The Health Index
MIDDLESEX-LONDON HEALTH UNIT
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CHILDHOOD INJURY PREVENTION: DIFFERENCES IN PARENTAL BELIEFS, PERCEPTIONS & CAMPAIGN AWARENESS

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KEY POINTS

- 16.3% of Middlesex-London parents with children 11 years of age and under were aware of the childhood injury media campaign, "Safe Adventures Start at Home" in 2006. There was a slight increase in awareness levels in 2006 compared to 2004 (14.9%), but this was not statistically significant.
- Awareness of the campaign significantly increased among male parents between 2004 and 2006 from 7.9% to 18.1%. There was no longer a significant gender gap in 2006 compared to 2004.
- Of the parents who were aware of the childhood injury media campaign, the majority of parents (56.3% in 2004; 70.5% in 2006) continued to report that they had used the information to make their homes safer and protect their children from injury.
- The majority of parents continued to correctly identify injuries as the leading cause of death for young children. Yet there was a reduction in the proportion of parents identifying injuries as the leading cause of death between 2004 (66.8%) and 2006 (58.3%).
- Parent's gender, parents' age and household income levels continued to influence parents' knowledge of the leading cause of death for young children from 2004 to 2006.
- Approximately 40% of parents with lower income levels and lower education levels viewed childhood accidents and injuries as "not at all preventable" or only "somewhat preventable" in both 2004 and 2006.
- Over 85% of parents continued to identify the importance of active supervision in preventing childhood injuries in both 2004 and 2006.
- There were no significant differences between parents of children birth to six years of age compared to parents of children seven to eleven years old in terms of campaign awareness and knowledge of childhood injuries as the leading cause of death.

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BACKGROUND

Injuries remain the leading cause of death among young children in Canada [1, 2]. Childhood injuries have also been the most common reason for hospital admissions in Canada for over a decade [3]. Young children are at risk of drowning, burns, poisoning, falls, suffocation resulting from aspiration of objects or strangulation, bodily damage from both sharp and blunt objects and improper restraints in motor vehicles [4]. Unintentional childhood injuries (i.e. those that are not a result of acts of violence or suicide attempts) are being described as an "invisible epidemic" [2].

A recent report released by Safe Kids Canada, investigated changes in unintentional injury rates over a 10-year period between 1994 and 2003 among Canadian children age 14 and under [2]. Results of this study show promising findings for injury prevention efforts; overall death rates for childhood injury have dropped by 37%, and hospitalization rates by 34% [2.] Despite these reductions, unintentional injury remains the leading cause of death. Continued education, environmental changes, public policy change, enforcement of laws and standards, and research and evaluation are required to ensure that injury-related deaths and hospitalizations continue to decline [2].

Within the injury prevention community, it is well understood and accepted that the majority of injuries are predictable and preventable [5, 6]. In fact, experts estimate that up to 90% of childhood injuries are considered both predictable and preventable [7]. However, many people in the general public have the belief that injuries are "accidents" or "acts of fate" and are an inevitable part of life [2, 5, 8, 9, 10]. Changing people's perceptions and beliefs about the nature of childhood injuries is challenging. A recent Safe Kids Canada survey in 2006 revealed that the majority of parents do not know that the leading health risk to children is unintentional injury [10]. Unintentional injury was rated fifth (9%) by parents, where the combined category of obesity, inactivity, and nutrition were ranked first (24%), followed by "don't know" (23%), diseases, (13%) and smoking and secondhand smoke (12%).

The Ontario Ministry of Health and Long Term Care (MOHLTC) Mandatory Health Programs and Services Guidelines [11] instructs health units to provide child health programs that focus on injury prevention and safety. To promote healthy child development, the Government of Canada through the Ministry of Health and Long Term Care (MOHLTC) provided funding for the Early Child Development (ECD) projects in December 2001. Three years later in 2004, the Ontario Ministry of Children and Youth Services took over responsibility for the ECD projects. Along with a number of other early child development initiatives for children birth to six years of age and their parents, childhood injury prevention initiatives were funded until the end of December 2006. Through this ECD funding, the local initiative, called the Early Childhood Injury Prevention Project (ECIPP) was developed. The four-year initiative focused on reducing childhood injuries, disabilities and death among children birth to 6 years of age by ensuring that there are safer homes, childcare settings and communities. In 2002, Middlesex-London Health Unit (MLHU) administered the ECIPP through the child safety committee of London Safe Communities. This committee consisted of a wide range of service providers each with their own mandate to address specific aspects of childhood injury prevention. This group of community partners, which is now known as Child Safety Middlesex London[1], has the mission to collaboratively ensure safety for children with the goal to reduce injuries and deaths.

Over the last four years, the ECIPP has focused on raising awareness among parents and service providers who work in the area of childhood injury prevention. The initiative has involved a number of strategies to reach its goal, including the distribution of home safety devices to families in need, development of home safety checklists, professional development opportunities related to childhood injury prevention, distributing resources at events, financially supporting other injury prevention initiatives in the community, and mass media campaigns.

In order to ensure consistency of messaging and make effective use of resources, a four-year mass media campaign was developed by Child Safety Middlesex London together with five other public health units in the southwest region of Ontario (Elgin – St. Thomas, Lambton, Oxford, Perth, and Huron). Each new focus of the campaign highlighted one of five top causes of injury for younger children, including falls, drowning, burns and scalds, poisoning, and choking/strangulation/suffocation. The campaign involved a variety of mass media including radio, cinema ads, mall media, newspapers, posters, hand-outs, transit shelter ads and displays at events. "Safe Adventures Start at Home" was the campaign title that was launched in 2003 with the aim to increase awareness levels that childhood injuries can be predicted and prevented. In subsequent years, the campaign included specific themes: "Little Climbers Take Big Risks" (falls prevention); "Little Scientists Take

[1] Current member agencies of Child Safety Middlesex London include: Lambton-Kent-Middlesex – Ontario Early Years Centre – Strathroy Satellite, Conseil scolaire de district des écoles catholiques du Sud-Ouest, Growing Concern Child Care, OEYC Perth-Middlesex Satellite, London Health Sciences, Thames Valley District School Board, Canadian Red Cross, Madame Vanier Children's Services, London District Catholic School Board, L Mac Community CPR, London Police Services, Ontario Early Years Centre - London centres, Middlesex-London Health Unit, London Fire Department, Ontario Provincial Police, London Health Science Centre - Trauma Program, YMCA Children's Safety Village

Big Risks" (poison prevention); "Little Sleepers Need Room to Breathe" (safe sleep); and "Keep Your Toddler Safe From Choking" (choking prevention). Over the course of the campaign, there was particular effort placed on creating consistency in terms of the style and design of the materials. In 2004, an additional tagline, "Know the Dangers, Remove the Risks, Be There Every Step of the Way" was added to the campaign messaging in addition to the "Safe Adventures Start at Home" campaign title.

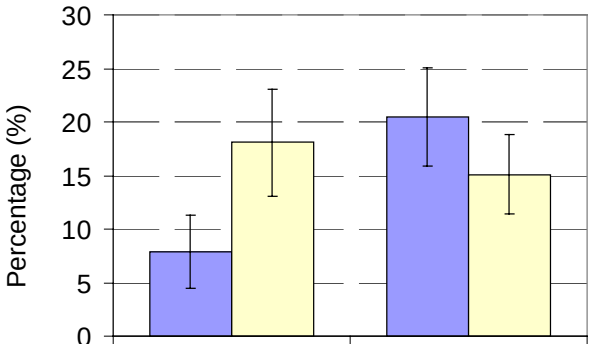
This Health Index reports on data that were collected for the Middlesex-London Health Unit from the Parent Survey-2004 and Parent Survey-2006. The first section of this Health Index focuses on awareness of media campaign messages among parents with children 11 years and under. The second section focuses on beliefs and perceptions towards childhood injury among parents with children 11 years of age and under. The interrelationships between parents' awareness levels of the campaign and their beliefs and perceptions toward childhood injury are investigated. This Health Index also provides comparisons over time from a previous Health Index report on Campaign Awareness [12], which describes results from the Parent Survey-2004. Previous Health Index reports have also reported on knowledge and attitudes of childhood injury prevention among parents and the general population of Middlesex-London [13, 14]. The 2006 survey sample included 589 randomly-selected households in London-Middlesex with parents/caregivers aged 18 years and older and who have at least one child 11 years of age and under. Of the 589 respondents in the survey in 2006, 62.1% were parents or primary caregivers of children birth to six years old. The Parent Survey-2004 included a sample size of 1199 of which 35.7% of respondents were parents or primary caregivers of children birth to six years of age. Additional information about the source of data and analysis procedures for this Health Index are outlined in the methods section.

AWARENESS AND PERCEPTIONS OF UTILITY OF THE CAMPAIGN "SAFE ADVENTURES START AT HOME"

In 2004, 14.9% (±3.0%) of parents were aware of the educational campaign "Safe Adventures Start at Home". By 2006, there was a small, but statistically insignificant, increase in the proportion of parents who were aware of "Safe Adventures Start At Home" (16.3% ±3.0%). Of those parents who were aware of the campaign, there was a small, but statistically insignificant, difference in the proportion of parents who indicated that the "Safe Adventures Start At Home" was "very helpful" between 2004 (30.0% ±10.0%) and 2006 (26.3% ±8.9%). Parents' gender was the only demographic characteristic of those analyzed (see Analysis on page 10) that influenced whether parents were aware of the campaign in 2004 and 2006.

- **Gender:** In 2004, women (20.5% ±4.6%) were significantly more likely to be aware of the campaign than men (7.9% ±3.4%). In 2006, men were becoming more aware of this campaign and there was no longer a significant gender gap (men, 18.1% ± 5.0%; women, 15.1% ±5.0). (see Figure 1)

Figure 1: Awareness Level of "Safe Adventures Start at Home" Campaign by Parents' Gender
Parents/Caregivers (18+),
London and Middlesex County, 2004 and 2006



	Male	Female
2004	7.9	20.5
2006	18.1	15.1

Sources: Parent Survey-2004 and Parent Survey-2006

In 2004 and 2006, there were no statistically significant differences between parents' perceptions of helpfulness of the campaign and the demographic characteristics studied. Data by parent age could not be calculated in 2004 and 2006 due to low frequencies among age groups.

AWARENESS AND PERCEPTIONS OF UTILITY OF THE CAMPAIGN TAGLINE "KNOW THE DANGERS, REMOVE THE RISKS, BE THERE EVERY STEP OF THE WAY"

The "Safe Adventures Start at Home" campaign title has been the primary slogan used throughout the campaign. After 2003, the tagline, "Know the Dangers, Remove the Risks, Be There Every Step of the Way" was added to campaign messages. In the Parent Survey-2006, questions were asked specifically in reference to this additional campaign tagline as well as the campaign title "Safe Adventures Start at Home", recognizing that there is only one campaign. The tagline, "Know the Dangers, Remove the Risks, Be There Every Step of the Way" was not used in the Parent Survey-2004, only the "Safe Adventures Start at Home" title was used in 2004.

Interestingly, the tagline "Know the Dangers, Remove the Risks, Be There Every Step of the Way" was more easily recognized by parents (24.9% ±3.5%) when compared to awareness level of the overall campaign title "Safe Adventures Start at Home" in 2006 (16.3% ±3.0%). Similarly, there was a higher proportion of parents who found the specific campaign tagline and its' accompanying messages "very helpful" (37.1% ±7.9%) compared to the overall campaign title and its' accompanying messages (26.3% ±8.9%). This difference, however, was not statistically significant. There were no statistically significant differences in parent'/caregivers' demographic characteristics with the exception of urban vs. rural residence.

- **Place of Residence:** Parents who lived in the City of London (28.3% ± 4.3%) were more aware of the tagline, "Know the Dangers, Remove the Risks, Be There Every Step of the Way" compared to parents who reside within Middlesex County (15.7% ± 5.8%).

Education level was the only statistically significant predictor found in terms of the usefulness of the campaign information with reference to this specific tagline.

- **Education:** Parents with a high school education or less were more than twice as likely to find the campaign information to be very helpful (63.3% ±17.2%) as compared to parents with some post secondary education (30.1% ±8.5%).

Parental age could not be analyzed in this regard due to small numbers in age groups.

SOURCES OF CAMPAIGN INFORMATION

Identified sources of information on "Safe Adventures Start at Home" remained stable between 2004 and 2006. Mass media including newspaper, radio, television and magazines were the most prevalent methods used to learn about the "Safe Adventures Start at Home" educational campaigns in both 2004 (25.0% ±9.5%) and 2006 (20.0% ±8.0%). Print materials were also useful sources of information for "Safe Adventures Start At Home" in 2004 (28% ±9.8%) and 2006 (14.7% ±7.1%). Day cares and schools remained a stable source of information (13.8% ±16.9 in 2004; 13.7% ±6.9% in 2006). There was a small, but statistically insignificant, increase in the proportion of parents who indicated community-based sources of information between 2004 (<5%) and 2006 (12.6% ±6.7%), as well family, friends and colleagues (<5% in 2004; 11.6% ±6.4 in 2006). All other sources of information were less than 10%, including: poster displays, health professionals, bus shelters/transit, and on-line sources of information.
In reference to the specific tagline, "Know the Dangers, Remove the Risks, Be There Every Step of the Way", print material was the most common source of information (27.9% ± 7.4%) followed by mass media (22.1% ±6.9%). Day cares and schools (12.1% ±5.5%) were also noted as a source of information on this tagline. Family, friends, colleagues in the workplace (11.4% ±5.3%) and community locations (e.g. OEYC, Parent Resource Centre, library, retailer/store) were also sources of information on this tagline (11.4% ±5.3%). Less than five percent of parents who responded to this question noted the following sources of information for the tagline: health professionals, bus shelters, on-line sources and posters as sources of information.

USE OF THE CAMPAIGN INFORMATION

Of the parents who were aware of the "Safe Adventures Start at Home" campaign, the majority of parents indicated that they had used the information to protect their child in both 2004 (56.3% ±11%) and 2006 (70.5% ±9.2%). Between 2004 and 2006, there were no statistically significant differences among parents who indicated that they had turned down their water heaters, used latches and gates (51.3% ±11% in 2004 vs. 46.3% ±10% in 2006); watched their children more closely (17.8% ±8.4% in 2004 vs. 32.6% ± 9.4 in 2006); used spill proof mugs and back burners (7.7% ±5.8% in 2004 vs. 10.53% ±6.2% in 2006); used non-toxic cleaners (7.7% ±5.8% in 2004 vs. 10.5% ±6.2% in 2006); and who taught their children the dangers (15.4% ±7.9% in 2004 vs. 8.4% ±5.6% in 2006). No parents mentioned that they told others about the campaign or sought further information in 2004, and in 2006 only a few parents stated that they did.

Behavioural changes reported in 2006 in association with the "Know the Dangers, Remove the Risks, Be There Every Step of the Way" campaign tagline included turning down the water heater, installing latches and gates (27.9% ±7.4), and watching children more closely (17.9% ±6.4). Teaching children about dangers, use of non-toxic cleaners, back burners, and spill proof mugs, contacting someone for information, and telling someone about the campaign information were less than ten percent of the change reported.

KNOWLEDGE OF THE LEADING CAUSE OF DEATH AND PERCEPTIONS REGARDING INJURY PREVENTION

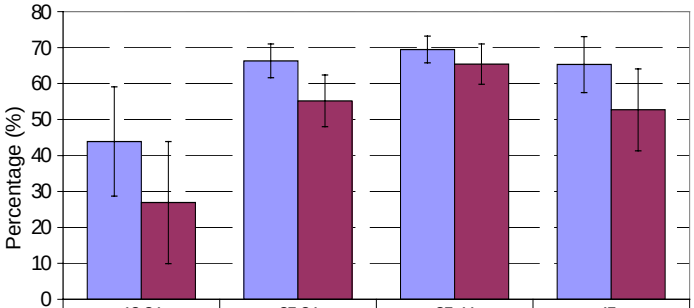
There was a reduction in the proportion of parents who correctly identified injuries and accidents as the leading cause of death in children, from one to six years of age in Ontario between 2004 (66.8% ±2.7%) and 2006 (58.3% ±4.1% in 2006). Knowledge of the leading cause of death in young children (one to six years of age) differed on a number of demographic characteristics as described below. Insignificant predictors of parents'

knowledge of the leading cause of death included marital status, parents' place of residence, and whether or not their children are under or over six years of age.

- **Gender:** In 2004, women were more likely than men to indicate that accidents and injuries were the leading cause of death for children from one to six years of age in 2004 (73.2% ±3.3% vs. 58% ±4.3%, respectively), and in 2006 (63.6% ± 5.1% vs. 50.4% ±6.5%, respectively).

- **Parental/Caregiver Age:** In 2004, a lower proportion of parents under the age of 24 years (43.9% ±15.2%) responded that accidents and injuries were the leading cause of death as compared to parents who were between 25 to 34 years old (66.3% ±4.7%), and between 35 and 44 years old (69.5% ±3.7%). In 2006, a similar age trend was observed. Proportions for all age groups were lower than in 2004. These differences over time, however, were not statistically significant (see Figure 2).

Figure 2: Parents' Who Knew the Leading Cause of Death in Children By Parents' Age
Parents/Caregivers (18+),
London and Middlesex Countv. 2004 and 2006

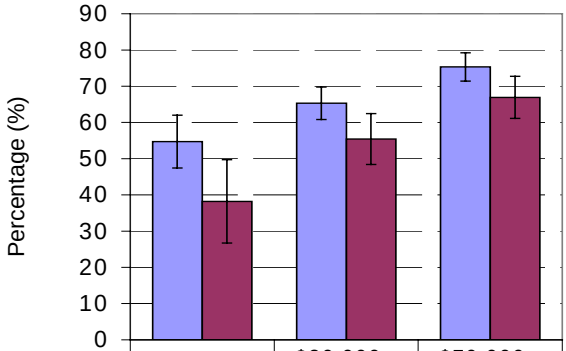


	18-24	25-34	35-44	45+
2004	43.9	66.3	69.5	65.3
2006	26.9	55.2	65.4	52.7

Sources: Parent Survey-2004 and Parent Survey-2006

- **Household Income:** In 2004, parents reporting annual household incomes of less than $30,000 were less likely to select injuries as the leading cause of death (54.7% ±7.3%) as compared to individuals with higher annual household incomes between $70,000 and $99,999 (75.3% ±3.9%). In 2004, parents reporting household incomes from $30,000 to $69,999 were also less likely to select injuries as the leading cause of death (65.3% ±4.5) as compared to individuals with household incomes greater than or equal to $70,000 (75.3% ±3.9%). A significant downward trend occurred in 2006, as only 38.2% (±11.5%) of parents reporting annual household incomes of less than $30,000 selected injuries as the leading cause of death while 66.9% (±5.8%) of parents with incomes between $70,000 and $99,999 responded correctly. (see Figure 3)

Figure 3: Parents' Who Knew the Leading Cause of Death in Children By Household Income
Parents/Caregivers (18+),
London and Middlesex County, 2004 and 2006

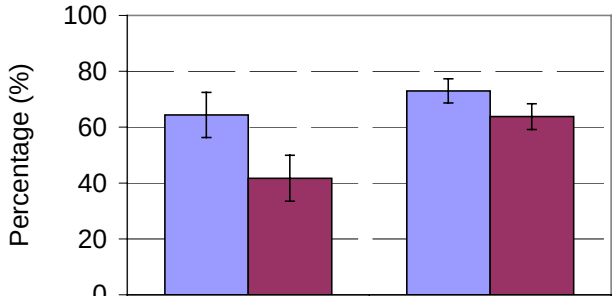


	< $30,000	$30,000 - $69,999	$70,000 - $99,999
2004	54.7	65.3	75.3
2006	38.2	55.4	66.9

Sources: Parent Survey-2004 and Parent Survey-2006

- **Education:** Awareness of the leading cause of death in young children was significantly higher among parents with higher levels of education in 2006, but not in 2004. In 2004, 64.4% (±8.1%) of parents with a high school education or less were aware of childhood injuries and accidents as the leading cause of death, and 73% (±4.3%) of parents with at least some post secondary education provided the correct response. By 2006, 41.7% (±8.2%) of parents with a high school education or less correctly answered the question as compared to 63.8% (±4.6%) of parents with at least some post secondary education. (see Figure 4)

Figure 4: Parents' Who Knew the Leading Cause of Death in Children By Parents' Education Level
Parents/Caregivers (18+),
London and Middlesex County, 2004 and 2006



	High school or less	Some Post Secondary
2004	64.4	73
2006	41.7	63.8

Sources: Parent Survey-2004 and Parent Survey-2006

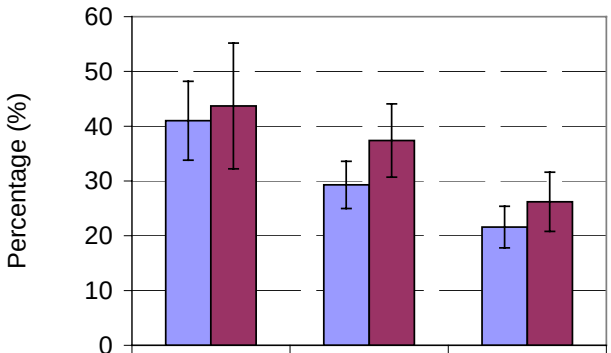
- **Knowledge of "Safe Adventures Start at Home" Campaign:** In 2004, parents who were aware of the "Safe Adventures Start at Home" campaign identified accidents and injuries as the leading cause of death significantly more often (85% ±7.8%) compared to parents who were not aware of the campaign (68.3% ±4.3%). However, in 2006, there were no statistically significant differences in awareness of the leading cause of death according to whether or not parents were aware of "Safe Adventures Start at Home" (aware, 59.3% ±7.3%; not aware, 57.9% ±4.9%).

PERCEPTIONS REGARDING THE PREVENTION OF INJURIES:

In 2006, 52.5% (±4%) of parents viewed childhood injuries as "very preventable", 14.9% (±2.9%) of parents viewed accidents and injuries as "completely preventable", and 32.6% (±3.8%) of parents thought that accidents and injuries were "not at all preventable" or "somewhat preventable". This trend is unchanged from 2004 when 54.1% (±2.8%) of parents viewed childhood injuries as "very preventable", 17.4% (±2.1%) of parents viewed childhood injuries as "completely preventable", and 28.5% (±2.6%) of parents viewed childhood injuries as "not at all preventable" or "somewhat preventable". Beliefs that early childhood injuries and accidents are "not at all preventable" or "somewhat preventable" vary significantly on some demographic characteristics, including household income and education level as described below. No statistically significant differences were found for gender, parental age, marital status, and place of residence in both 2004 and 2006.

- **Household Income:** In 2004, parents reporting annual household incomes of less than $30,000 were considerably more likely to believe that accidents and injuries are "not at all preventable" or "somewhat preventable" (41% ±7.2%) as compared to individuals in higher annual household incomes between $30,000 and $69,999 (29.3% ±4.3%), and between $70,000 and $99,999 (21.6% ±3.8%). This trend continued in 2006 where parents reporting annual household incomes of less than $30,000 (43.7% ±11.5%) were more likely to state that accidents and injuries are "not at all preventable" or "somewhat preventable" compared to parents with incomes between $70,000 and $99,999 (26.2% ±5.4%). (see Figure 5)

Figure 5: Parents' Perceptions that Childhood Injuries are "Not at All Preventable" or "Somewhat Preventable" By Household Income
Parents/Caregivers (18+),
London and Middlesex County, 2004 and 2006

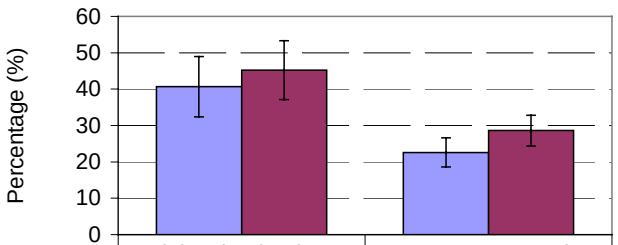


	< $30,000	$30,000 - $69,999	$70,000 - $99,999
2004	41	29.3	21.6
2006	43.7	37.4	26.2

Sources: Parent Survey-2004 and Parent Survey-2006

- **Education:** The perception that injuries are "not at all preventable" or "somewhat preventable" was substantially higher among parents with lower levels of education in both 2004 and 2006. In 2004, parents with lower levels of education were more likely to think that accidents and injuries were "not at all preventable" or "somewhat preventable" (40.7% ±8.3%), while 22.6% (±4%) of parents with at least some post secondary education thought accidents were "not at all preventable" or "somewhat preventable". In 2006, this trend continued with 45.2% (±8.1%) of parents with lower levels of education thinking that accidents were "not at all preventable" or "somewhat preventable" as compared to 28.6% (±4.2%) of parents with at least some post secondary education. (see Figure 6)

Figure 6: Parents' Perceptions that Childhood Injuries are "Not at All Preventable" or "Somewhat Preventable" By Parents' Education Level
Parents/Caregivers (18+),
London and Middlesex County, 2004 and 2006



	High school or less	Some Post Secondary
2004	40.7	22.6
2006	45.2	28.6

Sources: Parent Survey-2004 and Parent Survey-2006

PERCEPTIONS OF THE PARENTAL/CAREGIVER ROLE IN INJURY PREVENTION

The majority of parents in 2004 (90.4% ±1.7%) and 2006 (89.6% ±2.5%) believed that they can make "lots of difference" in preventing injuries from children ages birth to 6 years, with the exception of younger parents ages 18-24 years as described below. There were several insignificant predictors including: gender, marital status, household income, education level, and place of residence.

- **Parental/Caregiver Age:** In 2004, there was no statistically significant difference among parents under the age of 24 years (82.9% ±11.5%) who believed that parents can make "lots of difference" to prevent accidents and injuries as compared to parents who were between 35 and 44 years old (91.2% ±2.2%). However, in 2006, there was a considerably lower number of parents under the age of 24 years (76.9% ±6.2%) who indicated that parents can make "lots of difference" to prevent accidents and injuries as compared to parents between 35 and 44 years old (91.8% ±3.2%).

WAYS TO PREVENT INJURIES:

The majority of parents in 2004 (87.7% ±1.7%) and in 2006 (91.6% ±2.3%) continued to identify that active supervision is most likely to prevent a child from birth to six years from being injured. There were no statistically significant differences observed for gender, age, marital status, education, and place of residence. Household income was the only statistically significant demographic characteristic in relation to parents' identification of ways to prevent childhood injuries.

- **Household Income:** In 2004, parents reporting annual household incomes of less than $30,000 were less likely to believe that active supervision prevents accidents and injuries (80.9% ±5.8%) as compared to parents with incomes between $30,000 to $69,999 (90.1% ±2.8%), and individuals with higher annual household incomes between $70,000 and $99,999 (92.1% ±2.5%). In 2006, the findings were similar to 2004, but the difference was not statistically significant. In 2006, 84.5% (±8.4%) of parents with incomes less than $30,000 believed that active supervision prevents injury compared to 94.1% (±2.9%) of parents with incomes between $70,000 and $99,999.

PARENTAL/CAREGIVER BELIEFS, PERCEPTIONS & KNOWLEDGE OF CHILDHOOD INJURY PREVENTION CAMPAIGNS

In 2004, there was a difference in the knowledge and attitudes of parents with respect to knowledge of the leading cause of death and perceptions regarding injury prevention based on whether or not parents were aware of the "Safe Adventures Start at Home" campaign (aware 85% ±7.8%; not aware 68.3% ±4.3%). However, in 2006, there were no statistically significant differences in the knowledge and attitudes of parents with respect to knowledge of the leading cause of death, and awareness level of the campaign in reference to the campaign title "Safe Adventures Start at Home", and the campaign tagline, "Know the Dangers, Remove the Risks, Be There Every Step of the Way".

SUMMARY AND IMPLICATIONS:

It was hoped that over the course of a multi-tiered campaign there would be an increase in the number of parents who were aware of the campaign, especially among those parents with children six years of age and under. The campaign topics focused specifically on targeting parents and caregivers who care for children six years of age and under. However, the findings in this Health Index report that there were no statistically significant increases in parental awareness level of the "Safe Adventures Start at Home" campaign between 2004 and 2006, even among parents with children six years of age and under. When investigating demographic characteristics and campaign awareness, no other demographic characteristics that were investigated (i.e. parents' age, household income, marital status, parents' education level, and place of residence, age of children) affected the level of campaign awareness, except for parents' gender. There were gender differences in 2004 in relation to awareness level of the campaign with a significantly higher proportion of female parents aware of the campaign compared to male parents. However, by 2006, there was not a significant difference in campaign awareness between men and women. The reduction in the gender gap is a promising finding which suggests that over time male parents may have become more attentive to parenting information as it relates to childhood injury messages. There were specific changes made to the campaign dissemination strategies to target males over the course of the campaign to further explain the increased awareness level among male parents. For example, advertisements were placed during commuting hours on radio stations that have a large number of male listeners (i.e. 1290 CJBK Radio Newstalk, BX 93 FM).

Furthermore, there were no statistically significant differences in the proportion of parents who found the campaign very helpful between 2004 and 2006. There were also no statistically significant differences between perceptions of helpfulness of the campaign and the demographic characteristics that were investigated (i.e. parents' gender, parental age, household income, marital status, education, place of residence).

In 2006, when parents were asked about their awareness of the campaign in reference to the specific tagline "Know the Dangers, Remove the Risks, Be There Every Step of the Way", a significantly higher proportion of parents reported awareness level of the campaign tagline compared to the overall campaign title, "Safe Adventures Start at Home". A significantly higher proportion of parents who live in the City of London were aware of the tagline, "Know the Dangers, Remove the Risks, Be There Every Step of the Way" compared to parents who reside in Middlesex County. Disseminating information continues to be challenging in rural areas, because some of the campaign strategies, such as bus shelter ads and transit ads are not available within rural areas. The main ways to disseminate campaign information to rural residents include newspapers, print sources, and radio ads. There were no significant differences between awareness level of the campaign and other demographic characteristics that were examined, including parents' gender, parents' age, household income, marital status, and education.

A significantly higher number of parents with less than a high school education found the "Know the Dangers, Remove the Risks, Be There Every Step of the Way" tagline and it's accompanying campaign messages to be very helpful compared to parents with some post secondary education. This tagline appeared to resonate more with parents who have lower education levels. These findings that highlight the differences between the specific taglines and the overall campaign title reinforce the value in pre-testing campaign messaging because of the multiple ways that information can be interpreted, and the importance of carefully crafted campaign slogans.

Mass media including newspaper, radio, television and magazines, as well as print material were the most frequently mentioned sources of information for both "Safe Adventures Start at Home" campaign title, and the specific tagline, "Know the Dangers, Remove the Risks, Be There Every Step of the Way". Day cares and schools were also noted as an important source of campaign information. Family, friends and colleagues as well as health professionals need to be encouraged to discuss the topic of prevention of childhood injuries. These groups have the potential to reinforce positive messages and clarify misconceptions.

When comparing results from 2004 to 2006, there were no statistically significant differences in the proportion of parents who reported how they had used the campaign information to protect their child. However, a large percentage of parents continued to report that they had turned down their water heaters, used latches and gates and watched their children more closely as a result of the campaign information. It is not surprising that fewer parents noted that they taught their children about dangers, used non-toxic cleaners, back burners and spill proof mugs because the campaign messages did not emphasize these strategies.

A limitation of the Campaign Awareness module is that it relies on a telephone survey to recall whether or not parents were aware of the educational campaign. There is a possibility that parents would have better recall of the educational campaign if there were additional cues, such as being able to view the posters or hear the radio ads.

Between 2004 and 2006, there was a statistically significant decrease in the number of parents who were able to correctly identify injuries and accidents as the leading cause of death in children from one to six years of age. This finding may be explained by changes to the messaging that occurred over the course of the campaign. The first campaign messages focused specifically on promoting the leading cause of death among children, but campaign messages in later years focused on specific injury prevention messaging. This explanation is further validated by the finding in 2004 that parents who knew about the "Safe Adventures at Home" campaign also were more likely to know the leading cause of injury. Yet, in 2006 there was a statistically insignificant finding in terms of parents' knowledge of the leading cause of childhood death and their awareness level of the campaign. These results speak to the need to continue to highlight the same message if the primary goal is to increase knowledge among parents about the leading cause of death for children.

Furthermore, a number of demographic characteristics consistently influenced parental knowledge of the leading cause of death in children across 2004 and 2006. Women are more likely than men to answer correctly. Older parents (age 25 and older) were also more likely than younger parents (24 years and less) to answer correctly. In addition, parents with higher household incomes ($70,000 plus) were more likely than parents with household incomes below $30,000 to answer correctly. In 2006, considerably more parents with higher levels of education (at least some post secondary) provided the correct response when compared to parents with lower levels of education (high school or less). Similarly, a previous study reported lower levels of campaign awareness among the general

population for specific sub-groups including males, those with lower education levels, and those with lower household income levels [14]. In summary, the specific sub-groups who had lower levels of awareness about the leading cause of death in children (i.e. male parents, parents 24 years old and less, parents with household incomes below $30,000, and parents with a high school education or less) may warrant specialized campaign messages and tailored injury prevention programming to ensure that their knowledge level of childhood injury prevention increases.

There appears to be a discrepancy for some parents in terms of their knowledge that active supervision is most likely to prevent a child from being injured, and their perceptions that childhood injuries are preventable. Consistent with findings from previous Health Indexes involving feedback from the general population [14] and parents of young children [13], the majority of parents involved in the Parent Surveys in 2004 and 2006 identified that active supervision is most likely to prevent a child from being injured.

Yet, in 2004 and 2006, there was a significantly higher proportion of parents with low-incomes (less than $30,000) and parents with lower levels of education (high school or less) who believe that accidents and injuries are "not at all preventable" or are "somewhat preventable". Similar findings were also found in previous Health Indexes concerning perceptions and beliefs towards childhood injury prevention among the general population 14 and parents of young children [13]. These notable demographic differences suggest that future injury prevention programming should be more focused on making changes within these socio-economic groups.

Injuries remain a major public health concern. Further research and monitoring of parents' beliefs and perceptions towards childhood injury issues should continue on the population level in order to inform the development of effective prevention strategies for differing sub populations. As the cohort of parents change over time and as new parents emerge, there is an ongoing need to continue sharing injury prevention messages in order to promote the health and well-being of children.

METHODS AND DEFINITIONS

Data

The results presented in this Health Index are based on the Parent Survey-2006 collected from April 6 to July 4, 2006 and the Parenting Survey-2004, conducted from March to November 2004. All data were collected for the Middlesex-London Health Unit (MLHU) by the Institute of Social Research (ISR), York University. Two modules are analyzed in this Health Index, including Childhood Injury Prevention Campaign Awareness module, and Childhood Injury Prevention Beliefs and Perceptions module. The purpose of the Childhood Injury Prevention Campaign Awareness module is to determine public awareness levels of media campaign messages, and possible behavioural changes in response to campaign messages. The purpose of the Childhood Injury Prevention Beliefs and Perceptions module is to determine public beliefs and perceptions about childhood injury prevention. The Beliefs and Perceptions module was included on the Parent Survey-2004 and the Parent Survey-2006. The Campaign Awareness module was included on both Parent Surveys in 2004 and 2006.

Data for both Parent Surveys were collected through a telephone survey of households with children 11 years of age and under, and adults aged 18 and older. ISR randomly selects households with telephones in the City of London and Middlesex County. Every effort is made to complete the interview, however, as many as 12 attempts is standard practice. The final sample for analysis was 589 for the Parent Survey-2006 and 1199 for the Parent Survey-2004.

Childhood Injury Prevention: Campaign Awareness Module

The Childhood Injury Prevention Campaign Awareness module administered in the Parent Survey-2004 included questions related to the "Safe Adventures Start at Home" slogan. The slogan "Safe Adventures Start at Home" was also employed in the module for the Parent Survey-2006. However, a separate series of questions was also asked in relation to another slogan that has been used consistently throughout the four-year campaign [Note: This slogan was not used in the Parent Survey-2004. Only the "Safe Adventures Start at Home" slogan was used in 2004]. This slogan is entitled "Know the dangers. Remove the risks. Be there every step of the way." As a result, the module in the Parent Survey-2006 consisted of the following ten questions:

1. How often do you have children under the age of seven in your home: would you say always, often, sometimes, rarely or never?
2. Have you heard or read about "Safe Adventures Start at Home", a campaign to prevent childhood injury?
3. Have you heard or read about "Know the dangers. Remove the risks, be there every step of the way", a campaign to prevent childhood injury?
4. How did you hear or read about "Safe Adventures Start at Home"?
5. How did you hear or read about "Know the dangers. Remove the risks. Be there every step of the way"?
6. Was this child injury prevention information very helpful, somewhat helpful or not helpful to you?

7. Have you used the information you learned in the "Safe Adventures Start at Home" campaign to protect children from injury in your home?
8. Have you used the information you learned in the "Know the dangers. Remove the risks. Be there every step of the way" campaign?
9. How have you used the information from the "Safe Adventures Start at Home" campaign in your home to protect children from injury?
10. How have you used the information from the "Know the dangers. Remove the risks. Be there every step of the way" campaign in your home to protect children from injury?

Childhood Injury Prevention: Beliefs and Perceptions Module

The Childhood Injury Prevention Beliefs and Perceptions module administered in Parent Survey –2004 and the Parent Survey-2006. The module comprised four multiple choice questions including the following:

1. First, we want to ask you about the leading cause of death in children, from one to six years of age in Ontario over the last year. I am going to read a list of four causes, please tell me which ONE you think was the leading cause, they are: illnesses and diseases; injuries and accidents; child abuse and neglect; or health problems children are born with such as heart disease?
2. The next questions are about injuries and accidents to children from birth to six years of age. Generally, would you say injuries to children are not at all preventable, somewhat preventable, very preventable, or completely preventable?
3. What do you think is most likely to prevent a child, from birth to six years from being injured: active supervision by a parent or caregiver, safe toys and furniture, or special products to help keep children safe?
4. How much difference can parents or caregivers make in preventing injuries from happening to children from birth to six years: no difference, very little difference, some difference, or a lot of difference?

Analysis

Results are analyzed using standard methods and guidelines outlined by the RRFSS Manual of Operations. All percentages in this Health Index are provided with 95% confidence intervals. Differences in proportions were considered statistically significant at p. <0.05. Differences in proportions reported in this Health Index are considered statistically significant unless stated otherwise. In accordance with the RRFSS analysis guidelines, "Don't Know" and "Refused" responses were retained in the denominator for all calculations. Results were subject to suppression if any one of the following conditions existed: denominator of a rate was less than 30, numerator was less than five or if the co-efficient of variation was greater than 33.3. No household weights were applied.

These data are limited since they are self-reported and there is the possibility that people will respond with the socially desirable response. Parents may report having knowledge and attitudes about preventing injury to their children, but do not necessarily use safe practices at home.

The following predictors of campaign awareness, and parental knowledge and attitudes of childhood injury were used in this Health Index:

- Parent's age: parents were divided into four age cohorts: aged 18-24, 25-34, 35-44 and 45 and older.
- Parent's gender: 'Male' or 'Female'
- Parent's marital status – two categories of marital status were identified:
  1. 'Married" – respondents who were either married or in common law union
  2. 'Single, Widowed, and Divorced' – this category includes respondents who were never married, separated, divorced, or widowed
- Parent's educational attainment – parents were categorized into two groups based on their highest level of education they obtained:
  1. 'High school or less' and
  2. 'Some Post secondary' – more than high school, including some college and/or university, and post secondary graduates
- Household income – parents were categorized into four groups based on their household income before taxes for the annual year prior to the survey:
  1. 'Low income' – $29,999 and less
  2. 'Mid-income' – between $30,000 and $69,999
  3. 'Mid to upper income' – between $70,000 and $99,999
- Place of Residence – region was divided into two areas:
  1. 'City of London' – includes respondents who identified that they live in London
  2. 'County of Middlesex' – includes respondents who identified that they reside in Middlesex County
- Age of Children – two categories of children's age were identified:
  1. parents of children birth to six years of age
  2. parents of children seven to 11 years of age

Demographic Characteristics of the Sample:

Parents who participated in the Parent Surveys in 2004 and 2006 had similar characteristics (See Figure 7). In 2004, only 546 parents were asked their level of education because this variable was included part way through the survey process. Parents older than 45 years and single, widowed and divorced parents were less likely to have children under 6 years of age.

Figure 7: Demographic Characteristics of the Sample

Demographic Characteristic	2004 n = 1199	2006 n = 589
Sex Female	58.1%	60.6%
Median Age	35-45 years	35-45 years
Married or Living Common-Law	81.7%	83.7%
Some Post Secondary Education	75.3%	75.3%
Median Income	$30,000 to $69,999	$30,000 to $69,999
Resides in the City of London	75.2%	73.7%
Children Birth to 6 Years of Age Living in the Home	35.7%	62.1%

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