HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Subcommittee on Sports-Related Concussions in Canada of the Standing Committee on Health

SCSC • NUMBER 007 • 1st SESSION • 42nd PARLIAMENT

EVIDENCE

Tuesday, February 26, 2019

Chair

Mr. Peter Fonseca

Subcommittee on Sports-Related Concussions in Canada of the Standing Committee on Health

Tuesday, February 26, 2019

● (1735)

[*English*]

The Chair (Mr. Peter Fonseca (Mississauga East—Cooksville, Lib.)): I call the meeting to order. It's great to have everybody here. This is the Subcommittee on Sports-Related Concussions in Canada of the Standing Committee on Health.

Today we have limited time. There may be votes coming up in the House. We have asked the members for consent that we would all leave to go and vote five minutes before the vote. This will give our witnesses as much time as possible.

Joining us today is Ms. Kathryn Schneider, an assistant professor with the integrated concussion research program at the University of Calgary, and Dr. Cameron Marshall, the founder and president of Complete Concussion Management Inc.

Welcome to both of you. We appreciate it.

Ms. Schneider, you have time to make your opening statement, followed by Dr. Marshall. Then we'll go right into questioning from the members.

Dr. Kathryn Schneider (Assistant Professor, Integrated Concussion Research Program, University of Calgary, As an Individual): Thanks so much for the invitation to present to the group today on behalf of the integrated concussion research program at the University of Calgary.

Concussion is one of the most common injuries suffered by children, adolescents and young adults, with an estimated 250,000 concussions occurring each year in Canada. While the majority of individuals recover in the days to weeks following concussion, up to 30% suffer symptoms and functional difficulties that last for more than one month.

Concussion can lead to reduced participation in sport and recreational activities, increase the risk of overweight and obesity, and ultimately increase the risk of chronic disease. Alternatively, staying physically active across the lifespan has many known benefits. Ultimately, the collaborative aim of our program is to minimize the public health impact of concussion across the lifespan through scientific discovery and evidence-informed practice and policy regarding concussion.

The ICRP is a university-wide initiative at the University of Calgary that includes experts from kinesiology, arts and the Cumming School of Medicine, with support from the Alberta Children's Hospital Research Institute and the Hotchkiss Brain Institute. Concussion is a heterogeneous injury, and an interdisciplinary approach is imperative. For example, we we have many different researchers and clinicians who work together, each of whom have different areas of expertise as part of our collaborative team. Many of our researchers are also clinicians and collaborate to answer critical questions, thus creating a very unique environment and leading to groundbreaking research and clinical work.

The research success and impact at the University of Calgary is also a testament to our strong and sustained clinical, community, industry, education and sport partnerships; national and international collaboration; and our robust training and education programs for the generation of researchers in concussion. The ICRP addresses concussion across the spectrum of injury and includes critical research questions related to prevention, diagnosis, prognosis, mechanism of injury and rehabilitation. I will share with you a couple of highlights of our research program.

With regard to prevention, ultimately, if we can prevent concussions from happening in the first place, we will decrease the public health burden from concussion. Over a decade of concussion prevention research and sustained partnerships with the hockey community—including Hockey Canada, Hockey Calgary, B. C. Hockey and others—has characterized the work of my colleague Dr. Carolyn Emery, chair of the sport injury prevention research centre at the University of Calgary.

As a result of her work, an evidence-informed bodychecking policy change occurred nationally in 2013. A 70% reduction in the risk of concussion was found following a national bodychecking policy change disallowing bodychecking in the peewee age group, which is 11- and 12-year-olds. This translates to an estimated reduction per year of 580 concussions in Alberta and 4,800 concussions in Canada among 11- and 12-year-olds alone. She was also the lead author on the systematic review evaluating the prevention of concussion that informed the fifth international consensus on concussion in sport.

Another example of policy change that's been informed by our research was also presented at the fifth international consensus conference on concussion in sport in the sport of volleyball. One of my undergraduate students, Derek Meeuwisse, worked with Volleyball Canada on a survey that showed that 15% of concussions were actually happening in the warm-up, when players ran under the net to go and get the ball. Volleyball Alberta made a rule change to no longer allow players to run under the net. That was subsequently instituted by Volleyball Canada at the youth national championships last year and will be done again this year. That's the largest youth sport competition, with over 10,000 volleyball athletes.

Speaking more recently, Dr. Emery is the lead principal investigator on a pan-Canadian research program funded by the NFL scientific advisory board. Collaborating with 17 ICRP researchers at the University of Calgary, 25 researchers from nine other Canadian universities, sport organizations, educators and multidisciplinary clinical teams at each site, we will complete a research program entitled “SHRED concussions”, or surveillance in high school to reduce concussions and their consequences. The pan-Canadian research program will enrol 6,000 students participating in high-risk concussion sports in 60 high schools from five provinces across Canada, and will follow them for three years. The research will target the prevention, detection, diagnosis, prognosis and management of sport concussion in youth.

● (1740)

On diagnosis, researchers at the University of Calgary are evaluating new tools to diagnose concussion, including novel neuroimaging, robotics and fluid biomarkers.

On prognosis, a multidisciplinary research team is working to identify factors that will predict prolonged recovery following concussion in children to inform targeted treatment strategies that will reduce the consequences of concussion. Dr. Yeates leads that program, an A-CAP study.

On mechanism, there are many innovations across animal and human models that will inform mechanisms of concussion and recovery.

On rehabilitation, our group works collaboratively to identify and optimize the management of concussion. Some of the research I have led has shown that youth and young adults who are treated with a combination of treating the neck and the balance systems were 10 times more likely to get medically cleared to return to sport within an eight-week time period compared with the people who weren't treated.

Other examples include evaluation of physical activity and sleep therapies to assist with recovery from concussion. We have a number of different studies looking at combinations of treatment as well.

I led the research for the systematic review on the effects of rest and treatment that informed the 5th consensus on concussion in sport.

We're also working with Alberta Health Services' strategic clinical networks, with funding through Alberta Health Services and Brain Canada, and with Dr. Keith Yeates, who leads our integrated concussion research program and is testing the effectiveness of a clinical pathway for pediatric concussion in the emergency department. The pathway includes a novel web portal that families can use to obtain evidence-based information about concussion and to track recovery.

Other highlights include leading the development of a massive, open online course in concussion. I checked on my way here today. We have over 4,200 people registered so far. We also have a number of our program group who were involved in the 5th international consensus on concussion in sport. I was part of the scientific committee, and we'll be doing so again for the 6th consensus. Dr. Emery and I led two of the systematic reviews and we've been involved in tools that were outputs from the meeting, such as the concussion recognition tool and the SCAT5.

The Chair: Thank you very much, Ms. Schneider.

We're going to move over to Dr. Cameron Marshall.

Dr. Cameron Marshall (Founder and President, Complete Concussion Management Inc.): Thank you, Chair.

I want to say what an honour and privilege it is to be here today. I would also like to thank the committee for the opportunity to speak with you today on a topic that is both my passion and my life's work.

My name is Dr. Cameron Marshall. I'm a practising sports specialist chiropractor from Oakville, Ontario. I'm also a published concussion researcher, executive board member of Brain Injury Canada and the founder and president of Complete Concussion Management, a network of specially trained staff in over 250 concussion treatment and rehabilitation clinics across Canada. I'm also a former athlete, playing both junior hockey and lacrosse for Western University.

The very fact that this committee exists speaks well of the Government of Canada's understanding of the importance of concussions as a risk factor for the health and well-being of Canadians. Continuing efforts on the part of government officials, coaches, teachers and health care professionals are succeeding in raising awareness about the importance of concussions.

Founded more than five years ago, Complete Concussion Management is currently the largest single provider of concussion care in Canada. We now see more than twice as many concussions each year as the top 11 pediatric and emergency departments combined. Each day, more than 100 Canadians visit one of our partner clinics for concussion-related issues. This year, CCMI will treat close to 7,000 concussions, and since our care is covered by secondary health insurance, we'll save our provincial health care systems $30 million in 2019 alone.

We also collect, store and analyze this data through our secure electronic database system. This Canadian-built universal EMR system, specially designed for concussion care, is currently, if not the largest, one of the largest concussion databases in the world and is currently being used to conduct research with five Canadian universities.

Seventy-one per cent of the concussion patients we see are under the age of 25, and 57% of their injuries are related to organized sport. Complete Concussion Management currently works with more than 300 youth sports organizations across Canada and are the preferred concussion care providers for more than 50,000 youth athletes.

Yes, there's an app for that, too. The concussion tracker smartphone application walks a coach or sideline therapist through a brief injury-reporting form, instructing them on key things to look for. Once the injury report is complete, notifications are sent to every other sport, team, coach, teacher and trainer associated with that athlete. Medical clearance letters are scanned by the app and shared with all stakeholders associated with the athlete. Constant and automated communication is paired with appropriate documentation and tracking so that nothing falls through the cracks.

A few weeks ago, Mr. Paul Hunter from Rugby Canada stated to this panel that if there were an app that could report injuries across sports, it would be an absolute deal maker. The CCMI concussion tracker app does exactly this, and we have now made it free for all schools and sports programs in Canada.

A few weeks ago, Dr. Roger Zemek reported to the committee that the number of people with concussions presenting to Ontario physicians' offices and emergency departments has quadrupled in the past 10 years. According to the Ontario Neurotrauma Foundation, the average wait time to see a physician in Ontario is 18 days and to see a neurologist, 250 days. These results demonstrate some inherent limitations of our health care system to deal with this rapidly growing problem.

As such, Complete Concussion Management went about tackling this problem a little differently. We trained licensed physiotherapists and chiropractors to work alongside family physicians for co-management and to improve patient accessibility. Physiotherapists and chiropractors are licensed and regulated health care professionals who have concussion diagnosis and management within their licensed scope of practice.

Over the past seven years the scientific evidence has pointed towards the use of physical exertion testing as a way of establishing physiologic recovery from concussion and preventing premature return to play. As we now know, it is the repeated concussions that ultimately do the most damage and are the single biggest issue in sports-related concussions. Specially trained physiotherapists and chiropractors have the skills, time and equipment to run these necessary tests and assist with the safe return to sport.

As a result, 30% of our patients are now directly referred from family physicians and emergency departments who don't have the equipment or time necessary to run these essential tests. In our experience, the formation of local collaborative multidisciplinary networks of trained health care professionals supports the provision of a high standard of evidence-based best practices concussion care in both urban and rural areas of Canada.

Once again, I am honoured to be able to address you today and I look forward to answering any questions you may have so that we can continue to work together to improve concussion care in this country.

Thank you.

● (1745)

The Chair: Thank you, Dr. Marshall.

Now we're going to be going to the members for questions and answers.

As you can see, the lights are flashing. We have about 30 minutes until our vote. I think we're only going to have time for one round, and we're going to start it with Mr. Fisher from the Liberals.

Mr. Darren Fisher (Dartmouth—Cole Harbour, Lib.): Thank you both for being here. I suspect you've both been following along. It has been eye-opening and jaw-dropping for us on the committee, and I'm sure much of it has been just regular data that you're very well aware of. Thank you for being here.

Dr. Schneider, I'm thrilled by this online course you have. I'm blown away by the fact that you have 4,200 people signed up.

One thing I want to ask you is how you are doing your outreach. Will the coach of a Dartmouth Whalers peewee A house league team know about this? How would they find out about it, and would they be welcome?

Dr. Kathryn Schneider: That's a great question. Our goal with this massive open online course on concussion, the MOOC, is to make it appeal to a broad audience. Everyone is welcome. We also want different stakeholders because that facilitates some great discussion. Our goal is to take the research evidence, a lot of which is very much aligned with the 5th international consensus from Berlin, and help disseminate it to the general public, to people who are stakeholders in different areas.

We also have a reflective process where they look at how it applies to their own area, and whether they want to look at developing policy within their local area or their sport organization. There is help with tools and reflective documents for that. There's also the opportunity to have a discussion online with me and with Dr. Pierre Frémont, who was here last week. We're co-teaching the course.

Dr. Frémont has done a very successful MOOC on concussion in French. He approached our group and said, “I think you guys are the right people to adapt this to English and I think there's a need for it.”

We've had a very large amount of interest from multiple different stakeholders. I've been in contact with a lot of different people since we announced it a couple of weeks ago.

● (1750)

Mr. Darren Fisher: It's incredible. The fact that you have 4,200 registrations really speaks highly of you.

I think about my son who turns 18 tomorrow and his minor hockey career, and the fact that I don't think we as parents or the coaches or managers of the team back in the novice days had any clue about any of this stuff. I'm very happy that there has been what seems to be a steep learning curve for people.

I wonder about the retraining of the coach who maybe coached my son in novice, who's still coaching now. In your opinion, has there been, along the way, the ability to pick up information on concussions, whether it's diagnosis, management or even the more difficult one, prevention?

Dr. Kathryn Schneider: There has been great interest in the area of concussion. We did see a lot of increase in reporting after 2011-12, when we saw Sidney Crosby have a concussion. There has also been a lot more interest in what we can do to prevent them, because I don't want my players to be out, and a lot more concern about doing the right thing and getting back at the right time. There's that desire.

One thing that has also been really helpful for coaches is knowing the "recognize and remove" piece, and then to refer to a health care professional who can perform that assessment from a follow-up standpoint. There have been some great initiatives in the hockey world, and many other sports as well, to help disseminate that information, which is great.

It really is a team that works together, from a sport, science and health perspective.

Mr. Darren Fisher: That's very encouraging.

Dr. Marshall, you talked about your app. It's incredible. You're a for-profit business, so tell me about how you've made this app free for schools. You said, it was free for "schools and sports programs in Canada", so not minor hockey leagues per se.

Dr. Cameron Marshall: Yes, it's for hockey, soccer or any sport.

The app that we originally had was tied—

Mr. Darren Fisher: This is new, right? The fact that you've made this free is really recent.

Dr. Cameron Marshall: Yes. We just did that.

It has always been free, but it has been tied to our clinics. We have a network of 250 clinics and they work with the local sporting group.

Originally the way the app worked was that if an injury was reported, it automatically notified the other sport that the person is involved in, because we found that the communication lines were getting dropped. If an injury happens in hockey, the soccer coach doesn't find out about it. We've heard that concern raised in this committee throughout the process.

The app that we developed originally was just tied into our clinics, because we had no other way, really. If they go to their family doctor or a different clinic, we don't know what's going on at that point.

Just this past year, we've revamped it now to include that, so if a patient comes into one of our clinics and wants to utilize that avenue, the app will communicate with them each step along the way. If they happen to go to a different health care provider who may not be within our network, let's say a family or sports medicine physician, that health care professional can manage that case.

When the athlete comes back with their clearance letter to return to sport, the coach can scan a copy of it, using the app, and then share that letter with every other coach and trainer so that everyone now has a copy of it and everyone knows what's going on with this particular athlete. They can't lie to their coach. They can't sneak on.

Mr. Darren Fisher: That's incredible.

Going back to what I asked Dr. Schneider, how do you do outreach? How do I let the Cole Harbour Wings know about that program and that the app is free for them?

Dr. Cameron Marshall: We're trying our best, obviously, to get that message out.

Mr. Darren Fisher: If you reach out to our office, we could try to help.

Dr. Cameron Marshall: Okay, I will do that.

Mr. Darren Fisher: Thank you, Mr. Chair.

The Chair: Just as a plug for the app, what's its name?

Dr. Cameron Marshall: It's called the Complete Concussion Management concussion tracker. We use the term CCMI.

The Chair: We'll go over to the Conservatives now.

Dr. Kitchen.

● (1755)

Mr. Robert Kitchen (Souris—Moose Mountain, CPC): Thank you, Mr. Chair.

I'm going to stay on this topic, because it's one that has piqued my interest.

Dr. Marshall, thank you very much for being here today.

As you mentioned, we've discussed throughout how to take the information from one sport and put it to another. It sounds from your testimony as though we could entail all of that here, also because it goes from community-based minor hockey and minor soccer all the way up to junior levels. I know your organization is involved across the country with junior hockey teams, in particular one of my own junior hockey teams, for which I was team doctor for many years.

With that said and my putting on my doctor hat, can you explain to the committee how the issue of privacy is contained within your app so that we have assurances of that protection?

Dr. Cameron Marshall: Privacy is something we've taken extremely seriously since the genesis of our entire system.

The way the app works is by having one file for one athlete. Some of the other technologies out there might have different set-ups for different sports, and that's why they don't communicate. We've done one file for one athlete.

The way it works is that when they register for our system, they get a number. They're de-identified right from the get-go. If a coach goes to add that athlete, they don't know them by name. They have to add their number. The only way they can get that number is by the athlete's handing it to them. It's almost like a credit card-type of transaction. Once the coach adds that athlete, the athlete has to confirm and accept that the coach may see some of their information.

The only medical information that is passed is their current injury status. We don't know what happened during their medical examination. We don't know what happened even when the injury was reported. The only person who knows that is the person who filed the report. The other coaches will know that there has been a report filed, but they can't access that report.

The only thing that is shared—and only by consent from the athlete, which they or their guardian can remove at any time—is purely their injury status. It's either injured and not yet allowed to return to practice, injured and allowed to return to non-contact practice, or fully cleared and ready to go.

Mr. Robert Kitchen: This is shared throughout the whole multidisciplinary spectrum of professionals; is that correct?

Dr. Cameron Marshall: Yes.

Mr. Robert Kitchen: Great, thank you.

One thing we've talked a lot about is prevention and how to take this information, this data collection, which we need but don't have, to help us with prevention. It's great to see that often in sport.... For example, Dr. Schneider, in your comment about the volleyball practice, the reality is that we see a lot of it, and we see it as well in hockey. Many head injuries happen to goalies during warm-up and practice time, not during the actual game.

I have a question for both of you to answer quickly, if you could, because I want to let my colleague ask a question. You talked about volleyball. Will we be able to take that research data for hockey as well?

Dr. Kathryn Schneider: From a research standpoint, our research group has done a lot of work from a hockey standpoint looking at prevention—targeted prevention. We use an injury prevention model, first looking at how common concussions are in each sport and what the risk factors are. We partner with a lot of the stakeholders in the sport to say, “What do you think increases the risk? Let's measure it.” Then we can actually measure the risk factors and look to see what the biggest risk factors are and target prevention strategies so as to have the biggest health impact.

That's where a lot of the work around bodychecking research has come from. If we can decrease risk of concussion by 70%, that's a big public health saving.

Similarly, we've done work in soccer, volleyball and multiple different sports. Certainly this model would work well across sport, and the SHRED program will be doing that in the schools.

Mr. Robert Kitchen: Dr. Marshall, do you have any quick comment?

Dr. Cameron Marshall: She is the prevention expert. The University of Calgary has been one of the pioneers in this field. Where we might be able to help is purely in tracking—pre-intervention versus post-intervention—and being able to have measurable change with some of the interventions they might put in.

Mr. Robert Kitchen: Thank you.

I'm going to allow my colleague to ask one quick question.

The Chair: You have two minutes.

Mr. Len Webber (Calgary Confederation, CPC): Thank you.

Of course, MP Fisher asked most of my questions to you, Dr. Schneider, regarding this online course. Is there some type of certification, a certificate, that you get at the end upon completion of this course?

● (1800)

Dr. Kathryn Schneider: Yes.

Mr. Len Webber: Do you see this hopefully being a mandatory requirement for coaches in the future to take these types of courses in order to be more aware of concussions and how to deal with them?

Dr. Kathryn Schneider: That's a great question.

There is an option to have a certificate, but there's a nominal administrative fee. Everything else about the course is free, but there's a nominal fee for the certification of completion, and there is an evaluation component they have to complete so that we know that they've actually covered the material.

There are also other courses. The concussion awareness training tool gives you a certificate. It's of shorter duration, but then that can automatically go to specific organizations. It's meant for different professionals in different areas. The Coaching Association of Canada also has the “Making Head Way” program.

We cover all these different pieces within the MOOC, so that people are aware of them. I think depending on the needs of the individual there's a capacity to look at some of these different training modules in different environments.

Mr. Len Webber: Excellent.

How do you reach out to the community to let them know about this online course? What have you been doing?

Dr. Kathryn Schneider: We did one media release and it's gone, apparently, international. I've had lots of people contact me from overseas saying they've heard about it, so it's really spread like wildfire. We have the registration portal on our home page at the University of Calgary's faculty of kinesiology.

We haven't done a lot of hard marketing about it yet, but we're open to have whoever wants to participate join in.

Mr. Len Webber: I guess it's open internationally, too. If it's online, anybody can tap into it.

Dr. Kathryn Schneider: Yes, and we have international collaborators contributing, too.

The Chair: Thank you.

Now we're going to move over to the NDP and Ms. Hardcastle.

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

Hopefully I'll get to both of the doctors, but what I'd like to start off with, Dr. Schneider, is the issue of diagnosis of concussion. It's a sensitive issue. So many factors need to be considered and there has to be a lot more research done.

I don't know if you can explain to us where you think the most immediate challenges or hurdles are, breakthroughs that we need to get to, for understanding the issue of diagnosis.

Dr. Kathryn Schneider: I think that's a great question.

Unfortunately, I don't think there's a really simple answer to it, which makes it a challenging area. It's very much a clinical diagnosis based on a trauma, followed by the onset of symptoms and clinical findings. Typically there are no findings on any type of neuroimaging.

In a lot of the research work that we're doing, because there are so many different areas that can be affected from a concussion, we want to look at them all together, so we have people with expertise in multiple different areas all working together. We just finished a five-year cohort study with just over 3,000 youth ice hockey players, where we looked at a bunch of different tests in different areas, looking at cognition, balance, dizziness, neck involvement, some of the mood and other factors, and how those associate with one another. We're actually in the process of analyzing some of that data right now.

We'll build on the SHRED concussions more, where there are also biomarkers, neuroimaging, robotics. There's going to be even greater depth so that we can help better understand what we're actually seeing following concussion to better measure it, which can then help inform that diagnosis piece.

The literature has really evolved over the last few years and is continuing to do so, but because there are so many different components, different areas of the body that can be affected from a concussion, it's certainly an ongoing process that we need to further evaluate.

Ms. Cheryl Hardcastle: We don't have any set, effective methods right now. Are we still trying to achieve that?

Dr. Kathryn Schneider: There's no one test, but there's—

Ms. Cheryl Hardcastle: What is your impression on that, Dr. Marshall?

Sorry to cut you off. I'm just trying to get an idea of where we should be going or how we should be approaching this view in this study, knowing what we know about diagnosis. What do we know? This is your chance to say it on the record so that nothing is assumed.

Dr. Cameron Marshall: As Dr. Schneider said, it is very much a clinical diagnosis. We don't have any objective testing for concussion that can do this definitively. There's no gold standard.

Take surgery for knee injuries, for example. That would be the gold standard. You can actually go in and see that a ligament is torn. You can confirm that as a diagnosis. There's no way right now to confirm that a concussion has happened, so we don't have a gold standard. It's very much a clinical diagnosis. The injury occurred and there was some sort of mechanism of injury, followed shortly thereafter by the onset of symptoms.

There are tests out there. As Dr. Schneider said, any one test used in isolation is not helpful. However, combining them into a battery of tests, if you will, can add some insight into the picture. However, there are some challenges with that still.

● (1805)

Ms. Cheryl Hardcastle: I will give each of you a chance to respond to this. It's with regard to the evidence that you are gathering, the data that you are gathering, and what you're noticing now. I think what we're noticing, as we're doing this study, is that there are some really exemplary and vanguard leaders in this area. Do you know that each other exists and is collecting this data? How do you think we could help with that?

I will give you an example. We heard in earlier testimony from Eric Lindros that there should be a brain bank or some kind of knowledge bank—one place. Tell me what your impression is.

Dr. Kathryn Schneider: I think there's an opportunity for it. From a Canadian standpoint, we have a lot of people who do a lot of leading-edge work and who all work together across the country very collaboratively. It's very unique internationally. At the last consensus, people would come up to the mike and say, “I'm not from Canada, but I have a cousin there”. There was a really strong Canadian presence, and pan-Canadian, which was extremely exciting. I think it speaks to the large number of people who are doing a lot of leading work in this area.

Then we have a very collaborative network called the Canadian Traumatic Brain Injury Research Consortium, or CTRC, where everyone does a lot of work together. From a research standpoint, we recently published some different guidelines around concussion in terms of what we should be collecting so that we can then all pool together that information. I think there are a lot of efforts to work together collaboratively. Ultimately, I think the more we can all work together in a team, getting all the different perspectives.... That's how we'll be able to answer some of these questions in the best way.

Ms. Cheryl Hardcastle: Dr. Marshall, do you see an opportunity for a government role in that?

Dr. Cameron Marshall: I don't know if there's necessarily a government role, other than potentially some funding towards some initiatives like that. The way we see our role in that is purely this. We try to take the evidence that the researchers do, put that into practice and at the same time we collect that information to see how well it actually works in the real world. Then with that data, we partner with universities like the University of Calgary—we're not partnered with them, but we can talk later.

We've done a bunch of research with U of T, McMaster, the University of Ottawa and Carleton. Just in using the data we have, it's such a wealth of knowledge. It's not really replicable anywhere. That's where I see our role, at least—trying to collaborate with the universities while we're on the front lines collecting data from the rural and urban areas.

The Chair: Thank you.

We'll move over to the Liberals with Dr. Eyolfson.

Dr. Eyolfson, you have about three minutes. Then we will have to run out for a vote.

Mr. Doug Eyolfson (Charleswood—St. James—Assiniboia—Headingley, Lib.): Thank you, Mr. Chair.

Thanks to both of you for coming.

Dr. Schneider, we've talked about prevention. You talked about certain rules that have changed, such as no running under the net in volleyball, changing the ages at which you can bodycheck in hockey, and these sorts of things. There has been some controversy about certain sports that should be entirely avoided below certain ages.

In your experience, are there any sports in which you should say that people below a certain age should not engage?

Dr. Kathryn Schneider: That's an interesting question. Not that I think of off the top of my head, but—

Mr. Doug Eyolfson: Let's pull a sport out of the air, just as an example: tackle football.

Would you say there's a certain age below which someone should not start it or engage in it?

● (1810)

Dr. Kathryn Schneider: I think a lot more research needs to be done to really understand some of the risks in different sports at different ages. One thing we have seen in some of the hockey work our group has done over the last number of years is that we actually do see a spike in the risk of concussion in the 11- and 12-year-old age group. The rates of concussion would be very high, almost similar to what you'd see at a professional level, and then that rate comes back down again. Potentially, then, that's a vulnerable age for those kids.

Ultimately, we do see that decrease in risk in terms of absolutely not playing. I think that's an interesting question, but it would be interesting to look at some of the different rules around risk. I know that a lot of the sports are doing some evaluation to look at that—i.e., around tackling and limiting contact at practices. There is evaluation going on to look at some of those. It will be interesting to see what some of that research shows.

Mr. Doug Eyolfson: Thank you.

We also talked about equipment. I know that people sometimes take a very simplistic view of protective equipment, particularly helmets. We know that helmets are not the panacea to completely prevent head injuries.

In addition to restrictions in rules of play, have you been able to make any recommendations in changes to the types of equipment or standards of protective equipment used in different sports?

Dr. Kathryn Schneider: That's another really good question. We often look at prevention in terms of rules of the game, equipment and then intrinsic risk factors. These are factors that change risks that are internal to that person. Some of the intrinsic risk factors would be related to their awareness of space, coordination, head and neck control, and that kind of thing.

Then, of course, there's the equipment and the rules of the game. We do some evaluation in that area. There's been some work done in the area of looking at mouthguards and risk in youth ice hockey. Our systematic review from Berlin showed potentially a non-significant protective risk of about 19%, with a need for further research. We've actually been able to compare that, because in Alberta, because of the lack of literature, there wasn't necessarily rule enforcement around the wearing of mouthguards. Within our youth concussion studies, we've been able to study the kids who have and who have not worn mouthguards. You can stay tuned for the results of that.

Mr. Doug Eyolfson: Thank you.

The Chair: On behalf of the committee, Dr. Schneider and Dr. Marshall, thank you for being with us. We apologize, but we have to suspend in order to go and vote. Please give to our analysts any reports or anything you would like to provide, beyond your testimony, that would inform our report. The report should be done by the end of spring. It will be tabled in the House of Commons.

Thank you very much.

Dr. Kathryn Schneider: Thank you.

The Chair: The meeting is suspended.

● (1810)

(Pause)

● (1840)

The Chair: We'll reconvene. This is the Subcommittee on Sports-Related Concussions in Canada of the Standing Committee on Health.

For our second round of witnesses today, we have from Concussion North, Dr. Shannon Bauman, medical director and lead physician. She's coming to us via video conference from Barrie, Ontario. Welcome, Dr. Bauman.

From Hockey Canada, we have Dr. Mark Aubry, chief medical officer, as well as Todd Jackson, the director of insurance and risk management.

We are going to start with Dr. Bauman, just in case we lose the video feed. This is your opportunity to make a statement.

● (1845)

Dr. Shannon Bauman (Medical Director, Lead Physician, Concussion North): Thank you, Mr. Chair.

Respected members of the House, I am honoured to be here with you this evening. Thank you for the invitation to be a witness, and thank you to the committee and subcommittee for giving attention to such an important topic.

I will briefly introduce myself. My name is Dr. Shannon Bauman. I'm a primary care sports medicine physician and have a dedicated practice to the care of athletes of all ages and all ranges of participation, from recreational level to professional athletes. I've been a team physician for lacrosse, hockey and sledge hockey. I currently hold medical privileges within the department of family medicine and department of surgery at the Royal Victoria Regional Health Centre in Barrie, Ontario, and I am associated with the University of Toronto.

I am the medical director and founder of Concussion North, a physician-led interdisciplinary team dedicated to the medical management and rehabilitation of sports- and exercise-related concussions. Concussion North has been recognized as a world leader in the management of concussions, and I've been asked to present at various meetings, such as in Berlin, in Croatia and across the United States, on our model and our research in the recovery of sports-related concussions. We see Olympic athletes, world junior hockey players, professional athletes, as well as local athletes and those who travel far distances across Canada and the United States to receive care at our clinic.

Most recently, Concussion North has been recognized provincially on the Minister's Medal honour roll for our dedication to excellence in concussion care in Ontario.

I'm proud to be an expert adviser and committee member at Parachute Canada, Ontario Neurotrauma Foundation, the Canadian Concussion Collaborative and MomsTeam, working with the NCAA and U.S. Department of Defense. Through my work on these committees, I've also co-authored five of our leading provincial and federal guidelines on concussion, including the “Canadian Guideline on Concussion in Sport”, our “Statement on Concussion Baseline Testing in Canada”, and Ontario Neurotrauma Foundation's provincial “Standards for Post-Concussion Care”.

First and foremost, I'm a clinician who provides care to my patients in the focused area of sports-related concussions. I'm also a clinician scientist. My area of research is in the management of concussion within an interdisciplinary team model, the recovery of sports-related concussions and factors contributing to the risk of prolonged recovery, and sex differences in the recovery of concussion.

Based on my professional experience in concussions, I have two primary recommendations that can inform this subcommittee's work.

The first is national uptake and implementation of the best practice guidelines. Through the leadership of our federal government and the Public Health Agency of Canada, as well as the work of our nationally recognized researchers, expert clinicians, knowledge translation specialists in Parachute Canada and the Ontario Neurotrauma Foundation, we've produced strong guidelines that set a high standard of care for concussions, both provincially and nationally.

Working with the majority of Canada's national sports organizations, these guidelines have now been translated into harmonized sport-specific concussion protocols that allow all sports stakeholders to work together to optimize the recognition and management of concussion in Canada. However, we need all health care professional organizations, provincial and municipal sports organizations, as well as school divisions to widely adopt these protocols to ensure the messaging is consistent across all school and sports settings. This isn't happening currently across all provinces in Canada and we're often confronted by the mixed messages that sport and school stakeholders are receiving from other sources outside of our guidelines.

Second, we need the government to fund and support physician-led interdisciplinary concussion centres of excellence across Canada. These centres need to be geographically located and funded appropriately to ensure everyone has access to the interdisciplinary expertise needed to successfully treat concussions.

We know that most individuals recover from concussions within two weeks of injury, but for those 25% of individuals who continue to experience prolonged symptoms, finding clinics that uphold the current stated standard of care for persistent symptoms is a challenge.

Our federal guidelines are clear in stating that people suffering a concussion require assessment by a physician and some may require a multidisciplinary clinic with a physician with extra experience in concussion care, together with an interdisciplinary team of health care professionals.

Caring for athletes and patients with persistent symptoms of concussion is challenging. As a physician, my licensing and training enables me to assess the complex medical issues, including migraine, sleep, cognitive difficulties, depression and exacerbation of other co-existing medical conditions that all need to be recognized by the physician providing an initial assessment. Only physicians can provide this type of care.

● (1850)

These conditions such as concussion are becoming more common. There are also aspects that will require rehabilitation by allied health care professionals with experience in managing the nuances of this injury, which may include physiotherapy, athletic therapy, occupational therapy, neuropsychology and optometry, all of which exist in clinics under one roof.

Unfortunately, we need to be wary of large concussion businesses that are falsely promoting expertise and are falling short of providing the necessary standard of care that we see in our guidelines. Despite marketing or certification of concussion expertise, it's a challenge when these clinics are not meeting their current guidelines.

Like conditions such as cancer that are medically complex, concussion care requires physicians in addition to other allied health providers to work collaboratively in an interdisciplinary fashion. In short, we need to establish regional centres of excellence that are able to uphold the high standard of multidisciplinary care set out by our guidelines.

We currently do this at Concussion North. I am quite confident that with federal support and funding, we will be able to offer this high standard of care in centres across Canada.

Thank you very much. I look forward to your questions.

The Chair: Thank you, Dr. Bauman.

We'll move now over to Hockey Canada and Dr. Aubry.

Dr. Mark Aubry (Chief Medical Officer, Hockey Canada): Mr. Chair and members of the subcommittee, thank you very much for inviting Todd and I to give you a report.

I'd like to take the opportunity to introduce myself before the committee. I am a sport medicine physician who is a co-director of the Ottawa Sport Medicine Centre. We see athletes with concussions on a daily basis. I'm also the chief medical officer of Hockey Canada and the International Ice Hockey Federation. I've been involved in the world of concussion for the last 20 years, having treated numerous professional and amateur athletes with this terrible injury.

The International Ice Hockey Federation, in co-operation with other international groups such as the IOC, FIFA, World Rugby, and now the FEI, the Fédération Équestre Internationale, have organized five international symposia on concussion in sport, with the resulting consensus on concussion, which has appeared in medical journals and provides the guidelines on issues surrounding concussion, based on scientific evidence. The last symposium was held in Berlin in 2016, and we are now preparing for the 2020 6th international symposium in Paris. The symposium brings together the worldwide experts on concussion. Following a two-day symposium, an expert panel develops a consensus on the evidence presented during those two days and publishes the guidelines in those medical journals.

In conjunction with the symposia, we have also developed a sport concussion assessment tool, now called the SCAT5; the child sport concussion assessment tool, the child SCAT5; and the concussion recognition tool, CRT5, for non-medical people who are involved in sport. These tools have been translated into several languages, including French, with the help of Hockey Canada and other experts across the country.

I would like to speak briefly on the work of Hockey Canada, which has worked diligently for many years on the issue of concussion in its sport. I'm joined by Todd Jackson, who is director of insurance and risk management at Hockey Canada. He has directed the safety program for many years. He'll certainly give you a lot of the details on the different programs that Hockey Canada has for concussion.

Since the late 1990s Hockey Canada has produced player safety information to the Hockey Canada safety program. It has delivered in-person and online training sessions, and it's worked with its provincial members to provide tools to all stakeholders to make the game safer. These tools include an online resource centre, a concussion app and an online educational stream for coaches, trainers, parents and administrators, all in the name of player safety.

In 2011 Hockey Canada introduced the zero-tolerance head contact rule. Minor penalties, double minor and major penalties are now assessed for any head contact, including incidental head contact. In 2013 the rules and regulations were changed to remove bodychecking from the game for kids aged 12 and under. Today, approximately 85% of games played under the Hockey Canada umbrella are played without bodychecking.

Hockey Canada, through its members, delivers information to coaches and parents, using an online educational platform called “Respect in Sport”, which deals with many topics including concussion awareness. Education and skill development are also provided to players as they go through the system, to improve their ability to keep themselves and their opponents safe during play.

Among the many safety measures, Hockey Canada calls for a safety person to be present for all minor hockey teams across the country. The safety person is educated to recognize all types of injuries, including the signs and symptoms of concussions. It also has a strict concussion protocol in place that calls for the removal of any player who shows signs and symptoms of a suspected concussion. The established return-to-play protocol has a series of steps in place, including medical clearance from a physician to ensure that they no longer have any symptoms and that the athlete is safe to return to play.

Hockey Canada continues to work in partnership with the sport injury prevention research centre at the University of Calgary—and you heard from Dr. Kathryn Schneider. Through its research, the centre has provided much of the evidence on the issues surrounding concussion, and Hockey Canada has used that research to guide its injury prevention efforts, including applicable rules and regulations.

Finally, we feel that it is crucial to have an active and healthy society. For this we need families to feel safe to have their children participate in sport. We also feel that we need to have ongoing education and continued research on the issue of athlete safety, which does include concussion safety.

● (1855)

Thank you.

The Chair: Thank you, Mr. Aubry.

Mr. Jackson.

Mr. Todd Jackson (Director, Insurance and Risk Management, Hockey Canada): That statement was one we put together in conjunction with each other. I'd just add that I think the networking we have done has been crucial, and certainly the sport injury prevention research centre is an example of it—Parachute Canada is another—and it has led to the effective tools and the ongoing information we've received to help us make important decisions around safety internally as an organization.

The Chair: Thank you.

Now we're going to have an opportunity to hear some questions from our members that you'll have an opportunity to answer.

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

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

Thank you all for coming and giving your testimony.

Dr. Bauman, I'm an emergency physician, so I understand the challenges of knowledge translation to primary care providers.

Guidelines of all sorts for all treatments change from time to time, and there are always efforts to get them out there. For some issues, it's often a challenge even to get things into the curriculum at the medical school level.

Are you involved in getting training out to physicians at the early levels of training so that they have consistent knowledge of how to apply these assessment guidelines?

Dr. Shannon Bauman: Yes, I've been involved with some work through Parachute Canada whereby we've created an online platform for education, which has received medical education credit, designed for family physicians and pediatricians as well as medical students. It is a rolled-out course that we were able to prepare, which I assisted with.

When we have information like this coming out, it's great to have it get to the physicians and to put these tools in their hands. Tools developed by physicians for physicians and for other health care practitioners are really essential.

I've also been involved at local levels with giving presentations to family physicians and I teach medical residents through the University of Toronto. We have a department of family medicine program here in Barrie, Ontario, where they come though our clinic and work with me first-hand seeing patients.

I feel that if we can get the information into the generation of new family physicians, residents and medical students, we will have an ability in our capacities as family physicians to initially assess concussions as they come into the office, and we will also have a better understanding of the guidelines that are out, because it's our opportunity to practice these guidelines in our clinical world.

● (1900)

Mr. Doug Eyolfson: Great. Thank you.

Have you been approaching the colleges to make this a mandatory part of the curriculum, such as the College of Family Physicians of Canada or the Royal College of Physicians and Surgeons? Has there been dialogue with them to include it in the standardized curriculum for residents?

Dr. Shannon Bauman: I know some of my predecessors who have spoken to the committee previously, such as Dr. Pierre Frémont and Dr. Charles Tator, are individuals who have been spearheading some of these different aspects within the medical school. I haven't directly been involved with the medical schools myself, but I know there are some great leaders in the field working on such efforts whom you guys have heard from previously.

Mr. Doug Eyolfson: Thank you.

Dr. Aubry, I want to switch gears here.

Mr. Jackson, you might be able to help me out with this.

One issue that has come up and about which we've heard some testimony is the issue of fighting in hockey. We know that it's against the rules at all levels. It's absolutely forbidden and not tolerated at all at the junior levels, but at the professional level, particularly in the National Hockey League, although against the rules, it is, depending on who you talk to, either tolerated or, if you listen to certain sportscasters with loud shirts, encouraged.

Mr. Darren Fisher: I have no idea who you're talking about.

Mr. Doug Eyolfson: Exactly.

Has Hockey Canada taken any stance to aggressively message the NHL, saying, “I don't care what would happen to your ratings. You need to get the fighting out of professional hockey”?

Dr. Mark Aubry: First of all, from a minor hockey perspective, I think Hockey Canada's role is certainly minor hockey. I'm not sure it's up to Hockey Canada to tell the NHL what it should or shouldn't do. I do feel strongly, though, that fighting should not be allowed. We've provided that message not only to Hockey Canada but certainly across all levels of our sport.

I think that the NHL has changed tremendously. I think the fighting is down considerably, and eventually it will probably just wear itself out. A lot of pressure has been brought, not only by members of the hockey community but also by the media. I think they've heard the message loud and clear, and I think it's changing.

We had a summit at the Mayo Clinic involving experts from around North America. Certainly one of the published statements that came out of the summit was to abolish fighting at all levels of hockey.

Todd, do you want to add to that?

Mr. Todd Jackson: The role, from Hockey Canada's standpoint, is to make sure that we are influencing our culture at the amateur level and, as you said, spreading the message that fighting is against the rules, we don't want to see fighting, and it's not tolerated. If we can start to influence that right when the kids are at a young age, all the way up through the levels, then we are going to reduce and bring down the amount of fighting at the amateur level, in the amateur hockey game.

The Chair: We're going to be moving over to the Conservatives and Dr. Kitchen for seven minutes.

Mr. Robert Kitchen: Thank you, Mr. Chair, and thank you all for being here today. We greatly appreciate it. Thank you also for tolerating our little interruptions beforehand. I appreciate your staying here.

Dr. Bauman, I missed a bit at the beginning. You are a family physician and a specialist in sports injuries. Is that correct?

Dr. Shannon Bauman: Yes, I'm a family physician with a diploma in sports medicine through our Canadian academy of sports medicine.

Mr. Robert Kitchen: Okay. Thank you.

You've been involved with the parachute organization, I understand. Is that correct?

● (1905)

Dr. Shannon Bauman: Yes. I'm one of their expert advisers on their various subcommittees.

Mr. Robert Kitchen: You did specialized training after medical school in a diploma program.

Dr. Shannon Bauman: I did family medicine through Queen's University. Then I did a fellowship in sports medicine through McMaster University. Then I received an additional certificate of competency through the Canadian academy of sports medicine for sports medicine practice, and I've had a dedicated practice in sports injuries for the past 12 years.

Mr. Robert Kitchen: I appreciate that because that's where I'm leading to now.

You're a clinician and I'm a hockey parent, a hockey coach and so on. I've been involved in the sport for many years. I won't tell you how long it's been, but 1976 was when I got my coaching certification. We won't go that far.

Let's say I believe that my daughter has a concussion, I've heard about your credentials and I'm going to come see you. Walk me through how that would work.

Dr. Shannon Bauman: Your daughter has a concussion. There has probably already been someone on the ice with your daughter who has identified a possible concussion. That person's job is to recognize and remove your daughter from play. Depending on the severity of the symptom she has, meaning if there are any red flags that there's a cervical spine injury or some neurologic signs, it might be recommended that she go to the emergency department for immediate assessment. If she seems stable, the recommendation would be to follow up with her family physician. Ideally she should see a physician, whether it's through the emergency room, a family physician, a walk-in clinic or urgent care within probably about 48 hours.

At that point, there will be a medical assessment conducted by that physician, determining whether there has been a diagnosis of concussion, ruling out some of the medical red flags, determining if there's any imaging that needs to be ordered and giving some early education and recommendations about how to manage the initial signs of concussion and symptoms, how to gradually be reintroduced to school, how to go about their day and some guidance on how they're going to gradually become active.

There should be an additional follow-up after that point. This could be the role of a primary care physician. Luckily, with most concussions, 80% of patients are only going to need care under their primary care physician. There will be a follow-up within about two weeks, where that physician can then see how the transition is going in terms of returning to school and, day to day, how they're recovering in terms of symptoms.

If the physician at this two-week appointment identifies that there is something that's making it difficult for your daughter to continue to learn at school, if she's having some visual symptoms, headaches, difficulty with learning or they're getting worse during a school day, something such as that might suggest that the physician will make a referral to a specialist like me who has had additional experience in concussion care. It could be a primary care sports medicine physician, a pediatrician, a physiatrist, a neurosurgeon or a neurologist.

That physician's role is to make a referral directly to a physician who can do some further medical assessments, to pick up some of those subtle nuances that might end up giving your daughter a prolonged recovery. That would be the role I play. I see patients every day in my clinic—

Mr. Robert Kitchen: Let's say we got to that stage with my daughter and I've been referred to you, your clinic specifically.

When my daughter comes in that door, who is seeing her right off the bat?

Dr. Shannon Bauman: That would be me.

Mr. Robert Kitchen: You would see that person right off the bat. There wouldn't be any other referrals or assessments beforehand by anyone in your clinic.

Dr. Shannon Bauman: No, it would be me. I'm referred by another physician, the family physician. That person directly comes to me. My job is to spend about an hour to an hour and a half with your daughter. I do a very detailed history, medical assessment and examination, and we discuss some of the features we've identified of her concussion, which could be sleep issues, migraine, visual issues or vestibular issues. It could be mood exacerbations or other things, but this is all individualized.

Depending what I see, within my team under my roof, I have an occupational therapist with a Ph.D. in cognitive rehab and I am then referring to her care, and she's going to do a more detailed school assessment and provide some of that education. I also have an athletic therapist in my clinic who will help with some of the exercise piece if I feel that we need to put your daughter through some treadmill testing, some of our testing that we can do in-house under a supervised program. I have physical therapists in my clinic who work with neck and jaw and have competency-based training in vestibular rehab. If that's what's needed, I can refer to that individual.

The thing that's different and unique about our clinic is that this is a medically supervised clinic. I'm there first and foremost seeing your daughter. I will also be overseeing the rehabilitation under my centre, and I'll also be the one clearing your daughter back to sport, making decisions about return to school and providing the documentation they need when those decisions are made. The difference in our clinic is that I would be seeing your daughter all the way through and I would be the one ultimately discharging her and communicating back everything that has been done for your daughter to the physician who referred.

● (1910)

Mr. Robert Kitchen: I come from rural Saskatchewan and we don't have access to that. In fact, we have doctors who come from countries that don't even know what hockey is. It's not just in rural Saskatchewan, but throughout rural Canada that we have that access. It's a big challenge when we don't have the people who have those skills. There are other professions out there that have those skills and have done the post-graduate training to provide those skills and that information.

We need to look at that aspect of how it is for all of Canada. Not everyone is just in the central part of the big cities, in Barrie, or wherever it may be.

What would you say for those rural areas?

The Chair: Dr. Kitchen, we're going to have to hold that for, perhaps, your next round.

We're moving over to the NDP and Ms. Hardcastle.

Ms. Cheryl Hardcastle: Welcome. Thank you very much for contributing to our report and ultimately to our recommendations.

I'm making that term clear because previously when I asked a question of one of the witnesses, they didn't really understand the link when I asked what the government's role should be. They said, it shouldn't have any, but I'd like to see us have something articulated in a recommendation as necessary. That's the reason for my questions.

I'd like to start with you, Dr. Bauman.

With regard to your expertise that contributed to the Parachute Canada guidelines and your role with.... Is it Concussion North?

Dr. Shannon Bauman: Yes.

Ms. Cheryl Hardcastle: Does Concussion North apply all of the Parachute Canada guidelines?

Dr. Shannon Bauman: Yes, we do.

Ms. Cheryl Hardcastle: Is the way that the Parachute Canada guidelines are designed...? I don't want to say designed, I don't think. In anticipation of what my colleague Dr. Kitchen was just mentioning—the geographic realities and the availability of doctors—how realistic are these guidelines right now?

Dr. Shannon Bauman: In the guidelines we've created through Parachute Canada, we are setting a gold standard for what we want the care to be in Canada. We are looking at best practices. We are looking at what needs to happen to provide care so that each person —my daughter, your daughter, your son—has access to the best care we know. Our guidelines have been an example of what we feel is the best care available. Just because we don't meet that standard across all regions right now doesn't mean we shouldn't achieve a high standard of care.

For example, if you have a knee injury, if you sprained your knee and needed an MRI, an X-ray wouldn't cut it. If you need that MRI, you could see your family physician, have a medical assessment and be referred to a place to get the test you need. Just because we have access to X-rays doesn't necessarily mean they're the best test out there.

What I'm saying is that we need government support. My recommendation is that with government support, provincial support, we have the ability to uphold these guidelines, but we need the support financially to do so.

I believe that like cancer care, this is a complex medical issue that has a physician with an interdisciplinary team of professionals working together. We don't have a cancer care regional centre in every city, but what we do have is front-line physicians, such as primary care physicians and emergency room physicians, who can do a lot of the initial assessments.

Eighty per cent of people will be managed by their primary care physician or a physician. When we need referral to a specialty clinic —we're talking about 25% of these high-risk, persistent-symptom patients—just as with cancer care, we should have regional clinics that we can identify, which are accessible to all, depending on the geographic area. I truly believe this is achievable.

With clinics such as mine—Concussion North in Barrie, Ontario —or the Pan Am Clinic in Manitoba, or clinics in Ottawa under Dr. Shawn Marshall and clinics out in Calgary, we already have some great examples of people doing this work and following what we've set out in our Parachute Canada guidelines and our Ontario Neurotrauma Foundation provincial standards in Ontario.

We need more examples of these, but we also need the funding to do this. With funding, I believe we can be successful. I'm happy to help with this and show government how to do it fast.

● (1915)

Ms. Cheryl Hardcastle: Thank you.

Dr. Aubry, I know about your involvement—I think it's 22 years —with the Rough Riders. Can you tell us a bit about how you have seen our approach to concussions evolve, what you think some of the milestones or the best practices are and how we should be moving forward?

Dr. Mark Aubry: Concussion knowledge has changed our course of action over the last 20 years. I can go back to 2001, when we published the first consensus. It really wasn't until 2012 that the consensus said we could return athletes back to play in the same game, if they didn't have symptoms.

I think now we're all in agreement that concussion is a serious problem, a serious injury, and that if there is any suspicion, we need to remove the player from play and then go through a stepwise protocol and process to get him back. I can say that, even speaking in terms of professional athletes, who include CFL and NHL athletes, we have seen that approach: removing players from play even on suspicion, and not having them go back until they've gone through the stepwise process.

If we look at the CFL and the NHL—I'm speaking for professional athletes—the time frame before we've allowed them to go back and play has increased, just because now we're more concerned with safety than with allowing players to go back with the risk of getting another concussion or of endangering their health.

I think it's changing and is going to continue to change. Referring back to the guidelines and where people are in different parts of the country, the consensus provides very simple guidelines and can be enacted by all medical people in various parts of the country. It's really pretty simple.

The biggest thing is that we want them removed from play and we want them rested, but not rested in the sense that they have to not do anything—we allow them to do daily activities in the stepwise process—and there is educating them on symptoms, and certainly no going back until they are free from symptoms and, from our perspective in hockey and from the professional perspective, until they get the clearance from their physician.

The Chair: Thank you.

Now we go back to the Liberals and Mr. Fisher.

Mr. Darren Fisher: Thank you, Mr. Chair. Do I have seven minutes?

The Chair: You do.

Mr. Darren Fisher: If you could stop me at five minutes, as a common courtesy I'd like to give the last two minutes to Mr. Nathaniel Erskine-Smith. Thank you.

Thank you all very much for being here. I apologize for the fact that we had to step out and are going to have a shortened time frame here, so that I'm not going to get to ask you all the things I want to ask you.

One of the pre-eminent concussion advocates is Ken Dryden. We had him here at our committee. He has said:

> We need only to penalize all hits to the head, because whether a blow is from a stick, an elbow, a shoulder or a fist, whether it's done intentionally or accidentally, whether it's legal or illegal, the brain doesn't distinguish. The damage is the same.

That was his personal plea to the NHL and to Gary Bettman. I know that Hockey Canada does not speak to the NHL or the NHL Players Association in that way, but you have zero tolerance.

Now, I don't know whether zero tolerance speaks exactly to what Ken said there. I'm a father of, starting tonight in his first game ever, a junior B hockey player. You can get a kid in peewee who is six foot one and a kid in peewee who is four foot eleven, and you have a head shot when that six-foot guy hits the four-foot-eleven guy regardless of whether there was intent or not. That's fine. It's not a terrible rule. Zero tolerance is a good thing.

Does it speak to the things that Ken wants it to speak to, and do you envision in the future zero tolerance at the minor hockey level through Hockey Canada organizations filtering up to the NHL level, whereby we will one day see what Ken wanted to see?

● (1920)

Dr. Mark Aubry: I completely agree with you. What we're seeing now is the results of what Hockey Canada and many of the other minor sports leagues have done in not tolerating any head hits.

When Ken speaks about no tolerance for any head hit, that is the Hockey Canada position. It is clear. Even if it is incidental and accidental, it is still not acceptable and it is penalized.

Certainly I see that filtering up even to not only the junior leagues but the NHL. All of us watch professional hockey, and I think what has happened now is that most of the hits to the head now, even in the NHL, are not tolerated and are even penalized. You can see from two of the hits we had over the last few weeks from our star players that even they were penalized for non-intentional hits to the head.

I think the message is clear, and what we are seeing is a change in the way not only we look at things but at the professional level.

Mr. Darren Fisher: Dr. Bauman, you talked about uptake of best practices. You said that all health care, school divisions and sports groups need to get that uptake of best practices. You said that it's not happening, and you said that there are mixed messages. Then you moved onto something else. Could you maybe just give me a minute on your thoughts of how you can get those best practices and increase the uptake?

Dr. Shannon Bauman: Guidelines such as our Parachute Canada guidelines were done in conjunction with the federal government and our Public Health Agency of Canada. We developed a really strong guideline.

The challenge I see as a clinician is that I have young athletes coming into my clinic every day from various sporting organizations in our different local leagues across Ontario, and many of them have never seen our Parachute Canada guidelines. It's a very strong, well-documented guideline. We've been using it with some of our national sports organizations. My challenge is that, when I present this to the patient, I would like them to be able to take it to their sporting organizations across our province. Locally, in Barrie, this isn't happening.

What I would like to see is that this guideline we developed with federal funding gets support at the provincial level that trickles, for example, in Barrie, to our Barrie Minor Hockey Association. I would like them to use it. We could have one guideline supported across all of Canada, to which every organization would have access.

This guideline has medical assessment forms in it, medical clearance forms. It has a protocol that is a very good protocol for coaches and parents. It includes pre-season education. It outlines what to do when your son or daughter has a concussion, who they need to see at various steps of their injury and when they should be referred to a multidisciplinary concussion centre.

If we had this, and if everyone were using the same form, we wouldn't have confusion. What's happening is that individual clinics are developing their own guidelines. They're developing statements, and then these organizations don't know which ones to use. Unfortunately, our federally funded one isn't getting into the hands of the athletes who need it.

I've been fortunate enough in Oro-Medonte to use the guideline developed by Parachute Canada.

The Chair: I appreciate that.

We're going to move over to Mr. Erskine-Smith for about a minute and a half to two minutes.

Mr. Nathaniel Erskine-Smith (Beaches—East York, Lib.): Thanks very much.

Just following up on that, with the federal guidelines as they are—and you mentioned that there is sort of a gold standard co-developed with PHAC—is there a province that we can hold out as having the best practice for implementing these guidelines?

Dr. Shannon Bauman: I really do feel that Manitoba and the work with Dr. Mike Ellis, who's one of our co-directors on the Canadian guidelines, has been doing instrumental work within the province. They have a federally funded clinic. I think that's important to note. As a physician with expertise together with a clinic that's received federal support and funding, they've been able to utilize their clinic as a means to get provincial organizations on board. They have been working with some of the first nations communities. They've been able to get full support.

When you have that kind of clinic example, which is why I say that a federally funded multidisciplinary clinic needs to be supported, I believe we can have better uptake with our guidelines, provincially and federally.

● (1925)

Mr. Nathaniel Erskine-Smith: Thanks very much.

The Chair: Thank you, Mr. Erskine-Smith.

We are going to move to our second round. We only have about two minutes in this round for each of the members.

We're going to move to Mr. Kitchen, for two minutes.

Mr. Robert Kitchen: Thank you, Mr. Chair. I appreciate this.

I'm going to ask Mr. Jackson a question.

I see that you're the director of insurance and risk management. For many years I was a hockey coach, and I had patients come to me in my practice and say, "Okay, I got hurt playing hockey. I have this Hockey Canada form." They came to me with concussions, and as I was dealing with them and assessing them, they would ask, "How do I pay for this?" Can you explain the challenges that you have in Hockey Canada with that form?

Mr. Todd Jackson: Certainly. It may be the insurance-based form that you're talking about. We require that to be completed in a claim situation, and certainly there's always the challenge of getting it completed efficiently. There's always the challenge that players have to go see a physician in order to get that completed. There is obviously the process of getting it into our offices, into the Hockey Canada offices, and the process of reviewing each of those forms, so there are many challenges around it.

Mr. Robert Kitchen: The form allows for physicians, for chiropractors and for physical therapists to fill it out and complete it. Is that correct?

Mr. Todd Jackson: Yes. It is meant for physicians. There's no question that we do get other entities filling out that form, depending a lot of times on what the injury is as well.

Mr. Robert Kitchen: The form doesn't stipulate that, though, but it does allow for other practitioners to point that out.

Especially in rural Canada, where we're dealing with injuries, again, where you have a practitioner who doesn't understand the sport and will often refer to somebody who does, who might be an expert in a sports injury area, to assess that, that might be the chiropractor or the physical therapist in that community who fills those forms out. You would accept those as insurance, correct?

The Chair: Thank you, Dr. Kitchen.

We're moving over to the Liberals now and Mr. Erskine-Smith for two minutes.

Mr. Nathaniel Erskine-Smith: Thanks very much.

My question is for Hockey Canada. I played baseball growing up, not hockey. In baseball, there are accidents that happen and concussions do happen, but it's not really in the course of regular play, so I appreciate the answers to Mr. Fisher in relation to hits to the head.

When a concussion happens in youth sports here in Canada, what is the reporting mechanism so that we have a global picture of what's happening?

Mr. Todd Jackson: If a player suffers a concussion, obviously we have a very simplistic message that we teach our safety people, which is, if in doubt, you sit them out. They are pulled out for that game.

Mr. Nathaniel Erskine-Smith: Is that then reported so that there is a clear picture at the national level for Hockey Canada as to how many concussions are happening at the local level?

Mr. Todd Jackson: There is no specific surveillance, and I can tell you that one of the biggest challenges is surveillance. When you start to talk about collecting that type of data, it's very difficult, a lot of times, to get people to fill out those forms, to submit that information. It's one of the biggest challenges we have.

Mr. Nathaniel Erskine-Smith: Have any efforts been made to go down this road of ensuring that where concussions do happen in youth sports, there is a central reporting mechanism to Hockey Canada and you are able to collect these statistics?

Mr. Todd Jackson: Right now, we actually sit on the FPT working group on concussions. That's one of the big topics they're looking at, surveillance.

The reason for that is, just as you were saying, data is important. We need to know what's happening out there.

We're going to see what comes of those discussions and other discussions, but certainly as I say, there's no question, surveillance is one of the biggest challenges.

The Chair: Thank you, Mr. Erskine-Smith.

We're going to thank Dr. Bauman now, because we're going to lose the video feed in about a minute or so.

Thank you very much for your testimony and for your answers. If there is anything else that you would like to submit to the committee, please feel free to do so. The report will be put together and hopefully will be tabled in the House by the end of the spring.

Dr. Shannon Bauman: Thank you.

The Chair: We're now going to move over to Ms. Hardcastle, for two minutes.

Ms. Cheryl Hardcastle: Thank you.

Dr. Aubry, I just want to go back and ask you a little more about the consensus statement on concussion in sport. Is this something that you think needs a concerted effort to be updated and adopted?

You said that one of the milestones was in 2012. It was the first time we discussed and it was actually articulated that someone who had been hit in the head didn't return to that same game. I'm saying "we" collectively, meaning parents, trainers, doctors or whoever.

● (1930)

Dr. Mark Aubry: The consensus is actually an international document that is produced by experts around the world following the two-day symposium. They give a consensus on the evidence that is presented.

For example, in the last 2016 Berlin consensus, over 64,000 articles were reviewed, and from that, then, there is a consensus, which is based on scientific evidence.

Those guidelines are so related to scientific evidence they provide the current status of what we know in concussion. They really form the basis of other groups, such as Parachute and Hockey Canada, giving their guidelines, because they will usually follow the consensus, which becomes what I would say is the leading document in the field so that different groups can then look at it and adopt it, or adopt some parts of it.

The Chair: On behalf of the committee members, thank you, Dr. Aubry and Mr. Jackson. Thank you for your candour, your openness and your willingness to be here, and for your answers to the many questions. We appreciate that.

Again the report will hopefully be tabled in the House by the end of the spring. Thank you for your recommendations. If there's anything else you would like to submit to the committee, we are open to receiving that.

Dr. Mark Aubry: Thank you.

The Chair: The meeting is adjourned.