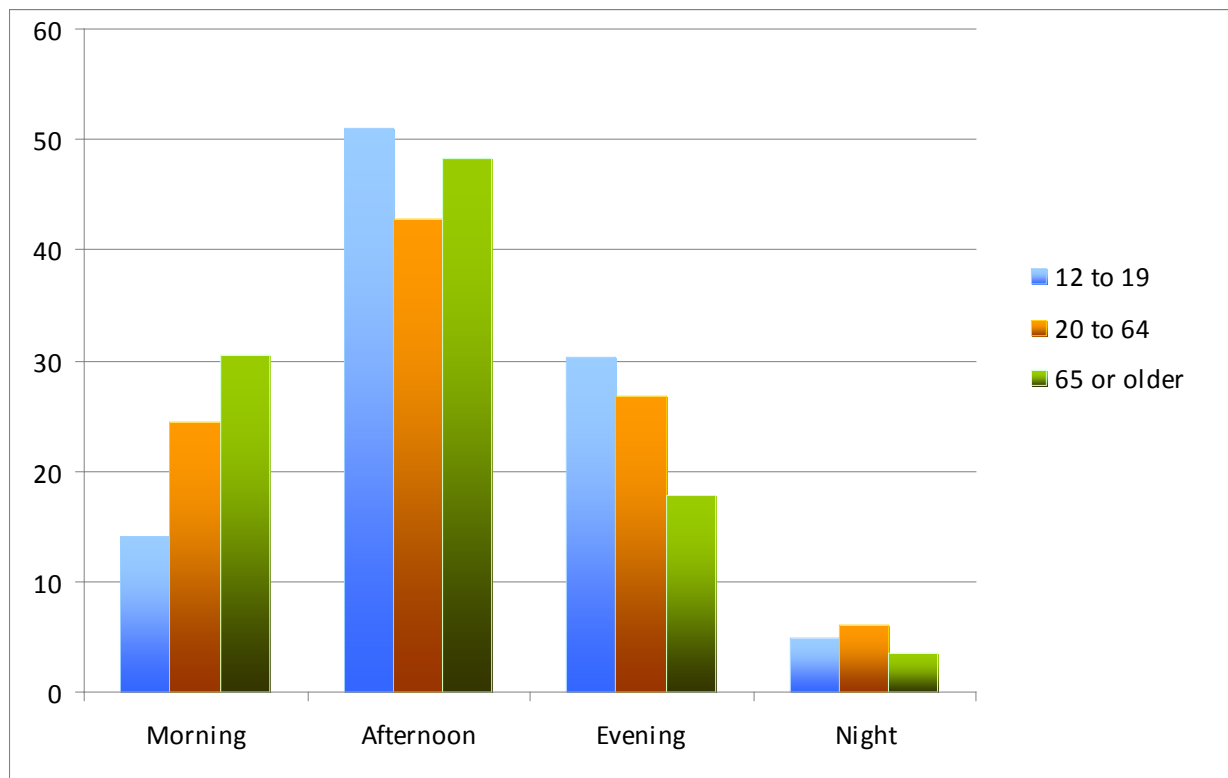
About 2.29 million Canadians sought medical treatment within 48 hours of their injury in 2009-2010 (Appendix 5). This represents 54% of the injured population aged 12 and older, down from 64% in 2001. Just over half of these people went to a hospital emergency room, about one in six (17%) consulted their doctor, 13% went to a clinic, and 17% sought other types of treatment (e.g., physiotherapist, massage therapist or chiropractor). About 6% of those who needed treatment were admitted to the hospital overnight. Eighteen percent were still receiving follow-up care at the time of interview. This percentage ranges from 9% (adolescents) to 25% (seniors).

When are people more likely to be injured?

The likelihood of injury changed with the season and was slightly higher in the summer, when 30% of

all injuries occurred. People also reported that 25% of their most serious injuries occurred in winter, 23% in spring, and 22% in fall (Appendix 6). Injury risk varied over the course of the day. Nearly half of the injuries occurred in the afternoon (from noon to 6:00 p.m.). The second-most common time of day when people were injured varied by age group. Among seniors, nearly one third of injuries (31%) occurred in the morning from 6:00 a.m. to noon, compared with 14% for adolescents. In contrast, a different pattern emerged in the evening (from 6:00 p.m. to midnight), when 30% of adolescent injuries occurred, compared with 18% of seniors' injuries (Chart 4 and Appendix 7).

Chart 4 Time of day when injured, by age group, household population aged 12 or older, Canada, 2009-2010



Source: Statistics Canada. Canadian Community Health Survey – Annual Component. 2009-2010 combined.

Why do injuries occur?

The main causes of injuries were falls and overexertion (Chart 5). This is noteworthy since falls are the most common cause of injury hospitalizations in Canada⁵. While about half (50%) of injuries among adolescents resulted from a fall, this proportion was even higher among seniors (63%). Injuries that occurred during sports activities were mainly caused by falls. Sports accounted for three in five falls among adolescents.

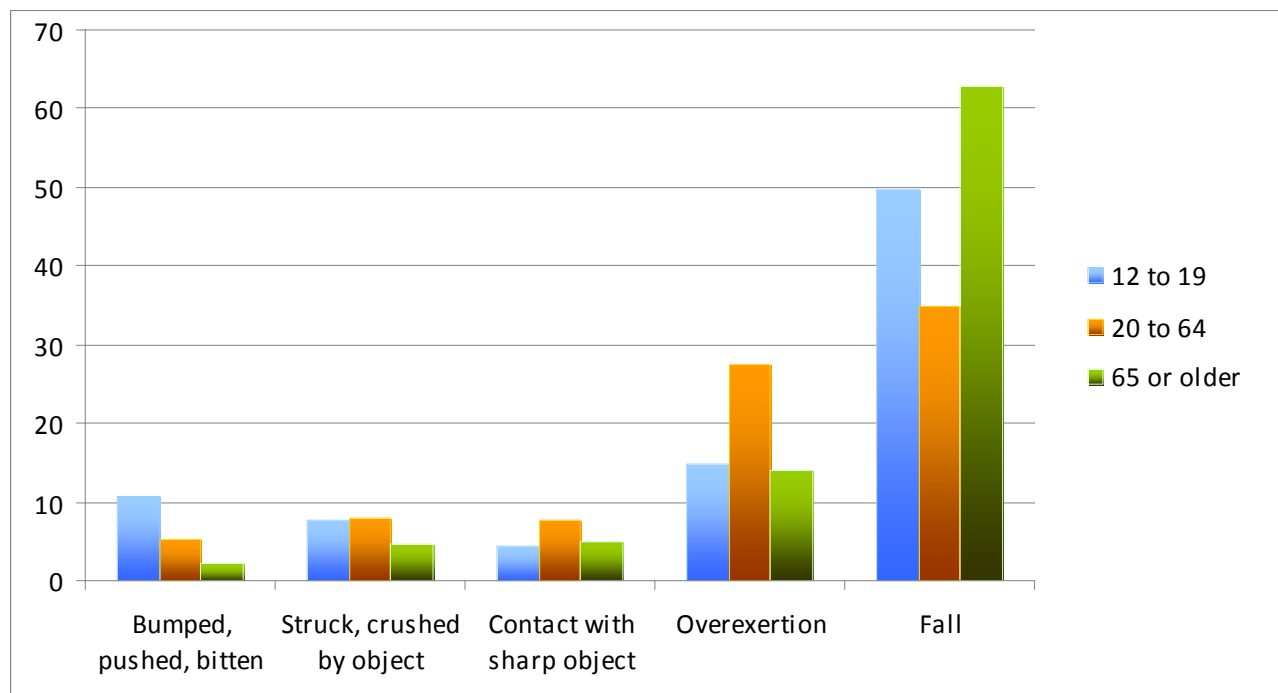
Falls in seniors, on the other hand, were more often the result of tripping or stumbling while walking or doing household chores (see Box 2 - Seniors and falls). Injuries caused by overexertion or strenuous movements were almost twice as frequent in working-age adults (27%) as in seniors (14%) and adolescents (15%) (Appendix 8).

Seniors and falls - Falls are of important concern for the elderly population because they can have serious consequences: injury, disability, hospitalization and even death. For example, a 2005 report from the Public Health Agency of Canada⁶ noted that 20% of seniors with hip injuries die within a year of the fracture.

Most injuries for seniors are the direct consequence of tripping or stumbling (60%). In seniors aged 65 to 79, such falls occur most often outdoors (53%). For seniors 80 and older these types of falls are more likely to occur indoors (63%) than outdoors (37%) (2009 CCHS – Healthy Aging).

Falls among seniors are also related to stair accidents (13%) and health problems like dizziness, seizures, weakness or knees that “give out” (8%).

Chart 5 Causes of injury, by age group, household population aged 12 or older, Canada, 2009–2010



Source: Statistics Canada. Canadian Community Health Survey – Annual Component. 2009-2010 combined.

Summary

Injuries represent an important public health issue for Canadians of all ages. Most of the trends described in this article are consistent with findings from the 2001 CCHS^{7,8}. The most important note is that the injury context is strongly related to age. For instance, adolescent males are the group injured most often, and these injuries occur mainly while participating in sports. Overexertion is an important

cause of injury in the working-age population and seniors are injured most often from falls while doing household chores or walking.



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Appendix 1 Number and percentage who sustained at least one activity limiting injury during the past 12 months, population aged 12 and over, Canada, 2009-2010

	Total				Males				Females			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Total	4,272	14.9	14.6	15.2	2,414	17.1	16.5	17.6	1,859	12.8	12.4	13.2
age 12-19	890	26.5	25.5	27.6	522	30.4	28.8	32.0	368	22.5	21.1	23.8
age 20-64	2,961	14.2	13.8	14.6	1,717	16.5	15.9	17.1	1,244	11.9	11.4	12.4
age 65+	421	9.5	8.9	10.0	175	8.7	7.9	9.4	247	10.1	9.3	10.9
Newfoundland and Labrador	61	13.8	12.2	15.4	35	16.0	13.4	18.7	27	11.6	9.7	13.6
Prince Edward Island	14	11.7	9.7	13.7	7	11.6	9.0	14.3	7	11.8	9.3	14.3
Nova Scotia	121	15.0	13.5	16.5	63	16.3	14.1	18.6	58	13.8	12.0	15.5
New Brunswick	90	14.0	12.8	15.3	48	15.4	13.5	17.3	42	12.7	11.1	14.4
Quebec	938	14.0	13.2	14.7	549	16.6	15.4	17.8	389	11.4	10.4	12.4
Ontario	1,600	14.3	13.8	14.8	904	16.5	15.7	17.3	696	12.2	11.5	12.9
Manitoba	162	16.6	14.9	18.2	88	18.2	15.9	20.5	74	14.9	13.0	16.9
Saskatchewan	134	16.3	15.1	17.6	71	17.4	15.6	19.3	63	15.2	13.5	17.0
Alberta	509	16.8	15.6	17.9	288	18.6	16.8	20.4	222	14.9	13.5	16.3
British Columbia	631	16.3	15.5	17.1	354	18.6	17.3	19.9	276	14.1	13.1	15.1
Yukon	5	16.6	13.4	19.8	3	18.4	14.8	22.0	2	14.7	10.2	19.2
Northwest Territories	5	14.2	11.3	17.1	3	14.6	11.2	18.1	2	13.8	9.6	17.9
Nunavut	3	16.8	11.9	21.8	2	20.9 ^E	13.3	28.5	1	12.6 ^E	7.3	18.0
^E use with caution												
Source: Statistics Canada. Canadian Community Health Survey - Annual Component, 2009-2010 combined.												

Appendix 2 Activity when the most serious injury occurred, among people who sustained at least one activity-limiting injury during the past 12 months, population aged 12 and over, Canada, 2009-2010

	Total				Males				Females			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Sports, physical exercise	1,470	34.9	33.7	36.1	965	40.4	38.8	42.1	505	27.7	26.1	29.2
Household chores	627	14.9	14.0	15.8	343	14.4	13.2	15.6	284	15.6	14.4	16.8
Working at a job or business	578	13.7	12.9	14.5	414	17.4	16.1	18.6	164	9.0	8.1	9.9
Walking	490	11.6	10.8	12.4	167	7.0	6.1	7.9	323	17.7	16.4	19.0
Leisure or hobby	320	7.6	7.0	8.2	187	7.8	6.9	8.8	133	7.3	6.5	8.1
Driver or passenger in on-road or off-road motor vehicle	207	4.9	4.4	5.4	93	3.9	3.3	4.5	113	6.2	5.3	7.1
Going up, down stairs	166	3.9	3.5	4.4	53	2.2	1.7	2.8	113	6.2	5.4	7.0
Sleeping, eating, personal care	123	2.9	2.5	3.3	55	2.3	1.8	2.8	68	3.8	3.1	4.4
Other	231	5.5	5.0	6.0	110	4.6	4.0	5.2	122	6.7	5.8	7.6

Source: Statistics Canada. Canadian Community Health Survey - Annual Component. 2009-2010 combined.

	Age 12 to 19 years				Age 20 to 64 years				Age 65 years or older			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Sports, physical exercise	583	66.1	64.0	68.3	849	29.1	27.7	30.6	37	9.0	7.1	10.9
Household chores	31	3.5	2.6	4.4	484	16.6	15.4	17.8	112	27.1	24.5	29.7
Working at a job or business	34	3.8	3.1	4.6	532	18.3	17.1	19.4	12	2.9	2.0	3.7
Walking	52	5.9	4.7	7.0	322	11.0	10.1	12.0	116	28.2	25.0	31.4
Leisure or hobby	78	8.8	7.6	10.0	211	7.2	6.5	8.0	31	7.5	5.9	9.2
Driver or passenger in on-road or off-road motor vehicle	23	2.7	2.0	3.3	167	5.7	5.1	6.4	16	3.8	2.9	4.7
Going up, down stairs	22	2.5	1.8	3.2	114	3.9	3.3	4.5	30	7.3	5.9	8.7
Sleeping, eating, personal care	13	1.4	1.0	1.9	84	2.9	2.4	3.4	27	6.4	5.0	7.9
Other	47	5.3	4.1	6.5	153	5.2	4.7	5.8	32	7.8	5.8	9.8

Source: Statistics Canada. Canadian Community Health Survey - Annual Component. 2009-2010 combined.

Appendix 3 Type of most serious injury among people who sustained at least one activity-limiting injury during the past 12 months, population aged 12 and over, Canada, 2009-2010

	Total				Males				Females			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Sprain or strain	2,165	51.1	49.8	52.3	1,210	50.5	48.8	52.2	955	51.8	50.0	53.6
Broken or fractured bones	717	16.9	16.0	17.8	379	15.8	14.6	17.0	338	18.3	17.1	19.6
Cut, puncture, animal bite	408	9.6	8.9	10.3	280	11.7	10.6	12.8	128	7.0	6.1	7.8
Scrape, bruise, blister	301	7.1	6.5	7.8	157	6.6	5.7	7.4	144	7.8	6.9	8.8
Dislocation	143	3.4	2.9	3.8	93	3.9	3.2	4.6	50	2.7	2.2	3.2
Burn, scald, chemical burn	127	3.0	2.6	3.4	61	2.5	2.1	3.0	67	3.6	3.0	4.3
Concussion, other brain injuries	94	2.2	1.8	2.6	58	2.4	1.9	3.0	36	2.0	1.5	2.4
Multiple injuries	50	1.2	0.9	1.4	26	1.1	0.8	1.4	24	1.3	0.9	1.7
Other	235	5.6	5.1	6.0	134	5.6	4.9	6.2	102	5.5	4.8	6.2

Source: Statistics Canada. Canadian Community Health Survey - Annual Component. 2009-2010 combined.

	Age 12 to 19 years				Age 20 to 64 years				Age 65 years or older			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Sprain or strain	431	48.8	46.4	51.1	1,582	53.8	52.2	55.4	153	36.6	33.5	39.7
Broken or fractured bones	188	21.4	19.4	23.4	420	14.3	13.2	15.3	108	25.9	23.4	28.4
Cut, puncture, animal bite	84	9.5	8.1	10.9	286	9.7	8.8	10.7	39	9.3	7.7	10.9
Scrape, bruise, blister	56	6.4	5.3	7.5	186	6.3	5.5	7.2	59	14.0	11.9	16.2
Dislocation	25	2.8	2.1	3.6	104	3.6	3.0	4.1	14	3.3 ^E	2.1	4.6
Burn, scald, chemical burn	35	4.0	3.1	4.9	84	2.9	2.4	3.3	8	1.9 ^E	0.7	3.1
Concussion, other brain injuries	29	3.3	2.5	4.0	60	2.1	1.6	2.6	5	1.1 ^E	0.8	1.5
Multiple injuries	6	0.7 ^E	0.3	1.1	36	1.2	0.9	1.5	8	1.9 ^E	1.2	2.7
Other	29	3.3	2.5	4.0	182	6.2	5.5	6.8	25	5.9	4.7	7.2

^E use with caution

Source: Statistics Canada. Canadian Community Health Survey - Annual Component. 2009-2010 combined.

Appendix 4 Part of body affected by the most serious injury, among people who sustained at least one activity-limiting injury during the past 12 months, population aged 12 and over, Canada, 2009-2010

	Total			Males				Females				
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Ankle, foot	942	22.8	21.8	23.8	477	20.5	19.1	21.9	465	25.8	24.2	27.3
Wrist, hand	714	17.3	16.3	18.2	447	19.2	17.8	20.6	267	14.8	13.6	16.0
Knee, lower leg	619	15.0	14.1	15.9	335	14.4	13.2	15.6	284	15.7	14.5	17.0
Lower back or lower spine	548	13.3	12.4	14.1	315	13.5	12.4	14.7	233	12.9	11.6	14.1
Shoulder, elbow, arm	544	13.2	12.3	14.0	325	14.0	12.7	15.2	219	12.1	10.9	13.4
Head	98	2.4	2.1	2.7	61	2.6	2.1	3.1	37	2.1	1.6	2.5
Other	669	16.2	15.3	17.0	368	15.8	14.6	17.0	301	16.7	15.4	17.9

Source: Statistics Canada. Canadian Community Health Survey - Annual Component. 2009-2010 combined.

	Age 12 to 19 years				Age 20 to 64 years				Age 65 years or older			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Ankle, foot	281	33.0	30.6	35.4	605	21.1	19.8	22.4	56	13.6	11.6	15.6
Wrist, hand	187	22.0	20.0	23.9	469	16.3	15.2	17.5	59	14.3	12.1	16.5
Knee, lower leg	128	15.0	13.4	16.7	431	15.0	13.9	16.1	60	14.7	12.6	16.7
Lower back or lower spine	44	5.2	4.2	6.2	457	15.9	14.8	17.0	47	11.3	9.1	13.6
Shoulder, elbow, arm	93	10.9	9.4	12.4	376	13.1	12.0	14.2	75	18.3	15.7	20.8
Head	23	2.7	1.9	3.4	56	2.0	1.6	2.3	20	4.8	3.5	6.1
Other	96	11.3	9.8	12.7	478	16.7	15.6	17.7	95	23.1	20.7	25.5

Source: Statistics Canada. Canadian Community Health Survey - Annual Component. 2009-2010 combined.

Appendix 5 Type of treatment received, among people who sustained at least one activity-limiting injury during the past 12 months and who received treatment within 48 hours of the most serious activity-limiting injury, population aged 12 and over, Canada, 2009-2010

	Total				Males				Females			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Received treatment within 48 hours	2,290	53.9	52.8	55.1	1,259	52.5	50.9	54.1	1,031	55.8	54.1	57.5
In a doctor's office	381	16.7	15.5	17.9	192	15.3	13.7	16.8	189	18.3	16.5	20.2
In a hospital emergency room	1,241	54.2	52.6	55.9	705	56.0	53.6	58.3	536	52.1	49.8	54.4
As hospital outpatient	85	3.7	3.1	4.3	42	3.4	2.6	4.1	42	4.1	3.1	5.1
In another clinic (e.g. walk-in, appointment, sports)	291	12.7	11.6	13.8	159	12.6	11.2	14.1	132	12.9	11.2	14.5
In physiotherapist or massage therapist office	73	3.2	2.5	3.9	46	3.6	2.6	4.6	28	2.7	2.0	3.4
In a chiropractor's office	99	4.3	3.7	5.0	52	4.2	3.3	5.0	47	4.6	3.6	5.6
Where the injury happened	76	3.3	2.7	3.9	47	3.8	2.9	4.6	28	2.8	2.0	3.6
In another location	135	5.9	5.0	6.8	66	5.3	4.1	6.4	69	6.7	5.3	8.0

Source: Statistics Canada. Canadian Community Health Survey - Annual Component, 2009-2010 combined.

	Age 12 to 19 years				Age 20 to 64 years				Age 65 years or older			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Received treatment within 48 hours	479	54.2	51.9	56.5	1,562	53.1	51.6	54.5	249	59.4	56.4	62.4
In a doctor's office	61	12.7	10.6	14.7	276	17.7	16.2	19.1	45	18.2	13.9	22.4
In a hospital emergency room	279	58.2	54.9	61.5	807	51.7	49.6	53.8	155	62.3	58.0	66.6
As hospital outpatient	20	4.1 ^E	2.7	5.5	56	3.6	2.8	4.4	9	3.7 ^E	2.4	4.9
In another clinic (e.g. walk-in, appointment, sports)	52	10.9	8.7	13.1	212	13.6	12.2	15.0	27	10.8	8.3	13.2
In physiotherapist or massage therapist office	10	2.0 ^E	1.2	2.9	61	3.9	3.0	4.8	3	1.1 ^E	0.6	1.6
In a chiropractor's office	7	1.5 ^E	0.9	2.0	87	5.6	4.7	6.5	6	2.3 ^E	1.2	3.4
Where the injury happened	28	5.9	4.4	7.4	44	2.8	2.1	3.5	4	1.6 ^E	0.7	2.4
In another location	37	7.8	5.8	9.8	85	5.5	4.4	6.5	12	4.8 ^E	2.7	7.0

^E use with caution

Source: Statistics Canada. Canadian Community Health Survey - Annual Component, 2009-2010 combined.

Appendix 6 Season during which the most serious activity-limiting injury occurred, among people who sustained at least one activity-limiting injury during the past 12 months, population aged 12 and over, Canada, 2009-2010

	Total			Males				Females				
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Spring (March, April, May)	959	23.1	22.1	24.2	532	22.8	21.4	24.2	427	23.6	22.1	25.2
Summer (June, July, August)	1,231	29.7	28.6	30.9	716	30.6	29.0	32.3	515	28.5	26.9	30.2
Fall (September, October, November)	910	22.0	21.0	22.9	516	22.1	20.8	23.4	394	21.8	20.4	23.3
Winter (December, January, February)	1,043	25.2	24.1	26.3	574	24.6	23.1	26.1	469	26.0	24.5	27.5

Source: Statistics Canada. Canadian Community Health Survey - Annual Component. 2009-2010 combined.

	Age 12 to 19 years				Age 20 to 64 years				Age 65 years or older			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Spring (March, April, May)	211	24.7	22.7	26.7	656	22.8	21.5	24.1	92	22.5	20.1	24.8
Summer (June, July, August)	250	29.3	27.0	31.5	860	29.9	28.4	31.4	120	29.5	26.6	32.3
Fall (September, October, November)	188	22.0	20.1	23.9	639	22.2	21.0	23.4	83	20.2	18.1	22.4
Winter (December, January, February)	206	24.1	21.9	26.2	724	25.1	23.8	26.5	114	27.9	24.7	31.0

Source: Statistics Canada. Canadian Community Health Survey - Annual Component. 2009-2010 combined.

Appendix 7 Time of day during which the most serious activity-limiting injury occurred, among people who sustained at least one activity-limiting injury during the past 12 months, population aged 12 and over, Canada, 2009-2010

	Total			Males				Females				
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Morning (6:00-11:59)	950	22.9	21.9	23.9	495	21.1	19.7	22.4	456	25.3	23.8	26.8
Afternoon (12:00-5:59)	1,870	45.1	43.8	46.3	1,078	45.9	44.2	47.6	792	44.0	42.3	45.8
Evening (18:00-23:59)	1,099	26.5	25.4	27.6	635	27.0	25.5	28.6	464	25.8	24.3	27.3
Night (00:00-5:59)	230	5.5	5.0	6.1	142	6.0	5.2	6.9	88	4.9	4.2	5.6

Source: Statistics Canada. Canadian Community Health Survey - Annual Component, 2009-2010 combined.

	Age 12 to 19 years				Age 20 to 64 years				Age 65 years or older			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Morning (6:00-11:59)	122	14.0	12.2	15.8	704	24.5	23.2	25.8	124	30.5	28.0	33.1
Afternoon (12:00-5:59)	445	51.0	48.5	53.4	1,229	42.8	41.3	44.4	196	48.2	45.1	51.4
Evening (18:00-23:59)	264	30.2	27.9	32.6	763	26.6	25.2	28.0	72	17.7	15.3	20.0
Night (00:00-5:59)	42	4.8	3.9	5.7	173	6.0	5.3	6.8	15	3.6	2.7	4.4

Source: Statistics Canada. Canadian Community Health Survey - Annual Component, 2009-2010 combined.

Appendix 8 Cause of the most serious injury, among people who sustained at least one activity-limiting injury during the past 12 months, population aged 12 and over, Canada, 2009-2010

	Total			Males				Females				
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Fall	1,714	40.9	39.7	42.0	873	36.7	35.1	38.4	841	46.2	44.5	47.9
Overexertion or strenuous movement	983	23.4	22.4	24.5	595	25.0	23.7	26.4	388	21.3	19.9	22.8
Struck or crushed by object(s)	316	7.5	6.9	8.2	197	8.3	7.4	9.2	120	6.6	5.7	7.5
Contact with sharp object, tool or machine	282	6.7	6.1	7.4	209	8.8	7.8	9.8	73	4.0	3.4	4.7
Bumped, pushed, bitten	252	6.0	5.4	6.6	172	7.3	6.4	8.2	79	4.4	3.7	5.0
Transportation accident	160	3.8	3.4	4.3	65	2.7	2.2	3.3	95	5.2	4.5	6.0
Other	488	11.6	10.9	12.4	265	11.1	10.2	12.1	223	12.3	11.1	13.4

Source: Statistics Canada. Canadian Community Health Survey - Annual Component. 2009-2010 combined.

	Age 12 to 19 years				Age 20 to 64 years				Age 65 years or older			
	Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval		Number '000	Rate	95% confidence interval	
			Low	High			Low	High			Low	High
Fall	437	49.7	47.4	52.0	1,019	35.1	33.5	36.6	258	62.9	59.8	65.9
Overexertion or strenuous movement	130	14.8	13.2	16.4	796	27.4	26.0	28.8	57	13.9	12.0	15.8
Struck or crushed by object(s)	67	7.6	6.4	8.8	230	7.9	7.1	8.7	20	4.8	3.7	5.9
Contact with sharp object, tool or machine	40	4.5	3.5	5.5	222	7.7	6.8	8.5	20	4.9	3.8	6.1
Bumped, pushed, bitten	93	10.6	9.1	12.0	150	5.2	4.4	5.9	9	2.2 ^E	1.4	3.1
Transportation accident	19	2.1	1.5	2.8	131	4.5	3.9	5.1	10	2.5	1.7	3.3
Other	94	10.7	9.2	12.3	357	12.3	11.4	13.2	36	8.8	7.0	10.7

^E use with caution

Source: Statistics Canada. Canadian Community Health Survey - Annual Component. 2009-2010 combined.