House of Commons

Digital, Culture, Media and Sport Committee

Concussion in sport

Third Report of Session 2021–22

HC 46

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The Digital, Culture, Media and Sport Committee

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Summary

The recent media focus on the incidence of dementia among football heroes, such as the World Cup winning squad of 1966, has increased public awareness of the potential for participation in sport to carry a long-term risk. While the current science cannot prove a causal link between dementia and sporting activity and demonstrates overall benefits, it is undeniable that a significant minority of people will face long-term neurological issues as a result of their participation in sport.

Each sport is left to itself to decide on correct protocols for concussion, such as when it occurs, what should happen and when participants should return to play. In grassroots sport the tracking of injuries and therefore the potential to identify long-term impacts on the brain is almost entirely lacking. Those participants rely entirely on the NHS, which does not have sufficient awareness of procedures to properly address the long-term issues. We recommend that the NHS establishes a programme to ensure that it properly records head trauma and ensures that its frontline is properly equipped to not only treat the immediate consequences of head trauma but provide the best advice and, if necessary, long-term treatment for those who suffer acquired brain injury.

Elite sportsmen and women have the advantage of more medical oversight and expertise, though that often comes with a determination to succeed and to downplay the consequences of personal injury in the pursuit of success. The drive that distinguishes world champions and gold medallists also disincentivises prioritising personal safety. Sport has a responsibility to ensure that our elite athletes are not allowed to trade their long-term health for short-term sporting success. We recommend that UK Sport pay for a medical officer, at every major sporting event, whose sole responsibility would be to ensure the safety of participants with the power to prevent athletes at risk from competing.

Professional sport, like any other business in which employees are at risk of health issues, have statutory responsibilities, but we found that these have effectively been delegated to the sporting National Governing Bodies to manage. We recommend that the Health and Safety Executive takes a more proactive engagement with injuries in sport to drive up standards. We also recommend that the Government incentivise the engagement of sport with a central fund for research to ensure greater transparency and coordination of research and resources in this area of science.

For too long the sporting landscape has been too fragmented to properly address this issue and Government has delayed taking action, deferring to the numerous sporting bodies. We recognise that sport will never be, and can never be, one hundred percent safe. However, the Government has a duty to ensure that sporting activity, at every level, bears no unnecessary risk. We recommend that it establishes a UK-wide minimum standard definition for concussion that all sports must use and adapt for their sport.

1 The problem of concussion and sport

1. The back pages of newspapers are the traditional place for sporting headlines, tracking successes and failures on the field of play and attracting an enormous amount of commentary and opinion. More recently there have been an increasing number of articles on the growing evidence of a link between playing sport and developing dementia in later life.

2. The media's key focus, like much of its sports coverage, has been on football and rugby. This is despite the condition, *Dementia pugilistica*, being first associated with boxing, and jockeys having the highest sporting incidence of head injury and concussion. It is unclear from the press attention whether this issue is more prevalent among football and rugby or simply more newsworthy due to the high profile of these sports. It is, however, quite clear that the focus has been on professional sport rather than the wider sporting community or the vast number of people that participate in sport across the UK.

3. We sought to examine the issue of concussion and sport more broadly, to determine whether the issue was back page drama or a problem requiring Government intervention. We have spoken to scientists, former athletes, chief medical officers, players' unions, and National Governing Bodies for various sports, and received written evidence from a wide range of interested parties.

The value of an evidence-based approach

4. There is a tension, apparent throughout this inquiry, between the certainty among campaigners and the press that sport has a problem and the uncertainty in the science of what is causing that problem. The progress of scientific information is often slow, and our current scientific knowledge does not demonstrate a causal link between particular sporting activities and later development of dementia. In the meantime, sportsmen and women are presenting with the signs of early dementia in numbers that are increasingly shown to be above what would be expected among their contemporaries (the risk to former footballers was five times greater for Alzheimer's disease, almost four times greater for motor neurone disease and two times greater for Parkinson's disease). The most iconic list of sufferers comes from the World Cup winning squad of 1966, of which five have been diagnosed with dementia.[1]

5. We have also heard that a focus on the term concussion is potentially unhelpful.[2] Concussion is one of the more obvious symptoms of brain injury but the long-term impacts of acquired brain injury may occur in the absence of historic concussions.[3] Many incidents during sports fixtures result in impacts that are sufficient to cause brain injury but not severe enough to cause concussion.[4]

6. The response of both sporting bodies and scientists has been to engage in research to provide a better evidence base as a foundation for proposing changes to the rules of sports where there is perceived to be greater risk. There is a forum, established in 2001 and funded by professional sport, which considers the research on this issue and, roughly

1 "Sir Bobby Charlton: England World Cup winner diagnosed with dementia", BBC News, 1 November 2020
2 Q324
3 For example Q3, Q9 and Q161
4 For example, "Heading a football causes instant changes to the brain", Stirling Brains, University of Stirling

every four years, issues a Consensus Statement on Concussion. This kind of symposium is an important part of scientific discourse and useful in identifying the gold standard of research progression. Witnesses to this inquiry have, however, questioned its value in deciding changes to sporting activity[5] as its insistence on the best science and its aim of a consensus essentially precludes it taking a precautionary approach to advice on concussion in sport.[6]

7. The UK Government's mantra since the 1999 White Paper on Modernising Government, especially relevant in midst of a pandemic, has been evidence-based policy.[7] Ministers confidently present policies that are based on the best current evidence or on the current scientific advice. The question then becomes whether that should preclude policy being made in areas where the science is not settled or delay policies where a decent evidence base is being established and precautionary action may result in improved life outcomes for those affected. We were interested in exploring where there might be justification for governing bodies or the Government taking a more precautionary approach to mitigating the possible contribution of sport to the development of dementia among participants.

Risk versus reward

8. The touchstone study for those seeking change in sport is the FIELD study, joint-funded by the Football Association and Professional Footballers' Association, which established a strong correlation between a career in football and a significantly increased incidence of dementia in later life.[8] While this study clearly demonstrates that something needs to be done, it provides no clear direction of what should be done. The research also showed that, apart from this terrible downside, "all-cause mortality was lower in a cohort of Scottish former professional soccer players than in a control cohort of adults from the general population who were matched to the players on the basis of sex, age, and degree of social deprivation".[9] The benefits of sport sit at the heart of the Government's sport strategy which highlights the "physical wellbeing, mental wellbeing, individual development, social and community development and economic development" that result from sporting activity.[10]

9. **Despite the need for acquired brain injury to be taken seriously by sport, the detail of which we will come onto later in this Report, both written and oral evidence to this inquiry support the health benefits to people through mass participation in sporting activity. An active lifestyle promotes overall good health, including reducing the risk of dementia in later life.**

5 For example Q13 and Qq360–361
6 Q412
7 "Evidence Based Policy: Whence it Came and Where it's Going", ESRC Centre for Evidence Based Policy and Practice, Kings College London, October 2001
8 The Football Association (CON0043)
9 New England Journal of Medicine, Neurodegenerative Disease Mortality among Former Professional Soccer Players, November 2019
10 DCMS, "Sporting Future: A New Strategy for an Active Nation", September 2015

2 Grassroots sport

10. Most people who play sport do so at the mass participation (or grassroots) level. Therefore, it is likely that the majority of injuries (including concussions) will also occur at this level. The key problem here is the relatively unstructured fashion in which grassroots sport takes place, often organised by insufficiently trained volunteers with no dedicated medical oversight. Dr Richard of the Institute of Sport, Exercise and Health said:

> I am exceptionally concerned, more concerned about grassroots than in the professional game. […] I see adolescents who cannot do their A-levels because of a head injury playing rugby at school. I uniformly do not see people being managed well after head injury still in the NHS. I think the governing bodies clearly have a responsibility, they have a duty of care. The clubs and the PFA do. This is a wider public health issue and in Scotland there has been involvement from public health but in England there has been a silence from that.[11]

11. The numbers are large. In football alone there are "13.5 million players of all ages, approximately 400,000 volunteers, over 200,000 coaches and over 27,000 qualified referees".[12] There is also a lack of information about the scale of the problem: neither **sport**scotland nor Sport England collected data on incidence of concussion for participants in grassroots sport and the NHS did not systematically record this information on medical records. Professor Burns, NHS England's National Clinical Director for Dementia and Older People's Mental Health, told us:

> I don't think we have one central repository of knowledge from general practice about the exact level of incidents within grassroots sport at any level, from children to adult.[13]

A lack of awareness

12. Sportsmen and women told us about a lack of awareness among participants and those facilitating sport about the problem of concussion or, more specifically, the potential long-term consequences of suffering this kind of injury. Phil Smith, Director of Sport at Sport England, told us that:

> Having looked at pretty much every national governing body's guidance in preparation for this discussion, the guidance is not only comprehensive but it shares a number of common characteristics.
>
> […]
>
> The challenge we have in grassroots sport is how we make that advice more widely known to those who, like me, spend their evenings and weekends helping others to enjoy sport.[14]

11 Q328
12 The Football Association (CON0043)
13 Q395
14 Q400

13. Scotland appears to be further advanced in this area than other parts of the UK. Dr Elliott of **sport**scotland outlined the approach being taken there:

> From the outset we have had a multi-agency engagement in trying to get people around the table to improve grassroots education and knowledge of concussion.
>
> The heart of this is a recognise and remove process. We ensure that everyone at the football game or at a sports session understands what concussion might look like and on the back of that are able to remove that individual. […] We then ensure the continuation from there is that they get the right access to the healthcare system, how to rehabilitate the person, how to rehabilitate the brain. […] The process looks predominantly at the next stages for us, which is education, looking at parents, looking at PE teachers, looking at students at university level, looking at coaches, and we are facilitating that through these guidances. This is filtered down to grassroots and is engaged by all sports.[15]

This encouraging approach was slightly tarnished by the admission that research by Stirling University identified that the information had not been reaching coaches at grassroots level.[16] The Scottish protocol only covers organised sport and if coaches are not as aware as they should be it is likely that participants and spectators are even less informed.

14. We were concerned that even in organised sport a lack of awareness could put sportsmen and women in danger through failure to observe widely known return to play protocols. Monica Petrosino, a retired TeamGB ice hockey player, told us of the injury that effectively ended her career:

> My head over the years probably took a number of knocks but nothing like the hit that I had in 2015. That was very different and I felt very different. I knew that something was very wrong.
>
> […]
>
> I think I blacked out for a minute as I cannot remember what happened. I remember getting back up off the ice with my coach helping me get off, and I can remember having this headache. It is a very specific headache. It feels like your head is crushing. I remember not being able to speak properly or anything. It was like my brain was not working right.
>
> I didn't play the rest of that game, but unfortunately the thing that I was not aware of, and neither were my coaches or my parent, was that I played a game the next day.[17]

15. One aspect of every protocol that has been highlighted to us is the need to limit return to play.[18] There is no way to know if playing the following day exacerbated the injury suffered by Monica, but in her own words:

15 Q401
16 Q402
17 Q105
18 For example, The Football Association (CON0043)

> I wish someone had stopped me before it might have been too late. Yes, that would be the most important thing. It does affect you for the rest of your life.[19]

16. Peter McCabe, Chief Executive of the Headway charity, made the important point that, for many participating in grassroots and youth sports, the example set by their heroes around head injury needs to change:

> Elite sports have a responsibility to set a good example to youth and grassroots sports. If concussion is not taken seriously in elite sport, that is going to be happening on a Saturday morning when youngsters are playing, where there aren't ambulances waiting at the side of the pitch. Concussion must be taken seriously and if somebody sustains a bang on the head they need to be withdrawn from the field of play and you need to adopt a precautionary approach.[20]

There is a tendency for the press to laud athletes who sustain injuries and drag themselves back onto the field of play, even swathed in bandages.[21] Several of the families who wrote to us spoke of how their fathers were stitched up, bandaged and sent back out to play.[22] This happens despite the cautionary experience of Benjamin Robinson and his father's campaign to raise awareness about second impact syndrome.[23]

17. **The reality is that, for most people playing sport, there is no one to stop them except themselves, their friends, teammates, and family. That is how far down the knowledge and awareness of concussion and how to respond to it must reach to ensure people seek the necessary help and treatment rather than returning to the field to the detriment of their long-term health.**

What can be done?

18. There is no end of advice and protocols on concussion in sporting arenas; we had evidence from football, rugby, boxing, cricket and horseracing among others, all of which provided extensive evidence of their protocols for those participating in their sport.[24] It is also easy to find lots of advice and comment online. What is not clear is what the best advice might be for someone who has recently suffered an impact to the head. There is no obvious single source to reference. While there is some collaboration among sports on research, and the community of chief medical officers seems to be reasonably tight, there is no minimum standard. Sport England told us that it was for each sport to develop its own advice,[25] even though some sports might not be able to afford a full-time chief medical officer or have access to the necessary expertise.[26]

19 Q144
20 Q59
21 "Who wore it best", Daily Telegraph, 19 October 2017
22 For example, Lauren Pender (CON0060); Mrs Dana Saul (CON0023)
23 Mr Peter Robinson (CON0026)
24 For example, British Horseracing Authority (CON0061); England Boxing, British Boxing Board of Control, Boxing Scotland, Welsh Boxing, GB Boxing (CON0053)
25 Q400
26 For example, Q218

19. It is encouraging that groups are being established, such as Sport United against Dementia launched by the Alzheimer's Society in December 2020[27] and Love of the Game,[28] but none of these groups will have the profile or power to be the single source of authoritative advice for all sports across the whole of the UK. Throughout this inquiry, discussions have led back to **sport**scotland's concussion guidance: 'If in doubt, sit them out'.[29] This guidance, first produced in 2015 and since updated, was a collaboration between sport, academia, NHS Scotland and the Scottish Government aimed squarely at grassroots sport and the general public. Both Wales and Northern Ireland have similar guidance but there is no equivalent in England.

20. Another message that we repeatedly received was that the NHS is not properly equipped to deal with this issue. In our first evidence session, Professors Willie Stewart and Craig Ritchie spoke of the need to promote brain health and move away from the long-held belief that nothing can be done once brain injury is received. Professor Ritchie was concerned that "we have players now, ex-players now, who are terrified about their own brain health and what is going to happen to them in the future".[30] Campaigning groups wanted to see better facilities and improved continuing professional development courses for GPs and Accident and Emergency specialists.[31] Dr Grey, of the UK Acquired Brain Injury Forum, highlighted the need for better information on those who present with head trauma:

> In the east of England we have the Concussion Action Programme and we have recently looked at this issue and produced a report. With respect to the NHS, we found that there is a large variation in the content and quality of discharge information that people are given if they attend A&E with a mild traumatic brain injury. That information is typically these red flag issues but there is nothing given typically on return to play, return to learn or return to work issues.[32]

21. We contacted both NHS England and Public Health England to give oral evidence but Public Health England, to the surprise of Dr Etherington, of the Faculty of Exercise and Sport Medicine, indicated that it had no contribution to make to the inquiry. Dr Etherington commented that:

> That is because, as far as I am aware, there is no concussion protocol or concussion group looking at managing brain injury in presenting to A&E or in the sporting environment, and there probably should be. For the vast majority of people, it is going to be transient and can be managed quite simply, but we need to pick up those people in which it is recurrent or who have serious consequences.[33]

22. Professor Burns, National Clinical Director for Dementia and Older People's Mental Health for NHS England, was reasonably confident that NHS England was properly resourced and sought to provide some context to the extent of the issue:

27 Alzheimer's Society (CON0052)
28 Love of the Game (CON0046)
29 "Scottish Sports Concussion Guidance: grassroots sport and general public", **sport**scotland, 15 November 2016 (updated 2018)
30 Q30
31 Q61
32 Q92
33 Q344

> Every year, about 1 million people attend A&E in England with a head injury. Of that 1 million people, about 900,000 have no or a very brief loss of consciousness. The vast majority, about 85%, recover after a week with no lingering symptoms and that rises to 97% after about a month.
>
> […]
>
> In the hospital system, between April 2017 and February this year, there were 7,536 admissions with concussion. Only 8.5% were sports-related, and that is fairly consistent over the years. There has been a significant drop in the last year with much less sport taking place. In the vast majority of cases, 98.6%, there was no specific intervention. People were in hospital perhaps one or two days. There was a peak with monitoring in children because of the concentration of children 11 to 16. Thirteen people were recorded over that period as having died, but none of those deaths were related to sports injuries. The data and the information for the hospital system is there.[34]

Those numbers, however, need to be considered alongside those presented by Dr Etherington:

> If you look at very severe brain injury and the services commissioned by NHS England, there are 950 beds commissioned for the whole of England, and of those just under 200 are probably used for trauma. Neurological rehabilitation for trauma is about 200 beds in England, but in context I used to have that many beds with complex trauma in the military in one site, Headley Court, in England.[35]

Professor Burns was also confident about the knowledge and awareness of medics in Accident and Emergency wards[36] and that GPs would be able to refer patients presenting with symptoms of concussion to a wide range of specialist services.[37] He was however unwilling to address a comment from Dr Sylvester, of the Institute of Sport, Exercise and Health, who suggested that:

> The management of post-concussion syndrome in most non-specialists' minds is: it will get better over time or it will not. It is clinical nihilism.[38]

Dr Elliott of **sports**cotland also suggested that non-specialist doctors working in the NHS were unlikely to have picked up the necessary knowledge to properly treat those suffering from this kind of traumatic brain injury:

> But we have colleagues who see the weekend warriors on a Monday or a Tuesday in general practice. While they have a degree of understanding of how to manage major concussion issues, they might not be aware of the subtle returning to work or learning bit before returning to sport. For us it is also educating our medical colleagues. That could be nurses, physiotherapists, doctors. Anyone who has a point-of-care touch with a patient should know about concussion. That is an area that we feel we need to improve on, and

34 Q365
35 Q346
36 Q386
37 Q388
38 Q349

> we have colleagues already working with the Royal College of Emergency Medicine and the Royal College of GPs to provide e-learning modules and platforms to give our colleagues upskilling.[39]

23. We also heard some concerns about the collection of data. It has been pointed out that the oft-quoted FIELD study was only possible due to Scotland's record keeping of footballers who had experienced neurological disease in later life. Professor Burns was unclear on the availability of structured data relating to those who present at hospitals with concussion-related injuries, specifically sports related injuries.[40] The importance of collecting structured data that could be referenced by clinicians (as well as data scientists) is highlighted by Dr Sylvester:

> Also, kids do not just play one sport. They play rugby, they play football, they play basketball, and they play cricket. I have loads of kids who had a concussion playing rugby but then are in the basketball game three days later, because it is a different coach and there are no guidelines on concussion in basketball. I am not sure if there are or not. This transcends individual sports as well.[41]

24. **Doctors may not be able to rely on patients to remember previous concussions or head traumas, especially if these happened at different times playing different sports. They must instead be able to rely on robust information that should be collated on a patient's records.**

25. ***We recommend that NHS England reviews the way in which it collates data about concussion and concussion-related brain injury and ensures that doctors have a full history available to better inform patient treatments.***

26. **We are also concerned that the relative infrequency with which clinicians encounter this kind of condition suggests that many of them are likely to be out of date with regard to the best possible practice in treating these patients and getting them the necessary specialist treatments.**

27. ***We recommend that NHS England, in collaboration with the Faculty of Exercise and Sport Medicine, within the next twelve months, prepares a learning module on the best practice for treating and advising those who present with concussive trauma and ensure that all General Practice and Accident & Emergency practitioners take this module within the next 2 years. The module, and the updating of practitioners, should be repeated every 2 years thereafter.***

39 Q420
40 Q376
41 Q345

3 Elite sport

28. The sporting landscape is reasonably complicated. There are arms'-length bodies in each of the four home nations responsible for grassroots sport, each of these arms-length bodies has its own Institute of Sport to provide scientific and medical expertise. UK Sport covers the whole of the UK but focuses only on the athletes and teams that have a significant chance of achieving international excellence. UK Sport also makes use of the English Institute of Sport to provide its scientific and medical expertise. On top of these funding bodies there is the wider collection of National Governing Bodies for each sport. Some, like the Lawn Tennis Association, cover the whole of Great Britain; others, like the Football Association and the Rugby Football Union cover England and have counterparts in the other home nations. There are also differing levels of overlap between grassroots and the professional games.

29. For an issue like concussion in sport, it can be difficult to see which organisation should have overall responsibility for coherence and compliance. When we asked about where oversight and regulation might lie, Sally Munday, Chief Executive of UK Sport, said:

> It is important to be clear that we are not a regulator. UK Sport does not play that role, that is not our remit. What we are is a distributor of both Exchequer and lottery money to invest in Olympic and Paralympic sports and major events. Depending on the definition of your word "oversight", we are definitely not a regulator.
>
> […]
>
> All of the sports will run their sports in line with the rules and regulations that are set by the international federations. Those international federations will have their own medical Committees where they will set protocols that are then enforced by them at international competitions and it is what the governing bodies in the UK would respond to when they are running a sport in this country.[42]

When funding depends on excellence and achievement, the focus of athletes, clubs and governing bodies on the safety of those athletes can easily be lost. Eleanor Furneaux, a former TeamGB bobsleigher, noted that

> At the moment, there is too much onus on the athlete and then the coach. Realistically, as Monica mentioned earlier, an athlete is going to do everything possible to get back on that ice. You have a headache, you think, "It will be fine, I will just brush it off. I have to play, I have to get back, my team needs me," or, "I need to do this race for myself." It is difficult, but the coach is probably going to be on your side with that.[43]

42 Q410
43 Q134

She also noted the potential resistance of those within the sport for anyone seeking to change rules or protocols around concussion:

> I was not necessarily aware of the real dangers of concussion until after I had experienced it myself. I know that there are a lot of athletes that I speak to who are still in the skeleton programme in particular who think that all this awareness being raised of concussions and head injuries in sport and in skeleton is potentially damaging and going to ruin the sport, in their words. I don't see it as that, but had I not had the injury myself, I think I probably would have.[44]

30. Ex-England rugby player Kyran Bracken told us that grassroots players need better examples to follow:

> The mode that they are in is exactly the same mode that you see in a Six Nations match, where the player will be knocked out and will stand up and say, "I'm not coming off, I'm absolutely fine". What you see on TV is what you see on every single rugby pitch up and down the country. If you are at university and you are in the third team, you are not going to go to A&E when someone says you should, you are going to go out with the boys and you are going to train on the following Wednesday, aren't you?
>
> It needs a lot of education and I think it is the job of the ex-players like myself and other players who are struggling post-rugby to try to educate them. I feel that World Rugby is just too slow to respond to it all.[45]

31. We heard strong support for the medical professionals working in this area. When asked about the pressures that doctors might face to certify that players are healthy and able to participate, Professor Stewart, said:

> I know a lot of pitch-side medical doctors and national team doctors and healthcare staff who look after footballers and other players. To a man and woman I have not met one yet who strikes me as conflicted by their role. Their role is to ensure that no harm comes to the players and to look after them as best they can.[46]

None of our witnesses cast doubt on the focus of doctors and other medical staff on the health of the people they looked after. What we did hear was that their job was made more difficult by: the "way the game is managed and the way that they are allowed to interact with the players";[47] sports failing to learn from other sports;[48] a lack of knowledge about how trauma leads to long term injury;[49] the contribution of training practices;[50] the slow pace of change in the face of increasing evidence;[51] rule changes that encourage more incidences of impact; and the fact that players are becoming bigger and more physically

44 Q120
45 Q150
46 Q23
47 Q23
48 Q24
49 Q5
50 Q28
51 Q149

fit.[52] Regardless of the difficulties, our witnesses consistently told us that sports had a responsibility to attend to this problem; especially in professional sports, which we will look at separately in this Report.

Does elite sport recognise its responsibilities?

32. UK Sport and the English Institute of Sport told us that the incidence of concussion in elite sport is relatively low,[53] that they provide guidance focussed on the individual rather than the sport,[54] based on the Consensus Statement on Concussion,[55] and that it has no remit to regulate[56] or to commission research in this area.[57]

33. The English Institute of Sport was the only organisation giving evidence to this inquiry that supported the use of the Consensus Statement on Concussion as the basis for dealing with concussion in sport. It told us its guidelines based on the statement have been "widely circulated" and are "routinely applied in concussion management". Furthermore, it told us that:

> While this resource has been designed to cover the range of sports that exist under the UK [high performance sport] umbrella, UK Sport and the [English Institute of Sport] acknowledge that most [National Governing Bodies] are likely to have pre-existing concussion management policies or guidelines laid down by their respective international federation, and that, at the point where consideration is being given to an athlete's return to training, the [English Institute of Sport] guidelines may need to be customised so they are appropriate to each sports' demands, environment and governance requirements. It is intended that the current [English Institute of Sport] Guidelines will be updated to reflect the recommendations of the 2021 [Concussion in Sport Group] Conference in Paris, which is due to be attended by the [English Institute of Sport's] Deputy Director of Medical Services.[58]

The English Institute of Sport recognised the problem of a statement that is only updated once every four years, and told us it addresses this in two ways:

> First, we mandate that all doctors and physiotherapists go on a pitch-side trauma course that includes the immediate management of concussion and recognition of concussion, which is incredibly important. That is a pass or fail course and they do that annually.
>
> Secondly, we run a quarterly medical meeting that includes discussion around difficult concussion cases. We invite national governing bodies of sports and chief medical officers to attend those meetings so that we are open about how to manage complex concussions and we educate ourselves and keep up to date on that.[59]

52 Q149
53 Q406, Qq416–417
54 Q407
55 Q404
56 Q409
57 Q426
58 EIS and UK Sport supplementary (CON0065)
59 Q405

34. The test of any system is in how it responds when things go wrong. Eleanor Furneaux's evidence to us recounted an occasion when that happened:

> My injury was January 2018. It was in the middle of a race. It transpires that I had had two knocks in three days. There was one knock where at the time it was not seen as anything particularly to worry about. I had cracked my helmet on my chin and I spent that evening sanding my helmet down to get the crack out.
>
> […]
>
> I did not do a head injury assessment test that evening because I had spoken to my coaches, who obviously were aware of the knock but said they would give me the benefit of the doubt. I knew that I needed to train the next day in order to be in the best position possible for the race on the Friday, I think it was.
>
> […]
>
> I ended up going into this particular corner very late, very badly, and I remember looking up very slightly, probably about this much, off the ice just to try to get my bearings and figure out what was going to happen. Then my head hit the ice and everything went black.
>
> […]
>
> I was flown home the next day. I basically just spent the whole of that Friday—that was in the morning—asleep. I had had a phone call with our doctor from home. I had seen a track doctor. There was someone there, like a medic, who said, "She should probably go off to the hospital, she has clearly had a knock." They did not have an ambulance there because they were just in an ambulance car or something—this was in Germany. They said, "We can call an ambulance but obviously that will take 10 minutes or so." They said, "Don't worry, we will speak to our team doctor back home in the UK so we'll be okay." He advised just to go back to the hotel and sleep. I went back and I slept for the rest of that day, that evening, and then I was flown home the next day. I cannot really remember the flight at all.[60]

35. Dr Jaques of the English Institute of Sport told us that British Bob Skeleton and Bobsleigh Association's rules state that "athletes are encouraged to have a second helmet and are not allowed to train or compete again unless they have a second helmet" but that on this occasion the protocol was not followed.[61]

36. Further questioning revealed that while bids for funding from UK Sport would include information about the support that a sport will provide to athletes, it would have nothing specific to concussion.[62] UK Sport was also clear that it invests "in the governing bodies, not in individual clubs".[63]

60 Qq110–113
61 Q413
62 Q414
63 Q416

37. **The current organisational structures in sport mean that there is no overall responsibility to mandate minimum standards for concussion and head trauma or to assess whether protocols are followed. The system allows sports to be funded as long as their protocols look good on paper with no effort put into assessing how those protocols work in practice. The fact that concussion does not occur at high frequency within the elite sport community means that little effort is made to drive numbers down even further. This means that, some preventable brain injuries are suffered, with the potential for long-term consequences for individuals.**

38. ***It is no longer acceptable for concussion to be addressed in this fashion. We recommend that the Government mandate UK Sport to take a governance role in assuring that all sports it funds raise awareness on the dangers of concussion effectively. Those sports should not only have good protocols to mitigate the risks of such injury but proactively implement those protocols.***

39. **We are concerned that UK Sport, uniquely in our evidence base, considers the Consensus Statement by the Concussion in Sport Group as a satisfactory basis for concussion protocols. We recognise the value in the Consensus Statement that provides a baseline for what the science can say for certain and identifies a gold standard for science in this area of research. Scientific certainty is a worthy ambition, but it should not be a prerequisite for changing sporting rules to improve safety.**

40. ***We recommend a more precautionary approach is taken and a greater proportion of the money spent on elite sport is focussed on protecting the athletes who are at the core of UK success in sporting endeavours. We also recommend that UK Sport fund a chief medical officer to attend events, like the Olympics, who will hold over-arching responsibility to assess the application of protocols and make decisions on who should be allowed to continue to compete in the event of injuries, including head trauma, sustained in practice and competition.***

4 Professional sport

41. Professional sport has a different context and particular issues. The profile of football and rugby dwarves that of other sports and the coverage of concussion in these sports has overshadowed media coverage of the issue in other sports. Much of the written evidence we received related to these two sports and our inquiry has been conducted in the knowledge that there are currently court proceedings regarding head injuries and rugby. In line with the House of Commons resolution on *sub judice*, this Report will refrain from commenting on what may or should have happened in the past with regard to these cases.

42. A key difference between professional sport and elite sport is that professional sportsmen are paid to play their sport, under contract to commercial organisations who seek to profit by selling tickets and broadcast rights to fans and media organisations respectively.

Professional football

43. The media narrative on concussion in sport is heavily weighted to the effects on footballers. This is partly due to the 2020 FIELD study mentioned earlier in this Report which was "the first peer-reviewed research to determine that having played professional football correlated with an increased rate of dementia within its sample group"[64] and found risk rates for former footballers were 5 times greater for Alzheimer's disease, almost 4 times greater for motor neurone disease and 2 times greater for Parkinson's disease. This solid scientific evidence gave greater weight to those who have campaigned on this issue for years.

44. Jeff Astle's daughter, Dawn, founded the Jeff Astle Foundation after a landmark coroner's court verdict in 2002 that "[Jeff Astle's] type of dementia was entirely consistent with heading a ball. The occupational exposure has made at least a significant contribution to the disease which caused death".[65] Dawn Astle told us that she was frustrated that:

> For almost 20 years now football has failed to act and failed to protect its players—men, women, children, all at risk, potentially, with no restrictions, unprotected, uninformed. If the sport is left to its own devices as it is, it will just do what it wants to do. If there was a body overseeing the sport 20 years ago when my dad had died, it would have been saying to it, "You need to take these steps, you need to take these steps," and those steps would have been taken.[66]

64 The Football Association (CON0043)
65 Q146
66 Q161

45. Chris Sutton, a former professional footballer, has also campaigned for changes in football. His father, who was also a professional footballer, recently died of dementia and he told us that football should be held responsible:

> It is really important that the Government take ownership of this because the [Football Association] and the [Professional Footballers' Association] have not done anywhere near enough. They have not been interested in it because it does not benefit them in any way, shape or form.[67]

46. Both the Football Association (England's National Governing Body for the sport) and the Professional Footballers' Association (the body that represents players) engaged strongly with our inquiry and listed a number of studies and programmes that they have funded and run, including, most pertinently, the FIELD study.[68] The Football Association's Chief Medical Officer, Dr Charlotte Cowie, told us that it had put no limit on the funds it would award to research that sought to provide answers to the questions surrounding concussion in football, even if that meant reaching out to the global football community for the necessary financial support.[69]

47. The importance of robust concussion protocols has continued to be demonstrated even now. During the drafting of this Report, the UEFA Euro 2020 football competition was under way. The UEFA Concussion Charter, which was agreed for that competition, indicates that any suggestion of loss of consciousness should lead to the player being removed: a point more explicitly stated in the awareness video on the UEFA website.[70] Early on in the competition, a French footballer sustained a head injury that the player reported had left him unconscious on the grass for a short time (though this was later denied by UEFA).[71] Within minutes he was allowed to return to the field of play, much to the criticism of media campaigners, though UEFA said that they were content the protocols had been followed.[72]

48. **Football's engagement with the issue of concussion, both in England and internationally, has taken too long and its current prominence is due to the campaigning of organisations like the Jeff Astle Foundation and prominent spokespersons like Chris Sutton. We would have expected the Football Association, as the National Governing Body, to have taken a stronger, sustained interest in the issue after the coroner's verdict of Jeff Astle's death. We would also have expected the Football Association to have been publicly hounded by the Professional Footballers' Association, whose key concern should be player welfare. Over the past 20 years neither the Football Association nor the Professional Footballers' Association have fought hard enough, or publicly enough, to address this issue within the broader football community. They are, however, only part of a broader failure to address the issue of acquired brain injury in sport.**

67 Q152
68 The Football Association (CON0043), Professional Footballers' Association (CON0038)
69 Qq193–201
70 "UEFA introduces UEFA EURO 2020 Concussion Charter", UEFA.com, 12 June 2021
71 "Uefa satisfied Benjamin Pavard treatment was in line with concussion protocol", The Independent, 17 June 2021
72 "UEFA's concussion protocols at Euro 2020 are 'an absolute SCANDAL', blasts Chris Sutton, after France defender Benjamin Pavard was allowed to play on against Germany before revealing he lost consciousness for '10 to 15 seconds'", Daily Mail, 16 June 2021

Professional rugby

49. The game of rugby football intrinsically features more player contact than association football, and has had to consider how to monitor and manage the injuries, including head injuries, that derive from that contact. Professor Stewart told us that while rugby has good protocols for reporting and assessing injuries, the incidence of head injury in rugby is unacceptable:

> There is about one brain injury per match in professional rugby, and English rugby has been very good at monitoring the levels of injury. That level of one brain injury per match has stayed the same for about four or five years now and that is an unacceptably high level.[73]

50. Kyran Bracken, ex-England player, speaking for the campaign group Progressive Rugby, thought that the game's current trends might not be helping the issue:

> The game of rugby, since it went professional, has changed hugely. First, the players are bigger and stronger. You are likely to see the likes of Jonah Lomu all over the place now in the backs. The rules in the game have changed so that the ball is in play 30% more than it ever used to be because of the rule of kicking it outside the 22. Effectively, that means there are more tackles and there are more head injuries. Every single team has a professional defence coach and their job is to basically cover any space on the pitch. Rugby has now become a game of collision and not evasion. I am not saying that is a bad thing but that is the truth of it. The third change in the laws allowing lots of substitutes to come on to the pitch and change the direction of the game means the impact and the intensity is huge. Recently, Italy said that it put its best front row on the bench so that they could come on to the pitch in the second half against a tired front row.[74]

51. Progressive Rugby laid out its concerns and challenges for the game in an open letter to Bill Beaumont, a former player and current Chairman of World Rugby.[75] The campaign seeks to improve how the game adapts to the challenge and potential long-term health consequences of head trauma, including limiting contact in training, reducing the number of games per year for international players, extending the minimum number of days before 'Return To Play' to at least three weeks and establishing a Concussion Fund to provide post-retirement welfare. Dr Falvey, chief medical officer for World Rugby, welcomed the interest of groups like Progressive Rugby:

> I understand the frustrations of some groups where they feel the pace of this is not quite what it should be, but anyone who is involved with science knows that good science takes some time. It takes time to do it properly and we need to ensure that any science that is implemented does not have unintended consequences. That is not an excuse for acting on the information that we have, which we are doing and we will continue to do.[76]

73 Q18
74 Q149
75 Open letter, Progressive Rugby, 18 February 2021
76 Q187

52. **The problems faced by both football and rugby are common to a multitude of other sports which do not have the same media attention or the same resources to apply to possible solutions. One of the biggest problems is the apparent lack of clarity on who is responsible for driving change. Change has not happened quickly enough and while the science currently available to us describes the problem it does not provide solutions.**

Professional employment or sporting endeavour

53. We were interested in finding out how professional sport was responding to the increasing scientific evidence of how a sporting career might affect an athlete's later health and the role professional sport was playing in developing good practice.

54. Professional athletes are not simply competing for glory or sporting achievement, they also have the motivation of signing extremely lucrative contracts. Moreover, the clubs employ these sportsmen, creating a distinct relationship that it was important for us to consider.

55. Our attention was drawn to the Management of Health and Safety at Work Regulations 1992[77] as a fundamental framework for workplace injury.[78] The Health and Safety Executive submitted a memo to the inquiry,[79] which indicated that:

> It is the governing bodies and the rules of the sport that dictate how the sport is played. The rules will look to ensure that the sport is a positive and enjoyable experience for the athletes and those spectating whilst also looking to reduce risks to participants or potential for injuries by use of specified equipment e.g. headguards for certain levels of contact and high speed sports. The relevant sporting bodies in the governing of their sport and its management of risk must, or should, consider the element of reasonably practicable controls that would reduce the potential for injury while at the same time not serve to prevent the sport from continuing. Any measures introduced need to be focussed on practical controls and ensuring participants are informed, and their health in monitored.[80]

It went on to indicate that reports for concussion injuries under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013[81] are unlikely, as they would not fit into the specified diseases or injury criteria.[82] The closest equivalent under the Regulations would instead be to report "any crush injury to the head or torso causing damage to the brain or internal organs in the chest or abdomen".[83] The HSE concludes that "sports' governing bodies are best placed to make judgements on the risks and we would expect them to regularly review their rules and procedures as appropriate".[84]

77 https://www.legislation.gov.uk/uksi/1992/2051/contents/made
78 Bill Alexander (CON0045)
79 Health and Safety Executive (CON0063)
80 Health and Safety Executive (CON0063)
81 https://www.legislation.gov.uk/uksi/2013/1471/contents/made
82 Regulation 4 of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013, https://www.legislation.gov.uk/uksi/2013/1471/regulation/4/made
83 Ibid
84 Health and Safety Executive (CON0063)

56. When asked whether sport might benefit from the Health and Safety Executive casting a critical eye over how it manages player safety, Paul Struthers of the Professional Players Federation said:

> I certainly see some value in that overarching role, because you are right: the sports governing bodies are left to their own devices and mark their own homework.[85]

57. The issue of work-related disease and whether a condition might be classed as an industrial disease (and therefore engage an entitlement to compensation such as that paid to miners for pneumoconiosis) is determined by the Industrial Injuries Advisory Council.[86] The Professional Footballers' Association told us that it had applied to the Council after the Jeff Astle coroners verdict in 2003 to have dementia in footballers classed as an industrial disease but that the Council had:

> published a report[87] which concluded that there was "currently insufficient evidence to recommend prescription of dementia in boxers or footballers". The report also found no research on dementia following head injury in jockeys.[88]

The Professional Footballers' Association, after publication of the FIELD study, applied again to the Council to have neurodegenerative diseases in footballers classed as an industrial disease but the outcome of that, at the time of writing remained unclear.

58. When questioned on the issue of greater involvement of the Health and Safety Executive, the Minister for Sport and Tourism, Nigel Huddlestone, said:

> I think you are making a fair point. There are lots of jobs that are dangerous or potentially dangerous, and you are right that the health and safety regulations in the workplace highlight those.[89]

While he considered that there were differences in sport when compared to other sectors, he noted that the lack of any statutory requirements to report injuries, which exist for other sectors, was "one of the areas of concern for me. I am not at all convinced that there is accurate recording of all concussion injuries at the moment".[90]

59. Many of the witnesses to our inquiry, when talking about rugby or football, thought that the sport should cover or contribute to costs related to acquired brain injury. For example, Chris Sutton suggested that the Premier League, Football Association and Professional Footballers' Association should be paying out.[91] The Professional Footballers' Association suggested, in written evidence, that it would like to see:

> an industry-wide fund set up to pay for care home fees and other associated costs for former players who receive a neurodegenerative diagnosis. Due to the overall cost of care, it is simply not financially viable for the [Professional Footballers' Association] to solely fund this support provision. Other

85 Q277
86 https://www.gov.uk/government/organisations/industrial-injuries-advisory-council
87 Sporting injuries: IIAC position paper 15, Industrial Injuries Advisory Council, 10 November 2005
88 Professional Footballers' Association (CON0038)
89 Q470
90 Q480
91 Q163

> football stakeholders such as [the International Federation of Association Football (FIFA)], [the Union of European Football Associations (UEFA)], [the Premier League], the [Football Association] and [the English Football League] should contribute to a joint fund.
>
> Another potential consideration is a Football Care Home that could help support former players who have dementia. For instance, this could be at the FA's Training Centre at St. George's Park or another suitable place. A feasibility study would need to look into the need, cost and management issues of such a project.[92]

While such an endeavour is financially feasible for football, and possibly rugby, due to the amount of money these sports receive, it would probably not be for many of the less well-funded sports such as bobsleigh and ice hockey. The Minister indicated that the NHS was there to support those in need, including ex-sportsmen and women, but that the principle of putting an obligation "on the institutions, bodies or groups that caused that damage in the first place" would be a valid one.[93]

60. **The protections afforded by the state to workers apply as much to footballers and jockeys as they do to miners and construction workers. The Health and Safety at Work Act 1974 was a landmark piece of legislation to protect the health of workers and, along with subsequent Regulations, places a duty of care on employers. The extent of that duty has been established through numerous court cases in many other sectors. We are astounded that sport should be left by the Health and Safety Executive to mark its own homework.**

61. **Our inquiry into concussion has demonstrated that the long-term effects of acquired brain injury are not simply those events that lead to a diagnosis of concussion. Therefore, any impacts that impair clear thinking or involve a heavy impact could contribute to acquired brain injury.**

62. ***We recommend that the Government immediately mandate the Health and Safety Executive to work with National Governing Bodies of all sports to establish, by July 2022, a national framework for the reporting of sporting injuries. Within a year of the framework being published, all organised sports should be required to report any event that might lead to acquired brain injury.***

92 Professional Footballers' Association (CON0038)
93 Qq481–485

5 The need for a coherent approach

63. Constant refrains within our evidence have been:

- the need to better understand how brain injury happens;
- how it might be treated; and
- the need to help those currently suffering from the effects of brain injury.

One of the major issues that has become apparent is the lack of any one responsible body to take charge of the issue and drive a solution for any of these issues. We considered each of these during the course of taking oral evidence.

Research activity

64. The need for more conclusive evidence that links brain injury to increased neurological diseases such as dementia is evident for a number of reasons. While the FIELD study showed a significant correlation between injury and incidence of disease, this was a population level study that explained neither why there was a correlation between brain injury and neurological disease nor what caused it. There is a need to understand the mechanisms by which neurological disease occurs to allow for the development of treatments that might mitigate the severity of disease or even prevent it happening at all. Knowledge of the mechanisms would also aid in making changes to the rules of sports to minimise the risks of brain injury in the first place.

65. Professor Stewart told us that the problem was not a lack of research activity but that "well-designed, focused studies that are directly towards answering application questions and do it with robust methodology are incredibly important, but they are few and far between in this field".[94]

66. There is also the problem that some research is never published[95] or planned research fails to deliver results for one or more reasons.[96] One of the criticisms we heard about the Concussion in Sport Group (and its Consensus Statements) was that it looked at such a small sample of possible research to draw its conclusions.[97] Dr Cowie of the Football Association told us that the availability of subjects to study was a greater barrier to conducting research than getting the necessary funding.[98] All of the research groups are likely to be fishing in the same pool for subjects to study.

67. Another issue raised with us is that, because funding has mainly come from the sports themselves, there is the potential for the findings to exhibit confirmation bias, whereby the results reflect what the commissioning organisation wants to hear. Dr Grey of the UK Acquired Brain Injury Forum said:

> I would like to see more independent research, more transparent research, and more funding for research. Rather than leaving it to the non-government bodies, Government could be taking a leading role. Public

94 Q12
95 Q83
96 Q147
97 Q12
98 Q223

> Health England and some of the various ministries could be contributing to that research. I think together we can do much better than when we are doing this separately.[99]

The same charge was made against the Concussion in Sport Group (which issues the Consensus Statement and is funded by sport) by the Head for Change group:

> From an extensive review of the composition of the CISG, together with their consensus statements, Head for Change agrees that the CISG presents an ultra-conservative perspective emanating from a group of researchers significantly funded by sporting governing bodies. Comments have been made as to the obvious potential for conflict of interest within this group.[100]

More pointed criticisms of the state of research in this area were made by academics from Newcastle University, who said that "It is striking that in the UK there is almost no independent research into rugby injuries, research is almost exclusively funded by the rugby unions",[101] and Durham University, who said:

> We have found it challenging to secure funding for research in this field. Few grant calls are open to concussion research, particularly in sport. To date, most of our research has been conducted with no, or very little external funding.[102]

The Minister for Sport and Tourism subsequently indicated that, if there was suspicion that research was compromised by where the funding came from, he would be open to considering an alternative method of disbursing research money.

68. While we made no analysis of the amount of money that has been made available for research into dementia, or more specifically into how sports-related brain-injury might lead to neurological diseases, written evidence from Alzheimers Research UK,[103] the Drake Foundation[104] and the Love of the Game[105] outlined significant funding being made in this area. It is indubitable however that there is a greater demand for funds than there is money available, and a number of written submissions outline the list of unknowns that the right research projects might begin to address.[106]

69. Whilst we have seen evidence of third-party organisations seeking to gather resources and people together to address this issue,[107] we have had no evidence of the Government taking action or funding research. ***We recommend that the Government uses its power to convene interested parties and establish a single research fund that will co-ordinate and fund research. The allocation of funds should follow the model of the research councils to ensure it is seen to be independent and excellence-driven and to ensure that the available funding is coordinated to cover the research requirements most efficiently.***

99 Q61
100 Head for Change (CON0022)
101 Professor Allyson M Pollock (Clinical Professor of Public Health at Newcastle University); Graham Kirkwood (Senior Research Associate at Newcastle University) (CON0025)
102 Dr Karen Hind (CON0031)
103 Alzheimer's Research UK (CON0047)
104 The Drake Foundation (CON0002)
105 Love of the Game (CON0046)
106 For example, Dr Kanch Sharma; Professor Patrick Kehoe (CON0039)
107 For example, Alzheimer's Society (CON0052), Love of the Game (CON0046) and The International Concussion and Head Injury Research Foundation (ICHIRF) (CON0020)

All research funded in this way should be required to return all results and analysis to a central database that should be freely and publicly accessible. We also recommend that the Government incentivise sport and other groups to contribute to this fund by offering a degree of match-funding.

70. ***We also recommend that the Government convene its own specialist group on concussion, drawing on campaign groups, relevant scientific expertise and sporting institutes to assess, every four years, the emerging science on this issue. This group should take a broader view of the existing science than the Concussion in Sport Group, with its priority on taking a precautionary approach to safety.***

Clear messaging and advice

71. There is a lot of online information and sources regarding concussion and what should be done. There is, however, no obvious single source of the truth. Each sport has to develop its own rules and protocols, campaign groups produce their information and while the NHS provides information on concussion it is, understandably, lacking any of the necessary detail on return to play.[108]

72. From our first evidence session with Professor Ritchie and Professor Stewart through to the final evidence session with UK Sport, **sport**scotland and Sport England, we heard of Scotland's example in bringing all the relevant bodies together to produce a coherent campaign for concussion in grassroots sport. **sport**scotland told us that their campaign was focussed in grassroots and had limitations:

> We are talking about Scottish rugby, we are talking about Scottish football, we are talking about shinty, we are talking about lawn bowls, equestrian, cycling. We have had support from Government Ministers, the Education Minister, Sports Minister, and at the moment around the table sits the Scottish Chief Medical Officer included in that, and academia. We have been able to bring this group together, led by colleagues like my colleague Jonathan Hanson, James Robson and Willie Stewart, who you have heard from. That collaborative approach has allowed us to bring one grassroots-level recognise and remove education tool. We have not got it right and there is a lot more education to go forward and that is very much our next drive.[109]

73. The value of a coherent approach has been strongly represented. Professor Stewart told us that a great success in Scotland is:

> this single policy on concussion management, which applies to every sport across the sports and grassroots. That has not been replicated in any other country and I would ask why not. It is not difficult to put the tools for brain injury and concussion recognition and management in the hands of parents and coaches, but no other country has done that.[110]

108 https://www.nhs.uk/conditions/concussion/
109 Q401
110 Q37

This was endorsed by the Alzheimer's' Society, the UK Acquired Brain Injury Forum and Headway.[111] Doctor Sylvester of the Institute of Sport Exercise and Health and Doctor Etherington of the Faculty of Exercise and Sport Medicine also endorsed the Scottish approach.[112] In contrast, Public Health England told us that they did not have anything to contribute to the inquiry, much to the surprise of the medical experts we spoke to.

74. ***We find it difficult to see any downside of a coherent UK-wide protocol for concussion and recommend that the Government look to the Scottish model and then work with the devolved governments in Scotland, Wales and Northern Ireland to develop, in the next 12 months, a UK protocol for concussion across all sport. This should be used by National Governing Bodies as the minimum standard in creating the rules for their sport and should take account of, and be consistent with, the national framework for the reporting of sporting injuries we recommended earlier in this Report. This protocol should be refreshed every two years.***

75. ***Once this protocol is in place we recommend the Government deliver a comprehensive communications campaign to ensure that everyone involved in sport, from the athletes to coaches and doctors, is aware of best practice. This campaign should signpost where people can find the most current, well-evidenced advice on what action to take in the event of head trauma.***

The Government's role in regulating sport

76. The Government regularly flirts with the concept of greater statutory regulation of sport. The Culture Secretary will often threaten legislation, which rarely materialises. Given this failure to act, we were interested in the potential efficacy of DCMS's recent roundtables on concussion in sport, the 2017 review into duty of care in sport conducted by Baroness Grey-Thompson[113] and DCMS's 2002 report on improving safety in sport.[114]

77. While we were taking evidence, the Government held two roundtable events on concussion in sport. Written evidence from DCMS said that:

> The first DCMS roundtable on 2 February involved current and past sportspeople, and gave a valuable insight into the culture around - and effects of - concussion in sport.
>
> […]
>
> The second roundtable on 25 February was attended by chief executives and medical officers from various sports, along with selected academics, plus the Department for Education (DfE) and NHS England.[115]

111 Qq84–85
112 Qq355–357
113 https://www.gov.uk/government/publications/duty-of-care-in-sport-review
114 "Sport in the UK - Improving Safety and Medical Provision", Department for Culture Media and Sport, 2002
115 Department of Digital, Culture, Media and Sport (CON0049)

78. We were surprised that the roundtables made no mention of the various campaign groups, and witness after witness told us that they had not been invited to participate. The Government did not invite the player representative bodies[116] or even the specialist Faculty of Exercise and Sport Medicine.[117] NHS England confirmed to us that it had not been part of the roundtable:[118] although the consultant at the roundtable worked within the NHS, he did not represent the organisation.[119] As such, we are puzzled that the Government, in its evidence to this inquiry, should be confident enough to conclude that:

> The two roundtables demonstrated that sports are committed to taking safety issues seriously. There may be commonalities across the sector, but it is for each sport to determine the best protocols for their sport.[120]

79. It is encouraging that the Minister, in oral evidence, was more open to the Government's potential overarching role:

> We need to make sure that we have a convening role in Government to co-ordinate this in a more effective way, and sharing learnings and best practice is a route out of that.[121]

Whilst the Minister said that the current roundtable exercise was the first time this issue was being considered by the Government, we are aware of two previous pieces of work that address the issue of concussion.

80. Baroness Grey-Thompson's 2017 review should also be considered. That review explicitly mentions concussion several times, including recommendations on: communicating best practice to schools, coaches and players; better enforcement of return to play protocols; the potential for all-sport insurance to cover catastrophic injury; and the need for a co-ordinated policy on concussion.

81. Professor Nick Webborn also wrote to us, highlighting a 2002 DCMS Working Group that considered improving safety and medical provision in sport. He wrote that:

> This working group, of which I was a member and co-author while Medical Adviser to the National Sports Medicine Institute, set forward a pathway to "to assess, monitor and advise on the improvement of standards of safety and medical provision within organised sport" but government failed to act to bring this about.[122]

The key findings of the 2002 report included the establishment of a UK-wide body to "improve the standards of safety and medical provision for participants in organised sport". The report also indicated that the proposed body, which would be embedded within UK Sport, would collate data, spread best-practice and maintain a national database.

82. **We are concerned that there is history of the Government looking into issues of sporting safety and failing to follow through with practical interventions that would make a difference to the safety and health of those participating. The reports of the**

116 Qq302–308
117 Q354
118 Q371
119 Personal communication with the clerk of the Committee.
120 Department of Digital, Culture, Media and Sport (CON0049)
121 Q436
122 Professor Nick Webborn (CON0062)

2002 Working Group and by Baroness Grey-Thompson in 2017 both suggested ways to address the issue of concussion in sport and yet the Government has not progressed these. We urge the Government to grasp the nettle this time, move past the concerns about how regulation may change sports, and take real and effective action.

83. **It will never be possible to ensure that sport is one hundred percent safe. It should, however, be expected that participants are aware of the risks involved and that there is a precautionary approach to risk management. The Government cannot avoid taking a proactive role in ensuring that this occurs.**

Conclusions and recommendations

The problem of concussion and sport

1. Despite the need for acquired brain injury to be taken seriously by sport, the detail of which we will come onto later in this Report, both written and oral evidence to this inquiry support the health benefits to people through mass participation in sporting activity. An active lifestyle promotes overall good health, including reducing the risk of dementia in later life. (Paragraph 9)

Grassroots sport

2. The reality is that, for most people playing sport, there is no one to stop them except themselves, their friends, teammates, and family. That is how far down the knowledge and awareness of concussion and how to respond to it must reach to ensure people seek the necessary help and treatment rather than returning to the field to the detriment of their long-term health. (Paragraph 17)

3. Doctors may not be able to rely on patients to remember previous concussions or head traumas, especially if these happened at different times playing different sports. They must instead be able to rely on robust information that should be collated on a patient's records. (Paragraph 24)

4. *We recommend that NHS England reviews the way in which it collates data about concussion and concussion-related brain injury and ensures that doctors have a full history available to better inform patient treatments.* (Paragraph 25)

5. We are also concerned that the relative infrequency with which clinicians encounter this kind of condition suggests that many of them are likely to be out of date with regard to the best possible practice in treating these patients and getting them the necessary specialist treatments. (Paragraph 26)

6. *We recommend that NHS England, in collaboration with the Faculty of Exercise and Sport Medicine, within the next twelve months, prepares a learning module on the best practice for treating and advising those who present with concussive trauma and ensure that all General Practice and Accident & Emergency practitioners take this module within the next 2 years. The module, and the updating of practitioners, should be repeated every 2 years thereafter.* (Paragraph 27)

Elite sport

7. The current organisational structures in sport mean that there is no overall responsibility to mandate minimum standards for concussion and head trauma or to assess whether protocols are followed. The system allows sports to be funded as long as their protocols look good on paper with no effort put into assessing how those protocols work in practice. The fact that concussion does not occur at high frequency within the elite sport community means that little effort is made to drive numbers down even further. This means that, some preventable brain injuries are suffered, with the potential for long-term consequences for individuals. (Paragraph 37)

8. *It is no longer acceptable for concussion to be addressed in this fashion. We recommend that the Government mandate UK Sport to take a governance role in assuring that all sports it funds raise awareness on the dangers of concussion effectively. Those sports should not only have good protocols to mitigate the risks of such injury but proactively implement those protocols.* (Paragraph 38)

9. We are concerned that UK Sport, uniquely in our evidence base, considers the Consensus Statement by the Concussion in Sport Group as a satisfactory basis for concussion protocols. We recognise the value in the Consensus Statement that provides a baseline for what the science can say for certain and identifies a gold standard for science in this area of research. Scientific certainty is a worthy ambition, but it should not be a prerequisite for changing sporting rules to improve safety. (Paragraph 39)

10. *We recommend a more precautionary approach is taken and a greater proportion of the money spent on elite sport is focussed on protecting the athletes who are at the core of UK success in sporting endeavours. We also recommend that UK Sport fund a chief medical officer to attend events, like the Olympics, who will hold over-arching responsibility to assess the application of protocols and make decisions on who should be allowed to continue to compete in the event of injuries, including head trauma, sustained in practice and competition.* (Paragraph 40)

Professional sport

11. Football's engagement with the issue of concussion, both in England and internationally, has taken too long and its current prominence is due to the campaigning of organisations like the Jeff Astle Foundation and prominent spokespersons like Chris Sutton. We would have expected the Football Association, as the National Governing Body, to have taken a stronger, sustained interest in the issue after the coroner's verdict of Jeff Astle's death. We would also have expected the Football Association to have been publicly hounded by the Professional Footballers' Association, whose key concern should be player welfare. Over the past 20 years neither the Football Association nor the Professional Footballers' Association have fought hard enough, or publicly enough, to address this issue within the broader football community. They are, however, only part of a broader failure to address the issue of acquired brain injury in sport. (Paragraph 48)

12. The problems faced by both football and rugby are common to a multitude of other sports which do not have the same media attention or the same resources to apply to possible solutions. One of the biggest problems is the apparent lack of clarity on who is responsible for driving change. Change has not happened quickly enough and while the science currently available to us describes the problem it does not provide solutions. (Paragraph 52)

13. The protections afforded by the state to workers apply as much to footballers and jockeys as they do to miners and construction workers. The Health and Safety at Work Act 1974 was a landmark piece of legislation to protect the health of workers and, along with subsequent Regulations, places a duty of care on employers. The

extent of that duty has been established through numerous court cases in many other sectors. We are astounded that sport should be left by the Health and Safety Executive to mark its own homework. (Paragraph 60)

14. Our inquiry into concussion has demonstrated that the long-term effects of acquired brain injury are not simply those events that lead to a diagnosis of concussion. Therefore, any impacts that impair clear thinking or involve a heavy impact could contribute to acquired brain injury. (Paragraph 61)

15. *We recommend that the Government immediately mandate the Health and Safety Executive to work with National Governing Bodies of all sports to establish, by July 2022, a national framework for the reporting of sporting injuries. Within a year of the framework being published, all organised sports should be required to report any event that might lead to acquired brain injury.* (Paragraph 62)

The need for a coherent approach

16. *We recommend that the Government uses its power to convene interested parties and establish a single research fund that will co-ordinate and fund research. The allocation of funds should follow the model of the research councils to ensure it is seen to be independent and excellence-driven and to ensure that the available funding is coordinated to cover the research requirements most efficiently. All research funded in this way should be required to return all results and analysis to a central database that should be freely and publicly accessible. We also recommend that the Government incentivise sport and other groups to contribute to this fund by offering a degree of match-funding.* (Paragraph 69)

17. *We also recommend that the Government convene its own specialist group on concussion, drawing on campaign groups, relevant scientific expertise and sporting institutes to assess, every four years, the emerging science on this issue. This group should take a broader view of the existing science than the Concussion in Sport Group, with its priority on taking a precautionary approach to safety.* (Paragraph 70)

18. *We find it difficult to see any downside of a coherent UK-wide protocol for concussion and recommend that the Government look to the Scottish model and then work with the devolved governments in Scotland, Wales and Northern Ireland to develop, in the next 12 months, a UK protocol for concussion across all sport. This should be used by National Governing Bodies as the minimum standard in creating the rules for their sport and should take account of, and be consistent with, the national framework for the reporting of sporting injuries we recommended earlier in this Report. This protocol should be refreshed every two years.* (Paragraph 74)

19. *Once this protocol is in place we recommend the Government deliver a comprehensive communications campaign to ensure that everyone involved in sport, from the athletes to coaches and doctors, is aware of best practice. This campaign should signpost where people can find the most current, well-evidenced advice on what action to take in the event of head trauma.* (Paragraph 75)

20. We are concerned that there is history of the Government looking into issues of sporting safety and failing to follow through with practical interventions that would

make a difference to the safety and health of those participating. The reports of the 2002 Working Group and by Baroness Grey-Thompson in 2017 both suggested ways to address the issue of concussion in sport and yet the Government has not progressed these. We urge the Government to grasp the nettle this time, move past the concerns about how regulation may change sports, and take real and effective action. (Paragraph 82)

21. It will never be possible to ensure that sport is one hundred percent safe. It should, however, be expected that participants are aware of the risks involved and that there is a precautionary approach to risk management. The Government cannot avoid taking a proactive role in ensuring that this occurs. (Paragraph 83)

Formal minutes

Thursday 15 July 2021

Members present:

Julian Knight, in the Chair

Kevin Brennan

Alex Davies-Jones

Clive Efford

Rt Hon Damian Hinds

Heather Wheeler

Draft Report (*Concussion in sport*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 83 read and agreed to.

Summary agreed to.

Resolved, That the Report be the Third Report of the Committee to the House.

Ordered, That the Chair make the Report to the House

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No.134.

Adjournment

Adjourned till Wednesday 21 July 2021 at 9.30 am

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the inquiry publications page of the Committee's website.

Tuesday 9 March 2021

Professor Craig Ritchie, Centre for Clinical Brain Sciences, University of Edinburgh; **Professor William Stewart**, Consultant Neuropathologist — Q1–56

Dr Michael Grey, Reader in Rehabilitation Neuroscience, UK Acquired Brain Injury Forum; **Peter McCabe**, Chief Executive, Headway; **Richard Oakley**, Head of Research, Alzheimer's Society — Q57–100

Tuesday 23 March 2021

Monica Petrosino, TeamGB ice hockey player; **Eleanor Furneaux**, TeamGB skeleton bobsleigher — Q101–144

Dawn Astle, Jeff Astle Foundation; **Chris Sutton**, Jeff Astle Foundation; **Professor John Fairclough**, Progressive Rugby; **Kyran Bracken MBE**, Progressive Rugby — Q145–166

Dr Charlotte Cowie, Chief Medical Officer, The Football Association; **Dr Éanna Falvey**, Chief Medical Officer, World Rugby; **Dr Mike Loosemore**, Chief Medical Officer, TeamGB boxing and TeamGB snow sports; **Bill Sweeney**, Chief Executive, Rugby Football Union — Q167–245

Tuesday 27 April 2021

Damian Hopley MBE, Chief Executive, The Rugby Players Association; **Paul Struthers**, Director, Professional Players Federation; **Gordon Taylor OBE**, Chief Executive, Professional Footballers Association — Q246–314

Dr John Etherington CBE, Medical Director & Consultant Rheumatologist, Faculty of Sport and Exercise Medicine UK; **Dr Richard Sylvester**, Consultant Neurologist, Institute of Sport, Exercise and Health — Q315–363

Tuesday 18 May 2021

Professor Alistair Burns CBE, National Clinical Director for Dementia and Older People's Mental Health, NHS England — Q364–394

Dr Niall Elliott, Head of Sports Medicine, Sport Scotland; **Dr Rod Jaques OBE**, Director of Medical Services, English Institute of Sport; **Sally Munday**, Chief Executive, UK Sport; **Phil Smith**, Director of Sport, Sport England — Q395–429

Tuesday 25 May 2021

Nigel Huddleston MP, Minister for Sport and Tourism, Department for Digital, Culture, Media and Sport; **Ben Dean**, Director, Sport, Gambling and Ceremonials, Department for Digital, Culture, Media and Sport — Q430–503

Published written evidence

The following written evidence was received and can be viewed on the inquiry publications page of the Committee's website.

CON numbers are generated by the evidence processing system and so may not be complete.

1 Alexander, Bill (CON0045)

2 Alzheimer's Research UK (CON0047)

3 Alzheimer's Society (CON0052)

4 Astle, Miss Dawn (CON0050)

5 British Horseracing Authority (CON0061)

6 Burns CBE, Professor Alistair, supplementary (CON0064)

7 Clarke, Mr Colin (CON0017)

8 Conner, Mr Nic (CON0010)

9 Department for Digital, Culture, Media and Sport (CON0049)

10 EIS and UK Sport supplementary (CON0065)

11 England Boxing; British Boxing Board of Control; Boxing Scotland; Welsh Boxing; and GB Boxing (CON0053)

12 England and Wales Cricket Board (CON0059)

13 FIFA Ethics and Regulations Watch (CON0009)

14 Fair Play for Women (CON0028)

15 Grindrod, Professor Peter (CON0004)

16 Harland, Professor Andy; Spencer, Professor Adrian; Mitchell, Dr Sean; and Ward, Mr Matthew (CON0055)

17 Head for Change (CON0022)

18 Health and Safety Executive (CON0063)

19 Hind, Dr Karen (CON0031)

20 International Mixed Martial Arts Federation (IMMAF) (CON0015)

21 Love of the Game (CON0046)

22 Malcolm, Dr Dominic (CON0036)

23 McArdle, Dr David (CON0001)

24 McArdle, Dr David; and DeMartini, JD, Anne (CON0003)

25 My Wellbeing Analytics Ltd (CON0032)

26 Parkes-Thompson, Mrs Natalie (CON0019)

27 Pender, Lauren (CON0060)

28 Piggin, Dr Joe (CON0007)

29 Pollock, Professor Allyson M (Clinical Professor of Public Health, Newcastle University); and Kirkwood, Graham (Senior Research Associate, Newcastle University) (CON0025)

30 Premier League (CON0041)

31 Professional Footballers' Association (CON0038)

32 Professional Players Federation (CON0035)

33 Rawlinson, Melanie (CON0008)

34 Robinson, Mr Peter (CON0026)

35 Rugby Football Union (CON0044)

36 SAFE MMA (CON0016)

37 Saul, Mrs Dana (CON0023)

38 Sharma, Dr Kanch; and Kehoe, Professor Patrick (CON0039)

39 Silver, Mr David; and Brown, Dr. Nicola (CON0021)

40 Stacey, Ms Maggie (CON0029)

41 The Drake Foundation (CON0002)

42 The Football Association (CON0043)

43 The International Concussion and Head Injury Research Foundation (ICHIRF) (CON0020)

44 The Rugby Football League (CON0033)

45 The Rugby Players Association (CON0030)

46 UK Acquired Brain Injury Forum (CON0054)

47 University of Nottingham (CON0034)

48 Webborn, Professor Nick (CON0062)

49 Williams, Professor Huw; Reuben, Dr Adam; Turner, Dr Michael; Belli, Professor Anthony; Bowtell, Professor Jo; King, Dr Nigel; Bond, Dr Bert; Williams, Dr Genevieve; and Gardner, A/Professor Andrew (CON0024)

50 World Rugby (CON0037)

51 Powell, Mr Tony (CON0005)

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the publications page of the Committee's website.

Session 2021–22

Number	Title	Reference
1st	The future of UK music festivals	HC 49
2nd	Economics of music streaming	HC 50
1st Special	The future of public service broadcasting: Government Response to Committee's Sixth Report of Session	HC 273

Session 2019–21

Number	Title	Reference
1st	The Covid-19 crisis and charities	HC 281
2nd	Misinformation in the COVID-19 Infodemic	HC 234
3rd	Impact of COVID-19 on DCMS sectors: First Report	HC 291
4th	Broadband and the road to 5G	HC 153
5th	Pre-appointment hearing for Chair of the BBC	HC 1119
6th	The future of public service broadcasting	HC 156