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National Trauma Registry Bulletin August 2001

Comparisons of Trauma Hospitalizations Across Canada, 1998/99

Introduction

This bulletin provides an analysis of trends in trauma hospitalizations in provinces and territories across Canada. The source of data is the National Trauma Registry's Minimal Data Set, which is a subset of CIHI's Hospital Morbidity Database. This dataset contains information on all trauma hospitalizations in all acute care hospitals in Canada. This bulletin presents 1998/99 data downloaded as of February 1, 2001.

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Definitions

NTR reports on trauma based on selected International Classification of Diseases (ICD) External Causes of Injury Codes (E Codes) which describe injury resulting from the transfer of energy. A list of specific E codes organized by E code summary groupings is provided in Appendix C.

Overall Trends

There were 1,043,186 trauma hospitalizations in acute care hospitals across Canada between 1994/95 and 1998/99. Since 1994/95, most provinces have experienced a decrease in trauma hospitalizations, with the number of these hospitalizations decreasing by 12% for Canada overall. The greatest change in trauma hospitalizations was seen in Newfoundland, where the number of hospitalizations decreased by 22% from 1994/95 to 1998/99. Ontario experienced the highest number of trauma hospitalizations with a total of 338,409 cases from 1994/95 to 1998/99, 32% of Canada's trauma hospitalizations in that period. Quebec accounted for 21% of Canada's trauma hospitalizations, with a total of 217,600 cases between 1994/95 and 1998/99.

Table 1: Trauma Hospitalizations, By Province/Territory, By Year 1994/95-1998/99

	1994/95	1995/96	1996/97	1997/98	1998/99	% Change 1994/95 to 1998/99
Newfoundland	4,335	3,698	3,604	3,568	3,371	-22
P.E.I	891	831	856	746	975	9
Nova Scotia	6,326	5,975	5,609	5,511	5,240	-17
New Brunswick	6,289	6,297	6,562	6,453	6,240	-1
Quebec	46,474	45,113	42,753	43,364	39,896	-14
Ontario	72,094	71,091	68,031	64,810	62,383	-13
Manitoba	10,679	10,313	10,053	10,064	10,187	-5
Saskatchewan	11,430	11,301	10,736	10,921	10,704	-6
Alberta	26,593	24,396	23,738	24,006	23,237	-13
British Columbia	35,285	35,033	34,286	34,297	31,991	-9
Yukon	239	273	311	246	260	9
Northwest Territories	678	692	608	611	632	-7
TOTAL	221,313	215,013	207,147	204,597	195,116	-12

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Between 1994/95 and 1998/99 the trauma hospitalization rate has decreased from 76.9 to 62.0 per 10,000 population (19% decrease). The largest decreases were in Newfoundland, Nova Scotia, and Ontario (23% decrease in each of these provinces).

Table 2: Unadjusted Trauma Hospitalization Rate Per 10,000* Population, By Year, By Province/Territory

	1994/95	1995/96	1996/97	1997/98	1998/99	% Change 1994/95 to 1998/99
Newfoundland	79.2	67.7	66.1	65.7	60.9	-23
PEI	63.3	58.8	59.2	51.5	66.0	4
Nova Scotia	66.8	62.7	57.8	55.9	51.3	-23
New Brunswick	83.0	82.7	85.2	83.4	78.7	-5
Quebec	65.8	63.2	59.1	59.2	52.7	-20
Ontario	67.5	65.4	61.1	57.1	52.2	-23
Manitoba	90.8	87.1	83.7	83.3	82.2	-9
Saskatchewan	106.6	104.8	97.9	99.6	96.2	-10
Alberta	104.1	94.3	89.9	88.3	81.1	-22
British Columbia	94.7	91.5	86.8	84.9	76.7	-19
Territories	116.1	124.7	115.1	113	116.5	0.3
National	76.9	73.7	69.6	67.6	62	-19

* Population based on Census totals and population estimates from Statistics Canada

Age Characteristics for Trauma Hospitalizations

In 1998/99, the mean age of trauma hospitalizations in Canada was 49 years. Overall, the highest number of trauma hospitalizations was found in the 75-84 age group, which accounted for 15% of all Canadian trauma hospitalizations for 1998/99. Following the 75-84 age group was the 35-44 age group with 23,290 trauma hospitalizations, and the 25-34 age group with 21,303 trauma hospitalizations for all of Canada in 1998/99. The 85+ age group had the highest trauma hospitalization rate of all age groups.

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Table 3: Age-Specific Hospitalization Rate per 10,000 Pop. and Number of Trauma Hospitalizations By Age Group, By Province, 1998/99

	< 1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85 +
NF	40.2 (21)	46 (102)	46 (153)	57 (219)	67 (280)	49 (197)	44 (353)	45 (408)	52 (417)	64 (303)	83 (291)	193 (406)	360 (221)
PE	31 (5)	29 (20)	42 (41)	36 (36)	65 (65)	54 (50)	54 (103)	45 (96)	42 (78)	60 (72)	114 (106)	281 (172)	573 (131)
NS	23 (23)	23 (101)	33 (203)	39 (244)	48 (301)	39 (245)	36 (491)	32 (509)	36 (467)	48 (412)	87 (573)	217 (946)	503 (725)
NB	88 (68)	58 (195)	50 (239)	62 (310)	77 (401)	62 (326)	60 (665)	64 (806)	64 (679)	77 (514)	120 (632)	238 (800)	542 (605)
PQ	46 (351)	36 (1,253)	35 (1,697)	42 (1,881)	47 (2,320)	40 (1,984)	39 (4,060)	39 (4,986)	42 (4,454)	51 (3,565)	75 (4,052)	191 (5,562)	426 (3,749)
ON	39 (536)	30 (1,784)	30 (2,337)	35 (2,652)	44 (3,277)	40 (3,034)	34 (5,945)	35 (6,824)	37 (5,622)	49 (4,982)	89 (7,275)	226 (10,515)	534 (7,600)
MB	47 (70)	47 (299)	42 (354)	53 (432)	77 (613)	80 (627)	68 (1,099)	64 (1,163)	54 (786)	75 (705)	123 (982)	303 (1,674)	708 (1,383)
SK	72 (92)	68 (381)	66 (521)	80 (643)	118 (939)	96 (700)	89 (1,199)	68 (1,094)	71 (850)	87 (724)	126 (945)	275 (1,475)	557 (1,141)
AB	44 (170)	42 (680)	39 (846)	54 (1,179)	83 (1,775)	83 (1,798)	69 (3,171)	59 (3,106)	62 (2,270)	75 (1,653)	121 (2,009)	285 (2,693)	636 (1,887)
BC	34 (156)	40 (777)	47 (1,208)	59 (1,540)	82 (2,182)	79 (2,095)	66 (4,039)	59 (4,139)	57 (3,214)	68 (2,411)	104 (2,934)	244 (4,275)	560 (3,021)
YK	45 (2)	34 (6)	27 (6)	85 (21)	87 (20)	152 (28)	79 (41)	87 (55)	42 (21)	100 (21)	126 (14)	562 (19)	606 (6)
NT	7 (1)	30 (18)	53 (41)	62 (39)	87 (49)	92 (49)	113 (137)	97 (104)	114 (78)	115 (38)	243 (37)	507 (26)	794 (15)
TOTAL	1,495	5,616	7,646	9,196	12,222	11,133	21,303	23,290	18,936	15,400	19,850	28,563	20,484

Note: Number of trauma hospitalizations in brackets

Length of Stay for Trauma Hospitalizations

The national mean length of stay for trauma hospitalizations was 9 days in 1998/99. The mean length of stay has decreased slightly from 10 days to 9 days since 1994/95. In 1998/99, Manitoba had the highest length of stay (17 days) and the Northwest Territories had the lowest length of stay (3 days).

Table 4: Mean Length of Stay By Year, By Province/Territory

	1994/95	1995/96	1996/97	1997/98	1998/99
Newfoundland	16	9	9	9	8
P.E.I.	9	9	10	10	9
Nova Scotia	9	9	9	10	11
New Brunswick	8	8	7	8	8
Quebec	13	12	12	11	9
Ontario	10	10	10	9	9
Manitoba	16	16	17	17	17
Saskatchewan	9	8	8	7	7
Alberta	8	7	7	8	7
British Columbia	8	8	8	9	8
Yukon	5	4	3	4	4
Northwest Territories	3	3	3	4	3
National	10	10	10	10	9

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Nature of Injury

Across Canada, the three most common injury diagnoses for trauma hospitalizations in 1998/99 were:

- N Code 820-829 & 835-838: fractures and dislocations of the lower limb (34.8%)
- N Code 810-819 & 835-838: fractures and dislocations of the upper limb (16.4%)
- N Code 850-854: intracranial injury (8.0%)

Nova Scotia had the highest number of fractures and dislocations of the lower limb, accounting for 41% of their trauma hospitalizations. New Brunswick had the highest number of fractures and dislocations of the upper limb, accounting for 18% of their trauma hospitalizations. Intracranial injuries were the most common diagnoses for trauma hospitalizations in the Yukon, comprising 15% of their total trauma hospitalizations. The following figure shows the percentage of hospitalizations that are due to each of these diagnosis groups.

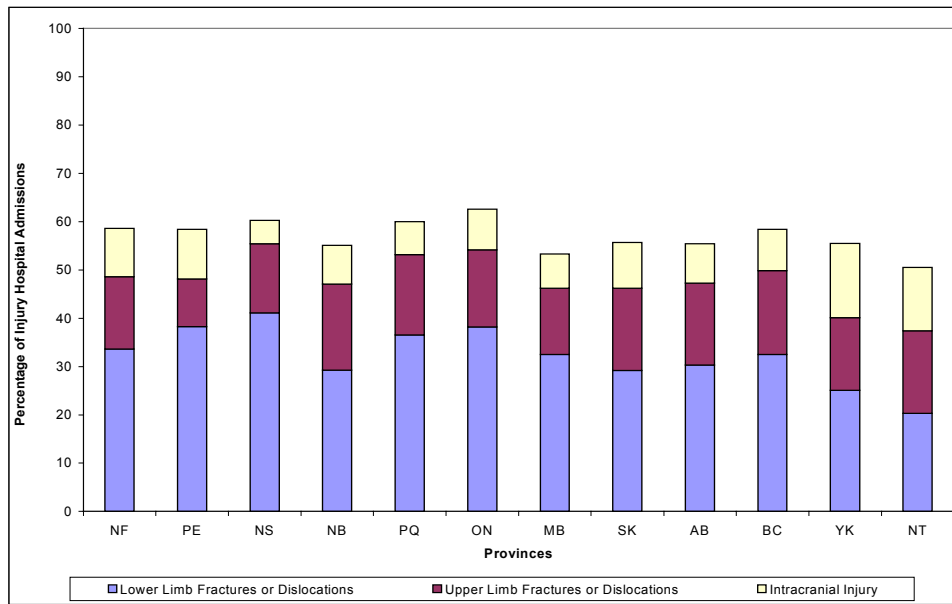


Figure 1: Percentage of Trauma Hospitalizations Due To Leading Injuries by Province/Territory, 1998/99

Note: Data Shown in Appendix A

Place of Occurrence

For trauma resulting in hospitalization in 1998/99, the most common place of occurrence was 'in the home' at 41,060 hospitalizations across Canada. This translates to 38% of the trauma hospitalizations for which places of occurrence were coded. Quebec had the greatest number of incidents at home, with 12,242 hospitalizations, or 40% of those with a place of occurrence code.

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**Table 5: Percentage and Number of Trauma Hospitalizations by ICD Place of Occurrence*,
 By Province/Territory, 1998/99**

	NF	PE	NS	NB	PQ	ON	MB	SK	AB	BC	YK	NT	National
Home	35% (861)	69% (25)	46% (1,850)	42% (1,997)	40% (12,242)	39% (7,112)	24% (20)	36% (2,758)	25% (4,090)	44% (10,000)	63% (22)	22% (83)	38% (41,060)
Farm	0.1% (3)	0% (0)	0.5% (19)	0.4% (18)	0.4% (126)	1.4% (245)	0% (0)	3% (264)	2% (286)	1% (139)	0% (0)	0% (0)	1% (1,100)
Mine and Quarry	0.2% (5)	0% (0)	0.1% (4)	0.1% (6)	0.1% (29)	0.1% (13)	0% (0)	0.2% (17)	0.04% (7)	0.1% (23)	0% (0)	1% (2)	0.1% (106)
Indust.	4% (95)	0% (0)	4% (155)	6% (299)	6.5% (1,983)	4.3% (767)	1% (1)	3% (226)	7.2% (1,179)	6% (1328)	9% (3)	6% (23)	6% (6,059)
Rec and Sports	8% (185)	7% (3)	6% (246)	7% (348)	6.1% (1,856)	8% (1,517)	0% (0)	10% (777)	10% (1,584)	14% (3095)	14% (5)	9% (35)	9% (9,651)
Street and Highway	1% (25)	0% (0)	1.1% (46)	0.02% (56)	3% (866)	2.1% (375)	1% (1)	3% (197)	2% (306)	3% (712)	3% (1)	3% (11)	2% (2,596)
Public Building	3% (73)	2% (1)	3.5% (144)	4% (184)	3% (776)	4.2% (757)	0% (0)	4% (332)	4% (584)	5% (1,119)	3% (1)	5% (20)	4% (3,991)
Resid. Instit.	10% (251)	14% (6)	14% (569)	8% (375)	4% (1,344)	14% (2,605)	65% (53)	10% (776)	10% (1,693)	10% (2,225)	3% (1)	4% (17)	9% (9,915)
Other	6% (151)	5% (2)	24% (201)	4% (205)	2% (545)	4% (762)	1% (1)	3% (196)	4% (714)	6% (1,272)	6% (2)	7% (26)	4% (4,077)
Unspec. Place	33% (799)	12% (5)	20% (826)	27% (1,306)	35% (10,676)	22% (3,891)	7% (6)	28% (2,146)	36% (5,973)	12% (2,739)	0% (0)	43% (165)	27% (28,532)
**Total	2448	42	4,060	4,794	30,443	18,044	82	7,689	16,416	22,652	35	382	107,087

**Totals summarize the 1st documented place of occurrence

* Place of occurrence can be documented for External Causes of Injury (e codes) between E880-928 for both ICD-9 and ICD-9-CM; however, place of occurrence is not mandatory in the CIHI database

Note: % refers to column percentages, number of trauma hospitalizations are in brackets

Major Causes of Trauma Hospitalization in Canada

The three leading causes of trauma hospitalization are motor vehicle collisions, falls, and other incidents. In 1998/99, these three causes accounted for 86% of all trauma hospitalizations. Over the last five years, there has been a substantial decrease in hospitalizations associated with these three causes. The following sections will analyze each of these three causes separately.

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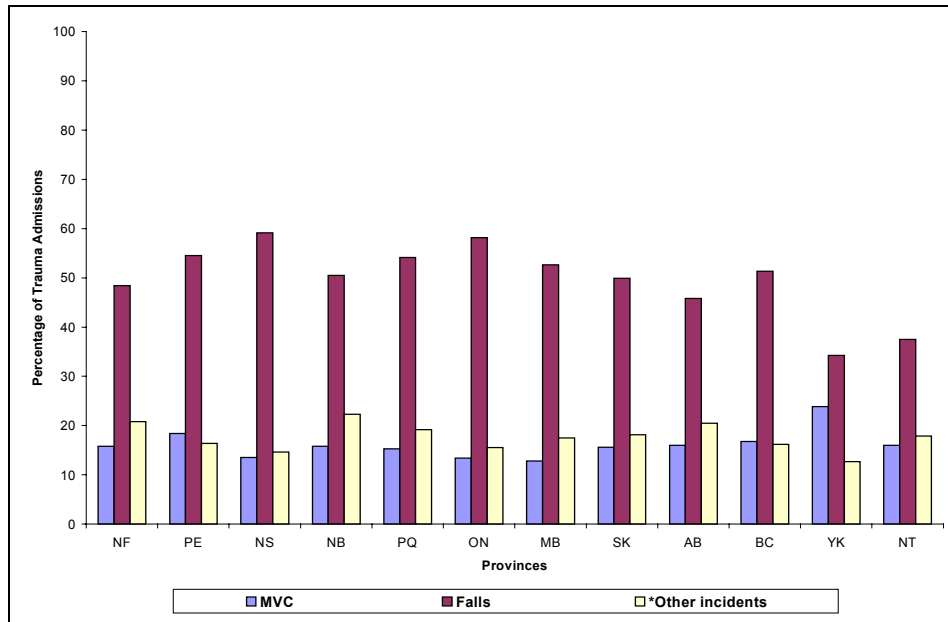


Figure 2: Percentage of Trauma Hospitalizations Due to the Leading Causes of Injury, by Province/Territory, 1998/99

* 'Other Incidents' refers to cases with E Codes 916-928

Note: Data shown in Appendix A

Motor Vehicle Collisions

Between 1994/95 and 1998/99, there has been a 19% decrease in motor vehicle collision hospitalizations across Canada. In 1998/99, there were 24,417 hospitalizations due to motor vehicle collisions in traffic, resulting in 83% of trauma hospitalizations from motor vehicle collisions. The most common type of traffic-related motor vehicle hospitalization was a collision involving another vehicle, which accounted for 28% of all motor vehicle collision hospitalizations in Canada. Quebec and Alberta had 29% of their total motor vehicle collision hospitalizations due to collisions involving another vehicle. The off road motor vehicle category had the highest number of hospitalizations in the non-traffic motor vehicle collisions category, representing 7% of all motor vehicle hospitalizations in Canada. Ontario had the highest number of motor vehicle hospitalizations, with 8,334 cases.

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Table 6: Percentage and Number of Hospitalizations By Type of Motor Vehicle Collision, By Province/Territory, 1998/99

		NF	PE	NS	NB	PQ	ON	MB	SK	AL	BC	YK	NT	TOTAL
E810-819 Motor Vehicle – Traffic	Involving Train	0% (0)	1% (1)	0% (0)	0.1% (1)	0.1% (8)	0.1% (6)	1% (9)	1% (9)	0.4% (15)	0.1% (3)	0% (0)	0% (0)	0.2% (52)
	Re-entrant Collision	1% (4)	1% (2)	0.1% (1)	0.2% (2)	0.2% (15)	1% (67)	3% (32)	0.1% (1)	0.1% (5)	0.3% (15)	2% (1)	0% (0)	1% (145)
	Another Motor Vehicle	17% (91)	25% (44)	21% (148)	26% (260)	29% (1,833)	33% (2,713)	19% (242)	25% (411)	29% (1065)	28% (1508)	3% (2)	5% (5)	28% (8,322)
	With Other Vehicle	4.3% (23)	6% (10)	3% (22)	2% (23)	5% (320)	6% (524)	5% (63)	3% (48)	4% (137)	4% (211)	13% (8)	3% (3)	5% (1,392)
	Collision with Pedestrian	10% (54)	5.0% (9)	9% (61)	5% (48)	11% (727)	12% (978)	10% (133)	8% (139)	7% (254)	12% (649)	5% (3)	5% (5)	10% (3,060)
	Collision on Highway	7% (35)	1% (2)	6% (42)	5% (47)	5% (318)	4% (356)	3% (37)	3% (56)	4% (139)	5% (290)	0% (0)	2% (2)	5% (1,324)
	Due to Loss of Control	20% (106)	20% (36)	30% (210)	17% (171)	16% (1,045)	19% (1,590)	23% (305)	28% (475)	26% (959)	28% (1,489)	57% (35)	26% (26)	22% (6,447)
	Non-Collision-Boarding	1% (4)	2% (3)	1% (10)	1% (9)	1% (66)	1% (79)	1% (7)	1% (17)	1% (45)	2% (89)	0% (0)	1% (1)	1% (330)
	Other-Non-Collision	3.2% (17)	3% (6)	5% (34)	4% (43)	3% (161)	3% (209)	4% (54)	3% (53)	5% (185)	3% (171)	7% (4)	2% (2)	3% (939)
	Unspecified	11% (57)	30% (53)	9% (65)	18% (176)	11% (723)	7% (593)	10% (134)	8% (129)	7% (249)	4% (222)	2% (1)	4% (4)	8% (2,406)
E820-825 Motor Vehicle- Non Traffic	Motor Driven Snow Vehicle	11% (57)	1% (2)	1% (7)	4% (35)	6% (375)	4% (370)	10% (124)	8% (128)	4% (162)	2% (118)	7% (4)	38% (38)	5% (1,420)
	Off Road Motor Vehicle	12% (65)	2% (3)	11% (77)	10% (101)	8% (496)	6% (463)	7% (87)	7% (112)	9% (343)	7% (347)	5% (3)	12% (12)	7% (2,109)
	Moving object	1% (7)	1% (1)	0.4% (3)	1% (7)	1% (53)	1% (82)	1% (10)	1% (20)	1% (23)	1% (34)	0% (0)	1% (1)	1% (241)
	Stationary Object	0.2% (1)	1% (1)	1% (8)	1% (6)	0.4% (28)	1% (55)	2% (19)	1% (21)	1% (37)	1% (36)	0% (0)	1% (1)	1% (213)
	Boarding	0.4% (2)	2% (3)	1% (5)	2% (15)	1% (57)	1% (101)	2% (25)	1% (20)	1% (40)	1% (62)	0% (0)	0% (0)	1% (330)
	Unspecified	1.7% (9)	2% (3)	2.3% (16)	4% (41)	2% (128)	2% (148)	2% (21)	2% (33)	2% (61)	2% (127)	2% (1)	1% (1)	2% (589)
TOTAL		532	179	709	985	6,353	8,334	1,302	1,672	3,719	5,371	62	101	29,319

Note: % refers to column percentages; number of trauma hospitalizations are in brackets

The most common diagnosis type for hospitalizations due to motor vehicle collisions is orthopedic injuries. Across Canada, there were 20,126 motor vehicle hospitalizations with an orthopedic diagnosis type. Ontario had the greatest number of trauma hospitalizations for all diagnoses, accounting for 14,016 hospitalizations in Canada. Ontario also had the largest number of cases with an orthopedic diagnosis type, with 6,052 cases in 1998/99. Superficial injuries accounted for 24% of all diagnoses among motor vehicle collision hospitalizations in Canada in 1998/99.

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**Table 8: Hospitalizations due to Motor Vehicle Collisions, By Province/Territory,
 By Diagnosis Type, 1998/99**

	Superficial	Ortho	Burns	Head	Spinal Cord	Internal	Blood Vessels	Nerves	Other	TOTAL
Newfoundland	145	313	2	112	11	48	5	7	49	692
P.E.I	57	105	0	31	3	13	3	0	17	229
Nova Scotia	269	489	2	127	6	98	5	7	30	1,033
New Brunswick	343	679	3	188	22	131	6	14	61	1,447
Quebec	2,459	4,635	28	1,356	106	1,164	71	181	1,296	11,296
Ontario	3,166	6,052	34	2,230	147	1,637	97	166	487	14,016
Manitoba	477	839	13	272	40	204	12	21	79	1,957
Saskatchewan	664	938	3	331	31	157	8	23	158	2,313
Alberta	1,663	2,459	16	805	76	577	37	66	207	5,906
British Columbia	2,052	3,514	16	1,303	134	724	64	88	293	8,188
Yukon	35	40	0	14	3	9	0	2	8	111
Northwest Territories	32	63	0	29	0	6	1	1	7	139
NATIONAL	11,362	20,126	117	6,798	579	4,768	309	576	2,692	47,327

Note: If a hospitalization has injuries which fall into several of the injury types above, each type will be counted once. Otherwise, if a case has several injuries which all fall into one type then the case will only be counted once (see Appendix B).

Unintentional Falls

Between 1994/95 and 1998/99, the number of trauma hospitalizations due to unintentional falls has decreased by 5%. In 1998/99, the most common cause was slipping, tripping and stumbling, which resulted in 35% of all fall hospitalizations for Canada. This specific type of fall most commonly occurred in Ontario, comprising 36% of all fall hospitalizations in that province. 'Other and unspecified' falls and 'falling from one level to another' were also major causes of trauma hospitalizations, accounting for 31% and 15% of all fall hospitalizations in Canada respectively.

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**Table 9: Percentage and Number of Trauma Hospitalizations By Type of Fall,
 By Province/Territory, 1998/99**

	NF	PE	NS	NB	PQ	ON	MB	SK	AL	BC	YK	NT	NAT.
E880-On or From Stairs/Steps	9% (143)	9% (50)	10% (317)	10% (303)	11% (2,283)	9% (3,087)	7% (397)	9% (497)	8% (894)	8% (1,254)	5% (4)	14% (34)	9% (9,263)
E881-On/From Ladder/Scaffold	4% (67)	2% (11)	3% (84)	3% (90)	3% (610)	4% (1,298)	3% (159)	4% (190)	4% (423)	4% (660)	1% (1)	2% (5)	3% (3,598)
E882 – From/Out of Building or Other Structure	2% (35)	1% (5)	2% (48)	2% (65)	2% (474)	2% (529)	2% (91)	2% (127)	2% (251)	3% (419)	0% (0)	2% (4)	2% (2,048)
E883-Into Hole or Other Surface Opening	0.3% (5)	1% (4)	1% (14)	0.3% (8)	0.4% (79)	0.4% (161)	0.3% (17)	1% (26)	0.3% (37)	1% (92)	0% (0)	0% (0)	0.4% (443)
E884-From One Level to Another	15% (255)	12% (62)	16% (502)	14% (455)	13% (2,703)	14% (5,080)	15% (779)	16% (870)	17% (1,790)	17% (2,858)	14% (12)	17% (41)	15% (15,407)
E885 –Slipping, Tripping, Stumbling	46% (777)	47% (249)	43% (1,328)	31% (964)	30% (6,490)	36% (13,066)	30% (1,583)	34% (1,811)	34% (3,561)	41% (6,659)	5% (4)	30% (70)	35% (36,562)
E886 – Collisions, Pushing, Shoving By Or With Other Person	1% (22)	2% (13)	2% (57)	1% (33)	3% (553)	2% (681)	2% (91)	3% (135)	1% (139)	2% (377)	2% (2)	5% (11)	2% (2,114)
E887 –Fracture, Cause Unspecified	3% (53)	3% (16)	2% (56)	3% (101)	2% (348)	4% (1,438)	3% (132)	2% (109)	3% (326)	1% (198)	0% (0)	5% (12)	3% (2,789)
E888- Other and Unspecified Fall	20% (335)	23% (122)	22% (693)	36% (1,133)	37% (8,063)	30% (10,941)	39% (2,111)	30% (1,576)	30% (3,220)	24% (3,907)	74% (66)	25% (60)	31% (32,227)
TOTAL	1,692	532	3,099	3,152	21,603	36,281	5,360	5,341	10,641	16,424	89	237	104,451

Note: % refers to column percentages; number of trauma hospitalizations are in brackets

In 1998/99, the most common diagnosis type for hospitalizations due to unintentional falls was orthopedic, which accounted for 74% of all fall hospitalizations. Ontario had the highest number of hospitalizations under the orthopedic diagnosis type (27,921). The least common diagnosis type for trauma hospitalizations due to hospital falls was burns, which was present in only 46 trauma hospitalizations in Canada.

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Table 10: Hospitalizations due to Unintentional Falls, By Province/Territory and By Diagnosis Type, 1998/99

	Superficial	Ortho	Burns	Head	Spinal Cord	Internal	Blood Vessels	Nerves	Other	TOTAL
Newfoundland	118	1,310	1	177	6	16	2	9	65	1,704
P.E.I.	62	397	0	49	0	3	0	1	37	549
Nova Scotia	385	2,464	0	158	11	49	1	11	133	3,212
New Brunswick	474	2,376	1	313	11	55	1	13	104	3,348
Quebec	2,376	16,753	13	1,818	87	474	34	116	394	22,065
Ontario	4,522	27,921	15	3,462	165	648	42	159	968	37,902
Manitoba	783	4,094	3	333	30	75	5	16	160	5,499
Saskatchewan	686	3,906	0	517	11	76	3	16	304	5,519
Alberta	1,828	8,065	6	957	47	237	16	47	297	11,500
British Columbia	2,306	12,788	7	1,473	117	333	16	87	408	17,535
Yukon	9	66	0	17	0	1	0	0	3	96
Northwest Territories	33	172	0	26	0	7	1	0	13	252
National	13,582	80,312	46	9,300	485	1,974	121	475	2,886	109,181

Note: If a hospitalization has injuries which fall into several of the injury types above, each type will be counted once. Otherwise, if a case has several injuries which all fall into one type then the case will only be counted once (see Appendix B).

Other Incidents

Other incidents are defined as trauma cases with an E Code between 916 and 928. Between 1994/95 and 1998/99, there was a 23% decrease in other incident trauma hospitalizations in Canada. The highest number of other incident hospitalizations were in the struck by objects or persons category, which accounted for 23% of other incident hospitalization. Overexertion/strenuous movements and other unspecified incidents were also common other incident hospitalizations, contributing to 19% and 17% of other incident hospitalizations in Canada, respectively. Ontario had the highest number of hospitalizations in all three of these causes (struck by objects or persons, overexertion/strenuous movements, and other unspecified incidents), contributing to 28% of Canada's other incident hospitalizations.

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Table 11: Percentage and Number of Hospitalizations By Type of Other Incident, By Province/Territory, 1998/99

	NF	PE	NS	NB	PQ	ON	MB	SK	AL	BC	YK	NT	NAT.
E916 –Struck by Falling Object	3% (24)	4% (6)	6% (43)	8% (110)	6% (468)	4% (420)	5% (89)	4% (78)	6% (265)	5% (279)	74% (89)	0% (0)	5.5% (1,871)
E917-Struck By Objects or Persons	26% (181)	28% (44)	30% (232)	19.4% (270)	18% (1,368)	25% (2,406)	16% (281)	30% (577)	24% (1,126)	27% (1,395)	2% (2)	24% (27)	23% (7,909)
E918-Caught In/Between Objects	4% (27)	1% (2)	2% (16)	2% (33)	2% (179)	2% (219)	4% (63)	3% (58)	3% (140)	3% (143)	11% (13)	4% (5)	3% (898)
E919 –Caused by Machinery	11% (78)	13% (20)	9% (69)	9% (130)	10% (735)	9% (881)	11% (195)	11% (213)	8% (368)	9% (472)	3% (3)	2% (2)	9% (3,166)
E920- Cutting/Piercing	23% (166)	20% (32)	15% (116)	15% (213)	15% (1,136)	13% (1,245)	23% (410)	12% (226)	12% (571)	14% (707)	1% (1)	20% (23)	14% (4,846)
E921- Explosion Pressure Vehicle	0.3% (2)	0% (0)	1% (5)	1% (10)	0.3% (21)	0.3% (28)	0.1% (2)	0.2% (4)	1% (26)	0.2% (8)	0% (0)	1% (1)	0.3% (107)
E922- Firearm Missile	1% (9)	0% (0)	1% (4)	1% (7)	1% (60)	1% (73)	1% (17)	1% (20)	1% (32)	1% (33)	0% (0)	1% (1)	1% (256)
E923- Explosive Material	1% (10)	2% (3)	1% (11)	1% (11)	2% (132)	1% (73)	1% (20)	1% (17)	1% (42)	1% (57)	1% (1)	1% (1)	1% (378)
E924- Hot Substance or Object	5% (37)	4% (6)	5% (35)	5% (67)	4% (280)	6% (579)	7% (130)	4% (82)	4% (199)	4% (214)	0% (0)	4% (4)	5% (1,633)
E925- Electric Current	0.4% (3)	0% (0)	1% (7)	1% (16)	3% (234)	1% (107)	1% (18)	1% (20)	1% (30)	0.4% (23)	2% (2)	1% (1)	1% (461)
E926- Exposure To Radiation	0% (0)	4% (6)	0.4% (3)	1% (8)	0.1% (4)	1% (73)	0.1% (1)	0.2% (4)	0.2% (11)	0.2% (9)	1% (1)	0% (0)	0.3% (120)
E927- Overexertion, Strenuous Movements	16% (112)	13% (21)	17% (130)	17% (238)	18% (1,396)	20% (1,899)	12% (221)	17% (329)	20% (949)	26% (1,340)	0% (0)	26% (29)	19% (6,664)
E928-Other, Unspecified	9% (61)	13% (20)	13% (96)	20% (276)	22% (1,647)	18% (1,703)	19% (337)	16% (315)	21% (999)	10% (497)	7% (9)	17% (19)	17% (5,979)
TOTAL	710	160	767	1,389	7,660	9,706	1,784	1,943	4,758	5,177	121	113	34,288

Note: % refers to column percentages; number of trauma hospitalizations are in brackets

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The most common diagnosis type for other incident hospitalizations is orthopedic injuries, accounting for 17,479 (49%) of all other incident hospitalizations. Ontario had the greatest number of orthopedic type admissions, with 5,234 cases (30%).

Table 12: Hospitalizations due to Other Incidents, by Province/Territory and by Diagnosis Code, 1998/99

	Superficial	Ortho	Burns	Head	Spinal Cord	Internal	Blood Vessels	Nerves	Other	TOTAL
Newfoundland	230	312	45	48	3	18	5	39	32	732
P.E.I	46	64	9	15	0	5	2	3	14	158
Nova Scotia	224	393	48	35	2	23	6	26	35	792
New Brunswick	387	725	89	64	6	40	28	60	43	1,442
Quebec	1,908	3,279	493	346	25	200	149	306	343	7,049
Ontario	2,587	5,234	731	617	43	285	221	461	318	10,497
Manitoba	633	744	168	76	10	40	39	101	82	1,893
Saskatchewan	520	982	113	150	10	49	21	80	111	2,036
Alberta	1,330	2,673	273	310	20	143	86	195	137	5,167
British Columbia	1,289	3,002	275	313	32	177	91	251	135	5,565
Yukon	7	21	3	4	0	1	0	0	3	39
Northwest Territories	37	50	5	11	1	2	0	4	10	120
National	9,198	17,479	2,252	1,989	152	983	648	1,526	1,263	35,490

Note: If a hospitalization has injuries which fall into several of the injury types above, each type will be counted once. Otherwise, if a case has several injuries which all fall into one type then the case will only be counted once.

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Appendix A

Percentage of Injury Hospitalizations Due to the Leading Three Types of Injuries, By Province/Territory, 1998/99

	NF	PE	NS	NB	PQ	ON	MB	SK	AB	BC	YK	NT
N Codes 820-829 & 831-834: Fractures, Dislocations Lower Limb	33.6	38.3	41.1	29.3	36.5	38.2	32.5	29.2	30.3	32.5	25.1	20.3
N Codes 810-819 & 835-838: Fractures, Dislocations Upper Limb	15	9.8	14.3	17.8	16.7	16	13.7	17	17	17.4	15	17.1
N 850-854: Intracranial Injury	10	10.3	4.9	8	6.8	8.4	7.1	9.5	8.1	8.5	15.4	13.1

Percentage of Trauma Hospitalizations Due to the Three Leading Causes of Injuries, By Province/Territory, 1998/99

	NF	PE	NS	NB	PQ	ON	MB	SK	AB	BC	YK	NT
MVC	16	18	14	16	15	13	13	16	16	17	24	16
Falls	48	55	59	51	54	58	53	50	46	51	34	38
Other incidents	21	16	15	22	19	16	18	18	21	16	13	18

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Appendix B: Injury Types

Injury Types		
Injury Type	N Code Range	N Code Descriptions
Superficial	N910-N919 N920-N924 N870-N879 N880-N884 N890-N894	Superficial injuries Contusion with intact skin surfaces Open wound of head, neck and trunk Open wound of upper limb Open wound of lower limb
Orthopaedic	N802 N805 & N807-N829 N830-N839 N925-N929 N885-N887 N895-N897 N840-N848	Fractures of facial bones Fractures (excluding fractured skull and fractures of vertebral column with spinal cord injury) Dislocations Crushing injury Amputations of upper limb Amputations of lower limb Sprains and strains of joints and adjacent muscles
Burns	N940-N949	Burns
Head injury	N800-N801 & N803-N804 N850-N854	Fractured skull Intracranial injury excluding those with skull fracture
Spinal cord injury	N806 N952	Fractures of vertebral column with spinal cord injury Spinal cord injury without spinal bone injury
Internal injury	N860-N869	Internal injury of chest, abdomen and pelvis
Blood Vessels	N900-N904	Injury to blood vessels
Nerves	N950 N951 N953-N957	Injury to optic nerve Injury to other cranial nerves Injury to other nerves
Other	N930-N939 (excluding N933.1) N990-N933 & N994 (excluding N994.2, .3, .6) N959	Foreign body (excluding choking - N933.1) Other and unspecified effects of external causes Injury, other and unspecified

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Appendix C: Definition of Trauma- E Code Inclusions

The definition of trauma as injury resulting from the transfer of energy has been approved by the National Trauma Registry Advisory Committee.

The following lists the E Code categories used for reporting purposes based on the trauma definition. 'Incident' and 'unintentional' have been substituted for the terms 'accidents' and 'accidental' used in the ICD definitions.

E Code Inclusions	
E Code Category	Definition
E800-E807	Railway incidents
E810-E819	Motor vehicle traffic incidents
E820-E825	Motor vehicle nontraffic incidents
E826	Pedal cycles
E827-E829	Other road vehicle incidents
E830-E838	Water transport incidents
E840-E845	Air and space transport incidents
E846-E848	Vehicle incidents not elsewhere classifiable
E880-E888	Unintentional falls
E890-E899	Incidents caused by fire and flame
E900-E902, E906-E909	Incidents due to natural and environmental factors
E910 & E913	Incidents caused by drowning and suffocation
E914-E915	Foreign bodies (excluding choking)
E916-E928	Other incidents
E953-E958	Suicide and self inflicted injury (excluding poisoning)
E960-E961, E963-E968	Homicide and injury purposely inflicted by other persons
E970-E976, E978	Legal intervention
E983-E988	Injury undetermined whether unintentionally or purposely inflicted
E990-E998	Injury resulting from operations of war