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Chair

Mr. Peter Fonseca

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● (1740)

[*English*]

The Chair (Mr. Peter Fonseca (Mississauga East—Cooksville, Lib.)): We're going to get started. Welcome, everyone, to 2019 and these new halls for us. To our witnesses who are here with us today, this is our first week back.

In October 2018, the House of Commons Standing Committee on Health struck a subcommittee. This is the subcommittee.

We're looking at sports-related concussions and the opportunity to make our playing fields safer for our kids, making sure that coaches and all those involved in sport are aware of the different protocols and guidelines that are out there and looking at ways we can make them even better, so best practices.

We had the opportunity before the new year to hear from a lot of athletes who have experienced concussion, amateur athletes as well as their parents. Through their stories we were able to learn a lot.

Today, all the members here, from coast to coast to coast, many of whom have a great deal of experience in sport and in medicine, will be asking questions of the witnesses.

We have, as witnesses, Rugby Canada, which we've heard a lot about. Mr. Paul Hunter will be representing them here today. He's the Director of National Rugby Development. From the Coaching Association of Canada, we have Peter Niedre, the Director of Education Partnerships.

For the witnesses, the questioning will be in rotation. You'll hear from the Liberals, the Conservatives and the NDP. Each member will have an opportunity to ask you a number of questions and you'll be able to answer. We will have to cut you off when each member's time for questioning is up, but we will go around a number of times, so you will get another opportunity.

We're going to start with the Liberals and Mr. Doug Eyolfson.

Mrs. Mona Fortier (Ottawa—Vanier, Lib.): The witnesses present first.

The Chair: Sorry. That's right.

Mrs. Mona Fortier: You wanted to see if we were ready.

The Chair: I'm a little rusty after the holidays.

Mr. Doug Eyolfson (Charleswood—St. James—Assiniboia—Headingley, Lib.): What did you have for lunch?

The Chair: We can start with Mr. Peter Niedre.

Mr. Peter Niedre (Director of Education Partnerships, Coaching Association of Canada): Thank you.

I want to thank the Subcommittee on Sports-Related Concussions in Canada of the Standing Committee of Health for the invitation for us to be here to present. It's an honour to have the Coaching Association of Canada here.

I also want to start by thanking the Public Health Agency of Canada for its initial support to help us develop our current national coaching certification program's concussion management e-learning module, Making Head Way in Sport, and Sport Canada for its continued support in making sure that we're able to keep our content in the Making Head Way module current.

I will start with a brief introduction of what we do. Coaches are a part of our entire sports system of technical leaders and administrators who work to develop and protect our athletes and participants in sport. The Coaching Association of Canada's mandate, recognized by all federal, provincial and territorial ministers, is to lead ethically sound coaching and sport leader training, delivery and promotion, in association with other stakeholders, through our national coaching certification program. We work in partnership with 66 national sports organizations, like Rugby Canada, and 13 provincial-territorial representatives as the primary partnership organizations responsible and accountable for national and provincial-territorial coaching and sport leader development and delivery of our education.

I think we all know that training and education are widely recognized as enabling social change. Education and training through the NCCP is widely noted in the research as having a significant impact in changing coaching behaviours in all sports contexts: community, competitive and instructional.

Through our partnership, over 60,000 new coaches enter the national coaching certification program on an annual basis, and the highest percentage of our coaches taking the national coaching certification program training are engaged at a community or competition introduction level. Coaches will coach across multiple sports, stages of athlete development, age groups and skill levels. They're working on the ground with participants in practice and competition environments on a daily basis, where concussions are always a risk.

It is also important to understand that although there are sports that may have a higher prevalence of concussions, no sport precludes the risk of concussion—there's not one that does. Additionally, all coaches, teachers and instructors may encounter participants who risk concussion, whether it's on the playground, at municipal facilities or in the school gym. As concussions are not exclusive to any sport in particular, regardless of high or low risk, the entire sports system, from community to high performance, is responsible for concussion prevention, detection and management.

With the support of the Public Health Agency of Canada, the national coaching certification program's Making Head Way in Sport e-learning module was developed in 2013 as a tool to better equip and enable coaches to manage concussion through prevention, detection and recovery. The online training was created with the expertise of leading experts Dr. Charles Tator, Dr. James Kissick, Dr. Pierre Frémont, Dr. Karen Johnston, Dr. Laura Purcell, Dr. Mark Aubry and Dr. David Ellenberg, and in partnership with Parachute Canada.

Making Head Way was recently revised in 2017, following the 2016 Concussion in Sport Group's international conference on concussion in sport held in Berlin, Germany. The NCCP Making Head Way module contents are closely aligned with Parachute Canada on return-to-play and return-to-learn protocols. With respect to baseline testing, the CAC's NCCP Making Head Way module recognizes the recommendations of the federal, provincial and territorial working group, the international Concussion in Sport Group and Parachute Canada in our educational material and education of coaches as we work towards a harmonized approach to concussion management.

We've worked closely with Parachute and the federal, provincial and territorial groups to ensure a harmonized approach in the prevention, detection and recovery and return to play from concussions. Provincial and territorial jurisdictions play an extremely important role in enhancing the national harmonized approach protocol within their jurisdictions. Two specific examples that significantly enhance a harmonized approach include Ontario, with the development and implementation of Rowan's law, and in Quebec with an enhanced return-to-play protocol.

Since its launch in 2013, approximately 52,000 coaches have taken NCCP Making Head Way. We have seen an 87% increase in the number of coaches who have engaged on an annual basis since 2015. Of these coaches, over 90% are coaching at the community and introduction to competition contexts.

Through our survey that we do post e-learning, 88% of those who have been surveyed have indicated that they are more confident in handling concussions with their athletes and managing concussions after having taken NCCP Making Head Way.

In closing, I've had the incredible opportunity in my career to work in the school and sport system for over 20 years. As a curriculum development and delivery specialist and practitioner, I spent over 10 years in the school system at both the secondary and post-secondary levels. I have worked over 20 years in the sport system as a coach at all levels, a coach educator, and a technical leader responsible for coach education curriculum development and delivery at a national sport organization and at the Coaching Association of Canada.

● (1745)

I can't emphasize enough the importance of prevention of concussions through training and education of our coaches working on the ground. Education is the number one tool for enabling behaviour change in our coaches.

In closing, I'd like to make two recommendations.

The first is that the entire Canadian sports system—national sport organizations, provincial and territorial sport organizations, including school sport, from community to high performance—need to legislate concussion management training through the NCCP Making Head Way or other partner resources to better enable our coaches. We already have 14 of our NSOs, national sport organizations, that have it as part of their training and certification pathway for their coaches.

The second is that all levels of government, in addition to safe sport, need to have concussion management training as a priority because it's a public health issue.

The Chair: Thank you, Mr. Niedre.

Now we're going to hear from Mr. Paul Hunter, with Rugby Canada.

Mr. Paul Hunter (Director of National Rugby Development, Rugby Canada): I usually start off with an apology because of the accent, so I'm happy to repeat, should I need to.

Voices: Oh, oh!

Mrs. Mona Fortier: Don't.

Mr. Paul Hunter: It's the worrying faces on the translators as they kind of start wondering, “Is my microphone working or not?” I can't do anything about it, I'm afraid.

I would like to share an overview of Rugby Canada.

Since 2016, Rugby Canada has implemented a player welfare program which targets all the pillars involved in sport, from players to coaches to parents to administrators to match officials, and tries to create an understanding that we all have a responsibility around player welfare in our sport.

Rugby Canada, like many sports, has developed guidelines. What has been critical in developing these guidelines is that they are not being done in isolation. We've developed our guidelines, or looked to harmonize our guidelines, in partnership with Parachute Canada through its harmonization program. We're also very fortunate that World Rugby is one of the five organizing partners of the international concussion event, so we're able to access the research that comes from that event. That does influence how our guidelines are created.

Rugby Canada and its 10 provincial unions must do concussion management training. That's an online module. Not just that, but we also have a rugby-specific module. We've been able to identify that in rugby there are five areas of concern where we can increase the likelihood of a concussion. There is training around the awareness of a concussion, the management and what to do to report a concussion, but it's also important that people are educated in how we prevent concussions as well.

They are two very different pieces. Along with our coaches, who have a direct influence with our athletes, we also focus on our match officials who have to manage the games. They have to be able to identify and know what to do in a game should an incident happen. Those are our two primary focus areas, although we do understand and are looking at how we support the parents and players as well, and not just work in isolation.

In rugby, we've also looked at the prevention piece and identified, through research and our evidence from injuries, that the tackle is where we see the largest number of concussion-related injuries. We've now developed a resource that looks at the introduction of tackling to young kids. In Ontario we'll be rolling out our tackle technique resource. Again, it's a prevention strategy that supports coaches as well as players on the introduction to tackling.

Another piece that we've implemented is a zero tolerance approach to contact to the head. There is zero tolerance at all levels of the game, from the professional and international end of the game to the community and domestic end of the game. Should contact happen to the head, there are sanctions. Should repeated contact happen to the head, there are more severe sanctions that take place as well, both on the field as well as off the field.

Because we're a large country, that face-to-face contact is very difficult, so we also provide webinars where we look to have ongoing education. This has been a primary focus for our referees on how to manage those dangerous tackles. Seeing examples of dangerous tackles and knowing how to manage those dangerous tackles is a way for us to provide them with the resources to support them in making those decisions in a game as well.

Along with the partnership with the Coaching Association of Canada, we have concussion training around the incidence and likelihood of concussion in the game at all levels of our training and education. That means that a two-hour slot in all of our courses is focused on the tackle, ruck, maul, scrum and jumping in the line-out. These are the five areas of the game where we see an increased likelihood of concussion-related injuries. When coaches leave any of our coaching courses, they have had the opportunity to practically try to coach in those areas.

The course I talked about previously that they have to do, the rugby readiness-specific, is the online learning piece. Before they go on the course, they must have done the online learning piece. Then, when they come on the course, there's the opportunity to practically apply that, as well as create professional development workshops around this area.

Another thing that we have is a free app that helps with the identification of signs and symptoms, and what to do should a coach suspect a concussion. It's available in a bilingual format—in multiple languages, actually—because we're fortunate to use World Rugby on multiple platforms. We know that players play a critical part. We know they're quite technology savvy, so we are trying to get something into their hands that can help give them some very accurate information around concussions.

● (1750)

We've also looked at promoting the provincial health lines. Often there are parents and players looking for somebody to speak to, and they're not sure whom to speak to, so we try to promote the provincial health lines as a point of contact. They can phone 24-7, 365 days a year, and there will be someone who can provide some help as well.

As an organization, we wouldn't ask our members to do something that we're not willing to do, so at all our AGMs and mid-term AGMs, as a player welfare piece, we have had speakers come in to educate our board as well as our provincial union executives. We have had Gord Stringer, the father of Rowan Stringer. We've had Parachute Canada come in as well, along with some neurologists and so on. We're just trying to increase the awareness of the decision-makers in our organization to make sure they do make player welfare a priority. Education is important right across the board.

We're also fortunate that we were the only national sport organization to be sitting on the Rowan's law advisory committee. Obviously, Rowan was involved in rugby, and we feel we have a lot to learn and share from that experience. We've been fortunate enough to speak at many conferences, including education conferences and World Rugby's medical conference. The focus on concussions in Canada most certainly has global attention, and collaboration has been key for us to develop the resources that we have.

On that point, I'm happy to take any questions or repeat it all again, whichever comes first.

Voices: Oh, oh!

The Chair: We love the accent.

Thank you, Mr. Hunter and Mr. Niedre.

Now we're going to have the opportunity to have questions from our members.

We're going to start with the Liberals. It will be for seven minutes.

Doug Eyolfson will commence.

Mr. Doug Eyolfson: Thank you, Mr. Chair.

Thank you to both of you for coming.

I'm very excited to be part of this study. I practised medicine for almost 20 years. I was an emergency doctor. Actually, my first job was in an area of town where rugby was quite popular, so I really got to hone my orthopaedic skills.

One of the things I was curious about with rugby.... As you say, there are things like tackling techniques that have been helpful. Have there been any changes in any protective gear in rugby that have had any impact on concussions?

Mr. Paul Hunter: That's a great question. No would be the answer. From our understanding, there's not a lot of evidence to suggest that the wearing of equipment can reduce the number of concussion-related injuries.

Two areas we believe very strongly can reduce concussion-related injuries are changing the laws of the game, for example, tackle height—zero tolerance—and also a cultural change. To look at equipment alone, we find that people will manipulate equipment and use it more as a weapon, potentially. Equipment in isolation, from our understanding, hasn't reduced the number of concussion-related injuries, but we do see education and influencing that culture as two key areas to reducing concussion-related injuries.

We are seeing an increase in the number of organizations and companies that are selling the answer to concussions as various different garments or helmets and so on. We just don't see the evidence there at this point. Whether or not that evolves in the future, at this point there's no requirement for a rugby player to be wearing a piece of equipment that would reduce the likelihood of a concussion-related injury.

● (1755)

Mr. Doug Eyolfson: Have there been any changes in the last few years regarding the overall rules of the game, such as international standards that have changed to reflect the increasing knowledge of concussions?

Mr. Paul Hunter: Yes, absolutely. We've just seen piloted last year an initiative to reduce the height at which contact can happen, and that's correlated across other sports. We have seen a reduction in concussion-related injuries since hockey made changes to their game, so we are going to be looking to implement a tackle height and reducing the tackle height. We have seen that being effective in other sports. Through global research, we have seen that concussion-related injuries increase when the height of the tackle is up at around the shoulder and head area.

Where we introduce tackling, which at our U11 level, that's going to be below the waist. How we coach that area and introduce tackling is to make sure that the body height comes down. We have seen that if you make changes to the laws or the rules of your game, that can reduce the likelihood of concussion-related injuries. The other one is zero tolerance for contact to the head, zero tolerance meaning zero tolerance, and the sanctions have seen a reduction in contact to the head.

Mr. Doug Eyolfson: You had mentioned, as well, that people of different ages are playing this in your jurisdiction. I do know that in other sports, different things are allowed for different ages. For instance, in hockey, there's no contact or body checking below a certain age. I don't imagine there's such as thing as touch rugby, but —

Mr. Robert Kitchen (Souris—Moose Mountain, CPC): Actually, there is.

Mr. Doug Eyolfson: There is? What I was wondering is whether there is an age at which certain things are allowed and not at another. How is that set up?

Mr. Paul Hunter: Absolutely. We introduce tackle technique or contact at U11. Prior to that, it's a non-contact version of the game, so it's tag and it's flag as well. U11 is where we're looking to introduce contact by lowering the tackle height to be at the waist, but for all ages and levels of the game, from international to professional, there is no contact to the head, at any point. We take a zero tolerance approach to that.

Yes, we do have a gradual introduction to tackling. Through our education, we send strong messages to our coaches not to put somebody in a game if they're not prepared physically and emotionally to be in that game. It's not a case of throwing them in to try as well. That's where that education and culture piece comes down to us. Yes, there is a gradual approach to introducing people to the game of rugby.

Mr. Doug Eyolfson: Thank you.

Mr. Niedre, you talked about your e-learning module on concussions, and it sounds like you have a very good, comprehensive list of people who have helped developed it. I know that part of this is return-to-play guidelines. Those were developed a while ago and they're always being revised. Is there any stage of it or have they incorporated any requirement at some level of concussion where there has to be a formal medical evaluation before they can return to play?

● (1800)

Mr. Peter Niedre: Absolutely. Again, it's part of the protocol. It's guiding coaches, the athletes and the parents of the participants to seek medical attention. Part of that is managing the concussion. When they suspect there's a concussion, the next step is to seek medical attention. We do guide them that way. The return-to-play protocol comes after the medical expert has issued the release. Then we have another long protocol that aligns with what Parachute Canada has said about how the coach manages that and the return-to-play protocol to bring the athlete right back into the field of play.

Mr. Doug Eyolfson: Thank you.

The Chair: We'll be moving over to the Conservatives now, to Mr. Robert Kitchen.

Mr. Robert Kitchen: Thank you, Mr. Chair.

Gentlemen, thank you both very much for being here today.

With the two of you here, we basically have the coaching aspect and an individual sport aspect of things. Although you interact with each other, you do have separate responsibilities. I appreciate hearing your comments and I agree wholeheartedly with everything you've said.

I'll start with you, Mr. Niedre.

On this issue, from the coaching point of view, you provide coaches with training for the multiple sports that are out there. Do you have a system or are you looking at a system for monitoring? I realize that in today's world, with computers, it's a lot easier to keep data collection on an individual and to regulate that. Do you have a system like that which you have suggested to the various sporting organizations?

Mr. Peter Niedre: I mentioned the number of coaches who have gone through it. We have a database of over a million coaches. Those numbers that I pulled—I have more data we can chat about—come from, basically, the contents of our national database. We have 66 sports, and all of the coaches linked to those sports are in the database along with a full record or transcript of everything they've taken. That's why I was able to produce those numbers. We know the percentage of coaches and we know which sports are making the most headway. We track all those things as part of our monitoring.

Mr. Robert Kitchen: In my previous life I was a regulator for the chiropractic profession in Saskatchewan as well as for Canada. We looked at things involving regulating professionals, which is where my angle on this is.

Is there an avenue for you to do this? Obviously, there's a cost that would be added, but is there an avenue along those lines whereby you might see this as of value?

Mr. Peter Niedre: It's funny that you ask that. Right now we're in the midst of what I guess you could call a revamp. We're in the midst of approving our chartered professional coach profession. We are looking, from the chartered professional coach aspect, at certain different pathways to lead to it.

Has Making Head Way or concussion management come into that discussion? No it hasn't, not that I'm aware of, anyway.

Aside from the fact that we can track these things, and apart from the sports I've mentioned, there are other organizations—provincial secondary school athletic associations—that are tracking this and making it mandatory for their school coaches to have this.

That's where we are, from a regulatory body standpoint. This is not really our role. Our role is education, creating and working with our partners through the—

Mr. Robert Kitchen: Your emphasis, then, is more on that aspect of it, in which case that might throw it to the individual sports per se to regulate their own individuals.

Would you agree with that? Would that be the better way of doing it?

Mr. Peter Niedre: We're providing education. We try to guide them. We keep a lot of statistics on what coaches report, after taking the education, to work with our sports to say that the content in the education shows that our coaches, from a self-efficacy point of view, feel more confident in managing concussions. From that standpoint, we don't legislate coaches; we work, in the national coaching certification program, with our partners.

Mr. Robert Kitchen: Thank you.

Mr. Hunter, having been a rugby coach myself at one point, I appreciate your comments on tackling. To me, that is the most important thing. I learned the game in England when I was six years old, so I grew up learning how to tackle from that age.

I found, once I came to Canada, that tackling wasn't there and that we had football players coming to play rugby and not rugby players coming to play rugby. These are two different sports with two different approaches. I'm glad to hear about your approach to lowering the tackling levels. A hit to the head is a hit to the head. We knew the risk when we played the game, and ultimately it was there. As you said, the ruck is one of the riskiest parts, but tackling, I believe, is truly that aspect of it.

I'm wondering, sir, whether you believe it should be the individual sport that makes the decisions on how you regulate your game, or do you see an avenue whereby the federal government should be regulating you?

● (1805)

Mr. Paul Hunter: That's a good question.

I think the sport has a very strong responsibility for prevention. I don't think anyone knows their sport more than the sport experts, whether they be analysts who tag games and incidents.... It is through our analysts that we found a lot of our data for knowing it is in tackle that we see the most increased likelihood of concussions.

I think the sport has a part to play in prevention. How do you change or make changes to your sport? For us, it's in the way we changed the tackle height and the way we implemented laws around refereeing. I think that is where sport has a responsibility.

There may not be too many avenues for further partnership in this. Where I see the opportunities for partnership is in the detection of concussion-related injuries and the way we manage concussion-related injuries. If we're talking about prevention, the sport has to look at its own sport, understand where these concussion-related injuries are going, and then evaluate whether they can be minimized. Yes, there's an inherent risk in participating in sport, but our job in our sport is to ensure that we minimize that risk as far as possible, if not remove it.

I believe, then, that the sport has a responsibility to self-reflect and self-evaluate and make changes to their game to ensure a safer environment for all participants.

Mr. Robert Kitchen: Throughout sport—and we look at hockey today, as we see hockey growing up—we now have trainers involved with sporting organizations, which is something we didn't have before. We had people on the bench who recognized.... When I was playing rugby at the University of Waterloo, the reality was that we had a trainer who was there to help us. There are multiple professionals who meet the standards and have within their professional standards the recognition of sport injuries, and in particular sport concussion training. Those avenues are out there.

Recognizing that the athletic trainer is probably the closest one to this problem, because others are trying to make money, do you see value in utilizing all of this expertise?

The Chair: You have 10 seconds.

Mr. Paul Hunter: Yes, I do. I think it's very clear that we have roles and responsibilities. An athletic therapist can detect signs and symptoms, but an athletic therapist cannot diagnose. We have to be very clear on who has the scope of practice to make a medical diagnosis. However, anyone from a parent, a player, a coach, to an athletic therapist can be educated around the signs and symptoms of a potential concussion, but not to make a diagnosis. When we suspect a concussion, we should be moving them to the appropriately trained medical professionals who can make a medical diagnosis.

Was that 11 seconds?

Voices: Oh, oh!

The Chair: You were right on the button.

We're moving to Ms. Hardcastle, from the NDP, for seven minutes.

Ms. Cheryl Hardcastle (Windsor—Tecumseh, NDP): Thank you very much, gentlemen.

I think we'll keep going on that line, Mr. Hunter. You mentioned a key phrase, which is detection of concussion. I'm sure, Mr. Niedre, you'll have some ideas around this too.

What should be our next steps in terms of whether it's a federal role or a concerted course of action? I understand you have education programs and there are apps for phones. Where do you get your content to detect a concussion or suspect a concussion before we get into the whole idea of what the protocol is once it's determined someone has a concussion? I'm trying to get my head around your idea of that detection of concussion.

Just because of the limits of our committee here and what we're supposed to be doing and arming ourselves with information and perspective, if you have ideas of what you think we should be looking at or what we should try, as well as what your best practices are, that would probably be helpful.

I'd like to front-load my time with my question so that you can use the remaining time if you want to have a discussion about that.

● (1810)

Mr. Peter Niedre: Would you like to start?

Mr. Paul Hunter: Sure.

Where do we get information? I'm sure the committee's heard that in Berlin we had the Berlin consensus statement. We brought world experts across multiple disciplines in the medical field who have really moved mountains in terms of where they were eight or 12 years ago. Between the Zurich convention in 2012 to the Berlin convention in 2016, we're starting to see a bit more consistency, not a huge amount of change.

We didn't know what a concussion was 12 years ago. Even now there are some grey areas. I think we were getting more consistency from 2012 to 2016, which is helping us identify signs and symptoms, for example.

Where do we get our information from? We get a lot of our information from that statement and that convention. That's from the medical experts. How we then localize that information into our sports would be the role of the sport and using various other agencies. For example, we are using Parachute Canada to harmonize our process.

When a concussion or suspected concussion occurs, how we manage that can be the same across multiple sports. About how the concussion happens differs within the sport. That's why the prevention is really important.

On detection, everyone involved in sport has to be able to detect the signs and symptoms of a concussion, not just on the field but also off the field. We know that young players will talk to each other. They'll text each other. They'll do a Google search for this information. They're having that conversation and they're looking for education. That education is not there yet to meet those standards.

It's realizing that it's not just a coach's responsibility; it's not just a referee's responsibility. When the person goes home, they're going to speak to their parents. Parents have a responsibility to be educated on the signs and symptoms, not just being able to identify the signs and symptoms, but what to do after they've identified the signs and symptoms. Who are the reputable people they can speak with to ensure they get the appropriate medical help?

We're not just talking about sport here. We're also talking about returning to learn. We also have a big piece that is mental health. As soon as a young child has a suspected concussion, they may start missing time at school. They may potentially start falling into debt. They may start missing exams. This has a knock-on effect. There's more education needed around how to manage a concussion.

Once we've detected the signs and symptoms, we look to pass that on to the appropriate medical practitioners, but we also have to manage that concussion. There's not just an education piece to be done before suspicion of a concussion, but there is an education piece to be done on managing that concussion and what happens post-diagnosis as well.

My recommendation is this: How do we ensure that everyone has access to reputable, current and evidence-based resources that can help identify the signs and symptoms of a concussion and take them down a path of seeking the appropriate medical help?

Mr. Peter Niedre: I would like to add, as Paul just said and as I mentioned in my opening statement, that our goal as a coaching association in Canada is alignment across the country. We work very closely with Parachute Canada. We serve on the FPT working group on concussions as well. There are many different representatives in the group.

When you ask about content in that area, aside from what I mentioned about our current module, it is updated as Paul said. The Berlin consensus—

Ms. Cheryl Hardcastle: If I may interject, I wasn't questioning the content. Who were the people who developed the content? I'm assuming you're an educator, a physiotherapist. That's what I mean.

Mr. Peter Niedre: Again, aside from the conference, I mentioned that many other doctors were involved in that. The other people who were involved in the creation of it were practitioners on the field of play, so sport technical experts and coaches at all levels of play. That's important to understand.

That's really the piece from which we gather this content. Those are all the experts with whom we deal. It's not just the medical experts. The coaches or technical leaders in the sport understand what the coaches face on a daily basis.

Paul really hit it well. It's about suspecting a concussion and the big thing that coaches face as well is the ethical piece. They have to be comfortable with saying, “I suspect a concussion. It's time to remove this athlete from the field of play or practice environment.” That's where they need a certain comfort, because athletes also feel a pull and push from their parents, from the other people in the league and others.

That's something as well. When we talk about content, it's really important to make coaches feel comfortable with making sure they're protecting the participants first and foremost, regardless of the level, whether it's a practice or a competition they're going into. That's a big piece. We need to make sure we're reinforcing that, so that when they suspect a concussion, as Paul said, it should go right to a medical practitioner who's an expert in this area, because the majority of our coaches are 15 to 24 years old, and then there are parents like me who are 45 plus.

● (1815)

The Chair: Madame Fortier.

[*Translation*]

Mrs. Mona Fortier: Thank you, Mr. Chair.

Gentlemen, I'll be asking my questions in French. If you don't understand the language, you can listen to the interpretation in order to understand my questions.

[*English*]

The Chair: We have translation devices here.

Mrs. Mona Fortier: Am I losing my time there?

[*Translation*]

Mr. Chair, have you reset the timer to zero?

The Chair: Yes.

Mrs. Mona Fortier: First, I want to thank the witnesses for being here today.

Today is special because it's Bell Let's Talk Day. Mental health is being widely discussed in the hallways and the House. I think that the issue is often discussed in the sport community, since concussions affect the mental health of people, athletes and youth who participate in sports.

You talked earlier about statistics and data. When it comes to sports-related concussions, our committee wants to know what statistics you may have on the number of people affected, either at Rugby Canada or your association, Mr. Niedre. You said earlier that the number is going down, and the committee wants some evidence in this area.

We quickly discussed a change in culture earlier, and I want your opinion on the matter. I know that there are prevention exercises and certain technical applications. However, how can we change the sports culture when it comes to concussions? I want to add that young people and athletes came to tell us what happened to them. Their difficult stories showed us that they didn't know how much these concussions would change their lives. We recognize that there needs to be a change in culture, and I want to hear your point of view on the issue.

Mr. Niedre, we could start with you.

[*English*]

Mr. Peter Niedre: Thank you.

I did read some of the evidence of the last hearings, around the athletes, and I think a couple of things. It goes back to one of my first points. With the coaches, it's through education. Coaches face ethical decisions all the time, which can impact these things.

Through education on the prevention of concussions, it's important to outline that the right thing from an ethical perspective is that when you suspect a concussion, it's time for that athlete to be pulled from the field of play. We have to continue to do that as a system, at all levels. That comes from a governmental perspective and also from the sport organizations—national, provincial, local and community-based. To me, that's the first point.

The second is that we don't really get involved with the tracking of concussions, but I know we do sit on the federal, provincial and territorial working group on this, and there has been a lot of chat and recommendations that this is an important thing to start tracking more often, especially when you see interventions like education, and how that's actually impacting, hopefully, a reduction in concussions.

I can't really talk.... My sports are low risk from a concussion perspective, but again, we do face it as coaches all the time, in that players can come to practice with that. Personally, as a coach, I don't take any risks with that. I was a hockey trainer as well, and I never once took a risk around that.

That's my big message. It's around continuing to make coaches comfortable in those ethical decisions, and making sure that they think ethically in how they are working with their athletes, and what they do as soon as they suspect a concussion.

● (1820)

[*Translation*]

Mrs. Mona Fortier: Mr. Hunter, do you have any comments?

[*English*]

Mr. Paul Hunter: Sure. These are great questions.

From a national sport organization perspective, the only time we hear about an injury is if there's a claim. That's the real approach. We don't hear about a lot of injury recording.

[*Translation*]

Mrs. Mona Fortier: So you're not really trying to collect this data, you're just receiving it. Is that correct?

[*English*]

Mr. Paul Hunter: We only hear about injuries when there's a claim. Our provincial sporting organizations do hold data locally, but that generally is not shared with the national sporting organization. That would be a gap, because what you'd be able to find, if we did have accurate data, is trends that happen across the country.

In the rugby context, a lot of data is from other countries, looking at high school, and the age of kids compared to other countries; however, they are not Canadians. That's the best data that we have now.

In rugby, we have identified that as an issue. One of the things we've just done in the past couple of weeks is partner with the University of Calgary to look at some high school data collection and injury recording. This is something we have looked at. Why are injuries not recorded? How do we get injuries recorded? What is an injury? Is putting a Band-Aid on somebody something that needs to be recorded?

We're looking into having standardized recording. What one province may record may be completely different from what another province records. What one athletic therapist records might be completely different from what another athletic therapist records.

We do have injury recording on our player welfare website that they can access. It's not accessed. Most clubs, schools and organizations will hire third party medical coverage for their tournaments and festivals. It's not clear how to get that data, or evidence.

[*Translation*]

Mrs. Mona Fortier: I gather that Rugby Canada doesn't have an internal component dedicated to research or national data collection. Is that correct? If so, shouldn't you be carrying out these activities?

[*English*]

Mr. Paul Hunter: Yes. Absolutely. If we want to be evidence-based, we have to understand what's happening in our country.

There are some pockets of good data collection. For example, we know that there was an eight-week program in Calgary, observed by the University of Calgary. In that eight weeks, 50% of female high school players in rugby had an injury, and 25% of those injuries were concussion-related.

Nationally, we don't have the trends. We don't have the data. We are most certainly reaching out, but something that would massively help sports is data collection.

There is no close collaboration between a school and a national sport organization.

The Chair: Thank you.

Now we're moving back over to the Conservatives and Mr. Alex Nuttall.

Mr. Alexander Nuttall (Barrie—Springwater—Oro-Medonte, CPC): Thank you, Mr. Chair.

Thank you, Mr. Hunter and Mr. Niedre, for your testimony today.

I want to follow up exactly where Ms. Fortier was going on data.

Are you from British Columbia? Where are you from?

Mr. Paul Hunter: I'm from just east of Toronto.

Mr. Alexander Nuttall: Oh, you're from just east of Toronto.

● (1825)

Mr. Paul Hunter: That's pretty much home. Peterborough.

Mr. Alexander Nuttall: Then you're not from British Columbia.

I had the opportunity to go out to B.C. and I actually went to the Rugby Canada headquarters. One of the things they talked about was concussions.

It was interesting. I went out there about seven or eight weeks ago, and one of the places I went to was a gymnastics facility. In terms of what they have done, a young man had created an app to track the health of young people and the Chinese government has asked them to take that app and implement it across all of its schools in all of its programs, its Olympic programs, which are a lot different from the way we structure ours.

Has there been any look at that type of approach, where we get all the organizations—Hockey Canada, Rugby Canada, and everybody—to say, "Okay, if you're going to be in one of our specifically elite programs, you need to sign this privacy form that allows us to share information"?

Oftentimes, a great athlete is a great athlete, and yes, they excel in one or two things, but they'll be involved in many different areas.

Mr. Paul Hunter: That would be a deal breaker, if I can use that term.

With boundaries that we have, high schools will record and clubs will record. Our kids play multiple sports, so a concussion that's recorded in one sport that's going through the stream of a provincial body to the national level doesn't get transferred across to the other sport. Therefore, there is the likelihood of kids going from one sport to the other.

Mr. Alexander Nuttall: Yes, 100%.

When they sign up for your sport, are they and their parents not filling out forms that tell you what their medical history is?

Mr. Paul Hunter: There is a medical history. There's also literature and documentation that says if you have a concussion or an injury from somewhere else, then report that. It's like many documents, but in regard to the point you made, if there was an app that every sport and school was able to record on, which then took us through the return-to-play and the return-to-learn protocols that identified who are the appropriate medical doctors or medical practitioners, that would be a deal breaker for us. That would give us very hard evidence to then make changes to our sport.

Mr. Alexander Nuttall: Are you saying deal breaker in a good way?

Mr. Paul Hunter: Yes, absolutely.

Mr. Alexander Nuttall: You mean a deal maker.

Mr. Paul Hunter: Sorry, okay. I mean a deal maker.

Mr. Alexander Nuttall: It's an accelerant to move forward.

Mr. Paul Hunter: Yes.

Mr. Alexander Nuttall: That's great.

Today is Bell Let's Talk day. We had some testimony at this committee which had me almost in tears. Cheryl knew one of the families very well. On the mental health issues, the mental illness related to concussions, what is the data you're getting out when you see this happening within your sport in individual cases? Is it an automatic link? Is it one in three or one in five where you see depression, real depression to the extent that they can't go to school or can't go to work, or can't go out of the house because of depression? That's what we heard from two incredibly awesome young people not too long ago.

Mr. Peter Niedre: I'm not aware of the data that really links those two.

Again, as Paul said, we're struggling with just keeping data from sports on the actual incidence of concussion. As Paul said, we do need a database around who are suffering from that, because when we think about all these interventions, we need to see how concussions are impacting mental health.

From a mental health perspective, I can't speak to that. Anecdotally, I've heard stories. The thing about mental health as well, as we're all aware, is that we are encouraging athletes, anybody, to speak more about it. The reality is that there are some who don't. There are some who might not even come forth as wanting to do that. That's an issue we face, too, as part of this. When we're trying to do something that's evidence-based, we're sometimes very limited to those things.

Mr. Alexander Nuttall: Thank you.

The Chair: We will now be moving over to the Liberals. This will be the last member and questioner for this round. It's Mr. Darren Fisher.

Mr. Darren Fisher (Dartmouth—Cole Harbour, Lib.): Thank you very much.

Thanks, gentlemen, very much for this.

This is going to seem as though I'm all over the place.

First of all, is Rugby Canada under the Coaching Association of Canada? Is it one of your 66?

Mr. Peter Niedre: Yes, we're partners with Rugby Canada. That's correct.

Mr. Darren Fisher: You talked about training. I'm really interested, Peter, in retraining. I'll use hockey as an example, because that's the area I know the best.

My son had a coach when he was five years old who is still coaching. Would I be right in assuming that there are regular retraining sessions? What we know about concussions now—and a lot of this falls on the coach—is so much greater than what we knew 12 years ago, when my son started playing hockey.

How much retraining is there? Is it yearly? Does it even occur? Can you speak for Hockey Canada as to whether there's constant retraining?

● (1830)

Mr. Peter Niedre: What we have as a policy in the national coaching certification program is what is called the maintenance of certification policy. It means that coaches who are certified in the NCCP must maintain their certification on a five-year cycle. Every five years they must renew it through professional development. We have a points system. They take various professional development opportunities to accumulate the points and maintain their certification.

Mr. Darren Fisher: They get the opportunity to do that. Are they held to a standard whereby they must do it to continue coaching?

Mr. Peter Niedre: If a coach does not maintain that certification, basically their status becomes certified not renewed. However, it's up to the sports to look at how they implement that not renewed status.

Hockey is working on how this works with respect to being on the bench, and sports are working through what this certified status and certified not renewed status mean, which means that through their legislation concerning what the rules are from the code of safety perspective on the bench they make sure their coaches are maintaining their certification. We notify the coaches well in advance that this is happening.

Mr. Darren Fisher: Paul, in your former role you were manager of national coach development. When you're developing a coach, what part of your process of developing a coach for, let's say, youth rugby is focused on concussion?

Both of you have talked, and many people have talked, about identifying concussion. We hear a little bit less about prevention. Maybe you can touch on what your role was before you were interim director and how you would approach it from a concussion point of view.

Mr. Paul Hunter: We decided to make our online training annual, for the reason that we would never go 12 months without any new information being introduced to a coach, whether it be a change of the law of the game or anything from the medical side.

The two pieces we have in our training annually online comprise the rugby ready, how you coach the five areas of contact in rugby. We have a law variation coming in. That means everyone will not go more than 12 months without this new cycle of the new laws coming in.

The concussion management training is separate. It does not involve the technical and tactical aspects of the sport. It is signs and symptoms identification and management. For example, one of the changes we have there involves some research we have that are warm-ups that can equate to a reduction in concussion. This is going to be integrated into the prevention piece.

We have two pieces of online training that will be done annually. We've mandated it for all coaches and players. Our jurisdiction is over the club environment; however, many school boards will adopt Rugby Canada's policy, so many of the school boards are doing it. We, however, mandate that all club coaches and referees must do this every 12 months.

Technical and tactical training is online, as is detection. The prevention piece is supporting the coach on how to technically coach the five areas within our game, and then the concussion management for the general public is on how to identify and detect and manage the signs and symptoms of concussion.

Mr. Darren Fisher: Zero tolerance?

Mr. Paul Hunter: Yes.

Mr. Darren Fisher: Do you find that zero tolerance has an effect on changing behaviour? We've seen it in hockey. Someone could be suspended for five games, then come back the next game and be suspended again for doing the exact same behaviour. We've been told by people in one of the rooms we've met in during this study—and we've heard it from mothers and fathers and young athletes—that the penalties do not change behaviour.

Does zero tolerance in rugby change behaviour?

Mr. Paul Hunter: Yes. I don't think there's any single, explicit answer that will reduce and eliminate.... I think there are multiple pieces. I think zero tolerance plays a deterrent part, especially around deliberate contact to the head; around accidental contact, maybe per coaching, per understanding from the player. But yes, I do believe that you will see a reduction in the hate in which you go into a contact. That's an education piece.

We asked before about how we change a culture. It's going to take time to change a culture. We're not going to see an immediate change. I would say role models play a key part: what our international athletes, what our professional athletes do. If we see on TV something that is a zero tolerance then that's going to filter down to our young kids. So, yes, I do believe that a zero tolerance approach to contact to the head does reduce concussion-related injuries.

● (1835)

The Chair: Thank you, Mr. Hunter.

Mr. Paul Hunter: I think Hockey Canada has done some fantastic research there.

The Chair: We'd like to thank Rugby Canada, Mr. Paul Hunter, and the Coaching Association of Canada, Mr. Peter Niedre. It sounds like you work well in tandem, and everybody is looking for the best approach to this and how we can find some solutions to some difficult questions.

Thank you so much, and to the members for their questions.

Mr. Peter Niedre: Thank you, gentlemen.

Mr. Paul Hunter: Thank you.

The Chair: We're going to transition now into our second round with our next witnesses.

● (1835)

(Pause)

● (1835)

The Chair: We're going to commence again. It's great. We've just heard from our first witnesses. Now we have our second round.

From the Children's Hospital of Eastern Ontario, we have Dr. Roger Zemek, Director of Clinical Research. From Parachute Canada, we have Pamela Fuselli, Vice-President of Knowledge Transfer and Stakeholder Relations.

What was great, I'd say to the members, is that both of these witnesses listened to our first witnesses. There may be some information they may be able to impart to us from the questions they heard.

We are going to commence with the Liberals again in this first round. That will be Mr. Darren Fisher—

Mrs. Mona Fortier: They present first.

The Chair: Oh yes, that's right. I did that again. Okay, I somehow want to jump right into the questions.

Mr. Darren Fisher: I don't want to go first.

The Chair: We're going to start with Dr. Roger Zemek from CHEO.

Dr. Roger Zemek (Director, Clinical Research, Children's Hospital of Eastern Ontario): Thank you.

As the previous speakers did, I want to thank the committee and the subcommittee for giving attention to such an important topic.

First, I want to say that I am a recipient of competitive grants from numerous organizations, including the CIHR, Ontario Neurotrauma Foundation, Ontario Brain Institute, Brain Canada, Physicians' Services Incorporated, and the NFL, but I don't believe any of these poses a conflict of interest.

I want to introduce myself. My name is Roger Zemek. I'm a pediatric emergency physician in the Department of Pediatrics at the University of Ottawa. I'm a senior scientist at the clinical research unit and I lead the evidence to practice program at CHEO. I have a clinical research chair at the University of Ottawa in pediatric concussion through the Ottawa Brain and Mind Research Institute and I am the vice-chair of Pediatric Emergency Research Canada.

As for my own area of research in addition to being a clinician in the emergency department, my research focus is on the generation, application and knowledge translation of the best available evidence for concussion, bringing that evidence to the bedside as well. I have gotten more than than $4.3 million as the lead investigator on research and as a team member for more than $34 million in total concussion research funding.

One thing I'm very proud of is having been able to lead the team that has done the largest concussion study to date in the world. We did nine centres across Canada, with more than 3,000 children enrolled in the study. This study was the 5P study: Predicting Persistent Postconcussive Problems in Pediatrics.

I also have studied the epidemiology of concussion to examine the trends over the past decade. I lead a provincial randomized controlled trial of early physical activity, as mentioned in the Berlin guidelines—versus the previous guidelines of Zurich—to see which of those two rest protocols is more effective. I also led the first comprehensive concussion guidelines, through the ONF, for pediatrics. That had not only a health care provider version but was also the first to introduce a coach and teacher as well as a parent version.

I am part of Pam's team as a parachute content expert. As well, I was on the Berlin panel as one of the pediatric experts and was on one of the other teams also. I have presented to the National Institutes of Health in the United States, at Bethesda, sitting on some of their expert panels.

I am very proud to say that Canada is a world leader in concussion research. Of the 10 most-cited universities across the world with regard to concussion, Canada is home to four of these top 10. We truly are groundbreaking. If you were looking at the panel of scientists who presented at that Berlin meeting and who led many of those committees, Canada was definitely hitting above its punching weight.

I want to quickly highlight a few things with regard to my own research. Then I'm happy to delve into more detail on questions.

One thing is epidemiology. We've shown that in Ontario the number of emergency department and office visits for concussion has quadrupled over the last decade. That increase is most significant in adolescents, which showed a more than five-and-a-half-fold increase.

My study was of 3,000 patients across emergency departments in Canada. This was really getting children at their most acute times of injury. The average child was enrolled in less than three hours from the time of their injury to when they got into the study. We followed those children for more than three months. What we found was, and the good news is—there is good news—that most kids get better. About 30%, however, continue to have symptoms that persist beyond one month. I've gone over some of those factors that are predictive. I won't go into the details now.

We also know that while sport is an important cause of concussion, about 25% of all concussions and potentially even up to a third happen unrelated to sport. That is very important to keep in mind, because our athletes can still slip on the ice, can still have collisions in the hallways at school and be involved in motor vehicle collisions, and this can then affect their sport afterwards.

One thing our team did was talk about return to play and how those things have evolved. I'm proud to have led the team that found that early physical activity actually did lead to improved recovery over time. The concept of home jail, in which families interpreted “rest until asymptomatic” as keeping their children in dark rooms for periods of time, may actually have caused more potential harm than good. I'd be happy to talk later about finding the correct Goldilocks balances—not too hot, not too cold—and our finding the “just right” balance.

● (1840)

Last, one of the studies we did looked at the quality of life of children with concussion. While children with concussion improve in many aspects of quality of life, one of the things that remain very impactful compared to the average child is the impact on school. As a pediatrician, this is such an important factor. Even in those kids who have recovered, the school quality of life factors remained significantly decreased from healthy children for months on end, and that extends beyond three months.

I'm happy to have this opportunity to talk to the panel about something I am so passionate about trying to get to some answers for.

The Chair: Thank you, Dr. Zemek.

Now we're going to Parachute Canada and Ms. Pamela Fuselli.

Ms. Pamela Fuselli (Vice-President, Knowledge Transfer and Stakeholder Relations, Parachute Canada):

Thank you. Good evening.

As you said, my name is Pamela Fuselli. I'm the Vice-President at Parachute Canada, Canada's national charity dedicated to injury prevention. Thank you for inviting me to speak to the committee on this important topic.

The purpose of this subcommittee aligns well with Parachute's vision to ensure Canadians live long lives to the fullest. As we reduce the incidence and long-term impact of concussions, Canadians can get back to participation in sport in their day-to-day lives.

Parachute acts as a bridge between research and policy-makers, the public, professionals and industry, translating research into key messages, tools, strategies and policies—basically, who needs to know what, how, where and when.

We also have topic experience. We've been undertaking targeted work at the national level, supported by federal funding from the Public Health Agency of Canada, in collaboration with our partners from Sport Canada, in education, health, government and in consultation with our concussion expert advisory committee that comprises internationally recognized clinical and research professionals.

What are our recommendations that can inform this subcommittee's work?

The first is national uptake and implementation of best practice guidelines and tools. We've already made excellent advances to improve concussion education, recognition, prevention and management in Canada. We have strong foundational documents for a harmonized national approach based on the international consensus statement on concussion in sport, such as Parachute's Canadian guideline on concussion in sport and our harmonized concussion protocol template.

In addition to being evidence-based, it's critical that this approach be comprehensive, that it emphasize pre-season education and prevention, and that it be embraced within the culture of a sport organization. Since 2017 these documents have been adopted by over 40 national sport organizations as well as a number of provincial organizations and schools. We don't need to reinvent the wheel, but we do need collective support to ensure the use of these expert-informed best practice resources by everyone.

Second is training for medical and health care professionals. Concussion education for health care professionals is required. It's essential for them to be knowledgeable of the most current clinical practice recommendations, for example, proper assessment and guidance regarding gradual return to activities. Parachute is sharing the latest and best information through the concussion awareness training tool for medical professionals, a free, online accredited training course that ensures information gets into the hands of experts. The potential implications of missed or poorly managed concussions makes proper assessment and management essential.

Third is education and awareness. The public is both focused on and confused with concussions. There are myths that are still perpetuated as well as a sense of fear that every concussion will be life-altering. Youth and their parents need current and credible information with clear actions that they can take themselves.

Parachute developed a suite of concussion fact sheets and a mobile app called Concussion Ed to help families understand the signs and symptoms, identify red flags that require immediate urgent medical attention, and steps to help manage a concussion. There are also tools, such as the Canadian Concussion Collaborative's four characteristics of a good concussion clinic to help families assess where they are obtaining care from. This education needs to be addressed to many audiences. It needs to be sustained and ongoing, contain relevant facts and actions, and ensure that the information sticks.

Fourth is research and evaluation. Knowledge about concussion has increased, but there is still much we don't know, especially about prevention. Canada is a leader internationally in the field of concussion and increased, long-term funding to support research will help our leadership to continue. Many of the interventions currently being implemented do not have adequately resourced evaluation plans to understand the impact, or not, of the interventions and how to best meet the needs of various audiences.

Fifth is beyond sport. While much attention has been on concussion in sport across all age groups in Canada, the majority of concussions are sustained through falls, motor vehicle crashes and daily living. Individuals who suffer concussions outside of sport participation also need guidance in their recovery, but may not receive attention because of the focus on concussion in sport. We need to bring greater attention to populations that we rarely talk about and those who live in rural and northern communities to ensure that they are receiving timely, equitable, qualified and cost-effective medical care.

These recommendations apply across the country in every province and territory. There is a significant need to strategize to reduce the fragmentation where some jurisdictions have been quite successful in developing standardized sport and school protocols as well as clinical pathways that ensure patients are receiving the highest standard of medical care, while other jurisdictions have not.

● (1845)

I believe and hope that this information will be valuable to inform the subcommittee's final recommendations.

Thank you.

● (1850)

The Chair: Thank you, Ms. Fuselli.

Now we're going to move to questions, commencing with Mr. Darren Fisher from the Liberals.

Mr. Darren Fisher: Thank you very much.

Thank you so much, folks, for being here.

Pamela, you spoke so quickly that I was scribbling things down as fast as I possibly could.

Ms. Pamela Fuselli: I'm sorry.

Mr. Darren Fisher: That's okay. You had such a wealth of information that you wanted to get out in a short period of time.

Tell me about this bridge. You talk about Parachute as a bridge between research and policy. How does that work? Can you give us an example of what that looks like?

Ms. Pamela Fuselli: Knowledge translation is founded in theories and principles about asking who needs to know information, and how, when and where they need to receive it. One of the roles we play as that bridge is to turn language and findings from research that is not accessible to all audiences into either lay language or strategies that can be used with various audiences, whether that's to inform what a policy looks like or that in some cases is an industry change that needs to be made, or key messages or actions to parents. Not everyone is going to read published manuscripts of research, so our job, or my job in particular, is to understand what the research is telling us, what the leaders in Canada and internationally are saying about concussion, and to make sure that gets translated into action.

For example, Dr. Zemek talked about the changes in terms of activity levels. We want to make sure that information gets into the hands of parents and medical professionals who speak to parents. Some of our role is to arm an intermediary, whether that's a health care professional or a policy-maker, in terms of what they're communicating to the people who really are the ones we are trying to impact with that research.

Mr. Darren Fisher: You talked about the importance of uptake of best practices. I assume those are best practices for identifying and preventing and for the treatment.

I know I'm going to run out of time, but you mentioned “poorly managed concussions”. Maybe you can tell us a little about the success of uptake of best practices and talk about what a poorly managed concussion would look like.

I'm sticking with sport. I was surprised and amazed by your point that most concussions happen outside of sport. I always associated them with sport.

Ms. Pamela Fuselli: For youth, sport is the leading cause of concussion. For the rest of us, it is other things and factors. We're seeing an uptick in concussions from seniors falling, but that's a discussion for another day.

In terms of a poorly managed concussion, I may defer to the physician. However, in terms of best practices, it's talking about what will make the best impact on that individual, the information we know about activity levels, the amount of rest that's needed, the amount of screen time or no screen time, and how to return to activity but not particular sporting activities. It's making sure that concussions, once they happen, are managed appropriately, meaning employing the best information we have for the best outcome, so that we have the majority of people who have suffered a concussion recover within a period of two to four weeks, depending on how old they are, versus having the longer-term concussion symptoms.

Mr. Darren Fisher: Is there good uptake on best practices?

Ms. Pamela Fuselli: It's certainly getting better.

In terms of the difference in the last five years in how we are talking about concussion, Dr. Zemek talked about the increase in concussion reporting. Some of that is that there aren't more concussions happening but more people are aware of the fact that concussion is a big issue and that they need to seek medical attention. In some cases, those increased numbers are good news for us, because that indicates that the information is getting to the right people.

Mr. Darren Fisher: You said that youth and parents need to have good quality information, but youth and parents probably don't know very much about concussions until they get one, or they get another one. They probably go right to the Internet. They probably start searching and panicking, asking “Is this a concussion?”

You talk about working with medical and health care professionals. How do we get to the point where someone in Atom B hockey in Dartmouth-Cole Harbour has the ability to get that good-quality information when the first thing they do is go to Google and look up “concussion” and get God knows what?

● (1855)

Ms. Pamela Fuselli: We're actually working on that in terms of the Google search engine—I am not a technical expert by any means—and how the information that is most credible comes up in the Google searches so that, number one, if they go to Google, they find good-quality and credible information.

I think it's multipronged. Unfortunately, there's never one magic solution. I think it's a time issue as well. We know from other public health issues that it takes a while for this information to get down to all levels in the country, but a sustained multipronged approach, I think, is what is most effective. It's about working with our partners, such as the coaches association, the different NSOs, the provincial organizations, the schools, the provincial and territorial governments and health care professionals, and just getting it out there.

One of the roles of Parachute is to talk to the media and the public at large. We do a lot of work on social media on various channels, targeting that message to the people who are on those channels in particular. Facebook would look very different from a tweet and so forth. It's about multiple channels and multiple layers, and it's sustained over time. I think that's the most important thing. It's to see that everyone is armed with the most credible and current information so that they can be those conduits out to everyone.

Mr. Darren Fisher: That's fabulous. Thank you very much.

The Chair: We will be moving over to the Conservatives now, with Mr. Kitchen for seven minutes.

Mr. Robert Kitchen: Thank you, Mr. Chair.

Dr. Zemek and Ms. Fuselli, thank you very much for coming here today. We appreciate it.

I'm going to follow up on what Mr. Fisher was mentioning about the reality of rural Canada and where we deal with that. Some of the greatest hockey players in Canada came from Saskatchewan. I will defer to him on one of the greatest; I'll give him that. They're both good. That said, it's an argument for a later day.

A lot of times what we're seeing in rural Canada is practitioners who aren't trained and don't have the skill set to make the diagnosis and do the assessment. Just because I graduated from chiropractic college or medical school or came from physical therapy and put “doctor” or whatever in front of my name does not mean that I'm an expert in this area. A lot of these professions do have certifications that recognize those aspects within themselves, and they regulate themselves along those lines.

I've spent 30 years in practice, and it is a big challenge when somebody comes in and says to me, “I have a concussion.” As a physician, you ask the question: “Do you really have a concussion?” Ultimately you ask them to describe it. They say they went into the boards and therefore they have a concussion, but no one asks them the question about how they went into the boards. When you say, “I fell at the blue line, slid feet first into the boards and snapped my head”, it doesn't necessarily mean that you have a concussion. You have symptoms that are very similar to a concussion, but more than likely you might have whiplash, as opposed to a concussion.

That's a big challenge. How do we help Canadians in rural Canada where we don't have those skills? We might, but we don't. How do we help so that our constituents and our population are being looked at, whether it's rugby, hockey or whatever the sport may be?

Dr. Roger Zemek: That's an excellent question. Thank you very much. It's one that all of us who are diagnosticians.... That's what I do in emergency medicine. I come in with someone who doesn't yet have a label, who says “I have this”, and we have to come up with that. It's an issue that we face every day on all of these diseases we see, including concussion.

I'm going to answer your question in two ways: first on what we can do now and, second, on what we can do in the future to help this.

On what we can do now, again, this is where it's so important that we have high-quality, evidence-informing guidelines that then get into the hands of the people who need to do this. As part of the Berlin, the Parachute or the pediatric-specific Ontario Neurotrauma Foundation guidelines, all of them have sections on how to make the diagnosis. As the speakers prior to our group alluded to, some of the roles sometimes are for people within their scope of practice to suspect concussion, and then some of this is to make the diagnosis.

I think that for some of the concussions, they're going to be clear. There is a definite concussion. There was a witnessed loss of consciousness. The brain was definitely involved.

In children—as a pediatrician, I see this all the time—what happens to that two-year-old or three-year-old who is skating for the first time, fell, hit their head and now has a goose egg? We know that they've hit their head, but did it affect their brain? Some of the tools we use are not necessarily valid in that age group. The communication skills may not be best in order for that child to even communicate. It's the same with the elderly.

I know that the goal for today is to focus on sport, but this certainly happens in.... I'm sure you watch sporting events on TV. There's a collision and a player goes down. From watching it on TV we know that the person hit their head, but did it affect their brain? That's what you need for concussion. It must be a brain injury. You don't always have to hit your head; the collision can be to elsewhere in the body and the energy can be transmitted in that whiplash-type motion.

With regard to that and saying that it is definite, possible or probable, these are all things you can think about, but in terms of a lack of better evidence to help us differentiate those, the management for concussion at this point is still the same. It's conservative, being to prevent, with no harm first, do no harm.... You don't want that person going back to an activity where they're going to reinjure themselves. I think the first and foremost thing, whether it's still possible or definite, is to make sure they do not engage in another risky behaviour within a period while the brain has not recovered, to prevent the tragic outcome of what happened to Rowan Stringer, as we discussed earlier. That's number one in the management.

With regard to further diagnosis and clarification, again, those are all things where there are concussion tools that exist, such as the CAT tool we talked about earlier on how to train. There are guidelines that these providers can use. Those are all things that we need to make sure are part of the regular maintenance of certification.

The second part of my answer, not to take up too much time, though, is that we still are lacking that objective biomarker. There is no blood test, no saliva test, no picture test or even no eye-tracking, pupil size or balance test. None exists yet that on its own can objectively diagnose concussion.

This is something that many people are desperate for, especially outside of sport, such as the military. There's a blast, someone is thrown and now they're having symptoms. Well, was it a concussion or is it PTSD? The symptoms are very overlapping with regard to that. That can happen in concussion. Children who had a bad collision and a bad concussion can still have symptoms months and weeks on. Again, which are from the concussion and which are the other types of related sequelae of having an injury?

One of the things we need is more research to find these objective biomarkers. I know that there is a global effort among many groups to come up with that blood test, picture or other sort of validated measure that can accurately distinguish those two groups. That's something where as scientists we have more work to do.

● (1900)

The Chair: Thank you.

We're going to be moving now to Ms. Hardcastle from the NDP.

Ms. Cheryl Hardcastle: Thank you very much, Mr. Chair.

Thank you very much, both of you, for your very meaningful input here.

I want to start with you, Dr. Zemek. I'm sure you've had a chance to read some of the other testimony.

Over the Christmas break, I saw that a race car driver by the name of Dale Earnhardt Jr. had released a book in the fall called *Racing to the Finish*. It specifically addresses the fact he didn't have a traditional concussion, but that his brain swished around, so to speak. This latest book that he did is dedicated to mental health.

Some of the testimony was about the gaps between physical health and mental health when you're seeking treatment. I wonder if you see some of what we would call strengths, weaknesses and opportunities, and what our role and our recommendations might be able to focus on.

● (1905)

Dr. Roger Zemek: Thank you again, especially today, on Let's Talk Day; it's so important to recognize the mental health implications of concussion. They are there, and it is something that we've continued to study to better understand.

I think we have to be very careful about how we use the word “cause”. We have to use the word “association” at this point, because we don't know yet which is chicken and which is egg. Is it the fact that people who are predisposed to, or who would later in life go on to have, such mental health-related illnesses as anxiety, depression or other associated mental health problems are more likely to have ongoing mental health symptoms after their injury? We do have research indicating that there may be an association, not with regard to their physical symptoms but with regard to their ongoing mental health symptoms. Is it the fact that the concussion has now triggered and exposed this? For many things in life, an exposure changes your DNA. You can have your DNA changed by exposures. That's what causes many illnesses. Is there something with regard to the injury that has changed the brain, either through DNA or blood flow, etc.? That's something we still need to work on. I think that's an opportunity to study.

Did you have a follow-up question?

Ms. Cheryl Hardcastle: I just wanted to clarify and maybe be a bit more practical about what is happening right now. In some of the testimony, we heard about a patient seeking treatment for an alleviation of symptoms that are physical, that are mental, and that could or could not be linked. When you're in pediatrics, it's dealt with one way. Then when people reach a certain age, it's dealt with another way.

I thought maybe you'd be able to give us a little bit about the practical areas we could be focusing some of our attention on for the future.

Dr. Roger Zemek: My area of expertise is in pediatrics. I can't really comment too much on how the adult patients are managed. I can say, though, as a scientist, that we still have so much to understand with regard to the actual science. That's how I'll answer your question: through the science. As a science, we still don't know what the true physiological recovery time is. That is so important in terms of helping our patients who have a concussion. If we had a better understanding, we could say, with an objective picture, yes, the concussion part of your injury is over; now all that remains is this other process. Or it could be, we have the picture that shows us that, yes, the parts of your brain that got changed with the concussion are still there three months, six months, or one year later. That can then help us say if the treatment has to differ.

At this point, there is no evidence to say that a child's ongoing mental health problems from a concussion, be it anxiety or depression, have to be treated differently from those of a child without a concussion. Currently the medications and the treatments are the same. What's important is the recognition of where the child is at and the recognition that concussion may be associated with an increased risk.

Ms. Cheryl Hardcastle: With that, we know that a lot of research still needs to be done. You also heard from the previous testimony that we need to address data collection as well. Do you think there might be some opportunities there that we should be meaningfully exploring? If there is a federal or a government role, do you see how that could be orchestrated?

Let's go to Ms. Fuselli first.

Ms. Pamela Fuselli: I think it's a challenge across injury issues, but certainly for concussion and the way that data is collected, we always see the tip of the iceberg. At the FPT working group, we have talked a lot about what systems already exist that could be leveraged to collect the data that is out there. What are sport organizations collecting and how can we access that or not? What are the barriers and facilitators to that?

It is a challenge across the board. I don't think any country has solved this issue around access to get a clear picture about the number and severity and, as Dr. Zemek said, the period of time concussion can take, in order to understand the real picture of the burden of concussions in Canada. I would say that as part of that research and evaluation, this is an essential component that we are missing in terms of understanding the data very clearly.

Now, data will tell us one thing. It will tell us how many. In prevention, what we also need to know are the contextual pieces of information to understand how the injury occurred. By knowing that, we can direct the prevention strategies so that we are not looking for solutions that aren't even part of the problem.

I would encourage both the numbers collection, in terms of absolute numbers, and also the contextual information, so that we can understand what solutions can be put into place.

● (1910)

The Chair: Thank you.

We're going to be moving now to Madam Fortier for the Liberals.

[*Translation*]

Mrs. Mona Fortier: Thank you, Mr. Chair.

Mr. Zemek and Ms. Fuselli, I very much appreciate Ms. Hardcastle's question, and I would like to echo her concerns. I'll give you the opportunity to keep providing guidance on the role that the federal government could play when it comes to analyses or on the recommendations and other items that the subcommittee could study.

[*English*]

Dr. Roger Zemek: Thank you for the question.

With regard to how we can better measure, I think it's so important that we have an opportunity to better link all of our distinct provinces and territories. People will ask me how common concussions are in Canada, and I have to say, "Well, they're this common in Ontario, this common in Alberta and this common in this province." I am jealous of countries such as Australia, where they have a national insurance number, and where all the billings and all the information for health care visits for the country are on a national level, whereas in terms all of our numbers, we have OHIP for Ontario, RAMQ for Quebec, etc.

As scientists, we don't know if there are differences across jurisdictions. If I had a magic wand, that would be one way; I would love to do that. As Pam said, it would be great to detect those, but that would help us to detect those through the ways that we can detect. One of our panellists has many years of chiropractic. We don't have an ability as scientists to see how many of those visits are covered or to see those with physical therapists, occupational therapists or athletic trainers, which are also such important partners in this interdisciplinary care we provide. Those numbers aren't tracked because they are not part of a provincial billing record. That would be another magic wand: to see if there is a way to systemically track those who don't go through the traditional emergency department or family medicine first.

With regard to other things we can study, there are so many. In terms of a priority for study, as the first thing, I'm a pragmatic person, an emergency physician, and I would love to know what is the best treatment. We still have no treatment for concussion. What are the promising pharmacological and non-pharmacological treatments? I say "pharmacological" meaning what medicines we can give to address the mental health, the headaches and the dizziness, but what are the non-pharmacological treatments?

We talked earlier about the care that may not be good. This is a bit of the wild west and a bit of snake oil salesmen at times, who are sometimes purporting therapies that have not been evidence based, be it through lasers or hyperbaric oxygen chambers, and who are taking money from people who are desperate. We've learned of all these people who are desperate to get better. If they think there's a chance that these would work, people may be spending their money on something that is as good as snake oil.

I would love to have evidence to show what works, and also to prove what things don't work so that people don't waste their hard-earned money on things that aren't going to get their child better. That will allow them to focus on the things that do work and to recognize that not all of them have to be pills. It can be physical therapy or other avenues such as mental health care, etc., which may lead to a better recovery.

● (1915)

[*Translation*]

Mrs. Mona Fortier: Thank you, Mr. Zemek.

Ms. Fuselli, do you have anything to add?

[*English*]

Ms. Pamela Fuselli: I would only add that the clinics that we see as being very effective have, as Dr. Zemek said, that multi-disciplinary approach. Are there models that work, that have that multidisciplinary approach or framework, that can be replicated, whether that be physically located in the same area and in the same space or that the patients have access to? I think that is one of the promising practices we're seeing in a couple of areas. There's Concussion North in Barrie and the Pan Am concussion program out in Winnipeg.

It would be looking at some of those, but it would also be looking holistically at concussion as a whole. It doesn't really matter, once you have a concussion, where it came from. Whether it's from sport or something else, the treatment and the return to your daily activities, including sport, are the same. I would encourage putting a framework around concussion as a whole. How do we approach it so that we don't leave out those who have sustained a concussion in ways other than sport, but who want to return to sport, and we give them access to that medical information and care? We hear anecdotally that they don't see a sport concussion clinic as somewhere they can go for care or be accepted as a patient because they are truly just focused on the sport piece.

[*Translation*]

Mrs. Mona Fortier: Ms. Fuselli, you referred earlier to the Canadian Intergovernmental Conference Secretariat in connection with the idea of aligning the initiatives with the guidelines. Do you know whether the provinces and territories are in the process of implementing this recommendation?

[*English*]

Ms. Pamela Fuselli: Is that in terms of adopting the guideline and protocols?

[*Translation*]

Mrs. Mona Fortier: Yes.

[*English*]

Ms. Pamela Fuselli: Some are. Sport Manitoba has required that all of their provincial-level sport organizations build a concussion strategy and protocol around the guideline and protocol template we developed for the national level. One of the goals for us, even though we were working with the NSOs at the national level, was that any tools we produced could be used by any level of sport. We saw that uptake in Manitoba. Ontario is currently pursuing doing the same. They have a bid out right now to create some resources, using the guideline as one of the appendices that anyone who does the work on the bid must use. We are seeing that uptake.

[*Translation*]

Mrs. Mona Fortier: Okay.

Thank you.

[*English*]

The Chair: Thank you.

We'll move over to the Conservatives.

Dr. Kitchen, you're up.

Mr. Robert Kitchen: Thank you.

Thank you for your comments. I agree that in the perfect world, health care would be attached to one....and particularly in sport. We heard that from our coaches as well as sport-specific...where you could track that. We see how in rugby someone with a head injury will then play hockey in the wintertime, and there's no tracking of that. Even when the sporting organizations ask them that question when they sign up, nine times out of 10 it's purely a formality. That piece of paper is put somewhere.

I'm not a data-collecting or computer type of guy, but I realize there are people who have the skills to come up with that.

Ms. Fuselli, I understand that Parachute has an app. Correct me if I'm wrong here, but to my understanding, the app is more of an educational app than actually a tracking app.

Ms. Pamela Fuselli: In fact, the purpose of the app was very specific to be what we called an “on the go” app, with access to quick, short pieces of information that can be accessed from a mobile platform at a time when that information is needed. It's not to track the injury, because our expertise is not in medical tracking or any of that kind of data. We also did not want to have to house and protect personal data. The concept of the app is that it's on the go, at the point when you need that information. It's key information about prevention, about signs and symptoms, and about red flags, when you need to seek urgent medical care. It can be used by coaches and parents and educators.

There is what we call a calendaring option. A parent can assess on a day-to-day basis, based on the symptoms of the concussion, how good or bad those symptoms are within a scale or a range so that when they talk to the physicians or their medical professionals, they can report, “This seems to be getting better”, or “This new symptom came up four days ago.” It's more of a calendaring tool versus a tracking tool.

● (1920)

Mr. Robert Kitchen: I'm a big believer in education. I believe the more we can get out there to our parents, to our coaches, to our trainers such that they're aware of that.... The risk you have is that, as practitioners have seen, you'll get someone who walks in your door, and they've gone on the Internet, and they've seen something, and they have that symptom because they saw it on the Internet or their next door neighbour had the same symptoms. Oftentimes, while Fred next door may have it, that doesn't necessarily mean that you have it.

With that said, Dr. Zemek, I'm so happy to see you talk about injuries. I think you said 25% of concussions are actually outside of the sports realm, which is good, because we need to recognize that for the general population as well. I'll throw my wife under the bus here, because she tripped over the blue line and hit her head when we were in one of our practices with our kids, and she didn't have a helmet on. You do see that, and unfortunately for her, she suffered a concussion, and it had a huge impact on her for a good three or four months.

Those are big challenges that we have, and you mentioned that the good news is that people are getting better. You talked about a three-month time frame if I remember correctly. Do we know what percentages go past those three months?

Dr. Roger Zemek: I'm an expert in pediatrics, so I'll focus my comments on pediatrics, because I'm not as familiar with the adult literature.

We recently published a study in JAMA Pediatrics which looked at the natural progression of recovery from concussion. Again, we're using our cohort of children who had their injury within a few hours. The good news is that most kids, depending on their ages—there are two factors: their age and their sex—recover in the first week or two following their concussions with the exception of teenage girls. Teenage girls take about four weeks. Most of the recovery that is going to happen for them is going to happen in four weeks. Beyond that, unfortunately, it seems as though the recovery fairly plateaus. We know that one-third, or 30%, of children are still symptomatic at one month. About 20% or so of people are still symptomatic at three months.

The recovery curve, although it went very quickly down in that first week or two weeks depending on your age and so on, does flatten out over time. That's when we need to come up with these better ways to figure out how best to treat them. Is it, again, through interdisciplinary manners, or is it focused on their symptoms, or are there ways for us to better detect what we are treating?

The Chair: Thank you.

Our last questioner is going to be Dr. Eyolfson for the Liberals for five minutes.

Mr. Doug Eyolfson: Thank you very much.

Thank you both for coming.

Dr. Zemek, I liked hearing your perspective. You were here when I was in the early part. Much of my career was in a community hospital that saw children and adults. The last eight years I was at a teaching hospital that saw exclusively adults.

You made a good point about the number of concussions that are not sport-related. In our practice, I'll admit, whenever we thought of concussion we thought sports. We worked in the inner city, and we saw all sorts of blunt trauma assaults. When we were treating them, we were not thinking of concussion when someone had been robbed of their wallet. It's a good point, and I think medical education needs to really step up in recognizing this.

I was also disappointed—not in you—when you said there's no magic bullet imaging. I was hoping you'd say that you now have a magic imaging bullet that can say, “Yeah, this is concussion,” but there still isn't one and it's still elusive.

One of the things about imaging, something that's starting to come up now, is that we do know there's a lot of imaging that is not useful, but we also know that in the early days of the CT scanner, we did it a lot, and we didn't think there was any harm to it. It wasn't until later studies in radiation that we realized there probably is an effect, and 30 years out, a lot of clinicians are biting their nails over what's going to start sprouting from these CT scans 30 years ago. Have you been tracking any data with concussion in regard to those who have been inappropriately imaged over time, and are you seeing any trends into more responsible or conservative imaging?

● (1925)

Dr. Roger Zemek: That's such an important question because, again, as you talked about earlier, you don't want to do harm.

Mr. Doug Eyolfson: Exactly.

Dr. Roger Zemek: We do know that radiation can potentially increase your risk of harm of future malignancy, and in the growing brain, potentially even have effects on IQ. The good news is that in Canada, as compared to our neighbours to the south, because of the type of medicine that's practised and less risk of litigation and less defensive medicine, we are doing very well with reducing the number of unnecessary CT scans.

There are studies which have shown that the number of CTs that have been done has significantly decreased up to the point that, for our study, the rate was only approximately 1%, which is a very, very low rate of CT scans. Some of them are certainly indicated. With regard to CT imaging, which has the worrisome radiation, that is one thing on which we can say we've made great progress. That is one thing we address in our comprehensive concussion guidelines. We include recommendations on when a CT scan should be done, or not.

MRI is a different type of picture that does not use radiation. An MRI is done by magnets, with no risk of those X-ray or radiation effects. Unfortunately, MRIs do not show routine changes with concussion. One caveat is that there are now some experimental protocols. I'm involved in some research that is undertaking some of those studies as well, so full disclosure. There are some advanced MRIs that are looking at the way—without getting too technical—water moves through the brain, etc. Terms like ASL, DTI and the whole alphabet soup are ways to see if there are ways to better see how the brain changes with concussion.

What we're doing is also comparing to kids who either are normal or have had other types of injuries, like ankle injuries or others. There may be some promising ways to do that, using those advanced techniques, but they're experimental. If you were to go to your community hospital tomorrow and say, “I want that scan”, first, they wouldn't have written the code to program the computer to do it, and second, there wouldn't be a radiologist who has the expertise on how to interpret it because it's not a clinical test yet. It would be a neuroscientist who has studied those and who would do those.

My hope is that in time we may have some opportunities to use imaging, either through advanced MRI or other even more novel things, for example, fNIRS, which is functional near-infrared spectroscopy, which is just little probes looking at infrared light, without even having to be in a scanner. Are there other things we can use to better detect the brain changes that we can't see or test on our physical exam?

Mr. Doug Eyolfson: Thank you very much.

The Chair: Dr. Zemek from CHEO and Ms. Fuselli from Parachute Canada, thank you for your insight and for helping inform this committee and the analysts, who will be putting a report together for later this spring.

Also, for those who may be following these proceedings online or over the television, we have had a number of sports organizations that have participated and have been here as witnesses, but there are so many others that may want to make a submission. You could do that through our web portal. You're able to make a submission to this committee, to help as we put our report together.

Thank you, everybody.

That will conclude our hearings for today.

The meeting is adjourned.