

Early Childhood Health



Introduction

This chapter includes information on several aspects of early childhood health, including leading causes of mortality and hospitalization among children aged 1 to 6 years, and injuries in early childhood. It also addresses selected practices that can reduce or prevent morbidity and mortality in early childhood and later in life, such as car seat safety, bicycle helmet use, dental health practices and childhood immunization.

Leading Causes of Child Mortality and Hospitalization (1 to 6 Years)

This section provides an overview of the leading causes of mortality and hospitalization among children aged 1 to 6 years.

Both mortality and hospitalization rates among children aged 1 to 6 years were much lower than rates for infants (age less than one year) or adults. Due to the small number of deaths each year, mortality from selected causes was examined by combining the data for the period from 1989 to 1999. Data for hospitalization are presented for 2001, the most recent available year of data.

The hospitalization data here (hospital separation data) reflect the diagnoses at the time of discharge from a hospital and do not include diagnoses made in hospital emergency rooms, clinics or physicians' offices in which no hospital admission occurred. Hospital separations represent the number of episodes of hospitalization and not the number of children or youth hospitalized. A child hospitalized on numerous occasions would have been counted once for each episode according to the discharge diagnosis.

Mortality

In 1989 to 1999 combined, the top three causes of death for children aged 1 to 6 years in Peel and Ontario were injuries and poisoning, cancer and congenital anomalies (*see Table 5.1 on following page*).

Table 5.1: Number and Proportion of Deaths by Leading Cause for Children Aged 1–6 Years, Region of Peel and Ontario, 1989–1999 Combined

Leading Cause	Peel		Ontario	
	Number	Per Cent	Number	Per Cent
Injury and poisoning (all)	46	30.9	766	33.7
Motor vehicle traffic collisions	14	9.4	255	11.2
Homicide and injury purposely inflicted by other persons	5	3.4	58	2.5
Cancer (all)	24	16.1	325	14.3
Lymphatic and haematopoietic	13	8.7	115	5.1
Congenital anomalies	16	10.7	306	13.4
Nervous system and sense organ disorders	12	8.1	203	8.9
Respiratory system (all)	9	6.0	124	5.4
Circulatory system	<5	NR	90	4.0
All other causes	38	25.5	462	20.3
All Cause Total	149	100.0	2276	100.0

NR = not releasable due to small numbers.

Source: Ontario Mortality Database, 1986–2000, HELPS (Health Planning System), Public Health Branch, Ontario Ministry of Health and Long-Term Care.

Population Estimates 1989–1999, Provincial Health Planning Database (PHPDB), Release date: July 2003, Health Planning Branch, Ontario Ministry of Health and Long-Term Care.

Hospitalization

Leading causes of hospitalization for children aged 1 to 6 years by sex are shown in Table 5.2 (*see following page*). In Peel in 2001, the top three causes of hospitalization for males aged 1 to 6 years were respiratory system diseases, infectious and parasitic diseases, and digestive system diseases. Similarly, the top three causes for females in the same age group were respiratory system diseases, infectious and parasitic diseases and endocrine, nutritional and metabolic diseases and immunity disorders. Hospitalizations due to asthma accounted for 19% of hospitalizations in males and 14% in females. Hospitalization rates for males aged 1 to 6 years in Peel were generally higher than those for their female counterparts (*see Table 5.2 on following page*). In 2001, the all-cause hospitalization rate for males aged 1 to 6 years in Peel was 5,303.9 per 100,000 compared to 4,132.6 per 100,000 females.

Hospitalization rates for males and females aged 1 to 6 years in Peel were higher than for Ontario. In 2001, the all-cause hospitalization rate for Peel males 1 to 6 years was 5,303.9 per 100,000 population compared to a rate of 4,572.9 per 100,000 for Ontario. Similarly, the all-cause hospitalization rate for Peel females aged 1 to 6 years was 4,132.6 per 100,000 compared to a rate of 3,502.7 per 100,000 in Ontario. Hospitalization rates for infectious and parasitic diseases in Peel were slightly more than twice the rates for Ontario in 2001 for both males and females.

Table 5.2: Number, Proportion and Crude Hospitalization Rate by Leading Cause for Children Aged 1–6 Years by Sex, Region of Peel and Ontario, 2001

Leading Cause	Males						Females					
	Peel			Ontario			Peel			Ontario		
	Number	Per Cent	Rate*	Number	Per Cent	Rate*	Number	Per Cent	Rate*	Number	Per Cent	Rate*
Respiratory system (all)	939	40.2	2133.8	7756	39.0	1783	567	32.8	1356.8	4851	33.4	1169.8
Asthma	448	19.2	1018.1	2819	14.2	648.1	240	13.9	574.3	1488	10.2	358.8
Pneumonia/influenza	206	8.8	468.1	1857	9.3	426.9	165	9.6	394.8	1533	10.6	369.7
Infectious and parasitic diseases	354	15.2	804.5	1385	7.0	318.4	270	15.6	646.1	1166	8.0	281.2
Digestive systems diseases	181	7.8	411.3	1936	9.7	445.1	125	7.2	299.1	1513	10.4	364.9
Endocrine, nutritional and metabolic diseases and immunity disorders (all)	171	7.3	388.6	1369	6.9	314.7	150	8.7	358.9	1197	8.2	288.7
Diabetes	12	0.5	27.3	101	0.5	23.2	8	0.5	19.1	121	0.8	29.2
Injury and poisoning (all)	167	7.2	379.5	1823	9.2	419.1	116	6.7	277.6	1321	9.1	318.6
Accidental falls	57	2.4	129.5	712	3.6	163.7	51	3.0	122.0	573	3.9	138.2
Accidental poisoning	16	0.7	36.4	194	1.0	44.6	16	9.3	38.3	123	0.8	29.7
Motor vehicle traffic Collisions	7	0.3	15.9	85	0.4	19.5	6	0.3	14.4	59	0.4	14.2
Transport collisions†	7	0.3	15.9	160	0.8	36.8	5	0.3	12.0	102	0.7	24.6
Congenital anomalies	67	2.9	152.3	740	3.7	170.1	34	2.0	81.4	431	3.0	103.9
Disorders of blood and blood forming organs	62	2.7	140.9	540	2.7	124.1	68	3.9	162.7	443	3.0	106.8
Nervous system and sense organ disorders	58	2.5	131.8	722	3.6	166.0	57	3.3	136.4	517	3.6	124.7
Disease of the skin and subcutaneous tissues	42	1.8	95.4	366	1.8	84.1	34	2.0	81.4	294	2.0	70.9
Musculoskeletal system and connective tissue (all)	24	1.0	54.5	208	1.0	47.8	18	1.0	43.1	150	1.0	36.2
Arthropathies	7	0.3	15.9	63	0.3	14.5	10	0.6	23.9	54	0.4	13
All other causes	269	11.4	611.3	3047	15.4	700.5	288	16.8	689.2	2642	18.3	637.1
All Causes Total	2334	100.0	5303.9	19892	100.0	4572.9	1727	100.0	4132.6	14525	100.0	3502.7

* Rate per 100,000 population.

† Includes railway, other road vehicle, water transport, air and space, and other vehicle collisions.

Sources: Hospital In-Patient Data 2001, Provincial Health Planning Database (PHPDB)

Extracted: January 13, 2004, Health Planning Branch, Ontario Ministry of Health and Long-Term Care.

Statistics Canada, 2001 Census.

Injuries

This section provides an overview of hospitalizations and deaths for both intentional and unintentional injuries among Peel and Ontario children and youth aged 0 to 6 years. In addition, it provides a snap shot of injury-related survey data for children 0 to 2 years in the Region of Peel by characterizing the most serious injuries experienced by these children according to the type of injury, body part affected, place of occurrence and reason for the injury. These survey-related data capture injuries that were not necessarily severe enough to result in hospitalization or death.

While injuries represent a significant burden at the individual, familial and societal levels, many of these can be prevented through the identification of risk factors and the development of interventions such as the appropriate use of car seats (*see page 49*) and bicycle helmets (*see page 51*).²

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. Unintentional injuries include injuries that occur as a result of motor vehicle collisions, falls, drownings, burns and poisonings.

Unintentional Injuries

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.

Hospitalization for Unintentional Injury

In 2001, there were 475 hospital admissions for unintentional injuries to children aged 0 to 6 years in Peel. The unintentional injury rate in this age group was 482.4 per 100,000, which was lower than the Ontario rate of 557.6 per 100,000 (*see Table 5.3 on following page*).

Rates of hospitalization for unintentional injury were highest for children aged less than one year, in both Peel and Ontario (*see Table 5.3*).

In Peel, unintentional injury rates overall were higher for males aged 0 to 6 years (525.8 per 100,000) than for females (436.6 per 100,000) in 2001. Injury rates for both males and females in Peel were generally lower among 1 to 6 year-olds than for Ontario. Injury rates were comparable in Peel and Ontario for infants aged less than one year old, however, the rate for infant females in Peel was 12% higher than in Ontario (*see Table 5.3*).

Table 5.3: Hospitalization for Unintentional Injury by Age Group and Sex, Region of Peel and Ontario, 2001

Age Group	Hospitalizations per 100,000					
	Peel			Ontario		
	Males	Females	Total	Males	Females	Total
< 1 year	683.9	558.3	623.3	685.4	496.3	593.6
1–6 years	502.2	418.8	461.6	619.1	482.3	552.3
Total 0–6 years	525.8	436.6	482.4	627.6	484.1	557.6

Sources: Hospital In-Patient Data 2001, Provincial Health Planning Database (PHPDB) Extracted: January 13, 2004, Health Planning Branch, Ontario Ministry of Health and Long-Term Care. Statistics Canada, 2001 Census.

The leading causes of unintentional injury-related hospitalization for Peel varied by age group as shown in Table 5.4. Overall, accidental falls were the most common cause of hospitalization among children 0 to 6 years. The second leading cause of hospitalization among children under one year old was burns and scalds, followed by suffocation. The second leading cause among 1 to 6 year-olds was accidental poisonings, followed by injury from playground equipment.

Table 5.4: Leading Causes of Hospitalization for Unintentional Injury by Age Group, Region of Peel and Ontario, 2001

Age Group	Peel		Ontario	
	Number	Hospitalizations per 100,000	Number	Hospitalizations per 100,000
Less than 1 year	79	623.3	744	593.6
Accidental falls	23	181.5	219	174.7
Burns and scalds	8	63.1	31	24.7
Suffocation, including choking	5	39.4	42	33.5
1–6 Years	396	461.6	4693	552.3
Accidental falls	108	125.9	1285	151.2
Accidental poisonings	32	37.3	317	37.3
Injury from playground equipment	18	21.0	270	31.8
Motor vehicle traffic collisions	13	15.2	144	16.9
Burns and scalds	13	15.2	103	12.1

Sources: Hospital In-Patient Data 2001, Provincial Health Planning Database (PHPDB) Extracted: January 13, 2004, Health Planning Branch, Ontario Ministry of Health and Long-Term Care. Statistics Canada, 2001 Census.

Unintentional Injury-related Deaths

In Peel, there were 53 unintentional injury-related deaths between 1991 and 2000 in children aged 0 to 9 years. The average annual rate of unintentional injury death for this ten-year time period was 4 per 100,000 for Peel and 6 per 100,000 for Ontario. Injury death rates were higher in infants under the age of one year, as shown in Table 5.5. Although not shown, the average annual rate of unintentional injury-related death among children aged 0 to 9 years in Peel was similar in males (4.1 per 100,000) and females (3.9 per 100,000).

Table 5.5: Unintentional Injury-Related Deaths by Age Group, Region of Peel and Ontario, 1991–2000 Combined

Age Group	Peel		Ontario	
	Number	Rate*	Number	Rate*
< 1 year	9	6.8	109	7.7
1–4 years	27	4.9	416	7.0
5–9 years	17	2.6	374	5.0
Total 0–9 Years	53	4.0	899	6.0

* Average annual rate per 100,000.

Source: Ontario Mortality Database, 1991–2000, HELPS (Health Planning System), Public Health Branch, Ontario Ministry of Health and Long-Term Care. Population Estimates 1991–2000, Provincial Health Planning Database (PHPDB), Release date: July 2003, Health Planning Branch, Ontario Ministry of Health and Long-Term Care.

Intentional Injuries

Hospitalization for Intentional Injury

In 2001, there were 39 hospitalizations due to intentional injuries for children aged 0 to 6 years in Peel, for a rate of 39.6 per 100,000 population. The rate for Ontario was 70.4 per 100,000.

Hospitalization rates for intentional injury among females 0 to 6 years in Peel were lower (35.5 per 100,000) than for males (43.5 per 100,000) (see Table 5.6). Peel rates of hospitalization were highest for children aged less than one year, compared to those aged 1 to 6 years. These findings were consistent with rates in Ontario.

Table 5.6: Hospitalization for Intentional Injury by Age Group and Sex, Region of Peel and Ontario, 2001

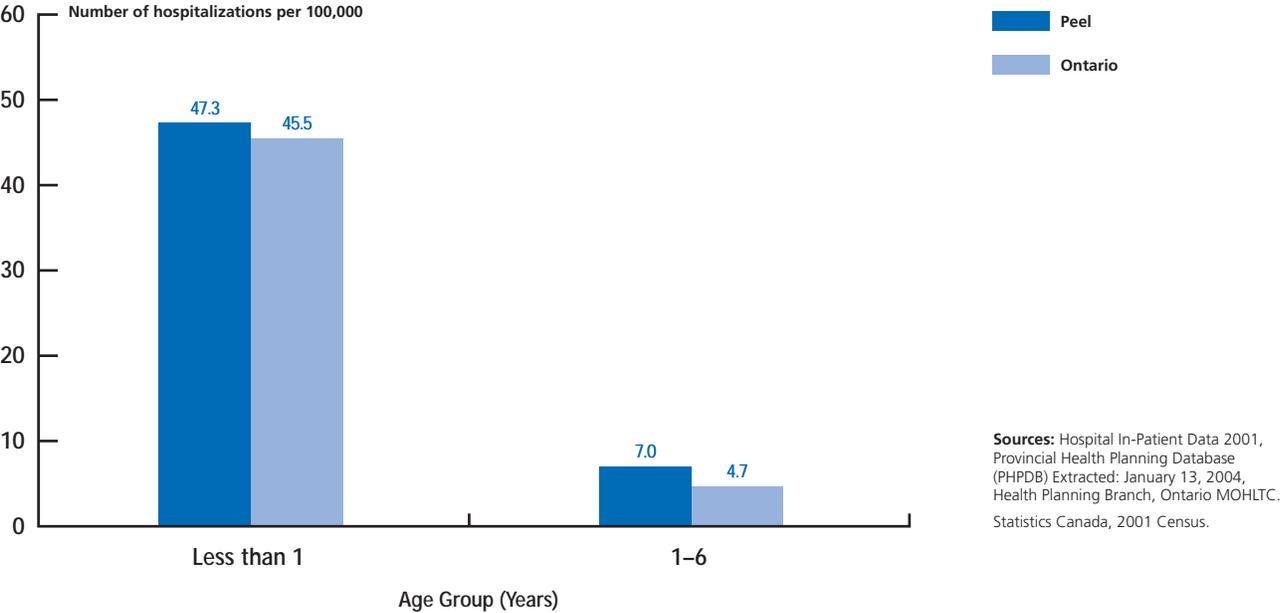
Age Group	Hospitalization per 100,000					
	Peel			Ontario		
	Males	Females	Total	Males	Females	Total
< 1 year	136.8	NR	94.7	249.7	172.5	212.2
1–6 years	29.5	33.5	31.5	55.6	42.9	49.4
Total 0–6 Years	43.5	35.5	39.6	80.7	59.5	70.4

NR = Not releasable due to small numbers.

Sources: Hospital In-Patient Data 2001, Provincial Health Planning Database (PHPDB) Extracted: January 13, 2004, Health Planning Branch, Ontario Ministry of Health and Long-Term Care. Statistics Canada, 2001 Census.

Assault is one of the causes of intentional injury. In Peel, hospitalization rates due to assault were highest in children aged less than one year compared to those in the 1 to 6 year age group. This finding was similar to that in Ontario (see Figure 5.1).

Figure 5.1: Hospitalization Due to Assault by Age Group, Region of Peel and Ontario, 2001



Mortality Due to Intentional Injuries

Between 1991 and 2000 in Peel, there were nine deaths in children aged 0 to 9 years due to intentional injuries for an average annual rate of 0.7 per 100,000. Mortality rates were highest for children aged less than one year (2.3 per 100,000) (data not shown).

Injury Prevalence in Peel

There is consensus among experts that most injuries are predictable and preventable events having identifiable risk factors that can be reduced.⁴¹ However, a 1996 Health Canada study on parental attitudes toward unintentional childhood injuries found that parents were less likely to hold the view that these injuries were preventable.⁴² The majority of parents felt that injuries to children were only “fairly preventable” (42%) or “somewhat preventable” (32%), whereas 17% felt they were “very preventable” and only 2% said they were “completely preventable”.

The *Survey of Parents of Children 0 to 2 Years—2002* asked mothers if their youngest child had, in the past 12 months, experienced an injury serious enough to require medical attention by a doctor, nurse or dentist. Injuries were characterized according to the type of injury, body part affected, place of occurrence and reason for the injury. Where the child had sustained more than one injury, details were collected only on the most serious injury as perceived by the mother.²

Nine per cent of mothers indicated that their child had experienced an injury serious enough to require medical attention in the past 12 months. Of these, 43% of the injuries were cuts, scrapes or bruises, 11% were broken or fractured bones, 9% were burns or scalds, 6% were dislocations, 6% were dental injuries, 5% were concussions, and 2% were sprains or strains (see Table 5.7).²

Table 5.7: Type of Most Serious Injury Among those Children with Injuries, Region of Peel, 2002

Type of Injury	Per Cent
Cut, scrape or bruise	43.0%
Broken or fractured bone	10.9%
Burn or scald	9.4%
Dislocation	6.3%
Dental injury	5.5%
Concussion	4.7%
Sprain or strain	2.3%
Internal injury	0.8%
Other (mostly "head")	17.2%

* Based on injuries serious enough to require medical attention

Source: Survey of Parents of Children 0–2 Years, Region of Peel, 2002.

Of the body parts affected, 31% involved the head or neck, 27% involved arms or hands, 20% involved the face or scalp and 10% involved legs or feet (see Table 5.8 on following page).²

The majority of these injuries occurred either inside the child's own home or apartment (66%) or just outside the home or apartment, including the yard or driveway, parking lot, or other shared areas related to the home such as apartment hallways or laundry rooms (13%). Playgrounds or parks represented only 1% of all locations where an injury occurred; this was also the case for school or daycare settings.²

Table 5.8: Location of Most Serious Injury Among those Children with Injuries, Region of Peel, 2002

Body Part Affected	Per Cent
Head or neck (excluding eyes, face or scalp)	31.3%
Arms or hands	26.6%
Face or scalp (excluding eyes)	20.3%
Legs or feet	10.2%
Eyes	4.7%
Shoulder	2.3%
Trunk (excluding back or spine; including chest or internal organs)	1.6%
Systemic (affecting an entire system)	1.6%
Back or spine	0.0%
Hip	0.0%
Unknown	3.1%

Source: Survey of Parents of Children 0–2 Years, Region of Peel, 2002.

Responses about the nature of the accident revealed that 55% were the result of “falls (excluding bicycle or sports)”. An additional 9% of injuries that were counted in the “Other” category were related to falling from something (e.g. change table, stroller, shopping cart), jumping on the bed and falling, slipping and falling on a wet floor or tripping over objects left on the floor² (data not shown).

Car Seat Safety

Correctly used child restraints can prevent about 70% of motor vehicle collision-related injuries and deaths.⁴³ During 2002 in Canada, less than 20% of all car seats checked were correctly installed, meaning that four out of every five children were not properly restrained in their car seats.⁴³ Common car seat installation mistakes included: placing children forward-facing before they are ready; using the tether strap improperly; improper use of locking clips on seat belts and seat belts that are not tightened sufficiently.⁴⁴ In Ontario, the penalty for not ensuring that a child is properly secured in a vehicle is \$110 and two demerit points against the driver’s licence.^{45,46}

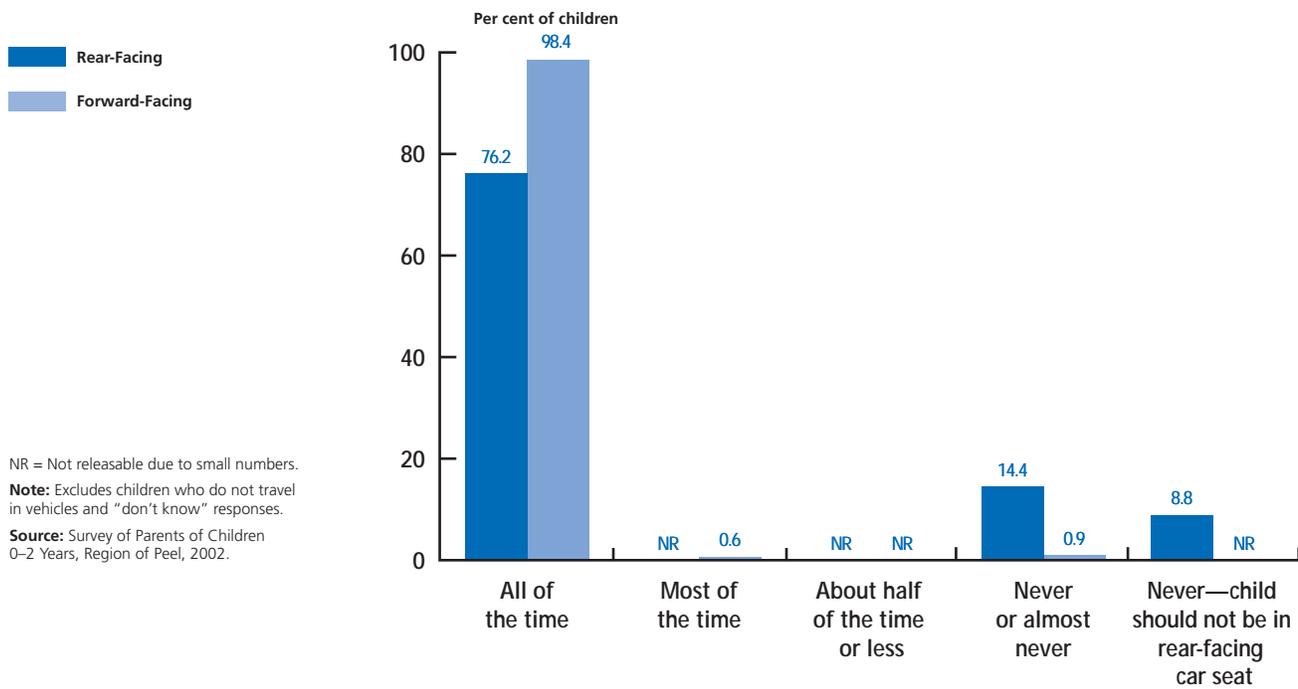
Requirements for car seats or restraints vary depending on the age, weight and height of the child.⁴³ Rear-facing infant seats should be used from birth until the child weighs 10 kilograms (22 pounds); these should never be placed in a seat equipped with an air bag. Forward-facing child seats are intended to be used when the child weighs 10 to 18 kilograms (22 to 40 pounds) and can independently pull to a standing position. These seats must be anchored to the vehicle frame using a tether strap. Booster seats are used for children weighing 18 kilograms (40 pounds) or more. The purpose of these seats is to raise the sitting height of the child to make the adult seat belt assembly (lap and shoulder harness) fit properly. Seat belts may be used when the child reaches 27 kilograms (60 pounds), although some booster seats can accommodate children weighing up to 100 pounds.⁴⁷ The lap belt should be worn low on the hips, while the shoulder belt should be worn over the shoulder and across the chest, not behind the back or under the arm, as this could cause serious injury or death in the event of a motor vehicle collision.⁴⁷

Data from the *Survey of Parents of Children 0 to 2 Years—2002* were used to determine the proportion of children who were restrained in car seats appropriate to their age and weight.

Of the mothers whose children were less than one year of age and under 22 pounds, 76% said that their child always travelled restrained in a rear-facing car seat. Some misunderstanding about the use of these seats was demonstrated, as 9% of mothers believed that the child should never be in a rear-facing car seat (see *Figure 5.2*). No differences were found among the demographic variables examined.²

Of the mothers whose children were one year of age or older and weighed 22 pounds or more, 98% said that their child always travelled restrained in a forward-facing car seat (see *Figure 5.2*). These results did not vary by any of the demographic variables examined.²

Figure 5.2: Proportion of Children Travelling in Appropriate Car Seats, Region of Peel, 2002



Among all children for whom age and weight were provided, 78% were always restrained in car seats appropriate to their age and weight. One limitation to the survey design was that it was conducted over the telephone rather than in person, thus observations of whether the child's car seat was installed correctly and used appropriately could not be obtained.²

The back seat of the vehicle is the safest place in which children can travel.⁴⁷ Transport Canada recommends that children aged 12 and younger be properly restrained in the back seat, especially if there is a front passenger air bag in the vehicle.⁴³ Nearly all mothers (99%) reported that their children always travelled in the back seat of the vehicle, and there were no differences amongst demographic groups for this question.²

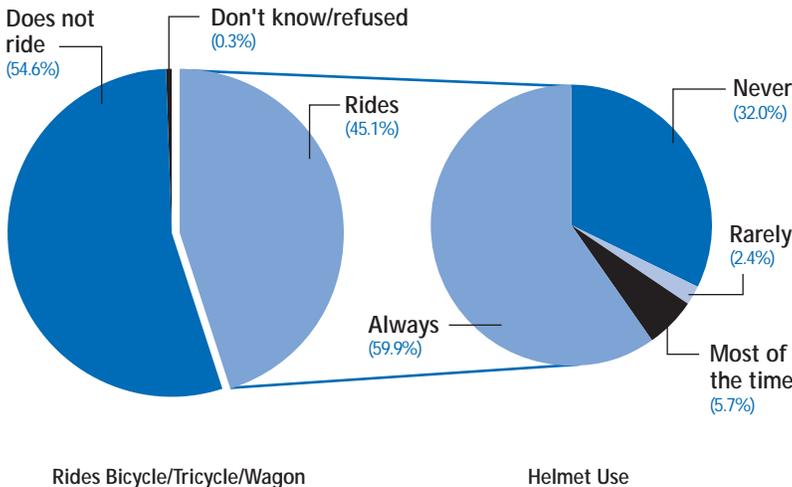
Bicycle Helmet Use Among Children (1 to 2 Years)

In Ontario, the law requires that children and youth under the age of 18 wear an approved bicycle helmet when travelling on any public road.⁴⁸ Research has shown that wearing helmets is effective in preventing head injuries. According to the Hospital for Sick Children, helmet use can reduce the risk of brain injury by up to 88%.⁴⁹ It has also been found that provinces having helmet laws in place have experienced a 45% reduction in the number of head injuries, based on data from 9,650 Canadian children aged 5 to 19 years of age, hospitalized because of a bicycle-related injury.⁵⁰

According to the *Survey of Parents of Children 0 to 2 Years—2002*, 60% of children who rode or were passengers on a bicycle, tricycle or wagon always wore a helmet, 6% wore a helmet most of the time, 2% rarely wore a helmet and 32% never wore a helmet during these activities (see Figure 5.3).²

More riders aged two years old “always” wore helmets (65%) compared to riders aged one year (56%).²

Figure 5.3: Proportion of Children Aged 1 and 2 Years that Wear Bicycle Helmets when Riding on Bicycles, Tricycles or in Wagons, Region of Peel, 2002



Source: Survey of Parents of Children 0–2 Years, Region of Peel, 2002.

Food Insecurity

“Food insecurity” is a term used to define hunger in developed countries.⁵¹ It is the inability to acquire or consume an adequate quality or quantity of food in a socially acceptable way, or the uncertainty that one will be able to do so.

According to data from the National Population Health Survey, 10% of Canadians, or about three million people, were living in food-insecure households in 1998/1999.⁵² Households having low incomes, those depending on social assistance, those led by female lone-parents or those living in rental accommodation had a higher likelihood of experiencing food insecurity. This condition was found to be associated with poor health, multiple chronic illnesses, obesity, distress and depression.

The *Survey of Parents of Children 0 to 2 Years—2002* asked whether, in the past 12 months, they or someone in their household: worried that there would not be enough food for the family to eat; did not eat the desired quality or variety of foods; or did not have enough food for the family to eat, because of a lack of money.² Five per cent of respondents indicated that they worried about insufficient quantity of food (see Table 5.9). Nine per cent said that they or someone in the household did not eat the quality or variety of foods they wanted to and 4% said that someone did not have enough food to eat because of a lack of money at some point in the past 12 months.²

Table 5.9: Food Insecurity by Selected Demographic Characteristics of the Mother, Region of Peel, 2002

Selected Demographic Characteristics of the Mother		..worry there would not be enough food because of a lack of money?	..not eat the quality or variety of food because of a lack of money?	..not have enough food for family to eat because of a lack of money?
Overall		5.1%	8.9%	3.5%
Mother's age	15–19 years	23.5%	29.4%	23.5%
	20 years or more	4.8%	8.6%	3.2%
Marital status	Separated	31.8%	40.9%	22.7%
	Single	14.6%	20.7%	14.6%
	Married	3.6%	6.9%	2.0%
Education	High school or less	10.1%	15.9%	7.4%
	Some college or university	2.9%	8.0%	3.6%
	Completed college or university	3.6%	6.7%	2.2%
Household income	< \$40,000	13.2%	23.4%	8.8%
	\$40,000–\$69,999	4.2%	11.4%	3.4%
	> \$70,000	1.0%	1.9%	0.6%

Note: Respondents were asked “In the past 12 months, did you or anyone else in your household...?”

Source: Survey of Parents of Children 0–2 Years, Region of Peel, 2002.

Mothers who were single or separated, those with a high school education or less, and those in the lowest income category were more likely to report worrying about there not being enough food for their family due to a lack of money (see *Table 5.9 on previous page*). These groups were also more likely to report that they or someone in their household did not eat the variety or quality of food they wanted, or have enough food at some point in the preceding 12 months.²

Dental Health Practices

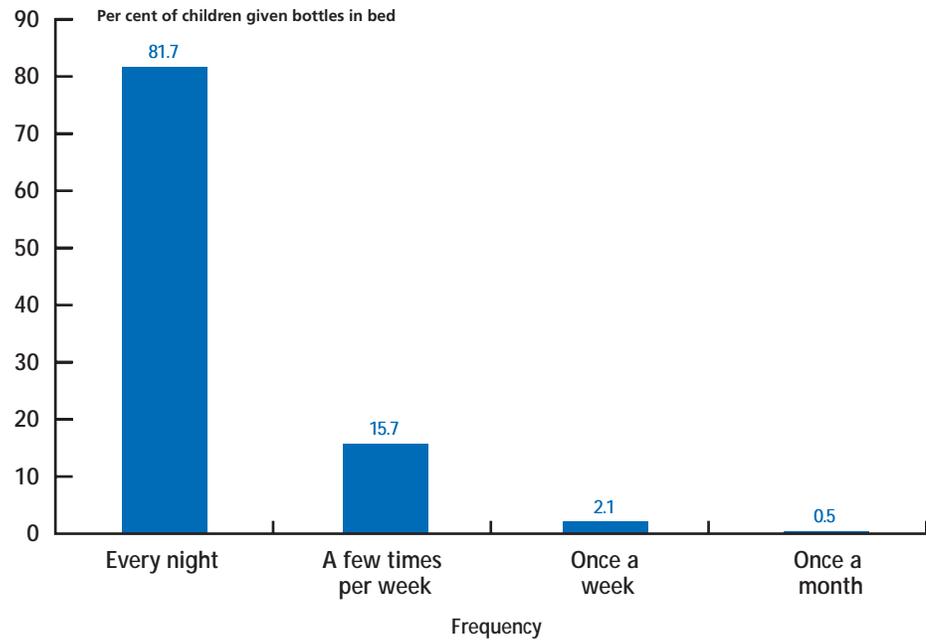
Oral health is an area which is often over-looked, but plays an important role in general well-being. In children, dental disease can cause abscesses in the mouth and undue pain, which can affect eating, sleeping and growth and development.⁵³ While oral diseases are seldom life-threatening, there is increasing evidence that some oral conditions such as gum infections can be associated with systemic diseases such as diabetes, heart disease and stroke.⁵³

The Canadian Dental Association (CDA) recommends that babies and young children not be given bottles in bed; if bottles must be given, the CDA suggests using plain water.⁵⁴ This is because formula, cow's milk, breast milk and fruit juice all contain sugars. Prolonged exposure of the teeth to these sugars can increase the risk of dental caries.⁵⁵ To date, there have been no dental health assessments of the pre-school aged child population in Peel.

The *Survey of Parents of Children 0 to 2 Years—2002*, found that 32% of mothers reported that their children had taken a drink in a bottle to bed at some point in their lives.² Mothers from Caledon were less likely to report that their children had taken a bottle to bed (19%) compared to mothers from Mississauga (32%) and Brampton (34%). The proportion of mothers reporting that their children had ever taken a bottle to bed decreased with increasing age of the mother, increasing levels of education and increasing levels of household income. Single mothers and mothers who were new immigrants were more likely to report that their children had taken a bottle to bed.²

Of those mothers who reported that their children had taken a bottle to bed, 81% reported that this practice still continued. Most of these mothers (82%) reported that their children were taking a bottle to bed every night (see *Figure 5.4 on following page*). The most commonly reported contents of the bottles included milk (75%), water (14%), formula (12%) and juice (8%), followed by other contents such as cereal mixtures, diluted juice or breast milk.²

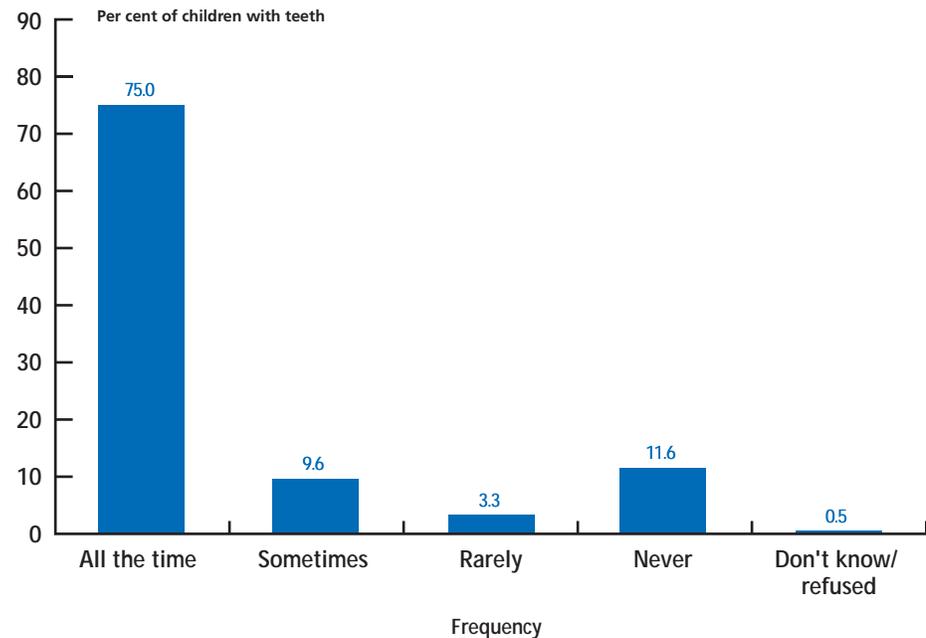
Figure 5.4: Frequency of Children Currently Being Given Bottles in Bed, Region of Peel, 2002



Source: Survey of Parents of Children 0–2 Years, Region of Peel, 2002.

Among mothers who reported that their children had teeth to brush, 75% said that they either brushed their children’s teeth or supervised when they were brushing their teeth all of the time (see Figure 5.5).² However, 15% reported that they rarely or never brushed or supervised the brushing of their children’s teeth.²

Figure 5.5: Frequency of Toothbrushing or Supervision of Toothbrushing for Children with Teeth, Region of Peel, 2002



Source: Survey of Parents of Children 0–2 Years, Region of Peel, 2002.

The Canadian Dental Association (CDA) recommends that children be taken for their first visit to the dentist within six months of the eruption of their first tooth, or around age one.⁵⁶ Among mothers whose children had teeth, 90% reported having a family dentist but only 9% had actually taken their youngest child for a visit to the dentist.

Access to Dental Care in Children Aged 5 Years

A survey of school-aged children was conducted in 2001/2002 to assess the oral health status of children in the Region of Peel. Senior kindergarten students were included in the sample and thus data in this section are only applicable to five year-olds and will address their access to dental care. For more information about Children's Dental Health in the Region of Peel, refer to the Region of Peel Health Department's *Children's Dental Health 2003* report.⁵⁶

“Regular visits to dental care providers allow early identification and intervention to prevent deterioration and consequences of untreated conditions. Dental diseases are progressive and when left untreated may lead to severe pain, dental abscesses and facial swelling which could result in various limitations including problems with eating, sleeping, learning and socializing. Some of the conditions may be considered as urgent depending on the extent of the disease. The tendency for dental diseases to progress to urgent conditions is lower in areas where access to oral health care is good.”⁵⁶

Sealants, appropriately placed soon after the molar teeth erupt, are almost 100% effective in the prevention of dental caries. Despite their effectiveness, use of pit and fissure sealants is not widespread. In Peel, only 2% of five year-olds had one or more sealants placed on their teeth.⁵⁶

The presence of urgent dental conditions indicates a delay in seeking necessary dental care. It may also indicate barriers to accessing dental treatment. Overall, 18% of five year-olds in Peel had urgent dental conditions. The prevalence of urgent conditions among five year-old children in Caledon was less than half that of children of the same age in Brampton and Mississauga.⁵⁶

“Dental caries may be observed in its treated form as fillings or extractions, and in its untreated form as cavities. The proportion of children who have had all their teeth with dental caries restored (filled) without losing any can be used to assess relative access to caries treatment.” Among five year-olds in Peel who have had dental caries, 27% had all the cavities filled.⁵⁶

Exposure to Second-Hand Smoke

Smoking is a leading cause of premature death and preventable illness, both among smokers and non-smokers.⁵⁷ Among young children, exposure to second-hand smoke has been associated with the development of pneumonia, bronchitis and other lung diseases, and is a suspected cause of Sudden Infant Death Syndrome (SIDS).⁵⁸

The findings from the *Survey of Parents of Children 0 to 2 Years—2002* showed that 5% of mothers reported that someone in the household smoked regularly inside the home. A description of the rules around people smoking inside their homes including visitors when their children are home was collected, as well as smoking in the vehicle they drive in most, or are a passenger in with their children.²

The majority of mothers reported that smoking was not allowed in the home at all (94%) or in vehicles (94%) (see Table 5.10).² Although not shown, a total of 90% of mothers reported that smoking was not allowed in their homes nor in their vehicles. These results suggest that approximately 10% of children aged 0 to 2 years are exposed to some degree of second-hand smoke in either their home or vehicle.

Table 5.10: Reported Rules and Understandings about Smoking in Homes and Vehicles with Children, Region of Peel, 2002

Rules and Understandings About Smoking in Homes When their Children are Home	Per Cent of Mothers
Smoking in the home is not allowed at all	93.7%
Smoking in the home is allowed some of the time	0.8%
Smoking in the home is allowed in certain areas	3.8%
Smoking in the home is allowed except if children are present	0.7%
Smokers do whatever they want when in the home	1.0%
Rules and Understandings About Smoking in Vehicles with their Children	Per Cent of Mothers
Smoking in the vehicle is not allowed at all	94.4%
Smoking in the vehicle is allowed some of the time	1.7%
Smoking in the vehicle is allowed except if children are present	2.6%
Smokers do whatever they want when in the vehicle	0.8%

Source: Survey of Parents of Children 0–2 Years, Region of Peel, 2002.

Childhood Immunization

Many important childhood diseases can be prevented by immunization. The level of immunization of the child population is an important determinant of the incidence of vaccine-preventable disease. Immunization against diphtheria, tetanus, polio, measles, mumps, rubella, pertussis, Haemophilus influenzae type b, hepatitis B and influenza is currently provided to Ontario children free of charge, although hepatitis B is not provided to children in early childhood. By January 1, 2005, three new publicly funded vaccines will be added to the recommended schedule of routine childhood immunizations—vaccines for chicken pox, meningococcal type C disease and pneumococcal disease.^{59, 60}

The *Immunization of School Pupils Act* requires that all school-aged children be vaccinated against measles, mumps, rubella, diphtheria, tetanus and polio, or have a record of medical exemption or statement of conscience or religious belief on file with the local Medical Officer of Health.⁶¹ Immunization records for school children are maintained by Peel Health on the provincial Immunization Records Information System (IRIS). Since 2000, all Peel children aged 2 to 4 years attending licensed day care centres have been added to this system,^{62, 63} and their immunization status is now being monitored.

“Immunization coverage” is determined by comparing the number of children whose immunization status is known to be up-to-date for their age with the number of children enrolled in schools or day cares. The immunization schedule for Ontario specifies the number of required doses of each vaccine by the age of the child.^{61, 63}

While immunization programs have been extremely successful in reducing the incidence of vaccine preventable diseases and their effects, cases of these diseases are still reported in Ontario and Peel each year. Some of these cases occur because the population is not fully immunized, while others occur because vaccines are not 100% effective.

Immunization Coverage—Measles, Mumps, Rubella, Diphtheria, Pertussis, Tetanus and Polio

Table 5.11 presents data from IRIS for two combined vaccines: DPT-Polio (diphtheria, pertussis, tetanus and polio) and MMR (measles, mumps and rubella). For Peel, the proportion of the 4 to 6 year-old, school-aged population known to be fully immunized ranged from 71 to 85% in 2003. In general, these coverage rates increased with age in any given year; however, they decreased within each age group from 2000 to 2003. Known coverage rates were lowest for children aged four years.

Table 5.11: Proportion of Children Aged 4–6 Years Fully Immunized Against DPT-Polio and MMR, by Age of Child, Region of Peel, 2001–2003

	Age (Years)		
	4	5	6
% fully immunized in 2000	80.8	85.4	85.9
% fully immunized in 2001	80.9	84.7	86.9
% fully immunized in 2002	74.0	83.4	84.2
% fully immunized in 2003	71.4	77.0	84.7

Source: Immunization Records Information System (IRIS), Region of Peel Health Department, 10/15/2004.

Immunization Coverage—Haemophilus Influenzae Type B

Haemophilus influenzae type b vaccine is recommended for children under the age of five years, but is not required in the Region of Peel unless the child is registered in a licensed day care centre. Table 5.12 presents coverage rates among children attending licensed day care centres in Peel. These rates ranged from 57 to 96% in 2003. In general, immunization coverage increased with increasing age of children. However, with the exception of those less than two years old, coverage rates were lower in 2003 than in 2001 and 2002.

Although not described in this report, immunization coverage rates among Peel children in early childhood were below the national goals.⁶⁴

Table 5.12: Proportion of Children Aged 4 Years and Younger in Day Care Facilities Fully Immunized Against Haemophilus Influenzae Type B, by Age of Child, Region of Peel, 2001–2003

	Age (Years)				
	<1	1	2	3	4
% fully immunized in 2001	86.1	86.3	95.5	98.8	98.5
% fully immunized in 2002	82.6	79.1	86.4	95.8	98.6
% fully immunized in 2003	76.2	56.6	74.1	88.4	95.9

Source: Immunization Records Information System (IRIS), Region of Peel Health Department, 10/19/2004.

Sun Safety

The risk of skin cancer, one of the most frequent of all types of cancer, increases with over-exposure to ultraviolet (UV) rays from the sun.⁶⁵ Children are even more vulnerable than adults because their skin is thinner and more sensitive, thus the UV rays can penetrate more easily. In infants, even a short exposure to summer sun (less than 15 minutes) between 11 a.m. and 4 p.m. might result in serious burns.⁶⁵ Protecting young children from the sun may greatly reduce their risk of developing skin cancer later on in life.⁶⁶

Several diseases of the eye can also result from exposure to UV radiation, and the damaging effects are cumulative, building up steadily over a person's life.⁶⁷ For this reason, it is recommended that people of all ages wear sunglasses that block out harmful UV rays.

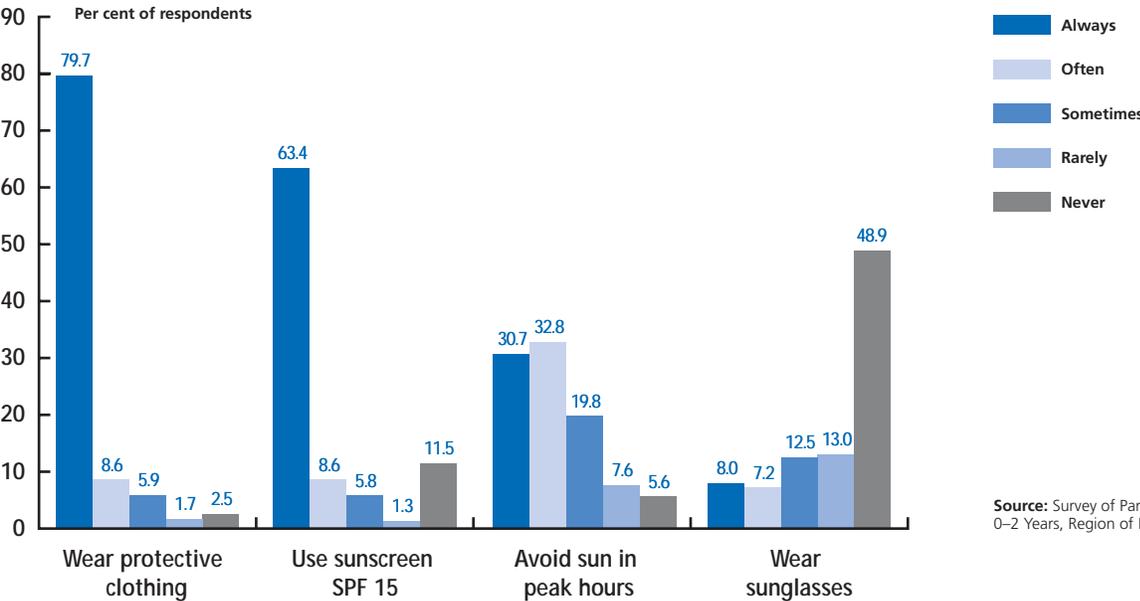
Mothers in the *Survey of Parents of Children 0 to 2 Years—2002* were asked whether any part of their children's bodies had ever been sunburned and with what frequency they used specific sun-protection strategies for their children. Only 5% of mothers reported that their children had been sunburned at some point in their lives. These results were consistent across all demographic groups examined.²

The most commonly used strategy to protect children from the sun was the wearing of protective clothing; 88% of mothers reported their children wore protective clothing “always” or “often” (see Figure 5.6). The use of sunscreen with a sun-protection factor (SPF) of 15 or higher was the second most frequently mentioned strategy, with 72% of mothers using sunscreen on their children either “always” or “often”.²

Avoiding sun exposure between the hours of 11 a.m. and 4 p.m. was a strategy “always” or “often” employed by 64% of mothers. Nearly half (49%) of all mothers said their children never wore sunglasses with UV protection when in the sun.²

Some of these results were found to vary by demographic group. For example, those mothers who were foreign-born and especially those who were new immigrants were not as likely to have their children always wear protective clothing, sunscreen or sunglasses; however, they were more likely to have their children avoid sun exposure during peak hours (see Table 5.13 on following page). Although not shown, mothers from lower-income groups were also less likely to have their children always wear protective clothing or sunscreen compared to mothers with higher incomes.

Figure 5.6: Proportion of Mothers Reporting Use of Sun-Protection Strategies with their Children, Region of Peel, 2002



Source: Survey of Parents of Children 0–2 Years, Region of Peel, 2002.

Table 5.13: Proportion of Mothers Reporting Use of Sun-Protection Strategies with their Children, by Selected Demographic Characteristics, Region of Peel, 2002

Selected Demographic Characteristics	Always Wears Protective Clothing	Always Wears Sunscreen	Always Avoids Sun 11 a.m.–4 p.m.	Always Wears Sunglasses
Overall	79.7%	63.4%	30.7%	8.0%
Canadian-born	84.4%	73.5%	25.2%	9.9%
Foreign-born	72.7%	48.0%	38.9%	5.2%
New immigrant	63.0%	36.2%	44.1%	3.1%

Source: Survey of Parents of Children 0–2 Years, Region of Peel, 2002.

Summary

Leading Causes of Child Mortality and Hospitalization

Between 1989 and 1999, the top three causes of death for children aged 1 to 6 years in Peel and Ontario were injuries and poisoning, cancer and congenital anomalies.

In Peel in 2001, the top three causes of hospitalization for males aged 1 to 6 years were respiratory system diseases, infectious and parasitic diseases; and digestive system diseases. Similarly, the top three causes for females in the same age group were respiratory system diseases, infectious and parasitic diseases; and endocrine, nutritional and metabolic diseases and immunity disorders.

Hospitalization rates for males and females aged 1 to 6 years in Peel were higher than for Ontario.

Injuries

In 2001, rates of unintentional injury-related hospital separations in children aged 0 to 6 years in Peel were lower (482.4 per 100,000) than in Ontario (557.6 per 100,000). Child rates of unintentional injury were higher in males (525.8 per 100,000) compared to females (436.6 per 100,000) in Peel and higher in the less than one year age group. Accidental falls were the leading cause of hospitalization due to unintentional injuries among children aged 0 to 6 years.

Between 1991 and 2000 there were nine deaths among children aged 0 to 9 years from intentional injuries in Peel. Mortality rates were highest for children aged less than 1 year.

In 2002, 9% of mothers reported that their child 0 to 2 years old had sustained at least one injury in the past 12 months serious enough to require a medical visit. Cuts, scrapes and bruises were the most commonly reported type of injury (43%) followed by broken or fractured bones (11%). The head and neck were reported as the most common body parts affected by injuries (31%). Injuries most often occurred either inside the child's own home or apartment (66%) or just outside the home or apartment (13%).

Car Seat Safety

According to the *Survey of Parents of Children 0 to 2 Years—2002*, an estimated 78% of children were restrained in car seats appropriate to their age and weight. However, observations of whether the child's car seat was installed correctly and used properly could not be obtained.

Bicycle Helmet Use among Children 1 to 2 Years Old

Almost half (45%) of mothers surveyed reported that their children aged 1 and 2 years old rode bicycles, tricycles or rode in wagons; however, only 60% of these children always wore a helmet.

Food Insecurity

In 2002, 5% of mothers with children aged 0 to 2 years reported that in the 12 months prior to being surveyed, someone in the household worried that there would not be enough food to feed the family due to a lack of money. Nine per cent reported that someone in the household did not eat the quality or variety of food they wanted because of a lack of money and 4% reported that the family actually did not have enough food to eat due to a lack of money.

Dental Health

The Canadian Dental Association (CDA) recommends that babies and young children not be given bottles in bed; if bottles must be given, the CDA suggests using plain water.⁵⁴ This is because formula, cow's milk, breast milk and fruit juice all contain sugars. Prolonged exposure of the teeth to these sugars can increase the risk of dental caries.⁵⁵

Thirty-two per cent of mothers reported that their children had taken a drink in a bottle to bed at some point in their lives. The proportion of mothers reporting that their children had ever taken a bottle to bed decreased with increasing age of the mother, increasing levels of education and increasing levels of household income. Single mothers and mothers who were new immigrants were more likely to report that their children had taken a bottle to bed.

The most commonly reported contents of the bottles included milk (75%), water (14%), formula (12%) and juice (8%), followed by other contents such as cereal mixtures, diluted juice or breast milk.

Exposure to Second-Hand Smoke

In 2002, an estimated 10% of children aged 0 to 2 years were exposed to second-hand smoke in either their home or vehicles.

Childhood Immunization

Immunization coverage rates among Peel children aged 0 to 6 years were below national goals. For Peel, the proportion of the 4 to 6 year-old, school-aged population known to be fully immunized for DPT-Polio (diphtheria, pertussis, tetanus and polio) and MMR (measles, mumps and rubella) ranged from 71 to 85% in 2003. In general, these coverage rates increased with age in any given year, however, they decreased within each age group from 2000 to 2003. Known coverage rates were lowest for children aged four years.

Haemophilus influenzae type b vaccine is recommended for children under the age of five years, but is not required in the Region of Peel unless the child is registered in a licensed day care centre. Coverage rates for Haemophilus influenzae type b vaccine among children attending licensed day care centres in Peel ranged from 57 to 96% in 2003. In general, immunization coverage increased with increasing age of children.

Sun Safety

Five per cent of mothers reported that their children aged 0 to 2 years had been sunburned at some point in their lives. The most commonly used strategy to protect children from the sun was the use of protective clothing. Eighty-eight per cent of mothers reported that their children wore protective clothing 'always' or 'often'.