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Understanding and Awareness of Sport-Related Concussions, With a Focus on Youth

Executive Summary



Prepared for the Public Health Agency of Canada (PHAC)

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Canada

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January 2019

The Public Health Agency of Canada (PHAC) commissioned Kantar TNS to conduct a public opinion research survey assessing Canadian perceptions and understanding of concussions with a focus on youth. This research also seeks to measure the awareness of and uptake of the Canadian Guideline on Concussion in Sport (released in 2017) and compare the results to the 2017-18 baseline survey where applicable. A total of 2,021 Canadians were surveyed online in December 2018, including 1,200 youths, 217 Health Care professionals, and 217 teachers, 245 athletic coaches/sports administrators, and 297 parents of children aged 5-17 years. The study design allowed respondents to fall into more than one sub-segment. This publication reports on the findings of this research.

Cette publication est aussi disponible en français sous le titre: Compréhension et sensibilisation aux commotions liées au sport, en mettant l'accent sur les jeunes

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1. Executive Summary

1.1. Background on the pan-Canadian Concussion Strategy

Concussion is a recognized public health issue which can result in short and long-term effects on brain health. Children and youth are particularly at risk of long-term cognitive deficits following sports-related traumatic brain injury.

In 2015, the Minister of Health was mandated to work with the Minister of Sport and Persons with Disabilities to develop a pan-Canadian concussion strategy and to raise awareness for parents, coaches and athletes on concussion treatment. The 2016 Budget provided \$1.4 million over two years for the Public Health Agency of Canada (PHAC) to work with provinces and territories, in collaboration with Canadian Heritage - Sport Canada, on the harmonization of concussion management guidelines across Canada, with a focus on athlete and student return-to-sport and return-to-school protocols.

Through PHAC's funding, Parachute, a national injury prevention organization, created the Canadian Guideline on Concussion in Sport, released in July 2017. The Guideline presents a national harmonized approach to concussion management and is the foundation for updated online concussion medical training and return-to-school and return-to-sport protocols, released in June 2018.

1.2. Previous Public Opinion Research

In the 2017-18 fiscal year, PHAC commissioned public opinion research (POR #021-17) on concussions to gain an understanding of Canadians' baseline knowledge of concussions and awareness of concussion information sources and tools, as well as to gain an understanding of the concussion knowledge and awareness of a sample of teachers, parents, coaches and Health Care professionals (HCP). Through online surveys, information was gained regarding what Canadians know, where they access concussion information and where they lack knowledge and information for the prevention, recognition and management of concussions. The research also provided information on key differences in knowledge and awareness among teachers, parents, coaches and HCPs, which helps to inform the targeting of resources to prevent, recognize and reduce concussions.

The 2017-18 survey focused on the adult general public, teachers, coaches, parents of children 5-17 years of age and HCPs who manage concussion. It did not seek input from youth, who are a primary target audience for concussion prevention and management initiatives, and therefore youth was the primary focus for the 2018-19 research. The 2018-19 research also measures the awareness of and uptake of the Canadian Guideline on Concussion in Sport and compares the results to the 2017-18 survey where applicable.

1.3. Research Objectives

This research seeks to gain information of Canadian youths' perceptions and understanding of concussions, which can serve as base information for future research and can contribute to the development of youth-focused resources to prevent and address concussion in sport and recreation. The research is essential for gathering information on Canadian youths' (aged 12-17) awareness and understanding of concussions as well as to gauge a change in the awareness amongst Canadian parents, teachers, coaches and Health Care providers' and uptake of the Canadian Guideline on Concussion in Sport. This information will enable the Government of Canada to identify information and knowledge gaps to inform the design of awareness campaigns and resources to enhance concussion prevention, recognition and treatment efforts in Canada.

The study targets two broad segments: HCPs; and the Canadian public (12+) further segmented into youth (aged 12 - 17 years), parents (of children aged 5 -17 years), teachers of primary and secondary grades, and athletic coaches/sports administrators who have coached children and youth within the past 3 years.

The specific research objectives were to:

Understanding and Awareness of Sport-Related Concussions, with a Focus on Youth

- Assess youths' (aged 12 - 17 years) knowledge, attitudes and beliefs regarding concussions;
- Assess youths' experience as it relates to concussions: where they go for information and services and where they receive support;
- Identify pervasive myths youth may have about concussions;
- Assess awareness of and uptake of the Canadian Guideline on Concussion in Sport, and related tools, among teachers, coaches, parents and HCPs.

1.4. Summary of Findings

At a broad level, Canadian youth tend to have a general understanding of concussion, including signs, symptoms, and the appropriate course of action to take if someone suspects they have a concussion. However, some pervasive myths continue to persist among youth, even among those who have previously experienced a concussion.

Among the adult population, HCPs continue to be well-informed about concussion and have shown improvements in both knowledge and concussion procedures since 2017. Parents and coaches have shown similar improvements in concussion knowledge over the past year, while teachers' levels of knowledge have remained the same. However, overall awareness and understanding of concussion continues to be strong among all three groups. The results to date suggest the pan-Canadian concussion strategy is beginning to prove effective, evidenced by the increases in concussion knowledge among parents and coaches.

Youth

Awareness

While most youth have heard of concussion (71%), awareness is lower than other well-known health conditions, including cancer, diabetes, and asthma (78-82%). Self-reported knowledge of concussion is also low among youth with the majority of youth indicating they know a little (78%) or nothing (10%) about concussion, while only 12% report knowing a lot about concussion.

Among youth that are aware of concussion, most are likely to have heard about it from personal sources such as parents/guardians (70%), teachers (45%) and coaches (42%) rather than the internet or social media (20-27%).

General Concussion Knowledge

Basic understanding of concussion is moderate; with most youth (77%) being able to identify that a concussion is a hit to the head that causes headache or blurry sight. Fewer however, understand the more detailed or specific aspects of concussion such as being an accident that affects the way a person thinks (24%). Nearly half of youth surveyed believe false statements such as a concussion is "a bruise on my brain" (49%).

Canadian youth also have a basic understanding of what can cause a concussion. Most understand that impacts to the head or body can cause concussion, including a fall off a bike (81%), a fall from a play structure (80%), crashing into someone or something (78%), or a body check in hockey (70%). Fewer are able to identify that concussion can result from a hit to the face, neck, or body (64%) or heading the ball in soccer (54%).

Most youth can identify a number of signs that may indicate a person may have suffered a concussion as well as symptoms that a person with a concussion may experience. Cognitive or motor-related symptoms such as being confused (83%) or having a headache (82%) are more well-known than mood-based symptoms such as feeling nervous (19%).

To further understand youths' concussion related knowledge, several myths and facts were tested. Results of this analysis found that the majority of youth are able to correctly identify many facts about concussion. More specifically, 90% of youth or more understand that:

- A person does not have to pass out to have a concussion;
- Those who don't play contact sports can get a concussion;
- Boys do not recover faster than girls; and/or
- If a headache goes away it does not indicate that they don't have a concussion.

However, there are a number of myths about concussion that continue to persist as well as a number of facts that youth are unaware of or simply don't understand. Many youth incorrectly believe wearing a helmet will prevent concussions (71%), that a harder blow results in a more severe concussion (65%) and that a person should stop taking pain pills if they have a concussion (38%).

While self-reported knowledge of concussions is low (78% report knowing a little about concussions) the previous results suggest that youth have a moderate to high level of knowledge about concussions. One must remember that responses were provided from prompted lists and this means that many youth, when presented with a variety of options are able to identify the correct response. This does not mean that they have requisite knowledge required to address concussion if it should arise.

Sport-Related Concussion Knowledge

When it comes to sport-related concussion, most youth can correctly identify a number of ways to prevent concussion, including avoiding head contact (80%) and playing safe and fair (72%). However, youth are even more likely to believe the myth that wearing a helmet is an effective form of prevention when playing sports (88%), and this is highest among those who have never experienced a concussion (89%). This signals the pervasiveness of this myth, particularly among those without concussion experience.

The majority of youth are also able to identify going to see a doctor (91%) and ceasing play (78%) as steps someone should take if they get a concussion while playing sports, but less than half understand the person should not return to the same game or practice (44%). Surprisingly, youth who have had concussion in the past 12 months are less likely than those who have not had a concussion in the past twelve months to think you should see a doctor (82% vs. 91%) and may be at further risk of injury as they are more likely to state that ignoring it (5% vs. 1%) and/or take pain medicine (17% vs. 8%) as what should happen if someone gets a concussion while playing sports.

Treatment Knowledge

Most youth tend to understand when they can return to light physical activity, school, and sports after sustaining a concussion, with the majority saying it should be after a doctor gives permission (76% light physical activity; 77% school; 84% sports). Of note, youth with concussion experience are less likely to say they would wait for a doctor's permission to return to any of these activities compared to youth without concussion experience and are more likely to say they would return right away or after less than two weeks of rest (55-65% vs. 78-85% respectively) compared to youth without concussion experience.

Concussion Information

Generally speaking, youth hear about concussion from their parent or guardian (36%), followed by a doctor or nurse (24%). Youth do however, recognize the importance of medical professionals when it comes to concussion advice, with more than half indicating they would seek information from a doctor (59%) if they were looking, followed by the internet (19%).

One-quarter of youth are aware of any available tools or resources on concussion (24%), though not unexpectedly awareness tends to be higher among those with concussion experience (51%).

Concussion Reporting and Understanding of Long-term Risk

Almost all youth are able to point to one or more adults they would tell if they thought they had a concussion, with most pointing to parents or guardians (89%) or coaches (78%). Furthermore, youth tend place a greater onus on these adults (79-81%) to report suspected concussion than themselves where 72% believe the onus is on the concussed person. When asked where they looked for concussion information, many relied on a doctor (59%) and

some stated they would look on the internet (19%) and ask their parent/guardian (12%). Only 1% stated they would look on social media channels like Facebook or Twitter for concussion information.

When asked why someone might hide a concussion, youth tend to state social and performance pressure around sports as primary reasons. These include not wanting to be taken out of the game (80%), let down teammates (72%), let down coaches (69%), miss a practice (67%), or look weak (66%). Notably, older youth (16-17) are more likely to endorse reasons surrounding competition and letting down coaches.

Awareness of the many risks that come from not taking the time to heal from a concussion is lower compared to other aspects of concussion knowledge among youth. This points to the importance of providing youth with a comprehensive education about the causes and risks of concussion to mitigate long-term impacts in the event of injury.

Concussion Experience in the Last Year

Only a minority of youth report having been diagnosed with concussion in the past year (7%), with most of these injuries occurring while playing sports (61%). Sporting activity tended to involve organized sports, either through school or leagues (45-47%), rather than informal games played with friends (8%).

Interestingly, while the majority of youth with a concussion report seeing a doctor (84%), only 59% indicate the doctor told them they had a concussion. Rather, many youth indicate their parent or guardian (32%) or their coach (31%) told them they had a concussion, or that they “could tell when it happened” (27%). This suggests that many adults or youth may have “suspected” a concussion prior to actual diagnosis.

Overall, while self-reported knowledge among youth is low, Canadian youth seem to have a general understanding of concussion that allows them to identify the correct response from a set list. As noted previously, this may not mean that they have requisite knowledge required to address concussion if it should arise. While youth with concussion experience tend to know more about concussion, they are also more apt to take risks and downplay the seriousness of concussion. Low awareness of health-related risks among this group suggest they may not understand the dangers of returning to sport immediately and are at risk of sustaining further concussions.

Health Care Providers (HCPs)

HCPs continue to have an informed understanding of concussion in 2018, with virtually all HCPs (96%) believing concussion is an important health issue. HCPs have shown improvements in both knowledge and concussion procedures since 2017. More specifically in 2018:

- HCPs are more likely to know where to go for reliable information on concussion diagnosis and/or for reliable information on concussion treatment and recovery (80-86% vs. 73-76%);
- HCPs are more likely to report that they or their organization follow a standardized clinical/care pathway (45% vs. 37%) or practice guideline to diagnose concussion and are more likely to use International Classification of Diseases 10 (ICD 10) to identify concussion (21% vs. 14%); and
- HCPs report a higher level of knowledge about concussion (38% vs. 27%).

Interestingly, HCPs were less likely in 2018 to report awareness of the Canadian Guideline on Concussion in Sport (45% in 2018 versus 52% in 2017). There was a marked increase in their awareness of Parachute’s Return to Sport protocol (21% in 2018, versus 11% in 2017).

Parents, Teachers and Coaches

Overall awareness and understanding of concussion continues to be strong among parents of children 5-17 (hereinafter called “parents”), teachers of primary and secondary grades (hereinafter called “teachers”), and coaches of children 5-17 (hereinafter called “coaches”) in 2018. In 2018, parents and coaches have demonstrated knowledge improvements, however, teachers’ levels tend to have remained the same.

In 2018, coaches are more likely to:

Understanding and Awareness of Sport-Related Concussions, with a Focus on Youth

- Recognize some signs and symptoms of a sport-related concussion (93% vs 84%);
- Know what to do if someone gets a concussion (90-91% vs 85%; varies by activity);
- Recognize myths about concussion (49-86% vs 29-78%; varies by myth);
- Have sought out information about concussion in the past year (65% vs 56%);
- Know where to go for reliable information on concussion prevention (92% vs 82%);
- Be aware of specific resources and tools (9-46% vs 39-75%; varies by tool); and
- Understand that a medical professional should provide clearance before an athlete can return to play (89% vs 83%).

In 2018, parents had many similar attitudes and levels of knowledge compared to 2017, but showed improvement in the following areas:

- Recognizing the signs and symptoms of a sport-related concussion (70% vs 63%);
- Correctly identify effective prevention strategies (83% vs 77%);
- Understanding what steps they should take if someone has a concussion (77% vs 70%); and
- Understanding how best to treat a concussion (24% vs 19%).

1.5. Methodology

The findings of this study are based on online surveys conducted from December 17, 2018 to January 6, 2019. The survey was conducted among two distinct target groups: 1) the Canadian public (further broken down into sub-segments of youth, parents, teachers and athletic coaches/sports administrators) and 2) HCPs.

Respondents were randomly selected from the Kantar TNS online panel, and invited via email to participate in the survey. This was supplemented by members of the Coaching Association of Canada, who were randomly selected from their membership database and also received an email invitation to participate in the survey. All email invitations included a unique link so that respondents could not complete the survey more than once.

The results of panel and membership surveys are considered a non-probability sample, meaning they are not a random selection from the general population of Canada, rather they are a subset of people who are, in this case, people who have signed up to participate in online surveys or are members of the Coaching Association of Canada. As such, margin of error does not apply and conclusions from these results cannot be generalized to any population.

Where national data was available, the data have been weighted to reflect the demographic composition of the Canadian population. Surveying was conducted in the respondent's official language of choice and took an average of 13 minutes to complete.

The Health Care Provider (HCP) category includes those employed in the following professions: physicians, physiotherapists, pediatricians, nurses, emergency medical professionals, nurse practitioners, occupational therapists, and other HCPs.

Respondents in the parents, teachers and athletic coaches/sports administrators sub-segments could qualify for more than one segment. Given that this survey focused on youth but included a follow-up interim measure among parents, coaches and teachers, quotas for adult sub-segments were lower than in 2017.

The sample distribution is shown below:

Segment	Sample Size
Youth, aged 12-17 years	1,200
Parents of children 5-17 years	297
Teachers	217
Athletic Coaches/Sports Administrators	245
HCPs	217

TOTAL**2,021**

1.5.1. Sub-group analyses, statistical significance and rounding

Analysis was undertaken to establish differences between youth, HCPs, parents, teachers and coaches and a number of demographics within those groups. Throughout this report, differences significant at the 95% confidence level are presented. Any differences that are statistically significant between these subgroups are indicated by denoting the column letter within the tables throughout the report. For example, in the table below HCPs, teachers and coaches are significantly more likely to report being able to recognize signs and symptoms of a sport-related concussion compared to youths.

Top 2 Box	HCPs (B)	Teachers (C)	Coaches (D)	Youth (E)
Base = actual	(200) %	(200) %	(200) %	(1200) %
I can recognize the signs and symptoms of a sport-related concussion	95CDE	75 E	80 E	55

For comparisons to 2017, any differences statistically significant at the 90% confidence level are noted in superscript. For example, in the table below, HCPs in 2018 were significantly more likely than HCPs in 2017 to know where to go for reliable information at the 90% confidence level, but did not meet the threshold for the 95% confidence level.

	2018 HCP (A)	2017 HCP (B)
Base = actual	(217) %	(200) %
I know where to go for reliable information regarding concussion treatment and recovery	80 *	73

* Significant at the 90% confidence level

The numbers presented throughout this report are rounded to the closest full number. Due to this rounding, in some cases it may appear that ratings collapsed together are different by a percentage point from when they are presented individually and totals may not add up to 100%.

1.6. Contract Value

The total contract value for the project was **\$144,324.69** including applicable taxes.

1.7. Statement of Political Neutrality

I hereby certify as a representative of Kantar TNS that the deliverables fully comply with the Government of Canada political neutrality requirements outlined in the Communications Policy of the Government of Canada and Procedures for Planning and Contracting Public Opinion Research. Specifically, the deliverables do not include information on electoral voting intentions, political party preferences, standings with the electorate or ratings of the performance of a political party or its leaders.

A handwritten signature in black ink that reads "Tanya Whitehead". The signature is written in a cursive, flowing style.

Tanya Whitehead

Kantar TNS

Senior Director