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

Final Report

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:

- 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 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:

- 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.

Tanya Whitehead

Kantar TNS

Senior Director

2. Detailed Findings Among Youth

2.1. Concussion Awareness

2.1.1. Awareness of Health Conditions

Awareness of health conditions is generally high among youth, with nine-in-ten (90%) being aware of at least one of the following health conditions: diabetes, asthma, concussion, depression and/or cancer. Concussion however, has the lowest awareness (71%) among youth, with cancer (82%) diabetes (79%) and asthma (78%) having significantly higher awareness compared to concussion.

Concussion awareness among youth is lowest in Quebec (63%) compared to other regions of Canada where awareness ranges from 72-76%.

Exhibit 2.1.1 Awareness of Health Conditions

	Youth (A)	Atlantic (F)	Quebec (G)	Ontario (H)	Prairies (I)	B.C. (J)
Base = actual	(1200) %	(151) %	(281) %	(364) %	(204) %	(200) %
Any (NET)	90	91	85	92 G	92 G	88
Cancer	82	87 G	76	83 G	83	85 G
Depression	77	85 G	66	82 G	76 G	77 G
Diabetes	79	87 G	69	82 G	81 G	81 G
Asthma	78	81 G	69	81 G	79 G	80 G
Concussion	71	76 G	63	73 G	72	74 G
None of the above	10	9	15 HI	8	8	12

QY1. Have you heard of any of these? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.1.2. Sources of Awareness

Youth are most likely to have heard about concussion from personal sources. Among those aware of concussion, the majority heard about concussion from their parents or guardians (70%), followed by teachers (48%), friends or teammates (45%), and coaches (42%). Fewer youth heard about concussion from online sources such as social media (27%) or internet searches (20%).

Interestingly, boys are more likely to have heard about concussion from a coach (46%) than girls (38%) and youth in Ontario are more likely to have heard about concussion from a teacher (57%) compared to youth in other regions (39-44%).

Exhibit 2.1.2 Sources of Awareness

	Youth (A)	Male (B)	Female (C)	Ages 12-15 (D)	Ages 16-17 (E)	Atlantic (F)	Quebec (G)	Ontario (H)	Prairies (I)	B.C. (J)
Base = actual	(862) %	(418) %	(437) %	(528) %	(334) %	(115) %	(186) %	(264) %	(150) %	(147) %
Any (NET)	100	100	99	100	100	100	99	100	99	100
Parent/guardian	70	74	67	71	70	69	71	70	71	70
Teacher	48	45	52	47	50	40	44	57 FGIJ	39	44
Friend or teammate	45	44	47	44	48	47	45	43	52	40
Coach	42	46 C	38	40	45	42	46	39	44	43
Social media	27	24	30	25	32 D	30	30	29	25	19
Internet search	20	20	19	18	22	18	20	20	21	16
Other	14	14	13	13	16	14	13	13	13	17
None of the above	-	-	1	-	-	0	1	-	1	0

QY2. Where did you hear about concussion? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

2.2. General Concussion Knowledge

2.2.1. Self-reported Knowledge of Concussions

Self-reported knowledge of concussion is low among Canadian youth. The majority of youth say they know a little (78%) or nothing (10%) about concussions, while only 12% report knowing a lot about concussions. Not unexpectedly, youth who have had a concussion are more likely to report knowing a lot about concussions compared to those who have not had a concussion (53% vs. 9%).

2.2.1 Self-reported Knowledge of Concussions

	Youth (A)	Concussion in Past 12 Months Yes (L)	Concussion in Past 12 Months No (M)
Base = actual	(1200) %	(90) %	(1110) %
Nothing	10	1	10 L
A little	78	46	81 L
A lot	12	53 M	9

QY3. How much do you know about concussions?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.2.2. Understanding of Concussions

While most youth can correctly describe some aspects of a concussion, endorsement of false statements is high, even among those who believe they are knowledgeable about the condition. More than three-quarters of youth correctly believe that a concussion is “a hit to my head that causes headaches or blurry sight” (77%), with fewer identifying it as “an injury that changes the way I walk and talk” (25%) or “an accident that changes the way I think” (24%). Close to half mistakenly believe concussion is “a bruise on my brain” (49%). Few (5%), believe it can be described as a “cut on my head”.

Older youth (16-17) are more likely than younger youth (12-15) to correctly describe a concussion as “a hit to my head that causes headaches or blurry sight” (81% vs. 75%) however, they are also more likely to believe inaccurate descriptions of concussion, such as “a cut on my head” (7% vs. 4%) suggesting perhaps their self-reported knowledge is not as strong as they might believe. Interestingly, those who report at least some knowledge (a little or a lot) about concussion are also more likely to correctly describe a concussion as “a hit to my head that causes headaches or blurry sight” (77-81% vs. 46%) but to also believe false descriptions such as “a bruise on my brain” (50-60% vs. 26%). Full details can be found in the table below.

Exhibit 2.2.2 Understanding of Concussions

	Youth (A)	Ages 12-15 (D)	Ages 16-17 (E)	No knowledge of concussion (U)	A little knowledge of concussion (V)	A lot of knowledge of concussion (W)
Base = actual	(1200) %	(746) %	(454) %	(108) %	(939) %	(153) %
Any (NET)	96	96	97	73	98 U	100 U
A hit to my head that causes headaches or blurry sight	77	75	81 D	46	81 U	77 U
A bruise on my brain	49	48	51	26	50 U	60 U
An injury that changes the way I walk and talk	25	22	30 D	17	25	30 U
An accident that changes the way I think	24	22	27	18	24	28
A cut on my head	5	4	7 D	2	5	9
Don't know	4	4	3	27 VW	2	0

QY11. How would you describe a concussion? Pick as many as you want.

Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.2.3. Causes of Concussions

Canadian youth are most likely to identify violent impacts to the head or body as potential causes of concussion. Most youth believe that concussion can be caused by “a fall off a bike” (81%), “a fall from the play structure” (80%), “crashing into someone or something” (78%), or “a body check in hockey” (70%). More than half also believe that “a hit to the face, neck, or body” (64%), or “heading the ball in soccer” (54%) are causes. Interestingly, nearly half also believe “bumping into something/someone” (52%) may cause a concussion however, few (14%) believe “a cut on the head” may cause a concussion.

As expected, youth with greater self-reported knowledge of concussion are more likely to report sports related injuries as causes of concussion compared to those with no knowledge. Close to three-quarters of youth who report having at least some knowledge about concussion (a little or a lot) believe “a body check in hockey” is a cause (72-78%), compared to less than half (42%) of youth who report knowing nothing about concussion. Similarly, “heading the ball in soccer” is significantly more likely to be identified as a cause among those who know a lot (70%) versus those who know a little (53%) or nothing (35%) about concussion. Older youth follow a similar trend, with older youth (16-17) more likely than younger youth (12-15) to believe “a body check in hockey” (75% vs. 67%) or “heading the ball in soccer” (63% vs. 49%) are potential causes of concussion.

Interestingly, those who have been diagnosed with a concussion are less likely to be able to identify some causes of concussion compared to those who have not had a concussion, including “a body check in hockey” (55% vs. 71%), “a fall off the bike” (71% vs. 82%), “a fall from the play structure” (67% vs. 81%), or “crashing into someone or something” (64% vs. 79%). This suggests that knowledge about the various ways in which someone may receive a concussion may offer some protective factor, however, further research would need to be undertaken to confirm this hypothesis.

Exhibit 2.2.3 Causes of Concussions

	Youth (A)	Ages 12-15 (D)	Ages 16-17 (E)	Concussion in Past 12 Months Yes (L)	Concussion in Past 12 Months No (M)	No knowledge of concussion (U)	A little knowledge of concussion (V)	A lot of knowledge of concussion (W)
Base = actual	(1200) %	(746) %	(454) %	(90) %	(1110) %	(108) %	(939) %	(153) %
Any (NET)	97	96	98 D	94	97	81	98 U	99 U
A fall off the bike	81	80	84	71	82 L	54	85 U	83 U
A fall from the play structure	80	78	83	67	81 L	55	82 U	83 U
Crashing into someone or something	78	78	78	64	79 L	58	79 U	84 U
A body check in hockey	70	67	75 D	55	71 L	42	72 U	78 U
A hit to the face, neck or body	64	62	68	60	65	47	65 U	74 U
"Heading the ball" in soccer	54	49	63 D	54	54	35	53 U	70 UV
Bumping into something/someone	52	51	53	53	52	39	52 U	61 U
A cut on the head	14	12	18 D	19	14	13	14	16
Don't know	2	3	2	2	2	15 VW	1	0
None of the above	1	2 E	0	3	1	4 V	1	1

QY12. Which of the following can cause a concussion? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.2.4. Signs of Concussions

Most youth can correctly identify several signs that someone may have a concussion after a hit or fall. The majority of youth can identify confusion and having a hard time answering questions as a sign of concussion (83%), followed by passing out (71%), problems standing up (67%), feeling sick (63%), vomiting (62%), lying on the ground and not moving (62%), and being slow to get up (58%). Few incorrectly identify difficulty breathing (26%) and limping (13%) as signs of concussion.

Boys are more likely than girls to misattribute difficulty breathing (31% vs. 22%) or limping (16% vs. 10%) as signs of a concussion. Those who report more knowledge of concussion (a lot) are more likely than those who know less (a little or nothing) about concussions to correctly identify lying on the ground and not moving (76% vs. 42-62%), feeling sick (77% vs. 32-64%), and being slow to get up (73% vs. 31-59%) as signs of a concussion, but are also more likely to misattribute difficulty breathing (42% vs. 19-25%) to a concussion. This may indicate some confusion for youth around the variety of signs that can indicate someone has a concussion, even among those who believe they are well-informed.

Exhibit 2.2.4 Signs of Concussions

	Youth (A)	Male (B)	Female (C)	Ages 12-15 (D)	Ages 16-17 (E)	No knowledge of concussion (U)	A little knowledge of concussion (V)	A lot of knowledge of concussion (W)
Base = actual	(1200) %	(583) %	(607) %	(746) %	(454) %	(108) %	(939) %	(153) %
Any (NET)	96	96	97	95	98	79	98 U	99 U
They are confused and have a hard time answering questions	83	83	83	81	86 D	54	85 U	91 U
They passed out	71	70	72	68	76 D	46	72 U	80 U
Problems standing up	67	67	68	64	74 D	38	70 U	76 U
Feeling sick	63	64	63	60	69 D	32	64 U	77 UV
Vomiting	62	65	60	58	69 D	40	63 U	72 U
Lying on the ground and not moving	62	62	63	59	69 D	42	62 U	76 UV
Slow to get up	58	59	56	55	63 D	31	59 U	73 UV
Difficulty breathing	26	31 C	22	24	31 D	19	25	42 UV
Limping	13	16 C	10	12	15	10	12	18
Don't know	4	4	3	5	2	21 VW	2	1

QY13. If someone was hit or had a fall, what signs could mean they had a concussion? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.2.5. Concussion Symptoms

Youth can correctly identify a range of concussion symptoms, though they are more likely to associate concussions with physical rather than emotional symptoms.

More than three-quarters correctly identify a headache or pressure in the head (82%), dizziness (81%), and blurry sight (78%) as symptoms of a concussion. Over half also identify problems concentrating (71%), not feeling right (71%), nausea and vomiting (66%), and feeling sleepy or not being able to sleep (53%) as symptoms. Fewer youth however, can identify emotional symptoms such as feeling angry or frustrated (21%) or feeling nervous (19%).

Furthermore, some youth incorrectly believe people experience physical symptoms of shaking (31%), difficulty breathing (22%), and heart pounding (20%) when they have a concussion.

Interestingly, youth who have had a concussion are more likely than those who have not, to misattribute shaking (47% vs. 30%) and heart pounding (32% vs. 19%) as symptoms of a concussion. Further, those who report a lot of knowledge about concussion are more likely to both correctly identify symptoms but also more likely to misattribute false symptoms, suggesting self-reported level of knowledge may in fact be lower than actual knowledge. Youth who report knowing "a lot" about concussion are more likely to correctly identify problems concentrating (87% vs. 41-73%), feeling sleepy or not being able to sleep (68% vs. 30-54%), feeling nervous (39% vs. 11-17%), or feeling angry or frustrated (36% vs. 8-20%) as symptoms compared to those who report lower knowledge (a little or none). However, they are also more likely to incorrectly associate shaking (52% vs. 16-30%), difficulty breathing (39% vs. 18-20%), and heart pounding (35% vs. 9-19%) with concussion compared to those with less knowledge.

Exhibit 2.2.5 Concussion Symptoms

	Youth (A)	Concussion in Past 12 Months Yes (L)	Concussion in Past 12 Months No (M)	No knowledge of concussion (U)	A little knowledge of concussion (V)	A lot of knowledge of concussion (W)
Base = actual	(1200) %	(90) %	(1110) %	(108) %	(939) %	(153) %
Any (NET)	96	100	96	74	98 U	100 U
Headache or pressure in their head	82	81	83	49	85 U	90 U
Dizziness	81	81	81	45	84 U	86 U
Blurry sight	78	80	78	40	81 U	88 U
Problems concentrating	71	78	71	41	73 U	87 UV
Not feeling “right”	71	67	71	45	73 U	77 U
Nausea and vomiting	66	65	66	36	68 U	75 U
Feeling sleepy or not being able to sleep	53	53	53	30	54 U	68 UV
Shaking	31	47 M	30	16	30 U	52 UV
Difficulty breathing	22	29	22	18	20	39 UV
Feeling angry or frustrated	21	29	20	8	20 U	36 UV
Heart pounding	20	32 M	19	9	19 U	35 UV
Feeling nervous	19	24	18	11	17	39 UV
Don’t know	3	0	4	22 VW	2	-
None of the above	1	0	1	4 V	-	0

QY14. If a person had a concussion, what might they experience? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

2.2.6. Concussions Myths and Facts

Canadian youth can correctly identify many facts about concussion, though some myths persist. Most youth correctly identify that:

- A person does not have to pass out to have a concussion (92%);
- Those who don't play contact sports can get concussions (90%);
- Boys do not recover from concussions faster than girls (90%);
- If a headache goes away it does not indicate that they don't have a concussion (90%);
- It can take a few weeks to a few months to feel better (87%);
- They will not always know it's a concussion as soon as they are hit (87%); and/or
- It is not safe to return to play after a concussion as soon as they are feeling better (82%).

More than two-thirds of youth also correctly say that mouth guards do not prevent concussions (76%).

Many youth however, also incorrectly believe that wearing a helmet will prevent concussions (71%), a harder blow results in a more severe concussion (65%), they should stop taking pain pills if they have a concussion (38%), and they can only get a concussion if they are hit on the head (47%).

As expected, those who have been diagnosed with a concussion are more likely to correctly identify the false statement that they can only get a concussion if they are hit on the head (65%) versus those who have not experienced a concussion (52%).

Exhibit 2.2.6 Concussions Myths and Facts

% Correctly identified as True or False	Youth (A)	Concussion in Past 12 Months Yes (L)	Concussion in Past 12 Months No (M)
Base = actual	(1200) %	(90) %	(1110) %
False statements			
I have to pass out to have a concussion	92	91	92
I can only get a concussion if I play contact sports like football, hockey and lacrosse	90	90	90
Boys recover from concussions faster than girls	90	91	90
My headache is gone, that means I don't have concussion.	90	90	90
I will know it's a concussion as soon as I'm hit	87	91	86
I can come back to play after a concussion as soon as I'm feeling better	82	78	83
My mouth guard prevents concussion	76	75	76
I should stop taking pain pills if I have a concussion	62	65	62
I can only get a concussion if I'm hit on the head	53	65 M	52
The harder the hit, the worse is the concussion	35	41	35
If I vomit, that means I might have a concussion	32	29	32
Wearing my helmet will prevent concussions	29	38	29
True statements			
It can take a few weeks to a few months to feel better after a concussion	87	81	88

QY24. The following set of questions are true or false statements. Please select the answer that you feel is best.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.3. Sport-Related Concussion Knowledge

2.3.1. Prevention of Sport-Related Concussion

Most youth mistakenly believe wearing a helmet can prevent a concussion when playing sports (88%), signaling the pervasiveness of this myth. Most youth can correctly identify avoiding head contact (80%) and playing safe and fair (72%) as effective ways to stop a concussion from happening. Close to half understand that following the rules (55%), learning more about concussions (51%), and avoiding body contact (48%) can prevent concussions. A small but significant proportion of youth (26%) incorrectly believe wearing a mouth guard is an effective method of prevention.

Older youth (16-17) are more likely than younger youth (12-15) to identify that avoiding head contact (84% vs. 78%), playing safe and fair (76% vs. 70%), learning more about concussions (60% vs. 47%) and avoiding body contact (55% vs. 45%) can help to prevent concussion.

Boys are also more likely than girls to believe that wearing a mouth guard (30% vs. 23%) can help stop a concussion from happening which may be a function of the use of mouth guards in male dominated sports such a hockey and football.

Youth who have not experienced a concussion are more likely than those who have to endorse wearing a helmet (89% vs. 73%) and avoiding head contact (81% vs. 70%) as effective methods of prevention. This suggests that the myths around helmets offering protection and concussions only happening if you are hit in the head continue to be pervasive among youth and especially those without concussion experience.

Exhibit 2.3.1 Prevention of Sport-Related Concussion

	Youth (A)	Male (B)	Female (C)	Ages 12-15 (D)	Ages 16-17 (E)	Concussion in Past 12 Months Yes (L)	Concussion in Past 12 Months No (M)
Base = actual	(1200) %	(583) %	(607) %	(746) %	(454) %	(90) %	(1110) %
Any (NET)	97	97	97	96	98	96	97
Wear a helmet	88	89	89	88	90	73	89 L
Avoid head contact / don't bump heads	80	80	80	78	84 D	70	81 L
Play safe and fair (Respect others)	72	70	74	70	76 D	69	72
Follow the rules	55	54	56	53	58	55	55
By learning more about concussions	51	52	51	47	60 D	47	52
Avoid body contact	48	47	51	45	55 D	49	48
Wear a mouth guard	26	30 C	23	24	30 D	27	26
Don't know	2	2	2	3	2	2	2
None of the above	1	1	1	1	-	1	1

QY15. When playing sports, how can players stop concussions from happening? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

2.3.2. Actions for Suspected Concussion during Sports

Going to see a doctor (91%) is the step most youth believe someone should take if they get a concussion while playing sports. Many also understand they should stop playing right away (78%), however, less than half understand the person should not to return to the same game or practice (44%).

While almost none (1%) believe it should be ignored, a small portion of youth believe that someone with a concussion should take a break and then come back to play (14%), take pain medicine (8%) or go home and rest without consulting a doctor (5%).

Surprisingly, youth who have been diagnosed with a concussion in the past year are more likely to say the person should take pain medicine (17% vs. 8%) or ignore it (5% vs. 1%) and are less likely to say the person should see a doctor (82% vs. 91%), compared to those who have not had a concussion. This concerning result may warrant further investigation to better understand why those who have had a concussion in the past are more likely to ignore it and/or avoid medical advice, especially given the grave long-term consequences of sustaining multiple brain injuries.

Exhibit 2.3.2 Actions for Suspected Concussion during Sports

	Youth (A)	Concussion in Past 12 Months Yes (L)	Concussion in Past 12 Months No (M)
Base = actual	(1200) %	(90) %	(1110) %
Any (NET)	99	99	98
Go see a doctor	91	82	91 L
Stop playing right away	78	78	78
Don't return to the same game or practice	44	43	44
Take a break until feeling better and then come back to play	14	17	14
Take pain medicine	8	17 M	8
Just go home and rest, no need to see a doctor	5	9	4
Just ignore it, it's not something that should stop you from playing	1	5 M	1
Don't know	1	1	2

QY18. If someone gets a concussion while playing sports, what should happen? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.4. Concussion Reporting

2.4.1. Disclosure of Sport-Related Concussions

Almost all youth are able to point to one or more adults they would tell if they thought they had a concussion. The vast majority would tell their parent or guardian (89%) followed by coach or adult in charge (78%), doctor (69%), or

teacher (63%). Youth are less likely to think they would tell a referee (44%), teammate (43%), other family member (39%), or sibling (32%).

Exhibit 2.4.1 Disclosure of Sport-Related Concussions

	Youth (A)
Base = actual	(1200) %
Any (NET)	100
Parent/Guardian	89
Coach or adult in charge	78
Doctor	69
Teacher	63
Referee	44
Teammate	43
Sister or brother	32
Other family member	39
Other	1
Nobody	-

QY16. If you thought you had a concussion, who would you tell? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

2.4.2. Reporting Sport-Related Concussions

Youth tend to believe that the onus is on adults to report suspected concussions. Most youth believe the person responsible for reporting is a parent or guardian (81%) or coach (79%). Youth also place an onus on the concussed individual to report a suspected concussion (72%), though to a lesser extent than for parents/guardians or coaches. Other parties they feel are responsible for reporting include teachers (67%) and teammates (53%).

Exhibit 2.4.2 Reporting Sport-Related Concussions

	Youth (A)
Base = actual	(1200) %
Any (NET)	99
Parent/guardian	81
Coaches	79
The person who thinks they have a concussion	72
Teachers	67
Teammates	53
None of the above	1

QY17. Who is responsible for reporting a suspected concussion? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.4.3. Reasons for not Reporting Concussions

Social and performance pressure around sports tend to be the primary reasons youth believe someone would hide a concussion. 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%) lead potential reasons for hiding a concussion, as well as not thinking a concussion was serious enough (64%). Surprisingly, close to half of youth believe a person would pretend to feel better because they think it's okay to play with a concussion (49%) or that they don't want others to know they had a concussion (44%).

Older youth (16-17) are more likely than younger youth (12-15) to say that someone would hide a concussion because they don't want to let down coaches (75% vs. 66%), don't want to miss practice or a competition (72% vs. 65%), don't want to look weak (72% vs. 63%), don't think the concussion was serious enough (71% vs. 60%), think it's okay to play with a concussion (55% vs. 46%), or don't want others to know they had a concussion (50% vs. 41%). This suggests older youth are more likely to believe concussions are less serious and are more concerned about coaches and competition, which may be a function of scouting that occurs at this age.

Exhibit 2.4.3 Reasons for not Reporting Concussions

	Youth (A)	Ages 12-15 (D)	Ages 16-17 (E)
Base = actual	(1200) %	(746) %	(454) %
Any (NET)	96	95	97
Don't want to be taken out of the game or miss any game	80	79	83
Don't want to let down teammates	72	70	76
Don't want to let down coaches	69	66	75 D
Don't want to miss practice or competition	67	65	72 D
Don't want to look weak	66	63	72 D
Don't think the concussion was serious enough	64	60	71 D
They think it's okay to play with a concussion	49	46	55 D
Don't want others to know they had a concussion	44	41	50 D
Don't know	4	5	3

QY22. People who have had a concussion sometimes hide that they don't feel well. What are some of the reasons someone might pretend their concussion is better? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.4.4. Awareness of Risks of not Healing from First Concussion

Stated awareness of the many risks of not taking the time to heal from a concussion are lower than awareness of other aspects like signs and symptoms, suggesting a need for education on the potential long-term effects of brain injuries. Close to three-quarters believe that not healing from a concussion may result in brain damage that won't heal (71%), and more than half are aware that a headache or problems sleeping may last for a longer time (64%) and it will take longer for the concussion to go away (58%). Only half of youth are aware that not healing puts them at risk of another concussion (50%).

However, youth who report knowing a lot about concussion are more likely to understand the risks of not taking the time to heal from a concussion. More specifically, youth who know more about concussion are more likely to understand that not taking the time to heal may result in it taking longer for the concussion to go away (73% vs. 34-58%) and that it is easier to get another concussion (62% vs. 25-51%). This signals the importance of education in helping youth understand the need to take the time to recover when diagnosed with a concussion so that they may mitigate long-term impacts.

Exhibit 2.4.4 Awareness of Risks of not Healing from First Concussion

	Youth (A)	No knowledge of concussion (U)	A little knowledge of concussion (V)	A lot of knowledge of concussion (W)
Base = actual	(1200) %	(108) %	(939) %	(153) %
Any (NET)	93	74	94 U	99 UV
You may get brain damage that won't heal	71	51	73 U	77 U
Symptoms like a headache or problems sleeping may last for a longer time	64	37	66 U	74 U
It will take longer for the concussion to go away	58	34	58 U	73 UV
It's easier for you to get another concussion	50	25	51 U	62 UV
I Don't know	7	26 VW	6 W	1

QY23. What could happen if you do not take the time to heal from a concussion? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.5. Concussion Treatment Knowledge

2.5.1. Return to School and Activities

Most youth understand when they can return to light physical activity and school after sustaining a concussion. More than three-quarters of youth correctly believe that a person with a concussion can return to normal activities with a doctor's permission (76%). Few believe they can return to normal activities when they no longer feel like they have a concussion (6%), after a day or two of rest (6%), after a week or two of rest (4%), or right away (4%).

This is echoed for return to school, with most believing this should also occur after a doctor says so (77%), and few saying they should return after a day or two of rest (7%), when they no longer feel like they have a concussion (5%), after a week or two of rest (4%), or right away (2%).

A concerning finding is that those who have been diagnosed with a concussion are more likely than those who have not to believe they can return to normal activities after a day or two of rest (15% vs. 5%) or a week or two of rest (18% vs. 3%), and they are less likely to think you should wait until a doctor says so (54% vs. 78%). Likewise, they also believe they can return to school after a day or two of rest (24% vs. 6%) or a week or two of rest (11% vs. 3%) and not wait for a doctor's permission (55% vs. 79%). This may warrant further research as it speaks to a potentially broader issue among youth with concussions to ignore medical advice.

Exhibit 2.5.1.a Return to School and Activities

	Youth (A)	Concussion in Past 12 Months Yes (L)	Concussion in Past 12 Months No (M)
Base = actual	(1200) %	(90) %	(1110) %
Right away	4	5	4
After a day or two of rest	6	15 M	5
After a week or two of rest	4	18 M	3
When I no longer feel like I have a concussion	6	9	5
When the doctor says so	76	54	78 L
Don't know	5	0	6

QY19. If you get a concussion, when can you go back to normal activities like walking to school? Pick the best answer.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

Exhibit 2.5.1.b Return to School and Activities

	Youth (A)	Concussion in Past 12 Months Yes (L)	Concussion in Past 12 Months No (M)
Base = actual	(1200) %	(90) %	(1110) %
Right away	2	3	2
After a day or two of rest	7	24 M	6
After a week or two of rest	4	11 M	3
When I no longer feel like I have a concussion	5	6	5
When the doctor says so	77	55	79 L
Don't know	4	2	4

QY20. If you get a concussion, when can you go back to school? Pick the best answer.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.5.2. Return to Play

Many youth are aware that if they have a concussion they should wait for a doctor's permission before returning to play sports (84%). Very few believe it is ok to start playing after a week or two of rest (5%), when they no longer feel like they have a concussion (4%), after a day or two of rest (2%), or right away (1%).

As with return to school and normal activities, youth who have had a concussion are more likely than those who have not to believe they can return to play right away (5% vs. 1%) or after a week or two of rest (20% vs. 4%). They are also less likely to think you should wait for a doctor's permission (65% vs. 85%) to resume playing sports. Given that this group is particularly at risk of sustaining further brain injuries, this signals a gap in knowledge among youth.

Exhibit 2.5.2 Return to Play

	Youth (A)	Concussion in Past 12 Months Yes (L)	Concussion in Past 12 Months No (M)
Base = actual	(1200) %	(90) %	(1110) %
Right away	1	5 M	1
After a day or two of rest	2	5	2
After a week or two of rest	5	20 M	4
When I no longer feel like I have a concussion	4	5	4
When the doctor says so	84	65	85 L
Don't know	4	1	4

QY21. If you get a concussion, when can you start playing sports again? Select the best answer.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.6. Concussion Information

2.6.1. Sources of Information

Youth recognize the importance of medical professionals when it comes to concussion advice. When asked where the one place is they would look or who they would ask if they wanted to know more about concussion, the majority (59%) indicated a doctor. This was followed by the internet (19%), parents/guardians (12%), coaches (4%), teachers (2%) and social media (1%), and almost none saying they would ask a sibling, other family member, or teammate (<1% each). Given the relatively limited access youth have to doctors, it is important to ensure that youth have easy access to online resources and that parents and guardians also have the requisite knowledge to be trusted advisors on concussion.

Exhibit 2.6.1 Sources of Information

	Youth (A)
Base = actual	(1200) %
Doctor	59
Internet	19
Parent/guardian	12
Coach	4
Teacher	2
Social media channels like Facebook or Twitter	1
Sister or brother	-
Other family member	-
Teammate	-
Other	1
Don't know	2

QY25. If you wanted to know more about concussion, where would you look or who would you ask? Pick the best answer.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

2.6.2. Discussion About Concussion

Adults are the primary source of information on concussion among youth. Parents (36%), doctors or nurses (24%), coaches (17%) and teachers (6%) are the most common people who talk to youth about concussion. Few youth report talking to friends (2%), teammates (1%), siblings (1%), or other family (1%) about concussion, with 13% saying they don't know/none of these sources talk to them about it.

Exhibit 2.6.2 Discussion About Concussion

	Youth (A)
Base = actual	(1200)
	%
Parent/guardian	36
Doctor or nurse	24
Coach	17
Teacher	6
Friends	2
Sister or brother	1
Other family member	1
Teammates	1
None of the above	8
Don't know	5

QY26. Who talks to you about concussion? Pick the best answer.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.6.3. Awareness of Tools and Information Resources

Few youth are aware of available concussion tools aimed at preventing and reducing youth concussion (24%).

Awareness of individual tools or resources is as follows:

- Canadian Guideline on Concussion in Sport (9%)
- Hockey Canada's Concussion Awareness App (8%)
- P.A.C.E. Concussion App (7%)
- SCHOOLFirst Tool (6%)
- Sport Information Resource Centre's We Are Headstrong Concussion Awareness Campaign (4%)
- Brainstreams.ca Website (4%)
- Concussion Ed App by Parachute (3%)

- Holland Bloorview Kids Rehabilitation Hospital Website (3%)
- Parachute's Return to Sport Strategy and Protocol (2%)
- Parachute's Return to School Strategy and Protocol (2%)

Those who have been diagnosed with a concussion are more likely to be aware of any of the tools cited compared to those who have not had a concussion, suggesting that youth are made aware of these tools post-concussion rather than as a preventative measure.

Exhibit 2.6.3 Awareness of Tools and Information Resources

	Youth (A)	Concussion in Past 12 Months Yes (L)	Concussion in Past 12 Months No (M)
Base = actual	(1200) %	(90) %	(1110) %
Any (NET)	24	51 M	22
Canadian Guideline on Concussion in Sport	9	22 M	8
Hockey Canada's Concussion Awareness App	8	15 M	8
P.A.C.E. Concussion App	7	19 M	6
SCHOOLFirst Tool	6	16 M	5
Sport Information Resource Centre's We Are Headstrong Concussion Awareness Campaign	4	13 M	4
Brainstreams.ca Website	4	8 M	3
Holland Bloorview Kids Rehabilitation Hospital Website	3	9 M	2
Concussion Ed App by Parachute	3	14 M	2
Parachute's Return to School strategy and protocol	2	9 M	2
Parachute's Return to Sport strategy and protocol	2	10 M	2
None of the above	76	49	78 L

QY27. Have you heard about any of these concussion tools for youth? Pick as many as you want.
Note: Capital letters denote statistically significant difference. For example, if there is a M then the result is significantly higher than the corresponding result in column M.

2.7. Concussion Experience among Youth

2.7.1. Concussion Experience in Past Year

Seven per cent of youth report having had a concussion in the past year (7%) with more than half of this group having experienced the concussion within the past 6 months (54%). Most youth report playing sports (61%) when they received their concussion, however, some indicate playing in the school yard (14%), playing with friends while not in school (7%), playing at home (6%), or from other situations (12%).

Among youth who sustained a sport-related concussion, most were playing an organized sport outside of school (47%) or playing an organized school sport (45%). A small number were playing a game with friends (8%).

Exhibit 2.7.1.a Concussion Experience in Past Year

	Youth (A)
Base = actual	(1200) %
Yes	7
No	87
I don't know	6

QY4. Have you had a concussion in the last 12 months?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

Exhibit 2.7.1.b Concussion Experience in Past Year

	Youth (A)
Base = Youth with a concussion in past 12 months	(90) %
Playing sports	61
Playing in the school yard	14
Playing with friends, outside of school	7
Playing at home	6
Other	12

QY7. What were you doing when you got the concussion?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

Exhibit 2.7.1.c Concussion Experience in Past Year

	Concussion occurred while Playing Sports (Q)
Base = Youth with a sports-related concussion in past 12 months	(53) %
Playing a game with friends	8
Playing an organized school sport such as intramural soccer	45
Playing an organized sport outside of school like playing in a hockey league	47

QY8. You mentioned you got your concussion while playing sports. Were you...?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

2.7.2. Medical Intervention and Diagnosis

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. Many youth indicate their parent or guardian (32%) or their coach (31%) told them they had a concussion. This could mean that they were told by their parent/guardian or coach first and subsequently saw a doctor. Notably, more than a quarter (27%) also indicated they "could tell when it happened". Few youth were told they had a concussion from a friend or teammate (6%), other health care provider (6%), referee (3%), or other source (7%).

Exhibit 2.7.2.a Medical Intervention and Diagnosis

	Youth (A)
Base = Youth with a concussion in past 12 months	(90) %
Yes	84
No	16
I don't know	0

QY9. When you got your concussion, did you go see a doctor?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

Exhibit 2.7.2.b Medical Intervention and Diagnosis

	Youth (A)
Base = Youth with a concussion in past 12 months	(90) %
Medical Doctor	59
Parent/guardian	32
Coach	31
I did – I could tell when it happened	27
Friend or teammate	6
Other health care provider	6
Referee	3
Other	7

QY10. Who told you that you had concussion? Pick as many as you want.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

3. Detailed Findings Among Health Care Providers (HCPs)

3.1. Concussion Knowledge

The following section summarizes the findings of the results among Health Care Providers (HCPs). In 2017, the sample for HCPs was obtained from two sources: 1) Kantar TNS's proprietary Health Care Panel and 2) supplemental sample was obtained through Parachute. Parachute worked with its partners to deliver the survey to members of the following organizations:

- Canadian Athletic Therapists Association (CATA)
- College of Family Physicians of Canada (CFPC)
- Canadian Physiotherapy Association (CPA)
- Canadian Academy of Sport and Exercise Medicine (CASEM)
- Canadian Association of Occupational Therapists (CAOT)

In 2018, sample was only obtained from Kantar TNS's proprietary Health Care Panel. To ensure the comparison groups are similar, all comparisons from 2017 are from the results of the completions from the Kantar Health Care Panel only and do not include the supplemental sample obtained through Parachute. Taking this approach ensures the samples from 2017 and 2018 are similar and thus comparable and allows us to presume any changes are a function of change over time rather than differences in sample.

3.2. Health Care Providers

As noted previously, for this survey, respondents were recruited from the Kantar Health Care Panel. In total, 217 HCPs completed the survey. These included

- Family physicians/GPs (85%)
- Sports medicine physicians (5%)
- Emergency department physicians (9%)
- Physiotherapists (5%)
- Pediatricians (2%)
- Nurses (2%)
- Emergency medical professionals (2%)
- Internal medicine physicians (1%)
- Occupational therapists (1%)
- Nurse Practitioners (1%); and
- Other (4%)

Exhibit 3.2 Health Care Providers

	2018 HCP (A)	2017 HCP (B)
Base = actual	(217) %	(200) %
Family physician/GP	85	89 A
Emergency department physician	9	3
Sports medicine physician	5	0
Physiotherapist	5	3
Pediatrician	2	0
Nurse	2	0
Emergency medical professional	2	0
Occupational therapist	1	0
Internal medicine physician	1	1
Nurse Practitioner	1	1
Physiatrists	0	0
Neurologist	0	0
Neurosurgeon	0	0
Athletic therapist	-	0
Misc. all other mentions	0	4

Q15. What type of health care provider are you?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

3.3. Concussion Knowledge

3.3.1. Attitudes towards Concussion

As in 2017, virtually all HCPs (96%) believe concussion is an important health issue. In 2018, more HCPs know where to go for reliable information on concussion diagnosis (86% vs. 76%) and/or for reliable information on concussion treatment and recovery (80% vs. 73%)*.

Exhibit 3.3.1 Attitudes towards concussion

	2018 HCP (A)	2017 HCP (B)
Base = actual	(217) %	(200) %
Concussion is an important health issue	96	96
I know where to go for reliable information on concussion diagnosis	86 B	76
I know where to go for reliable information regarding concussion treatment and recovery	80 *	73

Q16. Please indicate the extent to which you agree or disagree with the following statements.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

3.3.2. Concussion Knowledge

Concussion knowledge among HCPs has improved in 2018, with more HCPs indicating they are experts (4%) or know a lot (38%) about concussions compared to 2017 (0% and 27% respectively).

Exhibit 3.3.2 Concussion Knowledge

	2018 HCP (A)	2017 HCP (B)
Base = actual	(217) %	(200) %
I am an expert on concussions	4	0
I know a lot about concussions	38 B	27
I know a moderate amount about concussions	49	58
I know a little about concussions	8	15
I don't know anything about concussions	0	1

Q17.Using the scale below, how would you rate your current level of knowledge about concussions?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

3.4. Concussion Treatment and Tools

3.4.1. Diagnosis

In 2018, HCPs are more likely to report that they or their organization follow a standardized clinical/care pathway or practice guideline to diagnose concussion (45% vs. 37%).

Exhibit 3.4.1.a Concussion Diagnosis Protocols in Place

	2018 HCP (A)	2017 HCP (B)
Base = actual	(217) %	(200) %
Yes	45*	37
No	44	58 A
I don't know	12 B	6

Q50. Do you, or does your organization, follow a standardized clinical/care pathway or practice guideline to diagnose concussion?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

Little has changed since 2017 in relation to how HCPs diagnose concussions in 2018. Patient symptoms are still used by most HCPs to diagnose concussion (94%) followed by patient history (89%), a neurological exam (82%), observation (71%), cognitive testing (52%) or other (6%). And, a small proportion of HCPs continue to use imaging tests such as X-ray, CT scan or MRI (18%) to diagnose concussion even though concussion cannot typically be

diagnosed this way. However, fewer HCPs are currently diagnosing concussions using patient history (89% vs. 95%) compared to 2017.

Exhibit 3.4.1.b Diagnosis

	2018 HCP (A)	2017 HCP (B)
Base = actual	(217) %	(186) %
Patient symptoms	94*	97
Patient history	89	95 A
Neurological exam	82	85
Observation	71	69
Cognitive testing	52	47
Imaging tests such as X-ray, CT scan or MRI	18	23
Other	6	4

Q51.How do you currently diagnose a concussion? Select all that apply.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

Similar to 2017, HCPs are most likely to use the following tools for diagnosing and assessing the severity of a concussion:

- The Sport Concussion Assessment Tool 5 (SCAT5) (38%)
- The Canadian Guideline on Concussion in Sport (26%)
- The Child Sport Concussion Assessment Tool 5 (Child SCAT5) (19%)

And, few use the Concussion Recognition Tool 5 (CRT5) (7%), the Canadian Harmonized Guidelines on Concussions (6%) or other tools (6%). Interestingly, more than a quarter (27%) continue to use no tools at all.

While the most common tools used have not changed since 2017, the number of HCPs using the Canadian Guideline on Concussion in Sport has fallen in 2018 compared to 2017 (26% vs. 38%).

Exhibit 3.4.1.c Diagnosis and Assess Severity of Concussion

	2018 HCP (A)	2017 HCP (B)
Base = actual	(217) %	(186) %
Sport Concussion Assessment Tool 5 (SCAT5)	38	32
Canadian Guideline on Concussion in Sport	26	38 A
Child Sport Concussion Assessment Tool 5 (Child SCAT5)	19	15
Concussion Recognition Tool 5 (CRT5)	7	6
Canadian Harmonized Guideline on Concussions	6	5
Other	6	4
None	27	25

Q53.Which of the following do you currently use to diagnose and assess the severity of a concussion?
Note: Capital or lowercase letters denote statistically significant difference. For example, if there is a B then the result is significantly higher than the corresponding result in column B.
- represents <0.5%

3.4.2. Concussion Classification

Similar to 2017, when it comes to internal reporting procedures related to concussion, many HCPs (52%) continue to not know which International Classification of Diseases and related Health Conditions they use (ICD 9 or ICD 10). The use of ICD 9 has not changed since 2017 with nearly one-in-three using ICD 9 however, we are starting to see increase in the use of ICD 10 (21%* vs. 14%).

Exhibit 3.4.2 Concussion Classification

	2018 HCP (A)	2017 HCP (B)
Base = actual	(217) %	(200) %
ICD 9	29	31
ICD 10	21*	14
Don't know	52	56

* Significant at the 90% confidence level

Q48.Thinking about your internal reporting procedures related to concussions, which International Classification of Diseases and related Health Condition (ICD – 9 or 10) do you use to identify concussion?
Note: Capital or lowercase letters denote statistically significant difference. For example, if there is a B then the result is significantly higher than the corresponding result in column B.

3.4.3. Awareness of Tools and Resources

Awareness of Parachute's Return to School (23% vs. 9%) and Return to Sport (21% vs. 11%) protocols have increased among HCPs since 2017, while awareness of all other resources has remained the same.

Health care providers continue to have varied awareness of concussion tools or resources. HCPs are most aware of the following tools or resources:

- Sport Concussion Assessment Tool 5 (SCAT5) (45%)
- Canadian Guideline on Concussion in Sport (45%)

And, have limited awareness among the following tools or resources:

- Concussion Baseline Testing (28%)
- Child Sport Concussion Assessment Tool 5 (Child SCAT5) (25%)
- Parachute's Return to School protocol (23%)
- Parachute's Return to Sport protocol (21%)
- Canadian Medical Association Head Injury Sport Policy (20%)
- The Concussion Awareness Training Tool by BC Injury Research and Prevention Unit (19%)
- Concussion Management and Return to Learn by Dr. Mike Evans (18%)
- Statement on Concussion Baseline Testing in Canada (16%)
- Canadian Paediatric Society: Sport Related Concussion: Evaluation and Management Identification and Management of Children with Sport-Related Concussion (12%)
- Concussion Recognition Tool 5 (CRT5) (12%)

- The Concussion Awareness Training Tool (CATT) for Medical Professionals (11%)
- Ontario Neurotrauma Foundation Guidelines for Concussion/mild Traumatic Brain Injury & Persistent Symptoms (8%)
- Canadian Harmonized Guidelines on Concussions (8%)
- Sport Medical Clearance Letter (7%)
- Canadian Concussion Collaborative – 5 Key Messages from the 5th International Consensus Statement on Concussion in Sport (8%)
- Ontario Neurotrauma Guidelines for Diagnosing and Managing Pediatric Concussion (6%)
- Sport Medical Assessment Letter (6%)
- Ontario Neurotrauma Foundation Standards for Post-Concussion Care (4%)

Interestingly, 19% of HCPs have no awareness of any of the above-mentioned tools or resources.

Exhibit 3.4.3 Awareness of Tools and Resources

	2018 HCP (A)	2017 HCP (B)
Base = actual	(217) %	(200) %
Sport Concussion Assessment Tool 5 (SCAT5)	45	41
Canadian Guideline on Concussion in Sport	45	52
Concussion Baseline Testing	28	21
Child Sport Concussion Assessment Tool 5 (Child SCAT5)	25	25
Parachute's Return to School strategy and protocol	23 B	9
Parachute's Return to Sport strategy and protocol	21 B	11
Canadian Medical Association Head Injury Sport Policy	20	19
The Concussion Awareness Training Tool by BC Injury Research and Prevention Unit	19	21
Concussion Management and Return to Learn by Dr. Mike Evans	18	20
Statement on Concussion Baseline Testing in Canada	16	10

	2018 HCP (A)	2017 HCP (B)
Concussion Recognition Tool 5 (CRT5)	12	13
Canadian Paediatric Society: Sport Related Concussion: Evaluation and Management Identification and Management of Children with Sport-Related Concussion	12	15
The Concussion Awareness Training Tool (CATT) for Medical Professionals	11	NA
Ontario Neurotrauma Foundation Guideline for Concussion/mild Traumatic Brain Injury & Persistent Symptoms	8	5
Canadian Harmonized Guideline on Concussions	8	10
Canadian Concussion Collaborative - 5 Key Messages from the 5th International Consensus Statement on Concussion in Sport	8	12
Sport Medical Clearance Letter	7	6
Ontario Neurotrauma Guideline for Diagnosing and Managing Pediatric Concussion	6	4
Sport Medical Assessment Letter	6	4
Holland Bloorview Kids Rehabilitation Hospital's SCHOOLFirst Toolkit	5	NA
Ontario Neurotrauma Foundation Standards for Post-Concussion Care	4	3
None of the above	19	19

Q52. Which of the following concussion related tools or resources are you aware of? SELECT ALL THAT APPLY
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

3.4.4. Canadian Guideline on Concussion in Sport

HCPs that have used the Guideline on Concussion in Sport continue to have very positive perceptions of it and there have been no significant changes since 2017. Among the 26% of HCPs who have used the Canadian Guideline on Concussion in Sport, virtually all (96%) are satisfied with the information found in the guideline and the large majority believes (strongly agree or agree) the guideline:

- Is a useful tool for health care providers (91%);
- Will improve concussion management in Canada (88%);
- Has made it easier to manage concussions (88%).
- Will improve concussion diagnosis in Canada (86%); and
- Has made it easier to diagnose concussions (77%).

Exhibit 3.4.4 Canadian Guideline on Concussion in Sport

Strongly Agree/Agree	2018 HCP (A)	2017 HCP (B)
Base = Those who have used the Canadian Guideline on Concussion in Sport	(56) %	(70) %
Overall, I was satisfied with the information found in the guideline	96	NA
The guideline is a useful tool for health care providers	91	97
The guideline will improve concussion management in Canada	88	93
The guideline has made it easier to manage concussions	88	90
The guideline will improve concussion diagnosis in Canada	86	91
The guideline has made it easier to diagnose concussions	77	90

Q54. You indicated that you have used the new Canadian Guideline on Concussion in Sport. Please indicate the extent to which you agree or disagree with the following statements about the guideline:
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

3.4.5. Sport Medical Assessment Letter and Medical Clearance Letter

Among HCPs that were aware of the Sports Medical Assessment Letter or Medical Clearance Letters (6-7%), 88% have completed at least one in the past three years. Two-third (63%) completed a sports medical assessment letter in the past three years while three-quarters (75%) completed the medical clearance letter in the past three years. The results suggest that there is an increase in use of the sport medical assessment letter and medical clearance letter however due to very small sample sizes the increases are not significant.

Exhibit 3.4.5 Used Sport Medical Assessment Letter and Medical Clearance Letter

	2018 HCP (A)	2017 HCP (B)
Base = Aware of Sport Medical Assessment Letter and/or Medical Clearance Letter	(16) %	(12) %
Medical Clearance Letter	75	58
Sport Medical Assessment Letter	63	50
Neither	13	8

Q55. You indicated that you are aware of the [Sport Medical Assessment Letter and/or Medical Clearance Letter]. Which of the following, if any, have you completed in the past three years: Select all that apply.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

3.4.6. Knowledge Gaps and Barriers

No significant changes in gaps and barriers have been reported in 2018. HCPs continue to identify a number of knowledge gaps or barriers that prevent them from addressing concussion prevention. These include a lack of knowledge or training in diagnosis of concussion (12%), lack of understanding regarding the guideline or changing guideline (11%), lack of awareness or compliance from the coach, athlete or parent (7%), lack of education, training or knowledge among HCPs (6%), lack of time (5%) or resources (3%) and/or a lack of experience (3%).

Exhibit 3.4.6 Knowledge Gaps and Barriers

	2018 HCP (A)	2017 HCP (B)
Base = actual	(217) %	(200) %
Lack of knowledge or training in diagnosis	12	15
Lack of understanding or changing of the guidelines	11	8
Lack of awareness or compliance by coaches, athletes or parents	7	10
Lack of education, training or knowledge of HCPs	6	6
Lack of time	5	7
Lack of experience or opportunity with concussion	3	8
Lack of resources	3	2
Difficult to teach prevention	2	3
Miscellaneous	2	6
None	49	40

Q57. Are there any knowledge gaps or barriers that prevent you from addressing concussion prevention?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4. Detailed Findings Among Parents

4.1. Attitudes toward Concussion

Nearly all parents/guardians of children 5-17 years old (hereinafter called “parents”) (97%), believe concussion is an important health issue. Many (70%) can recognize the signs and symptoms of a concussion, know where to go for reliable information on concussion prevention (67%) and know what to do if someone they know gets a concussion (63%). While little had changed since 2017, parents are more likely to report being able to recognize the signs and symptoms of a concussion in 2018 (70% vs. 63%).

Given that this survey focused on youth but included a follow-up interim measure among parents, quotas established for parents in 2018 were lower than those set in 2017.

Exhibit 4.1 Parents attitudes towards concussion

Top 2 Box	2018 Parents (A)	2017 Parents (B)
Base = actual	(297) %	(764) %
Concussion is an important health issue	97	97
I can recognize the signs and symptoms of a concussion	70 B	63
I know where to go for reliable information on concussion prevention	67	67
I know what to do if someone I know gets a concussion	63	63

Q16. Please indicate the extent to which you agree or disagree with the following statements
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4.2. General Concussion Knowledge

4.2.1. Self-reported Knowledge of Concussions

Self-reported knowledge of concussions among parents has not changed since 2017. Close to two-thirds (62%) continue to report having at least a moderate amount of knowledge.

Exhibit 4.2.1 Self-reported Knowledge of Concussions

	2018 Parents (A)	2017 Parents (B)
Base = actual	(297) %	(764) %
I am an expert on concussions	1	1
I know a lot about concussions	20	17
I know a moderate amount about concussions	41	42
I know a little about concussions	36	38
I don't know anything about concussions	2	2

Q17. Using the scale below, how would you rate your current level of knowledge about concussions?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4.2.2. Prevention of Sport-Related Concussion

Many parents understand there are a variety of ways of preventing sport-related concussions including following the rules and regulations of their sport (83%), avoiding head contact (80%), providing concussion training to athletes, coaches and school and sports administrators (75-76%) and respecting other players (66%). Most however, also erroneously believe that wearing a helmet is an effective way of preventing sport-related concussions (91%). Another misperception about how to prevent sport-related concussions among parents is wearing a mouth guard (46%).

Parents have shown some signs of improved knowledge relating to concussion prevention in 2018. More parents understand that ensuring athletes follow the rules and regulations of their sport can help to prevent concussion (83% vs. 77%).

Exhibit 4.2.2 Prevention of Sport-Related Concussion

	2018 Parents (A)	2017 Parents (B)
Base = actual	(297) %	(764) %
Wearing a helmet	91	92
Ensure athletes follow the rules and regulations of their specific sport	83 B	77
Avoid head contact	80	82
Provide concussion training to athletes	76	74
Provide concussion training to coaches	76	NA
Provide concussion training to school and sports administrators	75	NA
Respect other players	66	70
Wearing a mouth guard	46	44
Avoid contact sports	43	53 A
Don't know	*	2

Q22. Which of the following do you think are effective ways of preventing sport-related concussions? Select all that apply
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

4.2.3. Actions for Suspected Concussion

The large majority of parents understand that if they suspect someone has suffered a concussion they should have a medical professional assess them (85%). Most also understand they should check for symptoms of concussion (82%), visual signs of concussion (79%), memory (77%) and “red flags” (74%). More than half however, also believe you should monitor their sleep (61%) or check vital signs (47%).

In 2018, more parents understand that they should check a person’s memory (77% vs. 70%), however, fewer parents indicated they should have a medical professional assess the potentially concussed person (85% vs. 90%).

Exhibit 4.2.3 Actions for Suspected Concussion

	2018 Parents (A)	2017 Parents (B)
Base = actual	(297) %	(764) %
Have a medical professional assess them	85	90 A
Check for symptoms of concussion (e.g., dizziness, headache, sensitivity to light or noise, drowsiness, etc.)	82	77
Check for visual signs of concussion (e.g., lying motionless, slow to get up after a fall, blank or vacant look, etc.)	79	74
Check their memory by asking questions such as: "Where are we?", "Did your team win their last game?"	77 B	70
Check for red flags such as, neck pain, loss of consciousness, repeated vomiting, agitation or combative behaviour	74	70
Monitor their sleep (e.g., wake individual every 2-3 hours)	61	58
Check vital signs (e.g., fever, heart rate, pulse, breathing rate)	47	49
Don't know	4	3

Q24. What should you do if you suspect someone has suffered a concussion? Select all that apply.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4.2.4. Actions for Suspected Concussion during Sports

Most parents continue to understand that if a person is suspected of suffering a concussion while playing sports they should be seen by a health care professional for assessment (90%) and removed from play (85%). Many also understand the person should obtain medical clearance before returning to sport (80%) and should not be allowed to return to the same game or practice (71%). As well, very few parents erroneously believe that the person should take a break and return to play once feeling better (10%).

Little has changed since 2017, with a similar proportion of parents being able to correctly identify the correct steps to take if they suspect concussion during sports.

Exhibit 4.2.4 Actions for Suspected Concussion during Sports

	2018 Parents (A)	2017 Parents (B)
Base = actual	(297) %	(764) %
Send the person to a health care professional to be assessed for concussion	90	89
Immediately remove them from play	85	86
Obtain medical clearance from a health care professional (medical doctor or nurse practitioner) before returning to full contact sports activities	80	80
Do not allow them to return to the same game or practice	71	67
Send them home to rest	15	23 A
Take a break until they are feeling better and then let them return to play	10	13
Don't know	1	2

Q25.Which of the following should occur if a person is suspected of getting a concussion while playing sports? Select all that apply. Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4.3. Concussion Treatment Knowledge

4.3.1. Concussion Treatment

Sixteen per cent of parents do not know how concussion is treated and only 24% could correctly identify “rest for 24-48 hours, followed by a gradual return to cognitive (thinking) and physical activity under the supervision of a medical professional”.

One-third (36%) believe you should “rest and avoid physical and cognitive (thinking) activity for 10-14 days, followed by gradual return to cognitive and physical activity under the supervision of a medical professional” while fewer believe you should “rest and avoid physical and cognitive (thinking) activity until all concussion symptoms are gone” (18%) or “rest and avoid physical and cognitive (thinking) activity for 10-14 days, then return to regular cognitive and physical activity under the supervision of a medical professional” (6%).

Parents’ knowledge about concussion treatment is starting to improve in 2018. Parents are less likely to believe treatment involves “rest and avoid physical and cognitive (thinking) activity for 10-14 days, then return to regular cognitive and physical activity under the supervision of a medical professional” in 2018 compared to 2017 (6% vs.

13%). Results also show that more* parents are now able to correctly identify "rest for 24-48 hours, followed by a gradual return to cognitive (thinking) and physical activity under the supervision of a medical professional" as treatment (24% vs. 19%).

Exhibit 4.3.1 Concussion Treatment

	2018 Parents (A)	2017 Parents (B)
Base = actual	(297) %	(764) %
Rest and avoid physical and cognitive (thinking) activity for 10-14 days, followed by gradual return to cognitive and physical activity under the supervision of a medical professional	36	38
Rest for 24-48 hours, followed by a gradual return to cognitive (thinking) and physical activity under the supervision of a medical professional	24*	19
Rest and avoid physical and cognitive (thinking) activity until all concussion symptoms are gone	18	13
Rest and avoid physical and cognitive (thinking) activity for 10-14 days, then return to regular cognitive and physical activity under the supervision of a medical professional	6	13
Don't know	16	17

* Significant at the 90% confidence level

Q26.How is a concussion treated? Select the best answer.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4.3.2. Introduction of Light Physical Activity

While fewer parents report not knowing when light physical activity should be introduced for a child or athlete diagnosed with a concussion in 2018 (8% vs. 12%) little has changed regarding their understanding of what should occur. Most parents continue to understand that if a child or athlete is diagnosed with a concussion that light physical activity should not be introduced immediately (95%).

Nearly one-quarter of parents believe there should be a rest period (23%) before introducing light physical activity (as long as it's tolerated). The expected rest period however, varies: 15% believe it should be 24-48 hours while 8% believe it should be 10-14 days. Half (49%) of all parents believe light physical activity should only be introduced once a medical professional has provided clearance while the others (14%) believe all concussion symptoms should be gone before introducing light physical activity.

Exhibit 4.3.2 Introduction of Light Physical Activity

	2018 Parents (A)	2017 Parents (B)
Base = actual	(297) %	(764) %
When a medical professional has provided medical clearance	49	45
After 24-48 hours of rest - as long as it is tolerated by the individual	15	17
When all concussion symptoms are gone	14	10
After 10-14 days of rest - as long as it is tolerated by the individual	8	12
Immediately - a sport-related concussion does not impact light physical activity	3	1
Immediately, if they have no symptoms - as long as it is tolerated by the individual	2	3
Don't know	8	12 A

Q27. If a child or athlete is diagnosed with a concussion, when should light physical activity be introduced (ex. 10 – 15 minutes of walking or stationary bike)? Select the best answer.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4.3.3. Return to School or Work

No changes have occurred in parents' understanding of when an athlete can return to school or work full-time following a concussion. Similar to 2017, some parents (10%) do not know when an athlete can return to school or work full-time after experiencing a concussion. Virtually all parents (98%) understand that a concussion impacts both schooling and work.

Many (56%) parents believe return to school or full-time work should only occur once a medical professional has provided clearance while others (8%) believe all concussion symptoms should be gone before returning to school or work.

Some parents believe there should be a rest period (25%) before returning to work – as long as it's tolerated by the individual. The expected rest period however, varies: 18% believe it should 24-48 hours while 7% believe it should be 10-14 days.

Exhibit 4.3.3 Return to School or Work

	2018 Parents (A)	2017 Parents (B)
Base = actual	(297) %	(764) %
When a medical professional has provided medical clearance	56	56
After 24-48 hours of rest - as long as it is tolerated by the individual	18	18
When all concussion symptoms are gone	8	9
After 10-14 days of rest - as long as it is tolerated by the individual	7	7
Immediately - a sport-related concussion does not impact their schooling or work	2	1
Don't know	10	9

Q28.If an athlete suffers a concussion, when can they return to school or work full-time? Select the best answer.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4.3.4. Return to Sports

No changes have occurred in parents' understanding of when an athlete can return to sports after experiencing a concussion. Similar to last year, perspectives on return-to-play are quite different for parents compared to return-to-work or light physical activity. Three-quarters (74%) believe athletes should not return to play until they have received clearance from a medical professional. Some believe there should be a rest period (11%) of either 24-48 hours (3%) or 10-14 days (8%) while others believe all concussion symptoms must be gone (10%) before returning to sports. A small proportion (6%) simply don't know while an even smaller proportion (1%) believes they can return immediately if there are no symptoms.

Exhibit 4.3.4 Return to Play

	2018 Parents (A)	2017 Parents (B)
Base = actual	(297) %	(764) %
When a medical professional has provided medical clearance	74	71
When all concussion symptoms are gone	10	9
After 10-14 days of rest - as long as it is tolerated by the individual	8	8
After 24-48 hours of rest - as long as it is tolerated by the individual	3	3
Immediately, if they have no symptoms	1	1
Don't know	6	7

Q29. If an athlete suffers a concussion, when can they return to playing sports?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4.4. Concussion Information

4.4.1. Looked for Concussion Information in the Past 12 months

One quarter (25%) of parents have searched for information on concussion prevention, diagnosis or recovery over the past 12 months, an increase of 7% overall from 2017.

Exhibit 4.4.1 Looked for Concussion Information in the Past 12 months

	2018 Parents (A)	2017 Parents (B)
Base = actual	(287) %	(764) %
Yes	25	18
No	74	80
Don't Know	1	2

Q31.In the past 12 months, have you searched for information regarding concussion prevention, diagnosis, or recovery?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4.4.2. Location of Information

Among parents who have searched for information on concussion prevention, diagnosis or recovery over the past 12 months, most looked online at various websites:

- Search Engine (Google, Yahoo, etc.) (72%)
- Coaching Association of Canada (55%)
- Athletic association website (29%)
- Health Canada website (22%)
- WebMD (14%)
- Health professional website (13%)
- Public Health Agency of Canada website (12%)
- Parachute website (8%)
- Mayo Clinic (8%)
- Government of Canada website (4%)
- Other government website (3%)

Many also turn to a health care professional (33%) while others turn to friends and family (13%), sports coaches (13%), sports associations (3%) and/or health magazines, journals or books (2%).

Sources of information have changed somewhat in 2018 with the Public Health Agency of Canada and other health professional websites being used less often (12% and 13% respectively vs. 27% and 22% respectively) and the Coaching Association of Canada and other athletic association websites being used more often (55% and 29% respectively vs. 28% and 15% respectively). This change is likely a function of the larger proportion of coaches in the overall Parent sample in 2018 (23%) compared to 2017 (16%), and that in 2018, most Government of Canada websites amalgamated into Canada.ca.

Exhibit 4.4.2.a Location of Information

	2018 Parents (A)	2017 Parents (B)
Base = Searched for concussion information in past 12 months	(84) %	(132) %
Search Engine (Google, Yahoo, etc.)	72	72
Coaching Association of Canada	55 B	28
Health care professional (Doctor, Nurse, Pharmacist)	33	31
Athletic association website	29 B	15
Health Canada website	22	29
WebMD	14	16
Health professional website	13	22 A
Family or friends	13	11
Sport coach	13	23
Public Health Agency of Canada website	12	27 A
Mayo Clinic	8	12
Parachute website	8	9
Government of Canada website	4	9
Other government website	3	5
Health magazine, journal, book	2	6
Sports Association	3	NA
Social media (Facebook, Twitter, Instagram)	0	8

Q33.Where did you look or who did you turn to for information regarding concussion prevention, diagnosis, or recovery? SELECT ALL THAT APPLY

Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

Among those who have NOT searched for information on concussion prevention, diagnosis or recovery over the past 12 months, they anticipate looking in similar places as those who had searched for this, with various websites being prominent and federal websites in particular, followed by health care professionals:

- Search Engine (Google, Yahoo, etc.) (62%)
- Health Canada website (52%)
- Health care professional (48%)
- Public Health Agency of Canada website (38%)
- Coaching Association of Canada (21%)
- Health professional website (21%)
- WebMD (18%)
- Government of Canada website (15%)
- Sport Information Resource Centre website (14%)
- Sports coaches (14%)
- Mayo Clinic (13%)
- Friends and family (11%)
- Athletic association website (10%)
- Health magazine, journal or book (7%)
- Other government website (4%)
- Social media (2%)
- Parachute website (2%)

Sources of information have changed somewhat in 2018 however the ranking for most used remains largely the same.

Exhibit 4.4.2.b Location of Information

	2018 Parents (A)	2017 Parents (B)
Base = Have not searched for concussion information in past 12 months	(199) %	(605) %
Search Engine (Google, Yahoo, etc.)	62	72 A
Health Canada website	52	57
Health care professional (Doctor, Nurse, Pharmacist)	48	61 A
Public Health Agency of Canada website	38	49 A
Health professional website	21	32 A
Coaching Association of Canada	21 B	13
WebMD	18	22
Government of Canada website	15	16
Sport coach	14	20 A
Sport Information Resource Centre website	14	NA
Mayo Clinic	13	18
Family or friends	11	15
Athletic association website	10	15
Health magazine, journal, book	7	6
Other government website	4	6
Social media (Facebook, Twitter, Instagram)	2	4
Parachute website	2	-

Q32.If you wanted information regarding concussion prevention, diagnosis or recovery, where would you look or who would you turn to? Select all that apply.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

4.4.3. Awareness of Tools and Resources

Parents' awareness of concussion-related tools or resources continues to be high (73%) among those who have searched for concussion information in the past twelve months. Only, one-quarter (27%) were unaware of any of the cited tools and/or information resources on concussion available to the public. Awareness of specific resources has remained largely the same since 2017 except for the E-learning course: Making Headway by the Coaching Association of Canada which has grown in awareness (46% vs. 12%). As mentioned previously, the increased proportion of coaches in the parents' sample during this wave is likely the cause of this finding.

Parents show greatest awareness of the E-learning course by the Coaching Association of Canada (46%) followed by the:

- Canadian Guideline on Concussion in Sport (41%)
- The Concussion Awareness Training Tool (CATT) for Parents (33%)
- Concussion Recognition Tool/Sport Concussion Recognition Tool for Parents, Coaches and Teachers (27%)
- Parachute's Return to Sport strategy and protocol (8%)
- Concussion Management and Return to Learn by Dr. Mike Evans (8%)
- Parachute's Return to School strategy and protocol (5%)
- SCHOOLFIRST Tool (4%)

Exhibit 4.4.3 Awareness of Tools and Information Resources

	2018 Parents (A)	2017 Parents (B)
Base = actual	(84) %	(132) %
Canadian Guideline on Concussion in Sport	41	41
The Concussion Awareness Training Tool (CATT) for Parents	33	NA
Concussion Recognition Tool/Sport Concussion Recognition Tool for Parents, Coaches and Teachers	27	23
Concussion Management and Return to Learn by Dr. Mike Evans	8	14
Parachute's Return to Sport strategy and protocol	8	8
Parachute's Return to School strategy and protocol	5	9
SCHOOLFirst Tool	4	NA
None of the above	27	25

Q34.Which of the following concussion related tools or resources have you heard of? SELECT ALL THAT APPLY
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

4.4.4. Received Concussion Information from Sports Team

The number of parents who report receiving any concussion information from their child's sports team is down slightly in 2018 however the drop is not significant and thus remains stable compared to 2017 (17% vs. 21%).

Exhibit 4.4.4 Received Concussion Information from Sports Team

	2018 Parents (A)	2017 Parents (B)
Base = actual	(297) %	(624) %
Yes	17	21
No	81 B	71
Don't Know	2	8 A

Q36.Have you received any concussion information, such as an information sheet or letter, from your child's sports team(s) or league(s) within the past year?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

5. Detailed Findings Among Coaches

5.1. Attitudes toward Concussion

Nearly all coaches of children 5-17 who have coached in the past three years (hereinafter called “coaches”) (98%), continue to believe concussion is an important health issue. In comparison to 2017, coaches in 2018 are more likely to report being able to recognize the signs and symptoms of a concussion (93% vs. 84%), to know what to do if someone gets a concussion (92% vs. 86%) and to know where to go for reliable information on concussion prevention (92% vs. 82%). This suggests that educational efforts directed at this group may have had an impact on perceived ability to recognize and respond to concussion injuries.

Exhibit 5.1 Coaches attitudes towards concussion

Top 2 Box	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(261) %
Concussion is an important health issue	98	99
I can recognize the signs and symptoms of a concussion	93 B	84
I know where to go for reliable information on concussion prevention	92 B	82
I know what to do if someone I know gets a concussion	92 B	86

Q16. Please indicate the extent to which you agree or disagree with the following statements
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

5.2. General Concussion Knowledge

5.2.1. Self-reported Knowledge of Concussions

Self-reported knowledge of concussion among coaches continues to be high, with most (94%) continuing to report having at least a moderate amount of knowledge. While little has changed since 2017, fewer coaches in 2018 report only knowing a little about concussion.

Exhibit 5.2.1 Self-reported Knowledge of Concussions

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(261) %
I am an expert on concussions	2	1
I know a lot about concussion	39	38
I know a moderate amount about concussions	53	47
I know a little about concussion	7	15 A
I don't know anything about concussions	0	0

Q17. Using the scale below, how would you rate your current level of knowledge about concussions?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

5.2.2. Prevention of Sport-Related Concussion

Many coaches continue to understand there are a variety of ways of preventing sport-related concussion, including providing concussion training to coaches (91%), athletes (89%) and school and sports administrators (85%), ensuring athletes follow the rules and regulations of their sport (89%), avoiding head contact (77%) and having respect for other players (74%). Some misperceptions about how to prevent sport-related concussion still exist, though to a lesser extent than in 2017, with most continuing to believe that wearing a helmet is an effective way of preventing sport-related concussion (78%). Another misperception about how to prevent sport-related concussion is wearing a mouth guard (50%). Fewer coaches believe that avoiding contact sports (29%) is an effective way of preventing sport-related concussions than in 2017 (49%).

As mentioned previously, coaches have shown some signs of improved knowledge relating to myths surrounding concussion prevention in 2018. Fewer coaches erroneously believe that wearing a helmet (78% vs. 85%), or a mouth guard (50% vs. 60%) prevent concussion. While coaches are now less likely to correctly say that avoiding head contact may prevent a concussion (77% vs. 85%), this may signal a growing awareness that concussion can result from non-head injuries rather than a lack of knowledge.

Exhibit 5.2.2 Prevention of Sport-Related Concussion

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(248) %
Provide concussion training to coaches	91	NA
Provide concussion training to athletes	89	91
Ensure athletes follow the rules and regulations of their specific sport	89	89
Provide concussion training to school and sports administrators	85	NA
Wearing a helmet	78	86 A
Avoid head contact	77	85 A
Respect other players	74	79
Wearing a mouth guard	50	60 A
Avoid contact sports	29	49 A
Don't know	0	-

Q22. Which of the following do you think are effective ways of preventing sport-related concussions? Select all that apply
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

5.2.3. Actions for Suspected Concussion

The large majority of coaches are able to correctly identify actions to take for suspected concussion. Nearly all coaches say that if they suspect someone has suffered a concussion they should have a medical professional assess them (98%). Close to 90% also understand they should check for symptoms of concussion (94%), visual signs of concussion (93%), “red flags” (91%) and memory (87%). Fewer than half also incorrectly believe you should monitor their sleep (48%) or check vital signs (45%).

In 2018 we are beginning to see increases in the number of coaches who know what to do in cases of suspected concussion however, the improvements are not significantly higher than in 2017. The exception being, more

Coaches understand that they should check red flags such as neck pain, loss of consciousness, repeated vomiting, agitation or combative behaviour (91% vs. 85%) if they suspect concussion.

Exhibit 5.2.3 Actions for Suspected Concussion

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(248) %
Have a medical professional assess them	98	95
Check for symptoms of concussion (e.g., dizziness, headache, sensitivity to light or noise, drowsiness, etc.)	94	93
Check for visual signs of concussion (e.g., lying motionless, slow to get up after a fall, blank or vacant look, etc.)	93	88
Check for red flags such as, neck pain, loss of consciousness, repeated vomiting, agitation or combative behaviour	91 B	85
Check their memory by asking questions such as: Where are we?", "Did your team win their last game?""	87	84
Monitor their sleep (e.g., wake individual every 2-3 hours)	48	56
Check vital signs (e.g., fever, heart rate, pulse, breathing rate)	45	50
Don't know	0	1

Q24. What should you do if you suspect someone has suffered a concussion? Select all that apply.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

5.2.4. Actions for Suspected Concussion

The vast majority of coaches continue to understand that if a person is suspected of suffering a concussion while playing sports they should be sent to a health care professional for assessment (98%) and removed from play (98%). Most also understand that the person should obtain medical clearance before returning to sport (95%) and not be allowed to return to the same game or practice (90%). As well, very few coaches erroneously believe that the person should be sent home to rest (16%) or take a break and return to play once feeling better (5%).

Compared to 2017, more coaches are aware they should not allow the person to the same game or practice (90% vs. 85%). A similar proportion of coaches are able to correctly identify the steps to take if they suspect concussion during sports.

Exhibit 5.2.4 Actions for Suspected Concussion during Sports

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(248) %
Send the person to a health care professional to be assessed for concussion	98	97
Immediately remove them from play	98	96
Obtain medical clearance from a health care professional (medical doctor or nurse practitioner) before returning to sports activities	95	94
Do not allow them to return to the same game or practice	90 B	85
Send them home to rest	16	20
Take a break until they are feeling better and then let them return to play	5	7
Don't know	0	-

Q25.Which of the following should occur if a person is suspected of getting a concussion while playing sports? Select all that apply.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

5.3. Concussion Treatment Knowledge

5.3.1. Concussion Treatment

Only one third (31%) of coaches could correctly identify “rest for 24-48 hours, followed by a gradual return to cognitive (thinking) and physical activity under the supervision of a medical professional” as the appropriate treatment for a concussion.

Forty-four per cent believe you should “rest and avoid physical and cognitive (thinking) activity for 10-14 days, followed by gradual return to cognitive and physical activity under the supervision of a medical professional” while fewer (20%) believe you should “rest and avoid physical and cognitive (thinking) activity until all concussion symptoms are gone” or “rest and avoid physical and cognitive (thinking) activity for 10-14 days, then return to regular cognitive and physical activity under the supervision of a medical professional” (3%).

Little has changed since 2017, with a similar proportion of coaches being able to correctly identify how to treat a concussion in 2018.

Exhibit 5.3.1 Concussion Treatment

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(248) %
Rest and avoid physical and cognitive (thinking) activity for 10-14 days, followed by gradual return to cognitive and physical activity under the supervision of a medical professional	44	41
Rest for 24-48 hours, followed by a gradual return to cognitive (thinking) and physical activity under the supervision of a medical professional	31	28
Rest and avoid physical and cognitive (thinking) activity for 10-14 days, then return to regular cognitive and physical activity under the supervision of a medical professional	3	7 A
Rest and avoid physical and cognitive (thinking) activity until all concussion symptoms are gone	20	20
Don't know	2	4

Q26.How is a concussion treated? Select the best answer.

Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

5.3.2. Introduction of Light Physical Activity

Little has changed in 2018 regarding when coaches believe light physical activity should be introduced for a child or athlete diagnosed with a concussion. Most coaches continue to understand that if a child or athlete is diagnosed with a concussion that light physical activity should not be introduced immediately (96%).

More than half (60%) of coaches believe light physical activity should only be introduced once a medical professional has provided clearance while the others (18%) believe all concussion symptoms should be gone before introducing light physical activity. Few believe there should be a rest period (6-12%) before introducing light physical activity (as long as it's tolerated).

Exhibit 5.3.2 Introduction of Light Physical Activity

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(248) %
When a medical professional has provided medical clearance	60	57
When all concussion symptoms are gone	18	15
After 24-48 hours of rest - as long as it is tolerated by the individual	12	18 A
After 10-14 days of rest - as long as it is tolerated by the individual	6	8
Immediately, if they have no symptoms - as long as it is tolerated by the individual	3 B	-
Immediately - a sport-related concussion does not impact light physical activity	0	0
Don't know	1	2

Q27. If a child or athlete is diagnosed with a concussion, when should light physical activity be introduced (ex. 10 – 15 minutes of walking or stationary bike)? Select the best answer.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

5.3.3. Return to School or Work

Virtually all coaches (99%) understand that a concussion impacts both schooling and work. As with light physical activity, most coaches believe an athlete can return to school or work full-time once a medical professional has provided clearance (65%). Fewer believe that all concussion symptoms should be gone before returning to school or work (16%), while some coaches believe there should be a rest period (17%) – as long as it is tolerated by the individual. The expected rest period however, varies: 13% believe it should be 24-48 hours while 4% believe it should be 10-14 days.

Compared to 2017, coaches are now more likely to believe that an individual should wait until all concussion symptoms are gone (16% vs. 8%) and less likely to believe they can return to school or work, if tolerated after 24-48 hours (13% vs. 22%).

Exhibit 5.3.3 Return to School or Work

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(248) %
When a medical professional has provided medical clearance	65	64
When all concussion symptoms are gone	16 B	8
After 24-48 hours of rest - as long as it is tolerated by the individual	13	22 A
After 10-14 days of rest - as long as it is tolerated by the individual	4	4
Immediately - a sport-related concussion does not impact their schooling or work	-	0
Don't know	-	2

Q28.If an athlete suffers a concussion, when can they return to school or work full-time?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

5.3.4. Return to Play

More coaches believe athletes should not return to play until they have received clearance from a medical professional in 2018, increasing 6% from 2017 (89% vs. 83%).

One in ten continue to believe all concussion symptoms must be gone (10%), while a small proportion continue to believe there should be a rest period of either 24-48 hours or 10-14 days (<1-1%). No coaches believe that athletes can return immediately if they have no symptoms.

Exhibit 5.3.4 Return to Play

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(248) %
When a medical professional has provided medical clearance	89 B	83
When all concussion symptoms are gone	10	12
After 10-14 days of rest - as long as it is tolerated by the individual	1	2
After 24-48 hours of rest - as long as it is tolerated by the individual	-	1
Immediately, if they have no symptoms	0	0
Don't know	0	2 A

Q29. If an athlete suffers a concussion, when can they return to playing sports?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

5.4. Concussion Information

5.4.1. Looked for Concussion Information in the Past 12 months

More coaches are searching for concussion information in 2018 than in 2017. Close to two-thirds (65%) of coaches have searched for information on concussion prevention, diagnosis or recovery over the past 12 months, an increase of 9% overall from 2017.

Exhibit 5.4.1 Looked for Concussion Information in the Past 12 months

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(248) %
Yes	65 B	56
No	34	41 A
Don't Know	*	3

Q31.In the past 12 months, have you searched for information regarding concussion prevention, diagnosis, or recovery?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

5.4.2. Location of Information

Among coaches who have searched for information on concussion prevention, diagnosis or recovery over the past 12 months, most looked online at various websites:

- Coaching Association of Canada (79%)
- Search Engine (Google, Yahoo, etc.) (66%)
- Athletic association website (37%)
- Health Canada website (22%)
- Public Health Agency of Canada website (16%)
- Health professional website (14%)
- WebMD (11%)
- Parachute website (11%)
- Mayo Clinic (10%)
- Government of Canada website (5%)
- Other government website (5%)

Many also turn to a health care professional (34%) while others turn to other sports coaches (22%), friends and family (11%), sports associations (3%) or health magazines, journals or books (6%).

Sources of information have generally remained the same as in 2017, though the Coaching Association of Canada website is being used more often (79% vs. 53%) in 2018.

Exhibit 5.4.2.a Location of Information

	2018 Coaches (A)	2017 Coaches (B)
Base = Searched for concussion information in past 12 months	152 %	138 %
Coaching Association of Canada	79 B	53
Search Engine (Google, Yahoo, etc.)	66	64
Athletic association website	37	36
Health care professional (Doctor, Nurse, Pharmacist)	34	31
Health Canada website	22	19
Sport coach	22	24
Public Health Agency of Canada website	16	21
Health professional website	14	11
WebMD	11	10
Family or friends	11	9
Parachute website	11	12
Mayo Clinic	10	9
Health magazine, journal, book	6	5
Government of Canada website	5	6
Other government website	5	4
Sports Association	3	NA
Social media (Facebook, Twitter, Instagram)	2	4

Q33.Where did you look or who did you turn to for information regarding concussion prevention, diagnosis, or recovery? SELECT ALL THAT APPLY
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

Among coaches who have NOT searched for information on concussion prevention, diagnosis, or recovery over the past 12 months, they anticipate looking in similar places as those who had searched for this, with various federal and athletic association websites being particularly prominent, followed by health care professionals:

- Search Engine (Google, Yahoo, etc.) (66%)
- Coaching Association of Canada (53%)
- Health care professional (51%)
- Health Canada website (49%)
- Public Health Agency of Canada website (39%)
- Sport Information Resource Centre website (31%)
- Athletic association website (26%)
- Health professional website (25%)
- Sports coaches (24%)
- Government of Canada website (14%)
- Mayo Clinic (9%)
- WebMD (8%)
- Friends and family (8%)
- Other government website (5%)
- Parachute website (4%)
- Health magazines, journals or books (1%)

While the proportion of coaches who indicate they would go to specific sources in 2018 has decreased on a number of sources, the ranking for most used remains largely the same.

Exhibit 5.4.2.b Location of Information

	2018 Coaches (A)	2017 Coaches (B)
Base = Have not searched for concussion information in past 12 months	(80) %	(138) %
Search Engine (Google, Yahoo, etc.)	66	77
Coaching Association of Canada	53	53
Health care professional (Doctor, Nurse, Pharmacist)	51	65 A
Health Canada website	49	63 A
Public Health Agency of Canada website	39	57 A
Sport Information Resource Centre website	31	NA
Athletic association website	26	29

	2018 Coaches (A)	2017 Coaches (B)
Health professional website	25	44 A
Sport coach	24	30
Government of Canada website	14	19
Mayo Clinic	9	22 A
WebMD	8	20 A
Family or friends	8	14
Other government website	5	8
Parachute website	4	3
Health magazine, journal, book	1	13 A
Social media (Facebook, Twitter, Instagram)	-	3

Q32.If you wanted information regarding concussion prevention, diagnosis or recovery, where would you look or who would you turn to? Select all that apply.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

5.4.3. Awareness of Tools and Resources

Among coaches who have searched for concussion information in the past twelve months, awareness of concussion-related tools or resources continues to be high (93%) and has increased considerably since 2017 (up 9%).

Few (7%) were unaware of any of the cited tools and/or information resources on concussion available to the public. Awareness of specific resources has remained largely the same since 2017, except for the E-learning course: Making Headway by the Coaching Association of Canada which has grown considerably in awareness (75% vs. 46%) and the Concussion Management and Return to Learn resource by Dr. Mike Evans (39% vs. 9%).

Coaches show greatest awareness of the E-learning course by the Coaching Association of Canada (75%) followed by the:

- The Concussion Awareness Training Tool (CATT) for Coaches (51%)
- Canadian Guideline on Concussion in Sport (39%)
- Concussion Management and Return to Learn by Dr. Mike Evans (39%)
- Concussion Recognition Tool/Sport Concussion Recognition Tool for Parents, Coaches and Teachers (36%)

- Parachute's Return to Sport strategy and protocol (11%)
- Parachute's Return to School strategy and protocol (9%)
- SCHOOLFIRST Tool (3%)

Exhibit 5.4.3 Awareness of Tools and Information Resources

	2018 Coaches (A)	2017 Coaches (B)
Base = Searched for concussion information in past 12 months	(152) %	(138) %
E-learning course: Making Headway by the Coaching Association of Canada	75 B	46
The Concussion Awareness Training Tool (CATT) for Coaches	51	NA
Canadian Guideline on Concussion in Sport	39	39
Concussion Management and Return to Learn by Dr. Mike Evans	39 B	9
Concussion Recognition Tool/Sport Concussion Recognition Tool for Parents, Coaches and Teachers	36	32
Parachute's Return to Sport strategy and protocol	11	14
Parachute's Return to School strategy and protocol	9	9
SCHOOLFirst Tool	3	NA
None of the above	7	16 A

Q34.Which of the following concussion related tools or resources have you heard of? SELECT ALL THAT APPLY
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

5.4.4. Formal Training or Education on Concussion

Three quarters of coaches (75%) have received some training or education from their organization or league on concussion, a marked improvement from 2017 (62%). Coaches in 2018 are more likely to have received training in the past one-to-two years (30%) than they were in 2017 (18%). Another third (32%) have received training within the past year, while the remaining 12% received training more than three years ago.

Exhibit 5.4.4 Formal Training or Education on Concussion

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(261) %
Within the past year	32	31
1-2 years ago	30 B	18
3-5 years ago	11	11
More than 5 years ago	1	2
I have never received formal education/training about concussion from my organization or league	25	36 A
Don't know	-	2 A

Q38.When was the last time you received formal education/training about concussions from your organization or league?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

5.4.5. Sharing of Documented Concussion Information

Sharing of concussion information has not changed since 2017. Over half (54%) of all coaches indicate that their team or league does not share concussion information with parents, children or athletes. In cases when this information is shared, the documentation primarily goes to parents (40%) or athletes (39%) rather than children (27%).

Exhibit 5.4.5.a Sharing of Documented Concussion Information

	2018 Coaches (A)	2017 Coaches (B)
Base = actual	(245) %	(261) %
Parents	40	43
Athletes	39	39
Children	27	27
None	54	52

Q39. Does your team or league share documented concussion information such as an information sheet or letter with:
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

Among coaches that share documented concussion information, most provide it at the beginning of every season (74%).

Exhibit 5.4.5.b Sharing of Documented Concussion Information

	2018 Coaches (A)	2017 Coaches (B)*
Base = Share concussion information	(114) %	(126) %
At the beginning of every season	74	69
When someone asks for concussion related information	15	29
When someone on the team suffers a concussion	6	22
Other	5	9

Q40. How often do you give out information sheets or letters on concussions?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
* Due to changes in question format 2017 data is not directly comparable to 2018

6. Detailed Findings Among Teachers

6.1. Attitudes toward Concussion

Nearly all teachers of primary and secondary grades (hereinafter called “teachers”) believe concussion is an important health issue (96%). Many teachers can recognize the signs and symptoms of a sport-related concussion (65%), know where to go for reliable information on concussion prevention (69%) and know what to do if someone gets a concussion (61%).

Exhibit 6.1 Parents attitudes towards concussion

Top 2 Box	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(295) %
Concussion is an important health issue	96	99 B
I can recognize the signs and symptoms of a concussion	65	69
I know where to go for reliable information on concussion prevention	69	68
I know what to do if someone I know gets a concussion	61	64

Q16. Please indicate the extent to which you agree or disagree with the following statements
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

6.2. General Concussion Knowledge

6.2.1. Self-reported Knowledge of Concussions

Self-reported knowledge of concussion among teachers has not changed since 2017. Close to two-thirds (64%) continue to report having at least a moderate amount of knowledge or more.

Exhibit 6.2.1 Self-reported Knowledge of Concussions

	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(295) %
I am an expert on concussions	0	*
I know a lot about concussions	20	23
I know a moderate amount about concussions	44	44
I know a little about concussions	33	32
I don't know anything about concussions	2	-

Q17. Using the scale below, how would you rate your current level of knowledge about concussions?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

6.2.2. Prevention of Sport-Related Concussion

Many teachers understand there are a variety of ways of preventing sport-related concussion including providing concussion training to athletes, coaches and school and sports administrators (77-85%), following the rules and regulations of their sport (80%), avoiding head contact (80%), respecting other players (60%), and avoiding contact sports. Most however, also erroneously believe that wearing a helmet is an effective way of preventing sport-related concussion (94%). Wearing a mouth guard (48%) is also a common misperception about how to prevent sport-related concussion.

Teachers' knowledge of some methods of concussion prevention are slightly different than in 2017. Fewer teachers indicate that following the rules and regulations of their sport (80% vs. 89%), avoiding head contact (80% vs. 89%), and ensuring athletes have respect for other players (60 vs. 75%) can prevent concussion.

Exhibit 6.2.2 Prevention of Sport-Related Concussion

	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(290) %
Wearing a helmet	94	93
Provide concussion training to coaches	85	NA
Provide concussion training to athletes	83	86
Avoid head contact	80	89 A
Ensure athletes follow the rules and regulations of their specific sport	80	89 A
Provide concussion training to school and sports administrators	77	NA
Respect other players	60	75 A
Avoid contact sports	51	58
Wearing a mouth guard	48	46
Don't know	0	1

Q22. Which of the following do you think are effective ways of preventing sport-related concussions? Select all that apply
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

6.2.3. Actions for Suspected Concussion

The large majority of teachers understand that if they suspect someone has suffered a concussion they should have a medical professional assess them (95%). Most also understand they should check for symptoms of concussion (89%), “red flags” (85%), visual signs of concussion (83%), and memory (82%). More than half however, also believe you should monitor their sleep (67%) or check vital signs (56%).

While little has changed since 2017, more teachers in 2018 are likely to believe the myth that they should monitor a concussed person’s sleep (67% vs. 58%).

Exhibit 6.2.3 Actions for Suspected Concussion

	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(290) %
Have a medical professional assess them	95	93
Check for symptoms of concussion (e.g., dizziness, headache, sensitivity to light or noise, drowsiness, etc.)	89	87
Check for red flags such as, neck pain, loss of consciousness, repeated vomiting, agitation or combative behaviour	85	80
Check for visual signs of concussion (e.g., lying motionless, slow to get up after a fall, blank or vacant look, etc.)	83	79
Check their memory by asking questions such as: Where are we?", "Did your team win their last game?""	82	76
Monitor their sleep (e.g., wake individual every 2-3 hours)	67 B	58
Check vital signs (e.g., fever, heart rate, pulse, breathing rate)	56	56
Don't know	1	2

Q24. What should you do if you suspect someone has suffered a concussion? Select all that apply.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

6.2.4. Actions for Suspected Concussion During Sports

Most teachers continue to understand that if a person is suspected of suffering a concussion while playing sports they should be sent to a health care professional for assessment (97%). Most also understand the person should immediately be removed from play (93%), obtain medical clearance before returning to sport (86%) and should not be allowed to return to the same game or practice (76%). As well, very few teachers erroneously believe that the person should be sent home to rest (24%) or take a break and return to play once feeling better (8%).

Little has changed since 2017, with a similar proportion of teachers being able to correctly identify the correct steps to take if they suspect concussion during sports.

Exhibit 6.2.4 Actions for Suspected Concussion during Sports

	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(290) %
Send the person to a health care professional to be assessed for concussion	97	94
Immediately remove them from play	93	91
Obtain medical clearance from a health care professional (medical doctor or nurse practitioner) before returning to full contact sports activities	86	84
Do not allow them to return to the same game or practice	76	75
Send them home to rest	24	22
Take a break until they are feeling better and then let them return to play	8	13 A
Don't know	1	1

Q25.Which of the following should occur if a person is suspected of getting a concussion while playing sports? Select all that apply.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

6.3. Concussion Treatment Knowledge

6.3.1. Concussion Treatment

One-in-ten teachers do not know how concussion is treated (11%) and only 19% could correctly identify “rest for 24-48 hours, followed by a gradual return to cognitive (thinking) and physical activity under the supervision of a medical professional”.

Almost half (45%) believe you should “rest and avoid physical and cognitive (thinking) activity for 10-14 days, followed by gradual return to cognitive and physical activity under the supervision of a medical professional. This has increased 10% since 2017.

Fewer believe you should “rest and avoid physical and cognitive (thinking) activity until all concussion symptoms are gone” (14%) or “rest and avoid physical and cognitive (thinking) activity for 10-14 days, then return to regular cognitive and physical activity under the supervision of a medical professional” (10%).

Exhibit 6.3.1 Concussion Treatment

	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(290) %
Rest and avoid physical and cognitive (thinking) activity for 10-14 days, followed by gradual return to cognitive and physical activity under the supervision of a medical professional	45 B	35
Rest for 24-48 hours, followed by a gradual return to cognitive (thinking) and physical activity under the supervision of a medical professional	19	22
Rest and avoid physical and cognitive (thinking) activity until all concussion symptoms are gone	14	21 A
Rest and avoid physical and cognitive (thinking) activity for 10-14 days, then return to regular cognitive and physical activity under the supervision of a medical professional	10	10
Don't know	11	12

Q26.How is a concussion treated? Select the best answer.

Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

6.3.2. Introduction of Light Physical Activity

No changes have occurred in teachers' understanding of when a child or athlete can return to light physical activity. Most teachers continue to understand that if a child or athlete is diagnosed with a concussion that light physical activity should not be introduced immediately (98%).

Close to one-quarter of teachers believe there should be a rest period (29%) before introducing light physical activity (as long as it's tolerated). The expected rest period however, varies: 19% believe it should be 24-48 hours while 10% believe it should be 10-14 days. Half (52%) of all teachers believe light physical activity should only be introduced once a medical professional has provided clearance while the others (8%) believe all concussion symptoms should be gone before introducing light physical activity.

Exhibit 6.3.2 Introduction of Light Physical Activity

	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(290) %
When a medical professional has provided medical clearance	52	48
After 24-48 hours of rest - as long as it is tolerated by the individual	19	17
After 10-14 days of rest - as long as it is tolerated by the individual	10	10
When all concussion symptoms are gone	8	11
Immediately, if they have no symptoms - as long as it is tolerated by the individual	2	3
Immediately - a sport-related concussion does not impact light physical activity	0	-
Don't know	10	10

Q27. If a child or athlete is diagnosed with a concussion, when should light physical activity be introduced (ex. 10 – 15 minutes of walking or stationary bike)? Select the best answer.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

6.3.3. Return to School or Work

No changes have occurred in teachers' understanding of when an athlete can return to school or work full-time. Similar to 2017, some teachers (5%) do not know when an athlete can return to school or work full-time after suffering a concussion. Virtually all teachers (99%) understand that a concussion impacts both schooling and work.

Close to two-thirds (62%) of teachers believe a return to school or full-time work should only occur once a medical professional has provided clearance while the others (7%) believe all concussion symptoms should be gone before returning to school or work.

Some teachers believe there should be a rest period (26%) before returning to work – as long as it's tolerated by the individual. The expected rest period however, varies: 18% believe it should 24-48 hours while 8% believe it should be 10-14 days.

Exhibit 6.3.3 Return to School or Work

	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(290) %
When a medical professional has provided medical clearance	62	61
After 24-48 hours of rest - as long as it is tolerated by the individual	18	17
After 10-14 days of rest - as long as it is tolerated by the individual	8	6
When all concussion symptoms are gone	7	9
Immediately - a sport-related concussion does not impact their schooling or work	1	1
Don't know	5	6

Q28.If an athlete suffers a concussion, when can they return to school or work full-time?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

6.3.4. Return to Sports

Compared to last year, teachers are less likely to say they don't know when an athlete can return to sports following a concussion (2% vs. 7%).

Similar to last year, perspectives on return-to-play are quite different for teachers compared to return-to-work or light physical activity. Most (80%) believe athletes should not return to play until they have received clearance from a medical professional. Some believe there should be a rest period (9%) of either 24-48 hours (2%) or 10-14 days (7%) while others believe all concussion symptoms must be gone (9%) before returning to sports. A very small proportion (1%) believes they can return immediately if there are no symptoms.

Exhibit 6.3.4 Return to Sports

	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(290) %
When a medical professional has provided medical clearance	80	76
When all concussion symptoms are gone	9	9
After 10-14 days of rest - as long as it is tolerated by the individual	7	5
After 24-48 hours of rest - as long as it is tolerated by the individual	2	2
Immediately, if they have no symptoms	1	1
Don't know	2	7 A

Q29. If an athlete suffers a concussion, when can they return to playing sports?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

6.4. Concussion Information

6.4.1. Looked for Concussion Information in the Past 12 months

Close to one quarter (21%) of teachers have searched for information on concussion prevention, diagnosis or recovery over the past 12 months, which has remained consistent since 2017.

Exhibit 6.4.1 Looked for Concussion Information in the Past 12 months

	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(290) %
Yes	21	25
No	76	73
Don't Know	3	3

Q31.In the past 12 months, have you searched for information regarding concussion prevention, diagnosis, or recovery?

Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

6.4.2. Location of Information

Among those who have searched for information on concussion prevention, diagnosis or recovery over the past 12 months, most looked online at various websites:

- Search Engine (Google, Yahoo, etc.) (70%)
- Coaching Association of Canada (34%)
- Health Canada website (34%)
- Public Health Agency of Canada website (21%)
- Health professional website (20%)
- Mayo Clinic (10%)
- WebMD (11%)
- Athletic association website (9%)
- Other government website (8%)
- Parachute website (6%)
- Government of Canada website (3%)

Many also turn to a health care professional (37%) while others turn to health magazines, journals or books (10%), friends and family (8%) or sports coaches (8%).

Sources of information have changed somewhat in 2018 with search engines and family/friends being consulted more often (70% and 8% respectively vs. 60% and 3% respectively), and sports coaches (8% vs. 19%), the athletic association website (9% vs. 22%), and the Government of Canada website (3% vs. 7%) being used less often.

Exhibit 6.4.2.a Location of Information

	2018 Teachers (A)	2017 Teachers (B)
Base = Searched for concussion information in past 12 months	(50) %	(69) %
Search Engine (Google, Yahoo, etc.)	70 B	60
Health care professional (Doctor, Nurse, Pharmacist)	37	33
Health Canada website	34	28
Coaching Association of Canada	34	31
Public Health Agency of Canada website	21	20
Health professional website	20	16
WebMD	11	12
Mayo Clinic	10	9
Health magazine, journal, book	10	7
Athletic association website	9	22 A
Sport coach	8	19 A
Other government website	8	5
Family or friends	8 B	3
School	7	N/A
Parachute website	6	9
Government of Canada website	3	7 A
Social media (Facebook, Twitter, Instagram)	1	0

Q33.Where did you look or who did you turn to for information regarding concussion prevention, diagnosis, or recovery? SELECT ALL THAT APPLY
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

Among those who have NOT searched for information on concussion prevention, diagnosis or recovery over the past 12 months, they anticipate looking in similar places as those who had searched for this, with many consulting search engines or health care professionals, followed by various websites and federal websites in particular:

- Search Engine (Google, Yahoo, etc.) (65%)
- Health care professional (58%)
- Health Canada website (55%)
- Public Health Agency of Canada website (47%)
- Health professional website (24%)
- Coaching Association of Canada (20%)
- WebMD (21%)
- Athletic association website (20%)
- Sport Information Resource website (17%)
- Mayo Clinic (15%)
- Government of Canada website (13%)
- Sports coaches (13%)
- Friends and family (11%)
- Health magazines, journals or books (9%)
- Other government website (5%)
- Social media (1%)
- Parachute website (2%)

Sources of information have remained largely the same in 2018.

Exhibit 6.4.2.b Location of Information

	2018 Teachers (A)	2017 Teachers (B)
Base = Have not searched for concussion information in past 12 months	(160) %	(69) %
Search Engine (Google, Yahoo, etc.)	65	72
Health care professional (Doctor, Nurse, Pharmacist)	58	61
Health Canada website	55	57
Public Health Agency of Canada website	47	49
Health professional website	24	32
WebMD	21	22
Coaching Association of Canada	20	13
Athletic association website	20	15
Sport Information Resource Centre website	17	NA
Mayo Clinic	15	18
Government of Canada website	13	16
Sport coach	13	20
Family or friends	11	15
Health magazine, journal, book	9	6
Other government website	5	6
Parachute website	2	-
Social media (Facebook, Twitter, Instagram)	1	4

Q32.If you wanted information regarding concussion prevention, diagnosis or recovery, where would you look or who would you turn to? Select all that apply.
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.
- represents <0.5%

6.4.3. Awareness of Tools and Resources

Teachers' awareness of concussion-related tools or resources continues to be high (63%) among those who have searched for concussion information in the past twelve months, though it is somewhat lower than in 2017 (76%). Close to one third (37%) were unaware of any of the cited tools and/or information resources on concussion available to the public. Awareness of specific resources has remained largely the same since 2017.

Teachers continue to show greatest awareness of the Canadian Guideline on Concussion in Sport (36%) followed by the:

- Concussion Recognition Tool/Sport Concussion Recognition Tool for Parents, Coaches and Teachers (32%)
- E-learning course: Parachute Concussion Awareness for Elementary and High School Teachers (30%)
- Concussion Management and Return to Learn by Dr. Mike Evans (15%)
- Parachute's Return to Sport strategy and protocol (14%)
- Parachute's Return to School strategy and protocol (14%)
- SCHOOLFIRST Tool (14%)

Exhibit 6.4.3 Awareness of Tools and Information Resources

	2018 Teachers (A)	2017 Teachers (B)
Base = Searched for concussion information in past 12 months	(50) %	(69) %
Canadian Guideline on Concussion in Sport	36	35
Concussion Recognition Tool/Sport Concussion Recognition Tool for Parents, Coaches and Teachers	32	26
E-learning course: Parachute Concussion Awareness for Elementary and High School Teachers	30	20
Concussion Management and Return to Learn by Dr. Mike Evans	15	16
Parachute's Return to School strategy and protocol	14	10
Parachute's Return to Sport strategy and protocol	14	12
SCHOOLFirst Tool	14	NA
None of the above	37	24

Q34.Which of the following concussion related tools or resources have you heard of? SELECT ALL THAT APPLY
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

6.4.4. Processes and Procedures to Deal with Concussion

More than half (57%) of all teachers continue to indicate that their school has processes and procedures in place to deal with concussions. Only one quarter (25%) say their school does not have procedures in place while another 17% don't know.

Exhibit 6.4.4 Processes and Procedures to Deal with Concussion

	2018 Teachers	2017 Teachers

	(A)	(B)
Base = actual	(217) %	(295) %
Yes	57	56
No	25	23
Don't Know	17	22

Q44. Are there any processes or procedures at your school to deal with concussions?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

6.4.5. Formal Training or Education on Concussion

More than half (53%) of teachers continue to say they have never received formal education/training about concussion from their school or board. This remains consistent with 2017. One-in-five (22%) have received training within the past year while 11% received training one-to-two years ago. The remaining 14% received training more than three years ago or don't know if they have received training.

Exhibit 6.4.5 Formal Training or Education on Concussion

	2018 Teachers (A)	2017 Teachers (B)
Base = actual	(217) %	(295) %
Within the past year	22	20
1-2 years ago	11	14
3-5 years ago	8	5
More than 5 years ago	2	3
I have never received formal education/training about concussion from my school or board	53	52
Don't know	4	6

Q45. When was the last time you received formal education/training about concussions from your school or board?
Note: Capital letters denote statistically significant difference at 95% confidence level. For example, if there is a B then the result is significantly higher than the corresponding result in column B. * Denotes significance at 90% confidence level.

7. Appendix A: Methodology

7.1. Methodological Overview

Survey Administration

The online survey was conducted using computer assisted web interviewing (CAWI) technology. CAWI ensures the interview flows as it should with pre-programmed skip patterns. It also controls responses to ensure appropriate ranges and data validity. Surveys were conducted in English or French as chosen by the respondent. All participants were informed of the general purpose of the research, they were informed of the sponsor and the supplier and that all of their responses would be confidential.

The online survey was conducted from December 18, 2018 to January 6, 2019. In total 2,021 surveys were completed. The average survey length was 13 minutes with the shortest being 5 minutes and the longest being 59 minutes (outliers removed).

Pre-test

A pre-test was undertaken on December 17, 2018 obtaining 10 English and 10 French completions, including probing questions. The results were reviewed to ensure the survey was working as expected and that the questions were being interpreted as expected. Based on the results of the pre-test, no changes were required for the survey and as such the results of the 20 completes were included in the final data set.

Sample Design and Selection

A regionally disproportionate sample of Canadians was drawn from the Kantar TNS proprietary panels to achieve 2,021 completed surveys among the various target groups. The sample was stratified to ensure regional quotas were met, with the exception of teachers, coaches, and HCPs, where incidence was low and was based on natural fallout. Given the low incidence of coaches in the general population, natural fall out was obtained for a total of 24 completions. To supplement the anticipated low incidence of coaches, the survey was also sent out to members of the Coaching Association of Canada. To reach youth aged 12 to 17 years, Kantar TNS' online panel was used to identify households with children 12-17 years of age. Parents in these households were asked for permission for their children to participate in the survey and then submit an online consent form prior to the youth completing the questionnaire.

Coaching Association of Canada Sample

The Coaching Association of Canada invited a sample of its members who coach children and youth to participate in the survey. A random sample of 7,500 coaches was taken. Coaches were then screened to see if they work with children and youth ages 5-17 and have coached in the past three years. Only those who met both criteria were interviewed.

Health Care Providers

The sample for Health Care providers was obtained from Kantar TNS's proprietary Health Care Panel. This sample primarily includes physicians (85%) but also has some representation among, nurses, physiotherapists, chiropractors, EMTs, and occupational therapists.

Sample Distribution

Respondents in the parents, teachers and athletic coaches/sports administrators sub-segments could qualify for more than one segment.

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**

This survey focused on youth but included a follow-up interim measure among parents, coaches and teachers, so quotas were lower than in 2017.

To ensure large enough samples for regional analyses, regional quotas were established for the Canadian public sample segments as outlined below. The exception was for teachers, coaches, and HCPs, where due to the low incidence regional quotas were not established.

	BC & Territories	Prairies	Ontario	Quebec	Atlantic	TOTAL
Youth, 12-17 years	200	200	350	300	150	1,200
Parents of children 5-17 years	40	40	40	40	40	200
Teachers (natural fall out)						**200**
HCPs (natural fall out)						**200**
Athletic Coaches/Sports Administrators (natural fall out)						**200**
TOTAL SAMPLE						**2,000**

Margin of Errors

As mentioned previously, panel sample and membership sample was used for this study. Panel and membership surveys are considered a non-probability sample and as such margin of error does not apply and conclusions from these results cannot be generalized to any population.

Weighting

Independent weighting adjustments were made to key groups within the survey where national data were available. National data for youth, teachers and parents of children 5-17 years of age were available and as such weighting was applied. For each group where national data was available, the group was weighted. Remaining groups were left unweighted due to a lack of national data on coaches and HCPs.

Youth

The general population completions were weighted to ensure that the data were representative of the 12-17 population of Canada based on the 2016 Census. More specifically, the data were weighted by age within gender and within region to match the Canadian population using 2016 Census Data. The following is the breakdown of actual and weighted completions.

Table 7.1.a. Youth (Unweighted)

Target	Region				
	Atlantic	Quebec	Ontario	Prairies	BC & Territories
Males 12	6	11	25	10	11
Males 13	6	24	32	17	16
Males 14	13	28	21	20	15
Males 15	15	39	26	26	21
Males 16	20	24	37	17	16
Males 17	6	30	30	9	17
Females 12	13	16	13	15	3
Females 13	9	17	27	16	20
Females 14	11	17	29	15	18
Females 15	19	21	44	22	19
Females 16	15	38	38	21	30
Females 17	18	16	42	16	14

Table 7.1.b. Youth (Weighted)

Target	Region				
	Atlantic	Quebec	Ontario	Prairies	BC & Territories
Males 12	6	21	40	21	12
Males 13	6	21	40	21	13
Males 14	6	21	40	20	13
Males 15	6	21	40	20	13
Males 16	7	21	42	21	14
Males 17	7	22	44	21	14
Females 12	6	20	38	20	12
Females 13	6	20	38	20	12
Females 14	6	20	38	19	12
Females 15	6	20	38	19	12
Females 16	6	20	39	20	13
Females 17	7	21	41	20	14

Teachers

Teacher completions were weighted to ensure that the data were regionally representative of the teacher population in Canada based on the 2016 Census. The following is the breakdown of actual and weighted completions.

Table 7.1.c. Teachers by Region (Unweighted)

Target	Region				
	Atlantic	Quebec	Ontario	Prairies	BC & Territories
Males 18 to 34 years	4	2	3	4	2
Males 35 to 54 years		3	16	9	4
Males 55+	2	2	6	8	5
Females 18 to 34 years	3	2	15	3	1
Females 35 to 54 years	6	11	36	13	12
Females 55+	6		24	7	8

Note: Cells are combined for weighting purposes when value in individual cell is <1

Table 7.1.d. Teachers by Region (Weighted)

Target	~~Region~~				
	Atlantic	Quebec	Ontario	Prairies	BC & Territories
Males 18 to 34 years	3	3	4	3	1
Males 35 to 54 years		8	16	6	4
Males 55+		2	3	2	1
Females 18 to 34 years	3	12	18	9	3
Females 35 to 54 years	6	28	44	15	8
Females 55+	15	1		7	4

Note: Cells are combined for weighting purposes when value in individual cell is <1

Parents

The Parent completions were weighted to ensure that the data were representative of the 18+ population of Canadians with children aged 5-17 years of age based on the 2016 Census. More specifically, the data were weighted by age within gender and within region to match the Canadian population of parents of children aged 5-17 years of age. The following is the breakdown of actual and weighted completions.

Table 7.1.e. Parents (Unweighted)

Target	Region				
	Atlantic	Quebec	Ontario	Prairies	BC & Territories
Males 18 to 34 years	2	1	1	4	15
Males 35 to 54 years	12	29	36	33	
Males 55+		9	4	2	5
Females 18 to 34 years	3	5	2	5	13
Females 35 to 54 years	6	46	40	21	
Females 55+			2	1	

Note: Cells are combined for weighting purposes when value in individual cell is <1

Table 7.1.f. Parents (Weighted)

Target	Region				
	Atlantic	Quebec	Ontario	Prairies	BC & Territories
Males 18 to 34 years	1	5	6	5	13
Males 35 to 54 years	7	19	33	16	
Males 55+		6	15	5	5
Females 18 to 34 years	2	8	11	8	21
Females 35 to 54 years	8	28	40	17	

Females 55+			15	5	

Note: Cells are combined for weighting purposes when value in individual cell is <1

Online Completion Rate

A total of 23,735 invitations were sent to panelists, of which n=2,021 completed the survey. The overall completion rate achieved for the online study was 8.5%. The following table outlines the sample disposition and response rate as per the former MRIA guidelines.

Table 4.1.g. Completion Rate

Total Invitations Sent	23735
Contacts	6752
Completes	2021
Break Offs	1232
Over Quota	2089
Non-Qualifiers	1410
Completion Rate	8.5%
Incidence Rate	29.9%

Non-response Bias

We undertook a non-response bias for parents of children ages 5-17, youth, and teachers. We could not undertake a non-response bias for Health Care professionals or coaches due to there being no national data to compare to. We found that parents are overrepresented among those in Quebec and males ages 35-54, and underrepresented among those in Ontario, males and females ages 18-34, and females 55+. Teachers are overrepresented among males and females ages 55+, and underrepresented among females 18-34 and in Quebec. Youth are underrepresented among males and females aged 12 and those in Ontario, and overrepresented among those in Atlantic provinces and females ages 15-16. To address the issue of response bias, where data was available it was weighted to be representative of the Canadian population.

Tabulated Data

Detailed tables are included under a separate cover.

8. Appendix B: Survey Instrument

8.1. English Survey

InterviewLanguage: **Single coded**

Not back

In which language would you like to be interviewed?
Dans quelle langue aimeriez-vous être interviewé(e)?

Normal

1	English / Anglais
2	French / Français

Scripter notes: *** Include progress bar.

Ask only if **Sample**,5

Coach_spe: Coaching children **Single coded**

Not back

In the past three years, have you coached or been a sports administrator for children and youth aged 5-17?

Normal

1	Yes	
2	No	☐ GO TO SCREEN OUT

T1:	Text

Not back

Thank you for agreeing to take part in our survey. Kantar TNS is currently conducting a survey on behalf of the Public Health Agency of Canada on the knowledge, attitudes and behaviours of Canadians and Health Care Providers around health conditions. The information in this survey will be used to contribute to health programs. Your decision on whether or not to participate will not affect any dealings you may have with the Government of Canada.

Should you wish to verify the legitimacy of this survey you may contact Stephane Heon at stephane.heon@kantar.com

The survey will take about 10-15 minutes to complete.

What about your personal information?
The personal information you provide to the Public Health Agency of Canada is governed in accordance with the Privacy Act and is being collected under the authority of section 4 of the Department of Health Act in accordance with the Treasury Board Directive on Privacy Practices. We only collect the information we need to conduct the research project.
Purpose of collection: We require your personal information such as demographic information to better understand the topic of the research. However, your responses are always combined with the responses of others for analysis and reporting; you will never be identified.
For more information: This personal information collection is described in the standard personal information bank Public Communications – PSU 914, in Info
Source, available online at infosource.gc.ca.
Your rights under the Privacy Act: In addition to protecting your personal information, the Privacy Act gives you the right to request access to and correction of your personal information. For more information about these rights, or about our privacy practices, please contact Health Canada's Privacy Coordinator at 613-948-1219 or privacy-vie.privee@hc-sc.gc.ca. You also have the right to file a complaint with the Privacy Commissioner of Canada if you think your personal information has been handled improperly.

What happens after the online survey?
The final report written by Kantar TNS will be available to the public from Library and Archives Canada (http://www.bac-lac.gc.ca/).

Your assistance is greatly appreciated, and we look forward to receiving your feedback.

Scripter notes: Public communication - PSU 914
English:
https://www.canada.ca/en/treasury-board-secretariat/services/access-information-privacy/access-information/information-about-programs-information-holdings/standard-personal-information-banks.html#psu914
French:
https://www.canada.ca/fr/secretariat-conseil-tresor/services/acces-information-protection-reseignements-personnels/acces-information/renseignements-programmes-fonds-renseignements/fichiers-renseignements-personnels-ordinaires.html#pou914
Links for THE KANTAR TNSP RIVACY POLICY;
all other links/email are bilingual

B001: Youth permission	Begin block

Ask only if **Sample**,1

QP1: YOUTH PERMISSION — **Single coded**

Not back

We know that you have children between the age of 12 and 17. We would like to invite your child to participate in a voluntary research survey on their knowledge, attitudes and behaviours around health conditions. The information in this survey will be used to contribute to health programs. The survey will take about 15 minutes to complete. Your child's responses will be kept strictly confidential. We are taking extensive precautions to protect the confidentiality of your child's data and will not link your child's responses with their name or other personally identifying information.

Do we have your permission to have your child participate in this survey?

Normal

1	I consent to allowing my child to participate in this survey
2	I do not consent to allowing my child to participate in this survey

Ask only if **QP1**,1

QP1N: Name authorization: Parent Name to Authorize Permission — **Open**

Not back

Please provide your full name in the space provided. Please remember this information is only being collected to record permission from the parent/guardian for your child's participation in this survey. Your name will not in any way be tied to the responses provided by your child. As a reminder, all information collected during this survey will be completely confidential and in no way be attributed to any individual person.

Ask only if **QP1**,1

QP1D: — **Text**

Not back

Please feel free to help your child by answering any questions they may have. However, please do not influence their answers.

Now, we would like to ask your child some questions. Please have your child come to the computer.

To begin the survey, just click on the button below.

Ask only if **QP1**,1

QPY1: **Single coded**

Not back

Your parent/guardian has given permission for you to take a short survey on health.

This survey will help the Government of Canada improve their work on youth health.

There are no right or wrong answers and we will not share your answers with anyone so, please be as honest as possible. Do we have your permission to continue?

Normal

1 Yes

2 No ☐ GO TO SCREEN OUT

Ask only if **QP1**,2

QP2: Parent willing to answer **Single coded**

Not back

We are also conducting surveys among parents of children 5-17 years old. Would you be willing to complete the survey?

Normal

1 Yes

2 No ☐ GO TO SCREEN OUT

B001: Youth permission **End block**

B002: Screener Section **Begin block**

S1: Year Born **Numeric**

Not back | Min = 1910 | Max = 2018

In what year were you born?

Scripter notes: add in default: Prefer not to answer.
if 2007-2017, thank and disqualify - not a youth nor an adult.

S2: HIDDEN VARIABLE: AGE — Numeric

Not back | Min = 12 | Max = 110

Scripter notes: calculate age - 2018-S1 - question is automated - not shown on screen

S3: Gender — Single coded

Not back

What is your gender?

Normal

1	Male
2	Female
4	Prefer to Self-identify *Open
3	Prefer not to say

S4: Postal Code — Alpha

Not back

What are the first three digits of your postal code (example: A8A)?

Scripter notes: REQUIRES 3 DIGITS, error message if starts with letters D F I O Q U W Z

S5: Province/Territory (Hidden) — Single coded

Not back

In which province or territory do you live?

Normal

1	Newfoundland and Labrador: A
2	Nova Scotia: B
3	Prince Edward Island: C
4	New Brunswick: E
5	Eastern Quebec: G
6	Metropolitan Montréal: H
7	Western Quebec: J
8	Eastern Ontario: K
9	Central Ontario: L
10	Metropolitan Toronto: M
11	Southwestern Ontario: N
12	Northern Ontario: P
13	Manitoba: R
14	Saskatchewan: S
15	Alberta: T
16	British Columbia: V
17	Northwest Territories and Nunavut: X
18	Yukon: Y

Scripter notes: autocode based on S4 first letter of postal code

S6: RURAL/URBAN — Single coded

Not back

HIDDEN VARIABLE: RURAL/URBAN

Normal

1	Rural
2	Urban

Scripter notes: PLEASE USE THE SECOND DIGIT OF THE POSTAL CODE TO CODE RURAL/URBAN. IF THE SECOND DIGIT IS “0” CODE RURAL. ALL OTHERS ARE CODED URBAN.

Qreg: Region — Single coded

Not back

Region (quota)

Normal

1	BC & Territories
2	Prairies
3	Ontario
4	Quebec
5	Atlantic

Scripter notes: Do not show question to respondent, auto-code : define from question S5
BC & territories as codes 16 to 18, Prairies as 13 to 15 Ontario as 8 to 12, Quebec as 5 to 7, Atlantic as 1 to 4 to be used for quotas.

Ask only if **Sample**,2,3,4,5 or **QP2**,1

S7: respondent info for quota — Multi coded

Not back | Min = 1

Are you a:

Select all that apply.

Normal

1	Teacher or staff member who works with students at an elementary or secondary school
2	Athletic coach or sports administrator of children and youth ages 5-17 in the past three years, including in a volunteer capacity
3	Health care provider
4	Parent of a child 5-17 years of age
998	None of the above *Fixed *Exclusive ☐ GO TO SCREEN OUT

Scripter notes: if Sample= coach, please make sure S7=2 is selected as an answer,
if Sample= HCP , please make sure S7=3 is selected as an answer.

Ask only if NOT **QPY1**,1

GpQuota: General Public/parent quota — Single coded

Not back

Hidden question

Normal

1	Not a parent
2	Parents of children 5-17 years

Scripter notes: if S7=4 or QP2=1 if code as 2, otherwise code as 1 (this quota is excluding Youth)

YQuota: Youth Quota — Single coded

Not back

Youth Quota

Normal

1	Youth 12-17
2	Not

Scripter notes: if QP1Y=1, code as 1.

QTeach: Quota teacher — Single coded

Not back

Hiddent question

Normal

1	Teacher
2	Not

Scripter notes: if S7=1 code as 1

Qcoach: Quota Coach — Single coded

Not back

Hidden

Normal

1	GP coaching
2	Not

Scripter notes: if S7 =2, code as1 (GP sample)

QHCP: Quota HCP (GP) — Single coded

Not back

hidden question

Normal

1	HCP (GP sample)
2	Not

Scripter notes: if S7=3 (General public sample) code as 1

Ask only if NOT **S7**,3 and NOT **YQuota**,1

S8: health conditions awareness | **Multi coded**

Not back | Min = 1

Which of the following health conditions, if any, have you heard of?

Select all that apply.

Random

1	Autism or Autism Spectrum Disorder
2	Asthma
3	Concussion
4	Depression
5	E-coli infection
6	Cardiovascular disease
7	Measles
8	Osteoporosis
9	Type 2 diabetes
10	Tuberculosis
998	None of the above *Fixed *Exclusive

Scripter notes: SCREEN OUT IF CONCUSSION IS NOT SELECTED (among those who are asked the question)

B002: Screener Section | **End block**

Ask only if **S7**,3

B003: HCP DEMO | **Begin block**

Q15: TYPE OF HCP — **Multi coded**

Not back | Min = 1

What type of health care provider are you?

Select all that apply

Normal

1	Family physician/GP
2	Pediatrician
3	Sports medicine physician
4	Internal medicine physician
5	Emergency department physician
6	Physiatrists
7	Neurologist
8	Neurosurgeon
9	Occupational therapist
10	Physiotherapist
11	Nurse
12	Nurse Practitioner
13	Athletic therapist
14	Emergency medical professional
996	Other (specify): *Open *Fixed

B003: HCP DEMO — **End block**

Ask only if **YQuota**,1

B004: YOUTH SURVEY — **Begin block**

Y1: Health conditions awareness | **Multi coded**

Not back | Min = 1

Have you heard of any of these?

Pick as many as you want.

Normal

1	Diabetes
2	Asthma
3	Concussion
4	Depression
5	Cancer
998	None of the above *Fixed *Exclusive

Ask only if NOT **Y1**,3

Y1T: | **Text**

Not back

The next few questions are about concussions. A concussion is an injury to your brain. You may not know all of the answers but please answer as best you can.

Ask only if **Y1**,3

Y2: Health conditions awareness | **Multi coded**

Not back | Min = 1

Where did you hear about concussion?

Pick as many as you want.

Normal

1	Parent/guardian
2	Teacher
3	Coach
4	Friend or teammate
5	Internet search
6	Social Media
7	Other
998	None of the above *Fixed *Exclusive

Y3: Condition Knowledge — Single coded

Not back

How much do you know about concussions?

Normal

1	Nothing A little
2	A lot
3	

Y4: Concussion Experience — Single coded

Not back

Have you had a concussion in the last 12 months?

Normal

1	Yes
2	No
3	I don't know

Ask only if **Y4**,1

B005: YOUTH SURVEY – HAD A CONCUSSION — Begin block

Y5: Time of Concussion Experience — Single coded

Not back

In what month did you get your last concussion?

Normal

1	December 2017
2	January 2018
3	February 2018
4	March 2018
5	April 2018
6	May 2018
7	June 2018
8	July 2018
9	August 2018
10	September 2018
11	October 2018
12	November 2018
13	December 2018
14	Don’t know

Y6: Hidden Question – How long ago did you get a concussion? Single coded

Not back

Hidden Question – How long ago did you get a concussion?

Normal

1	Less than 1 month ago
2	2-3 months ago
3	4-6 months ago
4	7-12 months ago
5	More than 1 year ago

Scripter notes: this is an hidden question, auto-code based on Y5 answer:
if code Y5=12,13, code as 1, if Y5=10 or 11, code as 2, if Y5=7,8, or 9, code as 3, if Y5=1,2,3,4,5 or 6, code as 4

Y7: Activity while Concussed Single coded

Not back

What were you doing when you got the concussion?

Normal

1	Playing in the school yard
2	Playing at home
3	Playing with friends, outside of school
4	Playing sports
5	Other

Y8: Type of occasion Single coded

Not back

You mentioned you got your concussion while playing sports. Were you...?

Normal

1	Playing a game with friends
2	Playing an organized school sport such as intramural soccer
3	Playing an organized sport outside of school like playing in a hockey league

Y9: Help Received Single coded

Not back

When you got your concussion, did you go see a doctor?

Normal

1	Yes
2	No
3	I don’t know

Y10: Who Diagnosed Concussion — Single coded

Not back

Who told you that you had concussion?

Pick as many as you want.

Normal

1	I did – I could tell when it happened
2	Parent/guardian
3	Friend or teammate
4	Coach
5	Referee
6	Medical Doctor
7	Other health care provider
8	Other

B005: YOUTH SURVEY – HAD A CONCUSSION — End block

Y11: Concussion definition — Multi coded

Not back | Min = 1

How would you describe a concussion?

Pick as many as you want.

Random

1	A hit to my head that causes headaches or blurry sight
2	A bruise on my brain
3	A cut on my head
4	An accident that changes the way I think
5	An injury that changes the way I walk and talk
6	Don't Know *Fixed *Exclusive

Y12: Concussion Cause — **Multi coded**

Not back | Min = 1

Which of the following can cause a concussion?

Pick as many as you want.

Random

1	A body check in hockey
2	”Heading the ball” in soccer
3	A fall off the bike
4	A fall from the play structure
5	A cut on the head
6	Bumping into something/someone
7	Crashing into someone or something
8	A hit to the face, neck or body
999	Don't know *Fixed *Exclusive
998	None of the above *Fixed *Exclusive

Y13: Signs of sport-related concussion — **Multi coded**

Not back | Min = 1

If someone was hit or had a fall, what signs could mean they had a concussion?

Pick as many as you want.

Random

1	They are confused and have a hard time answering questions
2	Problems standing up
3	They passed out
4	Feeling sick
5	Vomiting
6	Difficulty breathing
7	Slow to get up
8	Lying on the ground and not moving
9	Limping
999	Don't know *Fixed *Exclusive

Y14: Symptoms — Multi coded

Not back | Min = 1

If a person had a concussion, what might they experience?

Pick as many as you want.

Random

1	Headache or pressure in their head
2	Blurry sight
3	Dizziness
4	Nausea and vomiting
5	Feeling sleepy or not being able to sleep
6	Problems concentrating
7	Not feeling “right”
8	Difficulty breathing
9	Heart pounding
10	Shaking
11	Feeling angry or frustrated
12	Feeling nervous
999	Don't know *Fixed *Exclusive
998	None of the above *Fixed *Exclusive

Y15: Effective ways of preventing — Multi coded

Not back | Min = 1

When playing sports, how can players stop concussions from happening?

Pick as many as you want.

Random

1	Follow the rules
2	Play safe and fair (Respect others)
3	Avoid body contact
4	Avoid head contact/ don’t bump heads
5	By learning more about concussions
6	Wear a helmet
7	Wear a mouth guard
999	Don't know *Fixed *Exclusive
998	None of the above *Fixed *Exclusive

Y16: Who would you tell | **Multi coded**

Not back | Min = 1

If you thought you had a concussion, who would you tell?

Pick as many as you want.

Random

1	Coach or adult in charge
2	Parent/Guardian
3	Teammate
4	Sister or brother
5	Other family member
6	Doctor
7	Teacher
8	Referee
9	Nobody *Fixed *Exclusive
10	Other *Fixed

Y17: Who is responsible | **Multi coded**

Not back | Min = 1

Who is responsible for reporting a suspected concussion?

Pick as many as you want.

Normal

1	The person who thinks they have a concussion
2	Parent/guardian
3	Teammates
4	Teachers
5	Coaches
998	None of the above *Fixed *Exclusive

Y18: What should occur if suspect — Multi coded

Not back | Min = 1

If someone gets a concussion while playing sports, what should happen?

Pick as many as you want.

Random

1	Stop playing right away
2	Don’t return to the same game or practice
3	Go see a doctor
4	Just go home and rest, no need to see a doctor
5	Take a break until feeling better and then come back to play
6	Just ignore it, it’s not something that should stop you from playing
7	Take pain medicine
999	Don't know *Fixed *Exclusive

Y19: When should light physical activity be introduced — Single coded

Not back

If you get a concussion, when can you go back to normal activities like walking to school?

Pick the best answer.

Normal

1	Right away
2	After a day or two of rest
3	After a week or two of rest
4	When I no longer feel like I have a concussion
5	When the doctor says so
999	Don't know *Fixed *Exclusive

Y20: When can return to school — Single coded

Not back

If you get a concussion, when can you go back to school?

Pick the best answer.

Normal

1	Right away
2	After a day or two of rest
3	After a week or two of rest
4	When I no longer feel like I have a concussion
5	When the doctor says so
999	Don't know *Fixed *Exclusive

Y21: When can return to playing sports — Single coded

Not back

If you get a concussion, when can you start playing sports again?

Select the best answer.

Normal

1	Right away
2	After a day or two of rest
3	After a week or two of rest
4	When I no longer feel like I have a concussion
5	When the doctor says so
999	Don't know *Fixed *Exclusive

Y22: Motivation for Hiding Concussion — Multi coded

Not back | Min = 1

People who have had a concussion sometimes hide that they don't feel well. What are some of the reasons someone might pretend their concussion is better?

Pick as many as you want.

Normal

1	Don't want to be taken out of the game or miss any game
2	Don't think the concussion was serious enough
3	Don't want to let down teammates
4	Don't want to let down coaches
5	Don't want to miss practice or competition
6	Don't want to look weak
7	Don't want others to know they had a concussion
8	They think it's okay to play with a concussion
999	Don't know *Fixed *Exclusive

Y23: Understanding the Risk of Hiding Concussion — Multi coded

Not back | Min = 1

What could happen if you do not take the time to heal from a concussion?

Pick as many as you want.

Normal

1	It will take longer for the concussion to go away
2	It's easier for you to get another concussion
3	Symptoms like a headache or problems sleeping may last for a longer time
4	You may get brain damage that won't heal
5	I don't know

Y24: True or false statements | **Matrix**

Not back | Number of rows: 13 | Number of columns: 2

The following set of questions are true or false statements. Please select the answer that you feel is best.

Rows: Random | Columns: Normal

Rendered as Dynamic Grid

	True	False
I have to pass out to have a concussion	☐	☐
If I vomit, that means I might have a concussion	☐	☐
I can only get a concussion if I'm hit on the head	☐	☐
The harder the hit, the worse is the concussion	☐	☐
I can come back to play after a concussion as soon as I'm feeling better	☐	☐
I can only get a concussion if I play contact sports like football, hockey and lacrosse	☐	☐
Wearing my helmet will prevent concussions	☐	☐
My mouth guard prevents concussion	☐	☐
Boys recover from concussions faster than girls	☐	☐
I should stop taking pain pills if I have a concussion	☐	☐
My headache is gone, that means I don't have concussion.	☐	☐
I will know it's a concussion as soon as I'm hit	☐	☐
It can take a few weeks to a few months to feel better after a concussion	☐	☐

Y25: Look for information Single coded

Not back

If you wanted to know more about concussion, where would you look or who would you ask?

Pick the best answer.

Normal

1	Parent/ guardian
2	Sister or brother
3	Other family member
4	Teammate
5	Teacher
6	Coach
7	Internet
8	Social media channels like Facebook or Twitter
	Doctor
10	Other
999	Don't know *Fixed *Exclusive

Y26: Who talks about concussion with them Single coded

Not back

Who talks to you about concussion?

Pick the best answer.

Normal

1	Parent/guardian
2	Sister or brother
3	Other family member
4	Teacher
5	Coach
6	Friends
7	Teammates
8	Doctor or nurse
998	None of the above *Fixed *Exclusive
999	Don't know *Fixed *Exclusive

Y27: Tools aware of | **Multi coded**

Not back | Min = 1

Have you heard about any of these concussion tools for youth?

Pick as many as you want.

Normal

1	SCHOOLFirst Tool
2	P.A.C.E. Concussion App
3	Concussion Ed App by Parachute
4	Sport Information Resource Centre's We Are Headstrong Concussion Awareness Campaign
5	Brainstreams.ca Website
6	Holland Bloorview Kids Rehabilitation Hospital Website
7	Canadian Guideline on Concussion in Sport
8	Parachute's Return to School strategy and protocol
9	Parachute's Return to Sport strategy and protocol
10	Hockey Canada's Concussion Awareness App
998	None of the above *Fixed *Exclusive

B004: YOUTH SURVEY | **End block**

Ask only if **S7**,1,2,3,4

B006: MAIN SURVEY | **Begin block**

Disp2: | **Text**

Not back

Now, we would like to ask you some questions about sport-related concussions, that is, a concussion received while playing sports.

Q016: 1 MFC per day | **Matrix**

Not back | Number of rows: 7 | Number of columns: 5

Please indicate the extent to which you agree or disagree with the following statements.

Rows: Normal | Columns: Normal

Rendered as Dynamic Grid

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Concussion is an important health issue	☐	☐	☐	☐	☐
I can recognize the signs and symptoms of a concussion	☐	☐	☐	☐	☐
I know where to go for reliable information on concussion prevention	☐	☐	☐	☐	☐
I know what to do if someone I know gets a concussion	☐	☐	☐	☐	☐
I know where to go for reliable information on concussion diagnosis	☐	☐	☐	☐	☐
I know where to go for reliable information regarding concussion treatment and recovery	☐	☐	☐	☐	☐

Scripter notes: if HCP (S7=3) only, ask statements 1,6,7
if not HCP (not S7=3), ask statements 1 to 5

Q17: Condition Knowledge | **Single coded**

Not back

Using the scale below, how would you rate your current level of knowledge about concussions?

Normal

1	I am an expert on concussions
2	I know a lot about concussions
3	I know a moderate amount about concussions
4	I know a little about concussions
5	I don't know anything about concussions

Ask only if NOT **Sample**,4

B012: NON-HCP SECTION | **Begin block**

Q22: Effective ways of preventing | **Multi coded**

Not back | Min = 1

Which of the following do you think are effective ways of preventing sport-related concussions?

Select all that apply.

Random

1	Ensure athletes follow the rules and regulations of their specific sport
2	Respect other players
3	Avoid head contact
4	Avoid contact sports
5	Provide concussion training to athletes
6	Provide concussion training to coaches
7	Provide concussion training to school and sport administrators
8	Wearing a helmet
9	Wearing a mouth guard
999	Don't know *Fixed *Exclusive
998	None of the above *Fixed *Exclusive

Q24: Things to do if suspect | **Multi coded**

Not back | Min = 1

What should you do if you suspect someone has suffered a concussion?

Select all that apply

Random

1	Check for visual signs of concussion (e.g., lying motionless, slow to get up after a fall, blank or vacant look, etc.)
2	Check vital signs (e.g., fever, heart rate, pulse, breathing rate)
3	Check for red flags such as, neck pain, loss of consciousness, repeated vomiting, agitation or combative behaviour
4	Check for symptoms of concussion (e.g., dizziness, headache, sensitivity to light or noise, drowsiness, etc.)
5	Check their memory by asking questions such as: “Where are we?”, “Did your team win their last game?”
6	Monitor their sleep (e.g., wake individual every 2-3 hours)
7	Have a medical professional assess them
999	Don't know *Fixed *Exclusive

Q25: What should occur if suspect — **Multi coded**

Not back | Min = 1

Which of the following should occur if a person is suspected of getting a concussion while playing sports?

Select all that apply.

Random

1	Immediately remove them from play
2	Do not allow them to return to the same game or practice
3	Send the person to a health care professional to be assessed for concussion
4	Obtain medical clearance from a health care professional (medical doctor or nurse practitioner) before returning to full contact sports activities
5	Send them home to rest
6	Take a break until they are feeling better and then let them return to play
999	Don't know *Fixed *Exclusive

Q26: How treated — **Single coded**

Not back

How is a concussion treated?

Select the best answer.

Normal

1	Rest and avoid physical and cognitive (thinking) activity until all concussion symptoms are gone
2	Rest for 24-48 hours, followed by a gradual return to cognitive (thinking) and physical activity under the supervision of a medical professional
3	Rest and avoid physical and cognitive (thinking) activity for 10-14 days, followed by gradual return to cognitive and physical activity under the supervision of a medical professional
4	Rest and avoid physical and cognitive (thinking) activity for 10-14 days, then return to regular cognitive and physical activity under the supervision of a medical professional
999	Don't know *Fixed *Exclusive

Q27: When should light physical activity be introduced — **Single coded**

Not back

If a child or athlete is diagnosed with a concussion, when should light physical activity be introduced (ex. 10 – 15 minutes of walking or stationary bike)?

Select the best answer.

Normal

1	Immediately, if they have no symptoms - as long as it is tolerated by the individual
2	Immediately – a sport-related concussion does not impact light physical activity
3	After 24-48 hours of rest - as long as it is tolerated by the individual
4	After 10-14 days of rest - as long as it is tolerated by the individual
5	When all concussion symptoms are gone
6	When a medical professional has provided medical clearance
999	Don't know *Fixed *Exclusive

Q28: When can return to school or work full-time — Single coded

Not back

If an athlete suffers a concussion, when can they return to school or work full-time?

Select the best answer.

Normal

1	Immediately – a sport-related concussion does not impact their schooling or work
2	After 24-48 hours of rest -as long as it is tolerated by the individual
3	After 10-14 days of rest - as long as it is tolerated by the individual
4	When all concussion symptoms are gone
5	When a medical professional has provided medical clearance
999	Don't know *Fixed *Exclusive

Q29: When can return to playing sports — Single coded

Not back

If an athlete suffers a concussion, when can they return to playing sports?

Select the best answer.

Normal

1	Immediately, if they have no symptoms
2	After 24-48 hours of rest -as long as it is tolerated by the individual
3	After 10-14 days of rest - as long as it is tolerated by the individual
4	When all concussion symptoms are gone
5	When a medical professional has provided medical clearance
999	Don't know *Fixed *Exclusive

Q31: Search for info in P12M — Single coded

Not back

In the past 12 months, have you searched for information regarding concussion prevention, diagnosis, or recovery?

Normal

1	Yes
2	No
999	Don't know *Fixed *Exclusive

Ask only if **Q31**,2

Q32: Where would look **Multi coded**

Not back | Min = 1

If you wanted information regarding concussion prevention, diagnosis or recovery, where would you look or who would you turn to?

Select all that apply.

Normal

1	Search Engine (Google, Yahoo, etc.)
2	Public Health Agency of Canada website
3	Health Canada website
4	Government of Canada website
5	Other government website
6	Parachute website
7	Coaching Association of Canada
8	Health professional website
9	Athletic association website
10	Sport Information Resource Centre website
11	WebMD
12	MayoClinic
13	Social media (Facebook, Twitter, Instagram)
14	Health magazine, journal, book
15	Health care professional (Doctor, Nurse, Pharmacist)
16	Family or friends
17	Sport coach
996	Other (specify): *Open *Fixed
999	Don't know *Fixed *Exclusive

Ask only if **Q31**,1

Q33: Where did look **Multi coded**

Not back | Min = 1

Where did you look or who did you turn to for information regarding concussion prevention, diagnosis, or recovery?

SELECT ALL THAT APPLY

Normal

1	Search Engine (Google, Yahoo, etc.)
2	Public Health Agency of Canada website
3	Health Canada website
4	Government of Canada website
5	Other government website
6	Parachute website
7	Coaching Association of Canada
8	Health professional website
9	Athletic association website
10	WebMD
11	MayoClinic
12	Social media (Facebook, Twitter, Instagram)
13	Health magazine, journal, book
14	Health care professional (Doctor, Nurse, Pharmacist)
15	Family or friends
16	Sport coach
996	Other (specify): *Open *Fixed
999	Don't know *Fixed *Exclusive

Ask only if **Q31**,1

Q34: Tools aware of — **Multi coded**

Not back | Min = 1

Which of the following concussion related tools or resources have you heard of?

SELECT ALL THAT APPLY

Normal

1	E-learning course: Parachute Concussion Awareness for Elementary and High School Teachers
2	E-learning course: Making Headway by the Coaching Association of Canada
3	The Concussion Awareness Training Tool (CATT) for Parents
4	The Concussion Awareness Training Tool (CATT) for Coaches
5	Concussion Management and Return to Learn by Dr. Mike Evans
6	Parachutes' Return to School strategy and protocol
7	Parachute's Return to Sport strategy and protocol
8	SCHOOLFirst Tool
9	Canadian Guideline on Concussion in Sport
10	Concussion Recognition Tool/Sport Concussion Recognition Tool for Parents, Coaches and Teachers
998	None of the above *Fixed *Exclusive

Scripter notes: code 1 to appear to teacher (S7=1)
code 2 and 4 to appear to coaches if S7=2
code 3 to appear to parents if S7=4,
all others are appearing to all.

Ask only if **QP2**,1 or **S7**,4

B007: PARENT SPECIFIC QUESTIONS — **Begin block**

Q36: Received any concussion information — **Single coded**

Not back

Have you received any concussion information, such as an information sheet or letter, from your child's sports team(s) or league(s) within the past year?

Normal

1	Yes
2	No
3	Don't Know

B007: PARENT SPECIFIC QUESTIONS — **End block**

Ask only if **Sample**,5 or **S7**,2

B008: COACH/SPORTS ADMINISTRATORS SPECIFIC QUESTIONS **Begin block**

dsip4: **Text**

Not back

Now we would like to ask you a few questions related to your role as a sports coach or administrator.

Q38: Last formal training **Single coded**

Not back

When was the last time you received formal education/training about concussions from your organization or league?

Normal

1	Within the past year
2	1-2 years ago
3	3-5 years ago
4	More than 5 years ago
5	I have never received formal education/training about concussion from my organization or league
6	Don’t know

Q39: Share documentation **Matrix**

Not back | Number of rows: 3 | Number of columns: 3

Does your team or league share documented concussion information such as an information sheet or letter with:

Rows: Normal | Columns: Normal

Rendered as Dynamic Grid

	Yes	No	Don’t know
Parents	☐	☐	☐
Children	☐	☐	☐
Athletes	☐	☐	☐

Ask only if **Q39** ROW=1 & COL=1 or **Q39** ROW=2 & COL=1 or **Q39** ROW=3 & COL=1

Q40: How often give info — **Single coded**

Not back

How often do you give out information sheets or letters on concussions?

Normal

1	At the beginning of every season
2	When someone on the team suffers a concussion
3	When someone asks for concussion related information
996	Other (specify): *Open *Fixed

B008: COACH/SPORTS ADMINISTRATORS SPECIFIC QUESTIONS — **End block**

Ask only if **S7**,1

B009: TEACHER SPECIFIC QUESTIONS — **Begin block**

Disp5: — **Text**

Not back

Now we would like to ask you a few questions related to your role as an elementary or secondary teacher.

Q44: Procedures at your school — **Single coded**

Not back

Are there any processes or procedures at your school to deal with concussions?

Normal

1	Yes
2	No
3	I Don't Know

Q45: Last Formal training — Single coded

Not back

When was the last time you received formal education/training about concussions from your school or board?

Normal

1	Within the past year
2	1-2 years ago
3	3-5 years ago
4	More than 5 years ago
5	I have never received formal education/training about concussion from my school or board
6	Don't know

B009: TEACHER SPECIFIC QUESTIONS — End block

B012: NON-HCP SECTION — End block

Ask only if **Sample**,4 or **S7**,3

B010: HCP SPECIFIC QUESTIONS — Begin block

HCPD1: — Text

Not back

The next few questions are for health care providers.

Q48: Internal reporting procedures — Multi coded

Not back | Min = 1

Thinking about your internal reporting procedures related to concussions, which International Classification of Diseases and related Health Condition (ICD – 9 or 10) do you use to identify concussion?

Select all that apply

Normal

1	ICD 9
2	ICD 10
3	Don't know

Q50: Have protocols in place — Single coded

Not back

Do you, or does your organization, follow a standardized clinical/care pathway or practice guideline to diagnose concussion?

Normal

1	Yes
2	No
3	I don't know

Q51: How diagnose a concussion — Multi coded

Not back | Min = 1

How do you currently diagnose a concussion?

Select all that apply.

Normal

1	Neurological exam
2	Cognitive testing
3	Imaging tests such as X-ray, CT scan or MRI
4	Observation
5	Patient symptoms
6	Patient history
996	Other (specify): *Open *Fixed

Q52: concussion related tools aware of | **Multi coded**

Not back | Min = 1

Which of the following concussion related tools or resources are you aware of?

SELECT ALL THAT APPLY

Normal

1	The Concussion Awareness Training Tool by BC Injury Research and Prevention Unit
2	Concussion Management and Return to Learn by Dr. Mike Evans
3	Parachute's Return to School strategy and protocol
4	Parachute's Return to Sport strategy and protocol
5	Concussion Baseline Testing
6	Statement on Concussion Baseline Testing in Canada
7	Canadian Guideline on Concussion in Sport
8	Sport Medical Assessment Letter
9	Sport Medical Clearance Letter
10	Ontario Neurotrauma Foundation Guideline for Concussion/mild Traumatic Brain Injury & Persistent Symptoms
11	Ontario Neurotrauma Guideline for Diagnosing and Managing Pediatric Concussion
12	Canadian Medical Association Head Injury Sport Policy
13	Collaboration Canadienne sur les Commotions Cérébrales - Les 5 principaux messages du 5ème consensus international sur les commotions cérébrales (CC) dans le sport
14	Ontario Neurotrauma Foundation Standards for Post-Concussion Care
15	Canadian Concussion Collaborative – 5 Key Messages from the 5th International Consensus Statement on Concussion in Sport
16	Concussion Recognition Tool 5 (CRT5)
17	Sport Concussion Assessment Tool 5 (SCAT5)
18	Child Sport Concussion Assessment Tool 5 (Child SCAT5)
19	Canadian Harmonized Guideline on Concussions
20	Canadian Paediatric Society: Sport Related Concussion: Evaluation and Management Identification and Management of Children with Sport-Related Concussion
21	The Concussion Awareness Training Tool (CATT) for Medical Professionals
22	Holland Bloorview Kids Rehabilitation Hospital's SCHOOLFirst Toolkit
998	None of the above *Fixed *Exclusive

Scripter notes: show code 13 if French interview (InterviewLanguage=2)

Q53: Tools used to diagnose and assess the severity of a concussion | **Multi coded**

Not back | Min = 1

Which of the following do you currently use to diagnose and assess the severity of a concussion?

Normal

1	Concussion Recognition Tool 5 (CRT5)
2	Sport Concussion Assessment Tool 5 (SCAT5)
3	Child Sport Concussion Assessment Tool 5 (Child SCAT5)
4	Canadian Harmonized Guideline on Concussions
5	Canadian Guideline on Concussion in Sport
996	Other (specify): *Open *Fixed
6	None *Fixed *Exclusive

Scripter notes: ONLY SHOW IN LIST IF AWARE OF AT PREVIOUS QUESTION (Q52)

Ask only if **Q53**,5

Q54: Evaluation of CDN Guideline on Concussion in Sport | **Matrix**

Not back | Number of rows: 6 | Number of columns: 5

You indicated that you have used the Canadian Guideline on Concussion in Sport. Please indicate the extent to which you agree or disagree with the following statements about the guideline:

Rows: Random | Columns: Normal

Rendered as Dynamic Grid

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The guideline is a useful tool for health care providers	☐	☐	☐	☐	☐
The guideline has made it easier to diagnose concussions	☐	☐	☐	☐	☐
The guideline has made it easier to manage concussions	☐	☐	☐	☐	☐
The guideline will improve concussion diagnosis in Canada	☐	☐	☐	☐	☐
The guideline will improve concussion management in Canada	☐	☐	☐	☐	☐
Overall, I was satisfied with the information found in the guideline *Fixed	☐	☐	☐	☐	☐

Ask only if **Q52**,8,9

Q55: Medical Assessment Letter completed in P3Y | **Multi coded**

Not back | Min = 1

You indicated that you are aware of the [Sport Medical Assessment Letter and/or Medical Clearance Letter]. Which of the following, if any, have you completed in the past three years: Select all that apply

Normal

1	Sport Medical Assessment Letter
2	Medical Clearance Letter
3	Neither *Exclusive

Scripter notes: if aware of both (code 8 & 9) , show qtext as Sport Medical Assessment Letter and/or Medical Clearance Letter
if aware of Sport Medical Assessment Letter only (8) , only show Sport Medical Assessment Letter in qtext
if aware of Medical Clearance Letter only (9) show Medical Clearance Letter in qtext

Q057: Knowledge gaps or barriers | **Open**

Not back

Are there any knowledge gaps or barriers that prevent you from addressing concussion prevention?

B010: HCP SPECIFIC QUESTIONS | **End block**

B006: MAIN SURVEY | **End block**

B011: DEMOGRAPHIC INFORMATION (ask all) | **Begin block**

Disp6: **Text**

Not back

Now, we just have a few questions to help us classify your answers. Your responses to these and all other questions will be kept completely confidential.

Q59: Education **Single coded**

Not back

What is the highest level of formal education that you have completed?

Normal

1	Grade 8 or less
2	Some high school
3	High school diploma or equivalent
4	Registered Apprenticeship or other trades certificate or diploma
5	College, CEGEP or other non-university certificate or diploma
6	University certificate or diploma below bachelor's level
7	Bachelor's degree
8	Postgraduate degree above bachelor's level
9	Prefer not to answer

Ask only if NOT **QPY1**,1

Q61: HH Income **Single coded**

Not back

Which of the following categories best describes your total annual household income ? That is, the total income of all household combined, before taxes?

Normal

1	Under $20,000
2	$20,000 to $39,999
3	$40,000 to $59,999
4	$60,000 to $79,999
5	$80,000 to $99,999
6	$100,000 to $149,999
7	$150,000 and above
8	Prefer not to answer

Q62: Language speaks most — **Multi coded**

Not back | Min = 1

What language do you speak most often at home?

Select all that apply

Normal

1	English
2	French
3	Other
4	Prefer not to answer

Q63: Indigenous person — **Single coded**

Not back

Do you consider yourself to be Indigenous, that is, First Nations (North American Indian), Métis or Inuk (Inuit)?

Normal

1	Yes
2	No
3	Don’t know
4	Prefer not to answer

Q64: Ethnic or cultural groups | **Single coded**

Not back

We all live in this country, but many of us also identify with specific ethnic or cultural groups. To which, if any of the following ethnic or cultural group(s) do you MOST strongly associate with?

Please only select one.

Normal

1	American
2	Canadian
3	Caribbean or West Indian (e.g., Haitian, Cuban, Dominican)
4	Central Asian / Middle Eastern (e.g., Palestinian, Israeli, Iraqi, Iranian)
5	East Asian (e.g., Chinese, Japanese, Korean)
6	European (e.g., German, Italian, Ukrainian, Dutch, Polish, Portuguese, Spanish, Russian, Scandinavian, Greek, French)
7	French Canadian (e.g., Quebecois, Franco-Ontarian, Acadian)
8	North African (e.g., Moroccan, Algerian, Libyan, Egyptian)
9	South Asian (e.g., East Indian, Sri Lankan, Pakistani)
10	Hispanic / Latin American (e.g., Mexican, Colombian, Brazilian, Argentinian, etc.)
11	Southeast Asian (e.g., Vietnamese, Cambodian, Thai)
12	Sub-Saharan African (e.g., Somali, Sudanese, Ethiopian)
13	United Kingdom (e.g., English, Scottish, Welsh) or Irish
14	Other
15	Don’t know
16	Prefer not to say

B011: DEMOGRAPHIC INFORMATION (ask all) | **End block**

Q083: improving | **Open**

Not back

Thank you for taking the time to complete this survey. We are currently testing the questionnaire for clarity and ease of understanding. Were there any aspects of the survey or questions that you found unclear or difficult to understand?
Do you have any suggestions to improve this survey?

Scripter notes: this is going to be asked during soft launch only.

Disp10:	Text

Not back

Thank you for taking the time to complete the survey. Should you wish to learn more about concussions, please visit the following websites.

http://www.parachutecanada.org/concussion

https://www.coach.ca/

https://sirc.ca/concussion

www.canada.ca/concussions