

Injury Prevention: Perceptions and Beliefs

KEY POINTS:

- 70% of adults in Middlesex-London perceived unintentional injuries as 'somewhat' predictable.
- Nearly half of residents perceived unintentional injuries as 'very' or 'completely' preventable.
- 44% of adults believed that they have 'a lot of control' to prevent injuries
- More than one third of adults correctly identified unintentional injuries as a leading cause of death
- Adults aged 65 and over, with lower education levels or lower household income were less likely to perceive injuries as preventable and had lower awareness of the actual risk of injury

Campaign

The BeCause Injuries are Predictable and Preventable campaign is a communication initiative in the Middlesex-London area that aims to create public awareness that injuries are predictable and preventable, and that individuals have the capacity to prevent injuries. Prior to the development of the campaign, formative evaluations were conducted through focus groups within the Middlesex-London community to determine the public's understanding of predictability and preventability in regards to injury prevention, as well as to gather information regarding social marketing preferences. Using the recommendations from the focus group report, the campaign materials and dissemination strategy were created. Over the course of two years three phases were launched and each phase was selected based on unintentional injuries that are prevalent in the community. In addition to considering local statistics for the selection of each phase, topic areas were also selected to reinforce and coincide with new legislation (e.g., Bill 188- Countering Distracted Driving). The phases included distracted driving (Dec. 2009 to Jan. 2010; Oct. 2010 to Nov. 2010), bike helmet use (Apr.2010 to May 2010), and childhood home injuries (May 2011).

Data collection period:

Jan. 2009 to Dec. 2010
Sample Size (N) = 2409

RRFSS

The Rapid Risk Factor Surveillance System (RRFSS) is a longitudinal population health survey conducted in partnership by a number of health units in Ontario and administered by the Institute for Social Research (ISR) at York University. Each month, a random sample of approximately 100 people from Middlesex County and London aged 18 years and older are interviewed to find out about their health, their health behaviours, and their awareness of health-related issues.

Analysis

The purpose of the evaluation was to measure the difference in reported injury prevention beliefs before and after implementation of the BeCause campaign. Secondly, the purpose was to identify which subgroups in the population were less likely to be aware of the BeCause messages. This was done by estimating the proportion of adults who believe that unintentional injuries are largely predictable and preventable and by estimating adults' perceived level of control over the prevention of unintentional injuries.

To explore differences between baseline and post-intervention perceptions, descriptive proportions and 95% margins of error were calculated. Pearson's X^2 test for trend was used to measure increases in awareness over the course of the campaign. In addition, a multinomial logistic regression model was used to determine predictors

of injury beliefs (e.g., gender, age, income, and education level). Odds ratios (OR) with 95% margins of error were used to express the strength of association for each predictor.

Results

Two thousand four hundred and nine Middlesex-London residents were surveyed. Average age was 49.6 years; more than half were women (57.5%), 85.6% had an annual household income of at least \$30,000 and 90.2% had completed high school.

Perceptions regarding the predictability and the preventability of injuries

Respondents were asked whether they believed that injuries are predictable. The predominate view was that injuries were 'somewhat' predictable (70.3% ± 1.9) followed by 'very'/'completely' (21.7% ± 1.7) and 'not at all' predictable (8% ± 1.1). Residents were then asked whether they believed that injuries are 'not at all', 'somewhat' or 'very'/'completely' preventable. Nearly all respondents believed that unintentional injuries were preventable to some degree; 49.7% ± 2.0 of respondents believed injuries were somewhat preventable and 48.8% ± 2.0 of respondents believed injuries were 'very'/'completely' preventable. Figures 1 and 2 illustrate this perception trend over time of which there was no evidence of an increase of the perception that injuries are 'very'/'completely' predictable or preventable in the community over the time of the campaign. The findings indicate that the BeCause campaign had no statistically significant impact on perceptions of injury prevention ($X^2_{trend}, p > 0.05$).

Figure 1: Adults' belief that unintentional injuries are predictable

Middlesex-London, 2009-2010

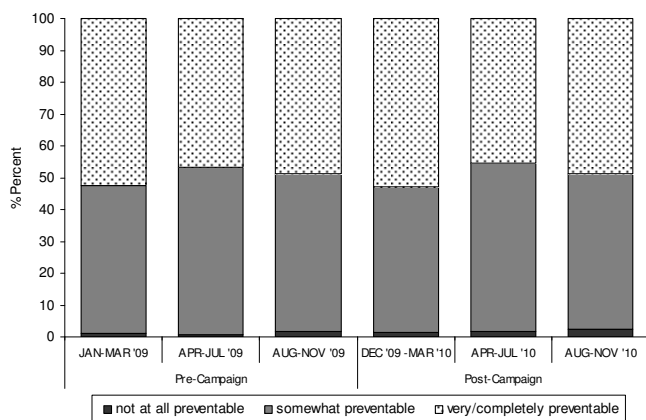
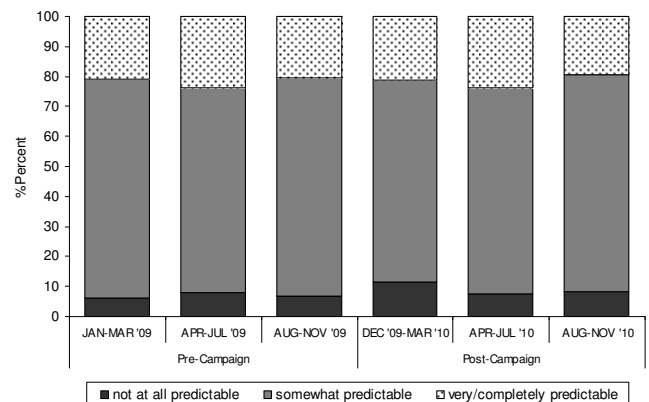


Figure 2: Adults' belief that unintentional injuries are preventable

Middlesex-London, 2009-2010



Gender: There was no statistically significant difference between men's and women's perception of the predictability and preventability of injuries.

Age: There was a small but significant difference in the belief that injuries were 'very'/'completely' preventable among adults aged 65 and older (43.2% ± 4.6) as compared to adults aged 25-44 (51.9% ± 3.8)

Education and Income: Those who perceived injuries as 'very'/'completely' preventable, were significantly more likely to have higher education (Figure 3) and household income (Figure 4). Education also remained as a significant predictor of whether injuries were perceived as predictable such that having less than high school education increased the likelihood of believing injuries were not at all predictable by 3.4 times (95%CI [OR]: 1.1 to 5.2) when compared to post secondary graduates.

Figure 3: Adults' who believe unintentional injuries are largely preventable by education

Middlesex-London, 2009-2010

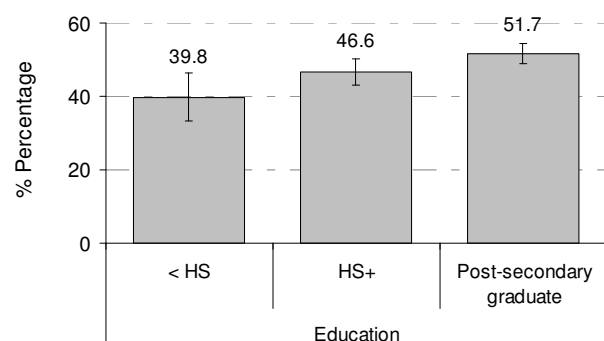
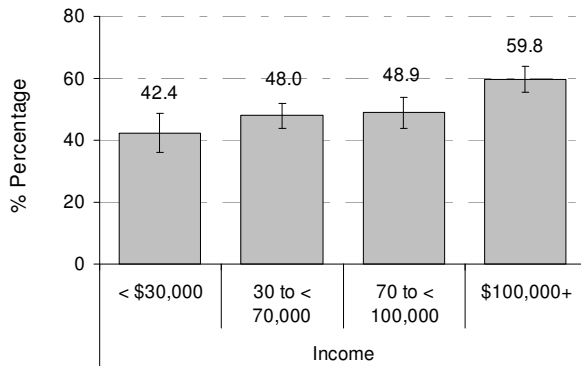


Figure 4: Adults' who believe unintentional injuries are largely preventable by income
Middlesex-London, 2009-2010



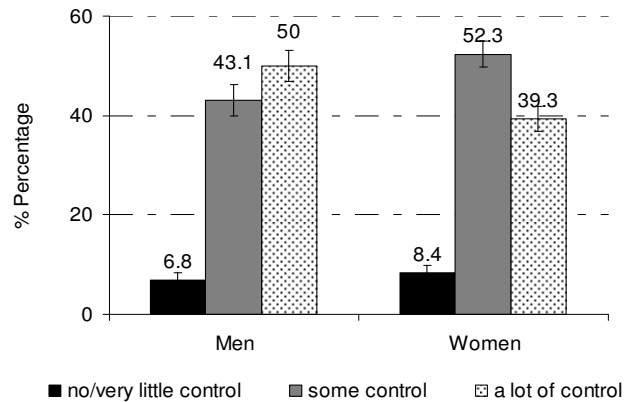
Employment: Caretakers (37.8% ± 11.0) were less likely to believe that injuries were largely preventable as compared to adults employed for wages (51.4% ± 2.8).

Perceptions regarding perceived level of control to prevent injuries

The survey asked respondents about how much control they have over preventing unintentional injuries from occurring to themselves or others. Overall, 44% ± 2.0 of adults believed that they have 'a lot of control' to prevent injuries, which was only slightly smaller than the percentage of respondents who perceived themselves as having 'some' control (48% ± 2.0). 7.6% ± 1.0 of adults indicated that they have 'no/very little' control over preventing injuries.

Gender: A greater proportion of men perceived themselves as having more control over preventing injuries from happening to them or others when compared to women (Figure 5).

Figure 5: Adults' perceived level of control to prevent unintentional injuries by sex
Middlesex-London, 2009-2010

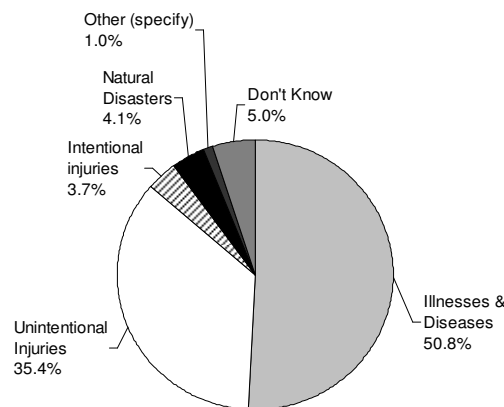


Employment: Of the adults who indicated that they have 'no/very little' control, caretakers and those unable to work were 2.9 times (95% CI [OR]: 1.1 to 7.4) and 3.3 times (95% CI [OR]: 1.2 to 8.8) more likely to report this belief, respectively.

Awareness of the leading cause of death for Ontarians aged 1-44

At the time of the survey, unintentional injuries were the leading cause of death among people aged 1-44, yet there was a significant gap between perceived and actual knowledge of how common injuries were in the general population (Figure 6). When asked to identify the leading cause of death among people aged 1-44, half of respondents (50.7% ± 2.0) identified 'illness and disease' as the leading cause of death, as opposed to 'unintentional injuries' (35.4% ± 1.9).

Figure 6: Adults' Awareness of the leading cause of death for Ontarians aged 1-44
Middlesex-London, 2009-2010



Age: A lower proportion of adults aged 65 and over thought that unintentional injuries were the leading cause of death. This was found to be significantly lower when compared to adults aged 25-44 (29.0%± 4.0 vs. 38.7% ± 3.6, respectively).

Education and Income: Correctly identifying unintentional injuries as the leading cause of death was more likely as level of education increased, starting from 24.7% ± 5.5 for less than high school education to 40.0% ± 2.6 for post secondary graduates, and as income level increased, starting from 32.8% ± 6.1 for the lowest income group to 47.5% ± 4.2 for the highest income group.

Limitations and Future Considerations

No significant differences were found between baseline perceptions and perceptions following the BeCause communication campaign. There were a number of limitations of the campaign to consider in the interpretation of this finding.

First, assessing awareness related to the campaign-specific messages of distracted driving and bike helmet use rather than assessing general preventability beliefs would have been more sensitive to change when measuring changes in perception over time¹. In the future if RRFSS is selected as a method of evaluation for this campaign, the evaluation questions could be revised to reflect the specific phase of the campaign rather than the overall goal.

Second, mass media messages have been shown to be an effective strategy for influencing knowledge, awareness, and short-term improvements in preventive behaviour. Levels of awareness need to be taken into account. Consideration should be given to the ideal frequency, length and intensity of media exposure required to influence attitudes in the population that injuries are preventable and predictable. This campaign may not have had sufficient exposure to saturate the Middlesex-London market and promote a change in perceptions and beliefs.

The findings suggest that there was difficulty in reaching the entire population. Targeted and tailored injury prevention messages disseminated through multiple channels are more effective and readily internalized by audiences.² The dissemination strategy used in phases 1 and 2 was different from that of phase 3. In phase 3 there was an attempt to place the advertisements where there were high incidences of childhood injuries.

The dissemination strategy involved posting BeCause materials on 4 billboards and 13 transit shelters that were carefully selected due to their locations along high traffic roads in high risk areas. High risk areas were determined by mapping the origins of paediatric home injury patients treated at the emergency department of the LHSC using data provided by the LHSC Trauma program, and then identifying areas in Middlesex-London with the highest density of patients. Following analyses provided by geographers at the Human Environments Analysis Laboratory at the University of Western Ontario, all billboards and transit shelters within the highest risk areas were identified and final campaign locations were chosen based on their visibility from a high traffic volume road. To evaluate if this campaign increased the perception that injuries are predictable and preventable among people at higher risk of injury when it was targeted to them, it would require the sample to be restricted to the respondents in areas that received the campaign during phase 3. Such an evaluation would provide valuable insight as to whether future injury prevention campaigns should focus on changing perceptions/beliefs in a specific identified group rather than the general population. Unfortunately, it was not possible to evaluate the effectiveness of the approach because of data availability and this evaluation reported on injury prevention perceptions/beliefs following the release of campaign phases 1 and 2 only.

The subgroups identified throughout this analysis were respondents with lower income, low education levels and caregivers. Caregivers are those respondents who are taking care of family members full time or part time. It is important to identify and target prevention activities to the subgroups that are less likely to have knowledge, attitudes and behaviours to prevent injury. Whether those who reported injuries to be less predictable or preventable have different outcomes such as risk-taking behaviour or rates of injury is an important consideration. Research has found that adults from low income neighbourhoods are 30% more likely than adults from affluent neighbourhoods to have an injury leading to hospitalization.³ We understand the "risk of injury is associated with social determinants of health. Although the ways these determinants interact with injury risk are not yet well understood, there is good evidence linking these factors with an individual's risk for any cause of injury".⁴

Overall, this evaluation has provided us with considerations for future programming as well as

identified the need for future injury prevention education throughout the Middlesex-London community. A few points of discussion for future expansion of the BeCause campaign include:

- Segment the intended audience, especially the identified subgroups
- Revise the communication strategy to include social media
- Revise the evaluation as resources permit
- Consider a phase four as resources permit

References

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4. D’Cunha, C.O.. (2002). Chief Medical of Health report. Injury: Predictable and Preventable. Toronto (ON): Queen’s Printer of Ontario; 2002.

For more information about this report please contact Ramona Kyabaggu at 519-663-5317 x2554 or Ramona.Kyabaggu@mlhu.on.ca.

For more information on RRFSS consult the website at www.rrfss.on.ca.

Contacts

Author: Ramona Kyabaggu, Program Evaluator
Environmental Health & Chronic Disease Services
Middlesex-London Health Unit
50 King Street
London, Ontario N6A 5L7
Phone: (519) 663-5317 ext. 2554
email: ramona.kyabaggu@mlhu.on.ca

Contact(s): Ramona Kyabaggu, Program Evaluator
Environmental Health & Chronic Disease Services
Middlesex-London Health Unit
50 King Street
London, Ontario N6A 5L7
Phone: (519) 663-5317 ext. 2554
email: ramona.kyabaggu@mlhu.on.ca

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