

Injuries and Violence

INTRODUCTION

Injuries, both intentional and unintentional, are a significant health problem in children. Intentional or violent injuries refer to injuries that are self-inflicted, such as suicide or those purposely inflicted by another person, including assault and homicide. Information about suicide can be found in the chapter titled *Mental Health* (see page 53). Unintentional injuries include injuries that occur as a result of motor vehicle collisions, falls, drownings, burns and poisonings.



Unintentional injuries are often referred to as accidents, implying that they occur at random and are not easily preventable. In fact, many are predictable, the risk factors are identifiable and interventions are available to prevent and minimize the impact of injuries.

This chapter provides an overview of hospitalizations and deaths for both intentional and unintentional injuries among Peel and Ontario children and youth aged 0–19 years. Many injuries are treated without hospitalization and are not included in the data which follow.

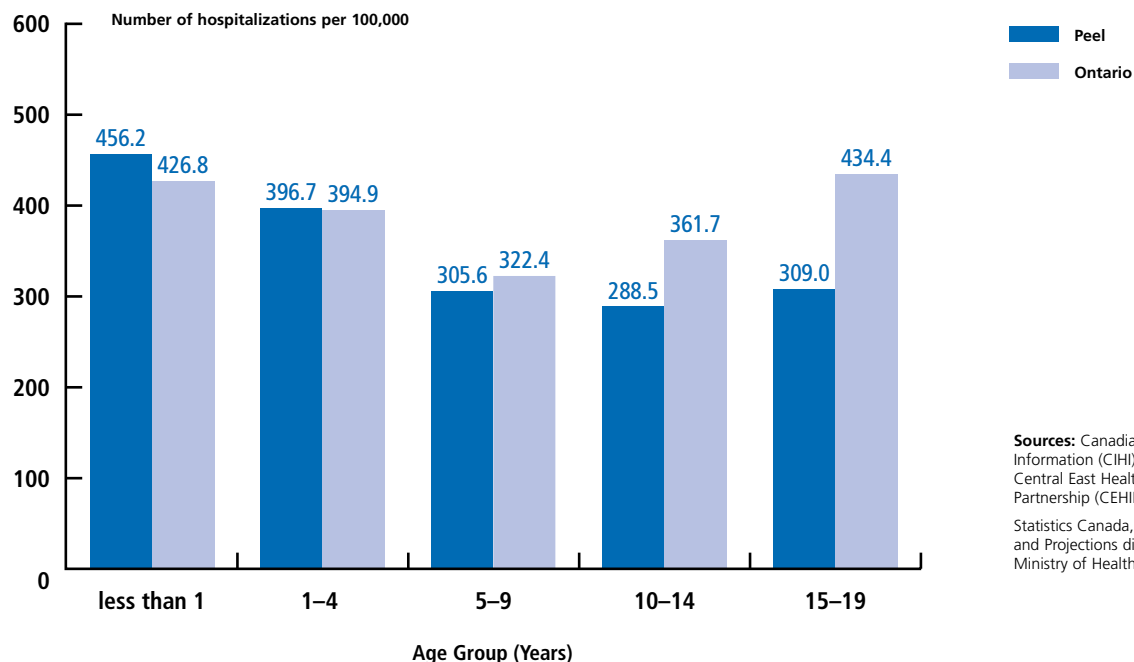
UNINTENTIONAL INJURIES

Hospitalization for Unintentional Injury

In 1998, there were 910 hospital admissions for unintentional injuries to children and youth aged 0–19 years in Peel. The unintentional injury rate in this age group was 329.0 per 100,000, which was lower than the Ontario rate of 378.8 per 100,000 (see Table 4.1 on following page). Although not shown, the unintentional injury rate was lower in 1998 (329.0 per 100,000) than in 1995 (384.6 per 100,000); however, the rate fluctuated between the years 1995–1998.

Rates of hospitalization for unintentional injury were highest for Peel children aged less than one year and 1–4 years. This pattern was different for Ontario where injury rates were highest in the 15–19 year age group, followed by children aged less than one year. This difference is shown graphically in Figure 4.1 (see following page).

Figure 4.1—Hospitalization for Unintentional Injury by Age Group, Region of Peel and Ontario, 1998



Sources: Canadian Institute for Health Information (CIHI) 1998, distributed by Central East Health Information Partnership (CEHIP).
 Statistics Canada, Population Estimates and Projections distributed by the Ontario Ministry of Health and Long-Term Care.

In Peel, unintentional injury rates overall were higher for males (399.7 per 100,000) than for females (254.3 per 100,000) in 1998. Injury rates for males in Peel were generally lower by age group than for males in Ontario. This trend was similar for females in Peel except for infants aged less than one year, whose rates were 41% higher than in Ontario (*see Table 4.1*).

Table 4.1—Hospitalization for Unintentional Injury by Age Group and Sex, Region of Peel and Ontario, 1998

Age Group	Hospitalization per 100,000					
	Peel			Ontario		
	Males	Females	Total	Males	Females	Total
< 1 years	373.7	542.7	456.2	467.4	384.3	426.8
1-4 years	444.8	346.0	396.7	441.7	345.8	394.9
5-9 years	369.8	237.5	305.6	386.0	255.4	322.4
10-14 years	394.6	176.2	288.5	482.9	233.5	361.7
15-19 years	403.1	209.7	309.0	594.8	265.1	434.4
Total 0-19 years	399.7	254.3	329.0	476.3	276.1	378.8

Sources: Canadian Institute for Health Information (CIHI) 1998, distributed by Central East Health Information Partnership (CEHIP).
 Statistics Canada, Population Estimates and Projections distributed by the Ontario Ministry of Health and Long-Term Care.

The leading causes of unintentional injury-related hospitalization for Peel varied by age group as shown in Table 4.2. Accidental falls were the most common cause of hospitalization among children of all ages. Other leading causes of hospitalization included motor vehicle traffic collisions, pedal cycle traffic collisions and pedestrian traffic collisions.

There is substantial variation between Peel and Ontario for motor vehicle and pedal cycle traffic collisions in children aged 10–19 years each year between 1995 and 1998. It is not clear why this pattern exists.

Table 4.2—Leading Causes of Hospitalization for Unintentional Injury by Age Group, Region of Peel and Ontario, 1998

Age Group	Peel		Ontario	
	Number	Hospitalization per 100,000	Number	Hospitalization per 100,000
Less than 1 year	62	456.2	589	426.8
Accidental falls	34	250.1	276	200.0
1–4 Years	233	396.7	2,368	394.9
Accidental falls	88	149.8	960	160.1
Motor vehicle traffic collisions	15	25.5	126	21.0
Pedal cycle traffic collisions	7	11.9	46	7.7
5–9 Years	220	305.6	2,544	322.4
Accidental falls	114	158.3	1,315	166.7
Pedal cycle traffic collisions	24	33.3	224	28.4
Motor vehicle traffic collisions	23	31.9	254	32.2
Pedestrian traffic collisions	5	6.9	87	11.0
10–14 Years	192	288.5	2,758	361.7
Accidental falls	99	148.7	1,047	137.3
Pedal cycle traffic collisions	15	22.5	300	39.3
Motor vehicle traffic collisions	11	16.5	277	36.3
Pedestrian traffic collisions	7	10.5	92	12.1
15–19 Years	203	309.0	3,224	434.4
Accidental falls	49	74.6	722	97.3
Motor vehicle traffic collisions	45	68.5	820	110.5
Pedestrian traffic collisions	11	16.7	119	16.0

Sources: Canadian Institute for Health Information (CIHI) 1998, distributed by Central East Health Information Partnership (CEHIP).

Statistics Canada, Population Estimates and Projections distributed by the Ontario Ministry of Health and Long-Term Care.

Unintentional Injury-related Deaths

In Peel, there were 200 unintentional injury-related deaths between 1986 and 1996 in children and youth aged 0–19 years. The average annual rate of unintentional injury death for this time period was 8.0 per 100,000 for Peel and 11.6 per 100,000 for Ontario. Injury death rates were highest in youth aged 15–19 years, followed by infants under the age of one year, as shown in Table 4.3 (*see following page*). Although not shown, the average annual rate of unintentional injury-related death in Peel was almost twice as high in males (10.4 per 100,000) as in females (5.4 per 100,000).

**Table 4.3—Unintentional Injury-related Deaths by Age Group,
Region of Peel and Ontario, 1986–1996 Combined**

Age Group	Peel		Ontario	
	Number	AAR*	Number	AAR*
< 1 year	13	9.7	155	9.7
1–4 years	33	6.3	600	9.5
5–9 years	22	3.5	465	6.0
10–14 years	21	3.5	462	6.2
15–19 years	111	18.0	1,916	24.4
Total 0–19 years	200	8.0	3,598	11.6

*Average annual rate per 100,000.

Sources: Ontario Mortality Database, 1986–1996, distributed by HELPS (Health Planning System) from the Ontario Ministry of Health and Long-Term Care.

Statistics Canada, Population Estimates and Projections distributed by the Ontario Ministry of Health and Long-Term Care.

With the exception of children aged less than one year, mortality rates in Ontario were higher than in Peel across all age groups. This was likely due to motor vehicle traffic collisions among these age groups in Ontario, as shown in Table 4.4.

**Table 4.4—Selected Leading Causes of Death from Unintentional Injury
by Age Group,
Region of Peel and Ontario, 1986–1996 Combined**

Age Group and Cause of Unintentional Injury Death	Peel		Ontario	
	Number	AAR*	Number	AAR*
Less than 1 year (Total)	13	9.7	155	9.7
Suffocation/choking	7	5.2	73	4.6
1–4 years (total)	33	6.3	600	9.5
Motor vehicle traffic collisions	12	2.3	187	2.9
Suffocation/choking	6	1.1	64	1.0
Drowning	6	1.1	140	2.2
5–9 years (total)	22	3.5	465	6.0
Motor vehicle traffic collisions	11	1.8	260	3.4
Drowning	< 5	NR	64	0.8
Pedal cycle traffic collisions	< 5	NR	41	0.5
Suffocation/choking	< 5	NR	24	0.3
10–14 years (total)	21	3.5	462	6.2
Motor vehicle traffic collisions	11	1.8	261	3.5
Drowning	< 5	NR	56	0.7
15–19 years (total)	111	18.0	1,916	24.4
Motor vehicle traffic collisions	90	14.6	1,443	18.4
Pedestrian traffic collisions	13	2.1	123	1.6
Drowning	5	0.8	117	1.5

NR= Not released due to small numbers.

*Average annual rate per 100,000.

Sources: Ontario Mortality Database, 1986–1996, distributed by HELPS (Health Planning System) from the Ontario Ministry of Health and Long-Term Care.

Statistics Canada, Population Estimates and Projections distributed by the Ontario Ministry of Health and Long-Term Care.

INTENTIONAL INJURIES

Hospitalization for Intentional Injury

In 1998, there were 291 hospitalizations due to intentional injuries for persons 0–19 years of age in Peel, for a rate of 105.2 per 100,000 population. The rate for Ontario was 131.1 per 100,000.

Hospitalization rates for intentional injury for females in Peel were slightly higher (110.8 per 100,000) than for males (99.9 per 100,000) (*see Table 4.5*). Peel rates of hospitalization were highest for youths aged 15–19 years, followed by those aged less than one year. These findings were consistent with rates in Ontario. Rates of hospitalization from intentional injuries have remained stable over time.

Table 4.5—Hospitalization for Intentional Injuries by Age Group and Sex, Region of Peel and Ontario, 1998

Age Group	Hospitalization per 100,000					
	Peel			Ontario		
	Males	Females	Total	Males	Females	Total
< 1 year	172.5	241.2	206.0	212.4	207.7	210.1
1–4 years	92.9	48.9	71.5	69.1	51.6	60.5
5–9 years	27.0	20.0	23.6	31.9	24.2	28.1
10–14 years	58.5	64.9	61.6	65.3	113.1	88.5
15–19 years	213.4	284.8	248.1	253.5	404.1	326.8
Total 0–19 years	99.9	110.8	105.2	110.1	153.3	131.1

Sources: Canadian Institute for Health Information (CIHI) 1998, distributed by Central East Health Information Partnership.

Statistics Canada, Population Estimates and Projections distributed by the Ontario Ministry of Health and Long-Term Care.

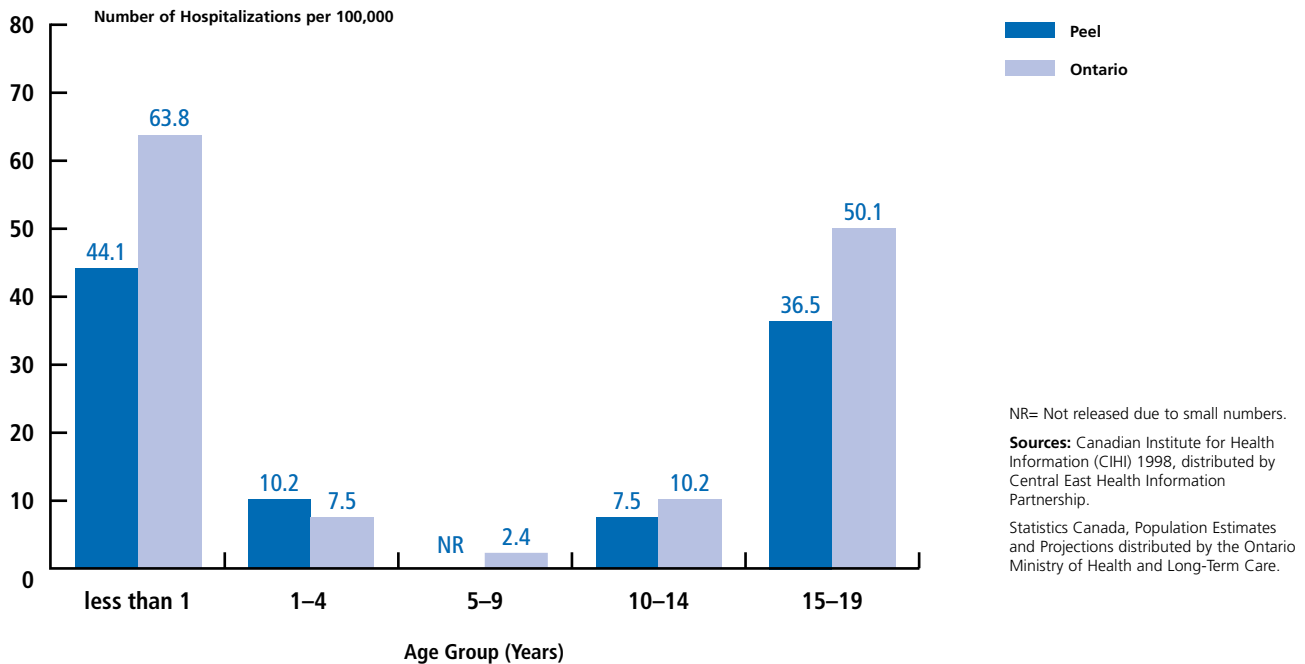
Although not shown by cause, injuries caused by “adverse effects of drugs in therapeutic use” were the leading cause of intentional injury hospitalization in Peel children aged nine years and younger. For children aged 10–19 years, suicide, assault and adverse effects of drugs were the main reasons for intentional injury hospitalization. More details about suicide can be found in the chapter titled *Mental Health* (*see page 53*). Hospitalization due to assault is described in more detail below.

In Peel, hospitalization rates due to assault were highest in children aged less than one year, followed by those in the 15–19 year age group. This pattern was similar to that in Ontario (*see Figure 4.2 on following page*).

In Canada in 1991, 60% of all sexual assaults and 20% of all physical assaults were reported to have occurred in children and youth under the age of 18 years.²⁸

It is estimated that 52% of Canadian children who were assaulted in 1999 were assaulted by an acquaintance, while 24% were assaulted by family members, 19% by strangers and 5% by a person whose relationship to the child or youth was unknown.²⁸

Figure 4.2—Hospitalization Due to Assault by Age Group, Region of Peel and Ontario, 1998



Mortality Due to Intentional Injuries

Between 1986 and 1996 in Peel, there were 57 deaths in children and youth aged 0–19 years due to intentional injuries for an average annual rate of 2.3 per 100,000 (data not shown due to small numbers). The mortality rate was highest for youths aged 15–19 years with a rate of 6.6 per 100,000. Over the eleven year period between 1986 and 1996, there were less than ten deaths in children aged less than one year to four years.

SUMMARY

Unintentional Injury

In 1998, rates of unintentional injury-related hospital separations in children and youth aged 0–19 years in Peel were lower (329.0 per 100,000) than Ontario (378.8 per 100,000). Child and youth rates of unintentional injury were higher in males (399.7 per 100,000) compared to females (254.3 per 100,000) in Peel and higher in the younger age groups. In Peel, unintentional injury rates were highest among children aged 0–4 years.

Accidental falls were the leading cause of hospitalization in children and youth aged 0–19 years. Motor vehicle traffic collisions were the second leading cause of hospitalization for children aged one to four years, and the third leading cause for children aged five to nine and 10–14 years. Pedal cycle traffic collisions were the second leading cause of hospitalization for children aged five to nine and 10–14 years; they were the third leading cause for children aged one to four years. Motor vehicle traffic collisions and pedestrian traffic collisions were the second and third leading causes of hospitalization for youth aged 15–19 years.

For the period 1986–1996, average annual rates of unintentional injury-related deaths were lower in Peel (8.0 per 100,000) than in Ontario (11.6 per 100,000). In Peel, youths aged 15–19 years and infants under the age of one year had the highest average annual death rates (18.0 and 9.7 per 100,000 respectively). Average annual unintentional injury-related deaths for males (10.4 per 100,000) were almost twice that of females (5.4 per 100,000).

In Peel, the leading cause of unintentional injury-related death for infants aged less than one year was suffocation/choking, while the leading cause of unintentional injury-related death for children and youth aged one to 19 years was motor vehicle traffic collisions.

Intentional Injury

In 1998, rates of hospitalization in children and youth aged 0–19 years from intentional injuries were lower in Peel than the province at 105.2 and 131.1 per 100,000 respectively. Females in Peel had higher rates of hospitalization (110.8 per 100,000) than did males (99.9 per 100,000). Youth aged 15–19 years had the highest rates of hospitalization, followed by infants aged less than one year.

The leading causes of hospitalization in Peel were injuries caused by “adverse effects of drugs in therapeutic use”, suicide and assault.

In Peel, hospitalization due to assault was highest in children aged less than one year, followed by those aged 15–19 years. This was similar to Ontario.

Between 1986 and 1996, there were 57 deaths among children aged 0–19 years from intentional injuries in Peel. Mortality rates were highest for the 15–19 year age group. Other age groups had less than ten deaths recorded over this eleven-year period.