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CURRENT ISSUES IN AMERICAN SPORTS: PROTECTING THE HEALTH AND SAFETY OF AMERICAN ATHLETES

HEARING

BEFORE THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

MAY 17, 2017

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ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

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CONTENTS

	Page
Hearing held on May 17, 2017	1
Statement of Senator Thune	1
Statement of Senator Nelson	3
Prepared statement	4
Statement of Senator Sullivan	4
Prepared statement from Jake Wald, Business Development Manager, Positive Coaching Alliance	102
Statement of Senator Markey	5
Statement of Senator Moran	78
Statement of Senator Udall	82
Letter dated May 16, 2017 to Hon. John Thune and Hon. Bill Nelson from Katherine Snedaker, LCSW, Executive Director, PINK Concussions	94
Prepared statement from Katherine Starr, Founder, Safe4Athletes	95
Letter dated May 17, 2017 to Hon. John Thune and Hon. Bill Nelson from David Goodfriend, Chairman, Sports Fans Coalition	97
Statement of Senator Blumenthal	84
Statement of Senator Cortez Masto	85
Statement of Senator Hassan	87
Statement of Senator Young	89
Statement of Senator Moore Capito	90

WITNESSES

Jay C. Butler, MD, Chief Medical Officer, Alaska Department of Health and Social Services and Director of Public Health; and President, Association of State Territorial Health Officials (ASTHO)	6
Prepared statement	8
Maureen Deutscher, Family Representative, Prescription Opioid Abuse Advisory Committee, South Dakota Department of Health	11
Prepared statement	14
Shellie Pfohl, Chief Executive Officer, United States Center for Safe Sport	16
Prepared statement	17
Scott R. Sailor, President, National Athletic Trainers' Association	51
Prepared statement	53
Robert A. Stern, Ph.D., Professor of Neurology, Neurosurgery, and Anatomy, and Neurobiology; Director, Clinical Core, BU Alzheimer's Disease and CTE Center, Boston University School of Medicine	57
Prepared statement	58
Lauryn Williams, Olympian and Proud TrueSport Ambassador, United States Anti-Doping Agency	72
Prepared statement	74

CURRENT ISSUES IN AMERICAN SPORTS: PROTECTING THE HEALTH AND SAFETY OF AMERICAN ATHLETES

WEDNESDAY, MAY 17, 2017

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10:02 a.m. in room 253, Russell Senate Office Building, Hon. John Thune, Chairman of the Committee, presiding.

Present: Senators Thune [presiding], Fischer, Moran, Sullivan, Heller, Moore Capito, Gardner, Young, Nelson, Cantwell, Klobuchar, Blumenthal, Markey, Booker, Udall, Baldwin, Hassan, and Cortez Masto.

OPENING STATEMENT OF HON. JOHN THUNE, U.S. SENATOR FROM SOUTH DAKOTA

The CHAIRMAN. Good morning and welcome to today's hearing.

It is no exaggeration to say that Americans love sports. We love watching them, playing them, collecting sports memorabilia, and even arguing about our favorite teams and athletes.

Whether it is watching the Super Bowl with friends, joining an office bracket pool for "March Madness," or stretching out for the Turkey Trot 5K races on Thanksgiving morning, and the pickup football games later that afternoon, we love our sports.

Personally, I am a Dodgers and a Packers fan, and some of my best moments have been spent competing in sports, or cheering on my two daughters at their meets and games.

This Committee is committed to promoting American success in international competition, ensuring exciting play in our professional leagues, providing opportunity for our student athletes, and maintaining a vibrant sports culture for the benefit of all Americans. At the same time, protecting the health and safety of American athletes of all levels—professional, amateur, student, and youth—is a longstanding priority of the Commerce Committee.

The issue of sexual abuse within the United States Olympic movement has received considerable media attention in recent months. The troubling nature of these reports triggered the Committee's inquiry into the ability of the U.S. Olympic Committee, and the U.S. National Governing Bodies for individual sports, to conduct effective, timely, and impartial investigations into allegations of abuse. I am glad that Shellie Pfohl of the United States

Center for SafeSport is here today to discuss the Center's work to protect these athletes.

While I believe that nothing in the current law prevents USOC and NGBs from taking immediate steps to remove a suspected predator from being in contact with athletes, it is also clear that certain stakeholders have, at times, sown confusion about the legal requirements of the Ted Stevens Olympic and Amateur Sports Act, and manufactured ambiguities behind which to hide.

I am pleased that Senator Feinstein and her colleagues on the Senate Judiciary Committee have advanced legislation to address this issue. I look forward to working with her to strengthen her bill as it advances to the full Senate.

Specifically, any legislation to address this issue must include unambiguous language clarifying that it is the responsibility of our Olympic leaders to provide an environment that is free from abuse.

In the same way Congress codified the United States Anti-Doping Agency to combat the use of performance-enhancing drugs in 2001, I believe we should authorize the U.S. Center for SafeSport as an independent organization with the expertise to investigate and adjudicate abuse allegations as they arise.

Speaking of anti-doping, I am pleased that we are joined here today by Olympic medalist, and True Sport Ambassador, Lauryn Williams, who will testify on behalf of USADA. The Committee last reauthorized USADA in 2014, and since that time has been active on a number of clean sport issues.

For instance, in 2016, following the revelation of an elaborate doping program sponsored by the Russian Government, the Committee conducted oversight of the World Anti-Doping Agency's response, prompting the Agency to appoint a new independent investigator and to expand the scope of its investigation.

Following a reanalysis of samples collected during the 2008 Summer Olympic Games in Beijing, which revealed cheating in the men's pole vault event, I wrote to the International Olympic Committee to correct the final results of that competition and to award the bronze medal to an American, Derek Miles, just last month.

The issue of prescription opioids to treat sports injuries is another growing concern, in particular because of the addiction and overdose risks they carry. Though substance abuse and misuse affects all demographics, athletes are a particularly vulnerable population.

While the media has focused recent attention on the use of prescription opioids in professional sports leagues, this issue impacts all athletes, including at the high school and collegiate levels.

While I wish she were here under different circumstances, I am glad that we are joined by Maureen Deutscher, and her husband Jeff, of Sioux Falls, South Dakota, who will testify about their family tragedy involving the loss of their son, Nick, to opioid painkillers. Maureen and Jeff, I am deeply sorry for your loss, and thank you for your bravery in sharing your story with us today.

Finally, the issue of concussions in sports is a longstanding issue that this Committee has sought to address. Concussions are common injuries among athletes participating in contact sports, and are among the most complex injuries to manage in sports medicine. The Committee has conducted oversight of efforts to prevent and

mitigate the occurrence of concussions in sports, including game rule changes, coaching and player education, guidelines, as well as the development of brain injury and equipment research.

Dr. Jay Clarence Butler of the Alaska Department of Health and Social Services; Mr. Scott Sailor, President of the National Athletic Trainers' Association; and Dr. Robert Stern of Boston University School of Medicine will be able to speak to this issue, as well as many others, that affect our Nation's athletes.

And so, I thank you all for being here today, and I look forward to hearing your testimony, and the opportunity for you to interact with members of this committee, and give us a chance to ask questions.

With that, I will yield to the distinguished Senator from Florida, the Ranking Member, Senator Nelson, for his opening statement.

STATEMENT OF HON. BILL NELSON,
U.S. SENATOR FROM FLORIDA

Senator NELSON. Thank you, Mr. Chairman.

I think this is an opportunity, as the Chairman has said, to start a conversation about what more can be done to protect America's athletes. Obviously, we must protect the young athletes, some of whom are children. They are starting early. They are training for the Olympics.

Obviously, we were all shocked by the revelations of widespread sexual abuse in USA Gymnastics, USA Taekwondo, and other Olympic sports. Even more appalling was evidence that responsible adults were indifferent and looked the other way. When so many young victims can be horribly abused by adults for so long without repercussions, it is a stain on America's proud Olympics heritage.

So we in Congress need to respond to this travesty. I am, along with many others, a sponsor of the bill that has been introduced. This bill would require immediate reporting of sexual abuse allegations, require National Governing Bodies to adopt strict protocols and measures to protect children, and make it easier for victims to come forward and report to the authorities.

We also need, as the Chairman has already outlined very well, to examine athletic doping at the international level. There was a time when we thought of the Olympics, we thought this is just above reproach. What now when we think of the Olympics? You think of scandals that have been revealed involving doping.

Over 100 Russian athletes were banned from the Olympic Games in Rio de Janeiro. We should address attacks on clean, drug-free sports, and protect athletes who do things the right way.

The issue of head injuries is something that is becoming alarming. Each one of us, more than likely, has had a fellow athlete friend along the way that has had concussions. And now, years later, we are seeing the manifestations of those concussions.

Concussions and CTE are not limited to professional sports. They affect children and can have devastating effects on their still-developing young brains.

I want to recognize and commend Senator Udall, who is here with us today, who has been such a champion and a leader on this issue. His dedication to preventing concussions and youth athletic safety is well known to everyone here. I want to thank him, on be-

half of the Committee, for raising awareness about this very troubling issue.

Thank you, Mr. Chairman.

[The prepared statement of Senator Nelson follows:]

PREPARED STATEMENT OF HON. BILL NELSON, U.S. SENATOR FROM FLORIDA

Thank you, Mr. Chairman, for holding this hearing. I'm pleased that we'll be able to start a conversation about what more can be done to protect America's athletes of all ages and at all levels.

For instance, we must protect our young athletes, many of whom are children, training for Olympic sports. We were all shocked by the revelations of widespread sexual abuse in USA Gymnastics, USA Taekwondo, and other Olympic sports. Even more appalling was evidence that responsible adults were indifferent and looked the other way. When so many young victims can be horribly abused by adults for so long without repercussions, it's a stain on America's proud Olympics heritage.

Congress needs to respond to this national travesty. It's why I'm proud to cosponsor the Protecting Young Victims from Sexual Abuse Act of 2017. This bill would require immediate reporting of sexual-abuse allegations, require national governing bodies to adopt strict protocols and measures to protect children, and make it easier for victims to come forward and report to the authorities.

We also need to examine athletic doping at the international level. There are allegations that the Russian government runs a doping program for the sole purpose of providing its athletes an unfair advantage. Over 100 Russian athletes were banned from Olympic games in Rio. We should address attacks on clean, drug-free sports and protect athletes who do things the right way.

Finally, the issue of head injuries in sports is something that only becomes more alarming as more research comes out. As we all know, concussions and CTE are not limited to pro-sports. It's also about kids and the devastating effects on their still-developing young brains. I want to recognize Senator Udall, who's been such a champion and leader on this issue. His dedication to preventing concussions and youth athletic safety is well known to everyone here, and I want to thank him for raising awareness about this very troubling issue.

The CHAIRMAN. Thank you, Senator Nelson.

I want to recognize, for an introduction of one of our panelists today, Senator Sullivan to introduce Dr. Butler, followed by Senator Markey for a short statement to introduce Dr. Stern.

Senator Sullivan.

STATEMENT OF HON. DAN SULLIVAN, U.S. SENATOR FROM ALASKA

Senator SULLIVAN. Thank you, Mr. Chairman.

Thank you and the Ranking Member for holding this important hearing.

I do want to recognize Dr. Jay Butler, who came all the way from the great State of Alaska to testify today. Dr. Butler does great work in the State of Alaska and serves as the Chief Medical Officer and Director in the state.

Although it is not an uplifting topic, Dr. Butler has committed his time and effort across the state, really across the country, to help stymie the opioid epidemic that is raging through Alaska like it is in so many of the other states in the United States.

His efforts have included education and awareness on the dangers of opioid use especially for our young Alaskans; aiding in the distribution of Naloxone to nonmedical personnel and facilities; currently serving as the President of the Association of State and Territorial Health Officials; and representing the State of Alaska in his position of Director of Public Health and Chief Medical Officer for the state.

I will not go through his extensive resume, but will just mention briefly, Mr. Chairman, my experience with Dr. Butler. We worked together last year when we put on a Wellness Summit in the State that was focused on conquering the opioid crisis. Dr. Butler was instrumental in the success of this Summit. Over 500 Alaskans, with several hundred more online, showed up at this Summit.

He participated in planning on the steering committee. He interviewed the United States Surgeon General for a fireside chat and moderated the ending panel of this discussion and Summit.

I just want to thank him for, again, traveling from Alaska, all the work he is doing in our state, and participating on a national level on this important issue that crosses partisan lines. This is an issue that is impacting every single state in our great Nation and Dr. Butler is a leader in this, not only in Alaska, but in our country.

Thank you.

The CHAIRMAN. Thank you, Senator Sullivan. It is always nice to have you here.

Senator Markey.

STATEMENT OF HON. EDWARD MARKEY,
U.S. SENATOR FROM MASSACHUSETTS

Senator MARKEY. Yes, thank you, Mr. Chairman.

Dr. Robert Stern, is a Professor at the Boston University School of Medicine and is the Director of Clinical Research for the BU Chronic Traumatic Encephalopathy Center. Also known as CTE, it is a neurodegenerative disease often found in athletes.

While a lot of Dr. Stern's research focuses on repeated brain trauma in athletes, I know him best through his work on Alzheimer's disease as he is the Director of the Clinical Core at the BU Alzheimer's Disease Center.

Throughout his career, he has won multiple national and federally funded grants for his work. He has published more than 250 journal articles, chapters, and abstracts in his field. He is a Fellow of both the American Neuropsychiatric Association and the American Academy of Neuropsychology.

I just wanted to thank you, doctor, for all of the work which you have done on the brain. For helping to explain, not only Alzheimer's and the pathways that are possible for finding a cure, but also what you have done in becoming the center for the study of the impact on the brain that contact in sports has. You have become the national leader and I just wanted to thank you for that.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Markey, and welcome, Dr. Stern.

I want to just introduce again for the panel in terms of the order of presentation. We will start on my left and your right with Dr. Butler, who is the Chief Medical Officer, as was pointed out by our colleague from Alaska, of the Alaska Department of Health and Social Services.

Mrs. Maureen Deutscher, who is a Family Representative, Prescription Opioid Abuse Advisory Committee on behalf of the South Dakota Department of Health.

Ms. Shellie Pfohl, who is the Chief Executive Officer of the United States Center for SafeSport.

Mr. Scott Sailor, President of the National Athletic Trainers' Association.

Dr. Robert Stern, Professor of Neurology, Boston University School of Medicine.

Ms. Lauryn Williams, we will save our speedster for last, True Sport Ambassador, United States Anti-Doping Agency.

So if you would proceed in that order. Dr. Butler, if you could, confine your oral remarks as closely to five minutes as possible, it will maximize the opportunity that members of the Committee will have to ask questions.

Thank you all for being here.

Dr. Butler.

STATEMENT OF JAY C. BUTLER, MD, CHIEF MEDICAL OFFICER, ALASKA DEPARTMENT OF HEALTH AND SOCIAL SERVICES AND DIRECTOR OF PUBLIC HEALTH; AND PRESIDENT, ASSOCIATION OF STATE TERRITORIAL HEALTH OFFICIALS (ASTHO)

Dr. BUTLER. Good morning, Chairman Thune, Ranking Member Nelson, and members of the Committee.

It is an honor to be able to speak with you today.

In my role as Chief Medical Officer in Alaska, I oversee State-related prevention, preparedness, and response activities. During the past 3 months, in addition to the roles that Senator Sullivan has described, I have also served as the Incident Commander of Governor Bill Walker's opioid response.

In Alaska, we are responding to the opioid epidemic much as we would to any other disaster, whether an earthquake or a tsunami, using an incident command structure to coordinate communication across State Government. This response is addressing the three- to fourfold increase in opioid overdose deaths that have occurred in Alaska over the past two decades, which mirrors an increase that has occurred across our Nation.

The epidemic started somewhat silently, with gradual increases in deaths caused by prescription painkillers as more and more of these drugs were prescribed. The problem has been compounded over the past decade by the increased availability of heroin and more recently of illicitly-produced Fentanyls. The majority of people who use heroin and Fentanyl report that they first became addicted through use of prescription opioid pain relievers.

I want to be clear at the outset of the discussion that the health benefits of participation in sports and physical activity are extensive and well-documented: reduced risk of cardiovascular disease, obesity, diabetes, certain types of cancer, also better musculoskeletal strength, and an improved sense of well-being and connectedness to community.

Youth who participate in sports historically have been shown to be less likely to use illicit drugs. Unfortunately, athletes have not been immune to the devastating effects of the opioid epidemic. Too often, sports-related injuries managed with opioid pain relievers have been the beginning of a path to addiction.

One coach expressed her frustration to me by describing that she had seen too many times an injury leading to a prescription for pills, leading to additional prescriptions for pills, leading to use of a friend's pills, leading to use of any pills that could be obtained by any means, and unfortunately sometimes leading to use of heroin and overdose deaths.

High profile stories of professional athletes who began using prescription opioids for injury and then struggled with addiction or died of overdose may grab the headlines, but we need to recognize that the problem is occurring at all levels of competition. One adult recreational softball league in Alaska with roughly 750 participants has had five players die of opioid overdose.

An epidemiological study of high school students in Michigan found that boys who participated in organized sports were more likely to be prescribed opioid painkillers than those who did not. And as a result, participation in organized sports actually increased the risk of subsequent opioid misuse. With over 4 million youth sports and recreation-associated injuries occurring each year in the U.S., there is a reason for concern.

What can be done? There are no easy answers and no magic bullets. We need to be clear about that. But I would like to highlight three areas of opportunity.

First, we can promote evidence-based pain management strategies and more rational use of opioid pain relievers. Opioids can be useful for the management of acute pain and many people who receive these medications use them without problem.

However, opioids should not be the first line of treatment following any sports injury. These medications are used best when they are prescribed in the lowest effective dose and for the shortest period possible, generally for less than 3 to 7 days.

Larger first time prescriptions have specifically been associated with higher risk of long-term use and thus greater risk of dependency and addiction.

A school nurse recently told me about a student who came back to school after arthroscopic surgery for an athletic injury. In line with school policy, he checked in with her and turned his prescription medicines in. She was shocked to find that he had a bottle of 120 Oxycodone containing pills.

Special care needs to be taken when prescribing these medications to teens. Adolescence is a particularly high risk period and use of opioids—even as prescribed by a healthcare provider—by high school students has been linked to increased likelihood of subsequent misuse.

Second, we can provide more information on the risks of opioid pain relievers for both healthcare providers and the public, including coaches and trainers.

In talking with teens, I frequently hear the sentiment that if opioid pain relievers are really dangerous, then why do doctors prescribe them? In talking to people in recovery, I frequently hear, "No one told me." And, "If I had had any idea how dangerous these drugs were, I never would have taken them."

We can do a better job not only describing the risk of opioids, but also providing information on what can be done in our communities to address the problem including promotion of leftover drug return

and disposal, and talking openly about the recognition, and management of dependency, and addiction as a health issue rather than as solely a criminal justice issue or some type of moral failing.

There is a role for professional athletes, as well as Olympians and other high profile athletes, to be able to serve as spokespersons in promoting conversations to reduce the stigma of addiction.

There is also a need for better continuing medical education for all healthcare providers to improve their knowledge and confidence in optimal pain management and the basics of addiction medicine.

Finally, maybe at the risk of sounding corny, the effective response to this epidemic will be a team sport. It will involve coaches, parents, trainers, and the athletes themselves, as well as organizations including professional, scholastic, and amateur sports leagues, public health agencies, healthcare providers, third party payers, the criminal justice system, educators, businesses, and lawmakers as well.

Working together sports participation cannot only be made safer, but I believe can also be part of how we reduce the number of people who become newly dependent on opioids and increase the number of Americans living in recovery.

Finally, I just want to conclude by pointing out that the issue of opioid abuse is not just an isolated event and not just an isolated topic as we talk about sports safety.

It is no accident that we have the broad range of topics that we are discussing today. These topics are complementary and not in competition.

Sexual assault is a trauma that ultimately can lead to unhealthy coping mechanisms and increase the risk of self-medication.

Traumatic brain injury is a brain process that can lead to altered cognition as well as altered risk assessment, and can also possibly create increased risk of abuse.

So the question is not to ask one another, "What are you doing to address these issues?" But, what we can all do together to solve all of them?

Thank you for your time.

[The prepared statement of Dr. Butler follows:]

PREPARED STATEMENT OF JAY C. BUTLER, MD, CHIEF MEDICAL OFFICER, ALASKA DEPARTMENT OF HEALTH AND SOCIAL SERVICES, AND DIRECTOR OF PUBLIC HEALTH; AND PRESIDENT, ASSOCIATION OF STATE TERRITORIAL HEALTH OFFICIALS (ASTHO)

Good morning Chairman Thune, Ranking Member Nelson, and Committee members. Thank you for the invitation to speak to you this morning. My name is Jay Butler, Chief Medical Officer for the Alaska Department of Health and Social Services and Director of Public Health, and President of the Association of State Territorial Health Officials (ASTHO). In my role of Chief Medical Officer in Alaska, I oversee state health-related prevention, preparedness, and response activities. I maintain board certifications in internal medical, pediatrics, and infectious diseases, and much of both my clinical and public health activities have been focused on infectious diseases. While I am not a specialist in addiction medicine, I have had firsthand experience with the infectious complications of drug use, including endocarditis, skin and soft tissue infections, and HIV and hepatitis C infections.

During the past 3 months, I have also served as incident commander of Alaska Governor Bill Walker's opioid response activity. In Alaska, we are managing the response to the opioid epidemic much as we would the response to any disaster whether that is a pandemic of infectious disease, a terror attack, an outbreak of wildfires, a major earthquake, or a tsunami. In fact, the intensified, multiagency response started with a disaster declaration by Governor Walker in February. Some have

criticized describing the increase in opioid misuse, addiction, and overdose deaths as an "epidemic", and I admit that I generally avoid using the term "epidemic" myself. However, when a single cause of death increases three to four fold over a period of roughly 20 years, as has occurred with opioid overdose deaths in our nation, even the most rigorous definition of "epidemic" has been met.

The first 15 years of this epidemic appears to have been driven by changes in clinical practices relating to pain management and a three-fold increase in prescriptions for opioid pain relievers. The opioid epidemic is like a tsunami in that most of us did not feel the seismic shift in medical practice until the first wave of overdose deaths was upon us. And like a tsunami, additional waves have come ashore—with dramatic increases in heroin deaths over the past decade, driven by the increased prevalence of opioid pain reliever dependence and addiction and by the increased supply, and decreased price, of heroin. The majority of persons who use heroin today report that their addiction started with use of prescription opioid pain relievers. More recently, a third wave of overdose deaths has been driven by an influx of illicitly produced fentanyl and related synthetic opioids. These drugs have spread throughout our nation—overdose deaths due to synthetic opioids have even occurred in the most remote Alaska villages.

Why are we discussing drug misuse and addiction at a hearing on sports safety? The health benefits of participation in sports and physical activity are extensive and well-documented: reduced risk of cardiovascular disease, obesity and diabetes, and certain types of cancer, better musculoskeletal strength, and improved sense of well-being and social connectedness, to name a few. Active people live longer and have better quality of life. Youth who participate in sports generally achieve greater academic success, have been less likely to use drugs or suffer from depression, and are more likely to be physically active adults.

Despite these benefits, athletes have not been immune to devastating effects of the opioid epidemic. Too often, sports-related injuries managed with opioid pain relievers have been the beginning of a path to physical dependency and addiction. While these drugs can be useful in management of pain in severe acute injuries, too often, they are prescribed in large amounts that can lead to prolonged use, leading to physical dependency and addiction, or to diversion and misuse of unused pills. One coach described to me the too-familiar sequence of a sports injury leading to prescribed pills, leading to more prescribed pills, leading to a friend's pills, leading to any pills that can be obtained, leading to heroin, and ultimately leading to addiction or overdose death. High profile stories of professional athletes who begin using prescription opioids for injury and then struggled with addiction, or died of overdose, may grab headlines, but we need to recognize that the problem of opioid misuse occurs at all levels of competition.[1] One adult recreational softball league in Alaska with roughly 750 participants has had 5 players die of opioid overdose. An epidemiological study of high school students in Michigan found that boys who participated in organized sports were more likely to be prescribed opioid painkillers.[2] What was more disturbing was the finding that participation in organized high school sports actually increased the risk of subsequent opioid misuse. With over 4 million youth sports- and recreation-related injuries occurring each year in the U.S., there is reason for concern.[3]

So what can be done? There are no easy answers and there are no magic bullets. Responding to the health challenges of all substance misuse and addictions, including those that are part of the opioid epidemic, requires a multifaceted and multisector approach as outlined in the 2017 ASTHO President's Challenge on public health approaches to preventing substance misuse and addictions.[4] People are dying today; therefore, let's start with what is immediately lifesaving for those who are already living in addiction. We need to prevent drug overdose deaths by increasing access to naloxone, an easy-to-administer medication that can reverse the fatal respiratory depression that kills in an overdose. We can reduce the risk of life-threatening infections related to drug use by removing barriers to clean syringes and needles and by promoting testing for HIV and hepatitis C infections. While these measures can save lives, they do not solve the problem or treat addictions. To increase the number of people living in recovery, we need to fill the immense gap between the number of people in need of treatment and the availability of services to manage drug withdrawal and maintenance of recovery. We also need to reduce the stigma associated with addictions and increase recognition of opioid addiction as a chronic health condition involving the brain. Ultimately, we must prevent substance misuse and addictions by reducing the flood of prescription and illicit opioids into our communities and by improving personal resiliency and community connectedness to reduce the need to self-medicate.

I would like to highlight three specific areas of opportunity to reduce the risk of opioid misuse and addiction among athletes at all levels of competition:

First, we can promote evidence-based pain management strategies and more rational use of opioid pain relievers. Opioids can be useful for management of acute pain, and many people who receive these medications use them without problem. However, it has become clear that opioids should not be the first line of treatment following sports injury, and that these medications are used best when prescribed at the lowest effective dose for the short periods, generally less than 3–7 days, as recommended in the Centers for Disease Control and Prevention's 2016 guideline on use of opioids for pain.[5] While there are encouraging data indicating that there has been some recent decline in total amount of opioids that are prescribed, the number of pills dispensed is still often too many.[6] Larger first-time prescriptions of opioids have been associated with higher risk of long-term use, and thus, greater risk of dependency and even addiction.[7] A school nurse recently told me of a high school athlete who returned to school after arthroscopic surgery—in keeping with school policy, he checked his prescription medications in with the nurse, and she was surprised to see a bottle of 120 pills containing hydrocodone. Special care needs to be taken when prescribing these medications to teens: adolescence is a particularly high risk period and use of opioids *as prescribed by a health care provider* by high school students has been linked to increased likelihood of subsequent misuse.[8,9]

Second, we can provide more information on the risks of opioid pain relievers for both health care providers and the public, including coaches, trainers, and athletes. In talking with teens, I frequently hear the sentiment that if opioid pain relievers are prescribed by doctors, they must be safe. We can do a better job in not only describing the risks of opioids but also providing information on what can be done in our communities, including promoting leftover drug return and disposal and talking about the risks of dependency and addiction. Professional athletes and major league sports can play an important role as spokespersons and in promoting conversation to reduce the stigma of addiction and to encourage positive community action. We need to recognize that the goal of complete absence of pain may not be realistic and pursuing that goal will come at the high price of higher rates of addiction and death. There is also a need for better continuing medical education for all health care providers to improve their knowledge and confidence in optimal pain management and the basics of addiction medicine.[10]

Finally, we need to recognize that we all have a part to play in addressing the opioid epidemic. The problem cannot be solved by simply placing blame or by pinning the responsibility to address this health crisis on one sector. The response to the opioid crisis and prevention of future drug addiction will require teamwork involving the combined efforts of all Americans, including parents, coaches, trainers, and the athletes themselves, as well as organizations such as professional, scholastic, and amateur sports leagues, public health agencies, health care providers, third party payers, the criminal justice system, social service agencies, educators, businesses, and law makers. Working together, sports participation cannot only be made safer, but can also be part of how we reduce the number of people who become newly dependent on opioids and increase the number of Americans successfully living in recovery.

Endnotes

1. Wertheim LJ, Rodriguez K. Smack epidemic: how painkillers are turning young athletes into heroin addicts. *Sport Illustrated.* June 22, 2015.

2. Veliz P, Epstein-Ngo QM, Meier E, Ross-Durow PL, McCabe SE, Boyd CJ. Painfully obvious: a longitudinal examination of medical use and misuse of opioid medication among adolescent sports participants. J Adolesc Health 2014; 54:333–340.

3. Gotsch K, Annest JL, Holmgreen P, *et al.,* Non-fatal sports and recreation-related injuries treated in emergency departments—United States, July 2000–June 2001. MMWR Morb Mortal Wkly Rep 2002; 51(33):736–740.

4. Association of State and Territorial Health Officials. 2017 President's Challenge: Public Health Approaches to Preventing Substance Misuse and Addictions. *http://www.astho.org/addictions/*

5. Dowell D, Haegerich TM, Chou R. CDC Guideline for prescribing opioids for chronic pain—United States, 2016. MMWR Recomm Rep 2016; 65(RR–1):1–49.

6. Hill MV, McMahon ML, Stucke RS, Barth RJ. Wide variation and excessive dosage of opioid prescriptions for common general surgical procedures. Ann Surg 2017; 265(4):709–714.

7. Shah A, Hayes CJ, Martin BC. Characteristics of initial prescription episodes and likelihood of long-term opioid use—United States, 2006–2015. MMWR Morb Mortal Wkly Rep 2017; 66(10);265–269.

8. Miech R, Johnston L, O'Malley PM, Keyes KM, Heard K. Prescription opioids in adolescence and future opioid misuse. Pediatrics 2015; 136(5):e1–e9.

9. McCabe SE, West BT, Veliz P, McCabe VV, Stoddard SA, Boyd CJ. Trends in medical and nonmedical use of prescription opioids among U.S. adolescents: 1976–2015. Pediatrics 2017; 139(4):e20162387.
10. Volkow ND, McLellan AT. Opioid abuse in chronic pain—misconceptions and mitigation strategies. N Engl J Med 2016; 374(13):1253–1263.

The CHAIRMAN. Thank you, Dr. Butler.

Ms. Deutscher.

STATEMENT OF MAUREEN DEUTSCHER, FAMILY REPRESENTATIVE, PRESCRIPTION OPIOID ABUSE ADVISORY COMMITTEE, SOUTH DAKOTA DEPARTMENT OF HEALTH

Ms. DEUTSCHER. Chairman Thune, Ranking Member Nelson, and members of the Committee.

Thank you for the opportunity to provide testimony and our insight regarding opioid use as it relates to the effect on our young athletes in our home state of South Dakota and around the country.

In our 30 years of marriage, my husband Jeff and I have been blessed with three wonderful children: Jeremy, Nick, and Annie. Today, we are here to tell you about our son Nick.

Kind, funny, happy, uplifting—these were some of the words used in memory of Nick by friends and family following his death on July 18, 2015. We would add smart, intuitive, adventurous, frustrating, and amazing. Another recurring theme, "Nick always had your back." He was a true and loyal friend.

We are just a regular Midwest family gathering for meals, enjoying family vacations, and celebrating special occasions together. Jeff and I have supported our children in their education and activities as religious ed. leaders, room parents, coaches, and club leaders.

Nick had positive role models in extended family, teachers, and coaches. Our parenting style, as I would describe it, is consequence when called for, praise, and always love, and we all take care to be there for one another.

So what happened? What did we miss in protecting our son? This has been our daily reflection for the past 21 months and 29 days. We would like to share with you some of Nick's journey through the last 4 years of his life.

Nick excelled in academics and athletics. Nick had many and varied friends. Nick was a bit of a risk taker, always up for the challenge.

Nick's experience with opioids began shortly after his 18th birthday in the fall of 2011 with his MCL/ACL injury; second play of the second game senior year with his High School State Champion football team. Then they prescribed Hydrocodone, and Percocet or Oxycodone, through the partial tear, rehab, back in play for the last game of the season, and subsequent surgery for the full ACL tear.

As though it were yesterday, we recall driving to Walgreens pharmacy directly from the game field for the first of a series of prescriptions. I personally maintained possession and control of Nick's opioid prescriptions for his welfare, but my understanding of the risks associated with the medication did not even scratch the surface.

An alarm went off in November when Nick indicated the Hydrocodone was no longer sufficiently addressing his pain. We shared this information with his orthopedic staff. We were told they were not concerned with the progression, and Percocet was prescribed over the phone and without further evaluation.

Following recovery and rehab from surgery through December of that year, the prescriptions abruptly ceased. Beginning in January, it became very clear that Nick was struggling. He underwent counseling and through our physicians, alternative medications were prescribed to help with the withdrawal culminating in 30 days of residential treatment.

Still, Nick graduated with his class as a Regents Scholar. No stranger to hard work, Nick made it through that very frightening and challenging time, all while under the care of excellent physicians, and all with the continued love and support of his family, and the support of his high school principal, coaches, and staff.

For the next 3 years, Nick attended college classes and worked, but the disease had taken hold and did not retreat. As he continued to struggle, protecting us, his family, as best he could from the fear of what could happen to him and the frustration at not being able to diminish the symptoms of addiction. Still good, kind, and fun, Nick continued to share with us his hope in recovery.

The symptoms of addiction can move a person in directions they do not want to go and often do not comprehend. That happened to Nick as he found himself faced with charges stemming from substance use in 2014. Nick knew what to do, ask for help.

We were blessed to have been able to support him through his work with Tallgrass Recovery in Sioux Falls in two 30-day stays between October 2014 and March 2015. Coming home in March was a young man renewed in his recovery, attending meetings, getting together with his sponsor, going to church, working, and spending time at Tallgrass.

On May 20, 2015 we attended Nick's sentencing hearing for the 2014 offences, and on June 3, Nick checked into the work release program with Minnehaha County for just under four months.

July 18 brought a visit by the sheriff's department at our home at approximately 8:30 p.m. Nick had died in his sleep, having returned to the work release facility after work at approximately 3:30 that afternoon, spending time with others in the program, and laying down for a nap.

Nick died an accidental death. Reports indicated prescription medications in Nick's system, all but two prescribed; one of which was Oxycodone at an elevated level. Nick was 21.

From what we can discern through conversations with Nick's friends and investigative findings, Nick likely relapsed due to the stress of his situation. We believe the medications were intended by Nick for use as a coping tool and to aid in sleep at the corrections facility. But as all too many parents, family members, and friends across the Nation are learning every day, for some people, opioids have their own intentions.

We can no longer experience the joy of Nick's laughter, awesome hugs, and genuine goodness. What we hope to accomplish here is to reinforce the need for careful consideration of the effects of opioid therapy in the management of injury as our young athletes

press forward to perform, to highlight the responsibility of medical professionals in prescribing practices relating to opioid pain medication, and to reinforce the need for education of the public on the addiction risks associated with the use of opioid therapy in sports injury management.

In our experience with Nick, the addiction hit swiftly and without retreat, reinforcing that addiction is a chronic disease.

Over the past 21 months, we have had meetings and conversations with county and State appointed, and elected officials, members of the medical and legal communities, and judicial systems, and agency directors in the very misunderstood field of addiction and recovery.

Jeff and I have provided testimony at our State's Legislative Study on Substance Abuse Prevention, and are currently serving on the South Dakota Governor's Opioid Abuse Advisory Committee.

Through all of the conversations and meetings, there are key issues that rise to the top for Jeff and me. Number one, the risks of addiction to opioid medications and the risk of that leading to further addiction are seriously misunderstood and understated.

And second, the prescription opioid issue begins with just that, a prescription, calling for responsible prescribing practices and distribution monitoring.

As parents, Jeff and I feel our most important role in life is to protect our children; if only we had known then what we know now.

In closing, we are grateful for the current work being done to address the issues at hand. Now, we ask for your thoughtful consideration of the information we have provided and experience gained through our journey with our son, Nick.

Thank you.

[The prepared statement of Mrs. Deutscher follows:]

PREPARED STATEMENT OF MAUREEN AND JEFF DEUTSCHER,
SIOUX FALLS, SOUTH DAKOTA

Ladies and Gentlemen,

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For the next 3 years Nick attended college classes and worked, but the disease had taken hold and did not retreat as he continued to struggle, protecting us, his family, as best he could from the fear of what could happen to him and the frustration at not being able to diminish the symptoms of Addiction.

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The symptoms of Addiction can move a person in directions they do not want to go and often do not comprehend. That happened to Nick as he found himself faced with charges stemming from substance use in 2014. Nick knew what to do, ask for help. We were blessed to have been able to support him through his work with Tallgrass Recovery in Sioux Falls in two 30 day stays between October 2014 and March 2015. Coming home in March was a young man renewed in his recovery, attending meetings, getting together with his sponsor, going to church, working and spending time at Tallgrass.

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In our experience with Nick, the Addiction hit swiftly and without retreat, reinforcing that Addiction is a Chronic Disease.

Over the past 21 months we have had meetings and conversations with county and state appointed and elected officials, members of the medical and legal communities and judicial systems and agency directors in the very misunderstood field of Addiction and Recovery.

Jeff and I have provided testimony at our state's Legislative Study on Substance Abuse Prevention and are currently serving on the SD Governor's Opioid Abuse Advisory Committee.

Through all of the conversations and meetings there are key issues that rise to the top for Jeff and me:

1. The risks of Addiction to Opioid medications and the risk of that leading to further addiction(s) are seriously misunderstood and understated.
2. The prescription Opioid issue begins with just that—a prescription—calling for responsible prescribing practices and distribution monitoring.

As parents, Jeff and I feel our most important role in life is to protect our children . . . if only we had known then what we know now. . . .

In closing, we are grateful for the current work being done to address the issues at hand. Now, we ask for your thoughtful consideration of the information we have provided, experience gained through our journey with our son, Nick.

The CHAIRMAN. Thank you, Ms. Deutscher.
Ms. Pfohl.

STATEMENT OF SHELLIE PFOHL, CHIEF EXECUTIVE OFFICER, UNITED STATES CENTER FOR SAFESPORT

Ms. PFOHL. Thank you, Chairman Thune, Ranking Member Nelson, and members of the Committee.

Mr. Chairman, I am Shellie Pfohl, CEO of the United States Center for SafeSport, a national, nonprofit headquartered in Denver, Colorado. Our organization exists to protect athletes from all forms of abuse. We serve sports' participants from the local recreation leagues to the professional ranks.

The ongoing national discourse around sports has focused largely on two issues, concussions and doping, which remain important topics today.

I thank you, Mr. Chairman, Ranking Member Nelson, and your staffs for adding our voice to the conversation. By bringing attention to emotional, physical, and sexual abuse prevention in sports, you are advancing SafeSport's call to action, which is to champion respect and end abuse.

Forty-five million youth in the U.S. play sports, as well as scores of adults at the collegiate, professional, and recreational level. Athletics offer unparalleled opportunities for personal growth and developing character, all while advancing health and fitness.

A study of 400 female executives found that more than 90 percent participated in sports at sometime in their life. I can honestly say I would not be who I am today without sports.

We never want to see those benefits that I just mentioned undermined by abuse. Sadly, it exists in society as it does in sports, whether it is an athlete bullying another athlete, or a coach exploiting his or her power to sexually assault a player.

While we do not have statistics specific to sports, we know that in the U.S., one in five youth are bullied, and one in ten will be sexually abused before the age of 18.

Fancy slogans are not enough to prevent abuse. We know that best practices and prevention include policies, tools, and training that are embedded in an organization's culture. While we are working to get data on how well sports organizations are doing at preventing abuse, we know anecdotally that much more needs to be done.

Ask any parent of a child playing sports these three simple questions. Did you or your child receive training on how to prevent abuse? Do you know what the sport organization's policy on adult to youth interaction is? Would you know who to turn to if you were concerned about an abuse situation involving your child? My guess is they would answer no to at least one of those questions, which is simply unacceptable.

Our goal is to establish a national SafeSport standard that organizations can use as a measuring stick of their own policies. SafeSport best practices, resources, and training tools will then help these organizations to get to where they need to be.

SafeSport sought the counsel of many organizations in establishing the SafeSport Code that I refer to in my written testimony. From that interaction with other professionals, including those

from youth-serving organizations, we understand that simply conducting criminal background checks is not enough.

Awareness and training are at the heart of a good prevention effort and are essential to our work. To date, more than 300,000 coaches affiliated with the U.S. Olympic and Paralympic movements receive SafeSport training.

We must now work to expand that education beyond coaches to include parents and athletes, and at all levels of competition beyond the Olympics.

In addition to our education and outreach efforts, SafeSport is the independent response and resolution office for the U.S. Olympic and Paralympic movements including the 47 National Governing Bodies that represent each of the sports.

Reports can be made multiple ways including anonymously and are handled by our team of highly qualified investigators. Reports of sexual misconduct fall within the exclusive authority of SafeSport. If a report is substantiated, SafeSport will determine appropriate resolution, which could include a lifetime ban that would apply across any U.S. Olympic organization.

Sports are in my DNA. Every person here has a sports experience, either your own or through a family member underscoring the magnitude of this challenge. We have a lot of work to do. Your efforts to prioritize the health and safety of U.S. athletes goes a long way toward making our SafeSport Call to Action to champion respect and end abuse a reality.

Thank you and I look forward to your questions.

[The prepared statement of Ms. Pfohl follows:]

PREPARED STATEMENT OF SHELLIE PFOHL, CHIEF EXECUTIVE OFFICER, U.S. CENTER FOR SAFESPORT

I. Introduction

The U.S. Center for SafeSport congratulates and thanks the Senate Commerce, Science and Transportation Committee for holding this hearing to address the issue of "Current Issues in American Sports: Protecting the Health and Safety of American Athletes." A special thank you to Chairman John Thune for inviting SafeSport to testify.

The written testimony herein highlights the efforts of SafeSport to foster a national sports culture built on respect and free from abuse. SafeSport is the first of its kind: a national nonprofit dedicated to preserving the safety and well-being of athletes by preventing emotional, physical and sexual abuse in sports. This includes bullying, harassment, hazing and all other forms of misconduct and abuse.

II. State of Play of Abuse with Athletes

The national discourse in the sports world to date has focused on two serious issues: concussions and doping. But there is another that demands our attention. Today, we need to discuss how to recognize, reduce and respond to emotional, physical and sexual abuse of athletes, regardless of age or competitive level.

Three out of four American families with school-aged children have at least one playing an organized sport—that is over 45 million youth. All deserve to reap the benefits of participating in sports, including fitness, fun, social connections, character development and more.

But sports do not happen in a vacuum, they occur in communities across the country where statistics suggest one in five youth are bullied,[1] and one in ten will be sexually abused[2] before the age of 18. These are startling numbers and while we do not know what the data looks like among athletes specifically, we know that abuse is happening and that more must be done.

[1] Stopbullying.gov
[2] Townsend/Rheingold Study (2013)

Sports afford participants a unique ability to learn respect, perseverance and teamwork while building self-esteem, confidence and social skills. Sports are more than a game or competition, sports build character. The sports community must at its core champion respect and protect all athletes from any form of abuse.

That is why ask for your support in authorizing the U.S. Center for SafeSport in S. 534 "Protecting Young Victims from Sexual Abuse Act of 2017."

III. Who We Are

Originally created by the United States Olympic Committee, SafeSport is now an independent 501(c)(3) nonprofit headquartered in Denver, Colorado. The organization is governed by a nine-member board of independent directors, including subject-matter experts in the areas of abuse prevention and response, ethics compliance and sports administration. It's supported financially through the USOC, NGBs and charitable donations.

IV. What We Do

SafeSport is committed to creating and maintaining a culture where all persons who participate in sports programs and activities can work and learn together in an atmosphere free of all forms of emotional, physical and sexual misconduct. SafeSport believes when athletes are safe, they can achieve their full potential.

Prevention is at the heart of SafeSport's mission. SafeSport serves sports organizations across the Nation by providing educational resources that instill positive behavior, build character and develop strong communities. Its programs help to reinforce respect, safety and health in sports. SafeSport is working to help equip these sports organizations and, in turn, millions of athletes, parents and coaches, with tools to address issues of abuse before they occur.

For athletes at every level—from amateur to elite, community-based to professional—SafeSport's approach to prevent emotional, physical and sexual abuse is designed to create a greater positive impact than any single sports organization can achieve alone.

Additionally, the USOC retained SafeSport to investigate all cases of sexual misconduct or abuse for its 47 National Governing Bodies (NGBs).

SafeSport's prevention efforts take shape in the form of two offices within the organization.

Education and Outreach Office

The Education and Outreach Office administers programming to promote respect and prevent abuse; raise awareness of issues; and develops and distributes educational materials and resources. It serves all sports organizations, athletes, parents and coaches.

SafeSport's current training has been taught to more than 300,000 coaches in the United States.

SafeSport is working on a resource guide that organizations can use to evaluate their own policies, procedures, tools and training. SafeSport's goal is to ensure that every sports organization in the United States has access to the right kinds of policies and procedures, tools and training materials to keep their athletes safe, regardless of geography, socioeconomic status or competition level.

While SafeSport addresses the well-being of all athletes, its top priority is on its most vulnerable participants, children. And while best practices and training are essential, awareness of these issues is an important first step, an additional accent on the importance of this hearing. Our awareness campaigns will be supported by "SafeSport Champions", a program that will draw on the popularity of certain athletes and coaches to bring attention to these important issues.

The Response and Resolution Office

The Response and Resolution Office investigates and resolves reports of sexual misconduct for the U.S. Olympic and Paralympic Movements. Its neutral and independent investigators and arbitrators review reports, and gather and analyze data, to improve awareness and prevention programs. Currently, SafeSport has 35 active cases in 14 different sports.

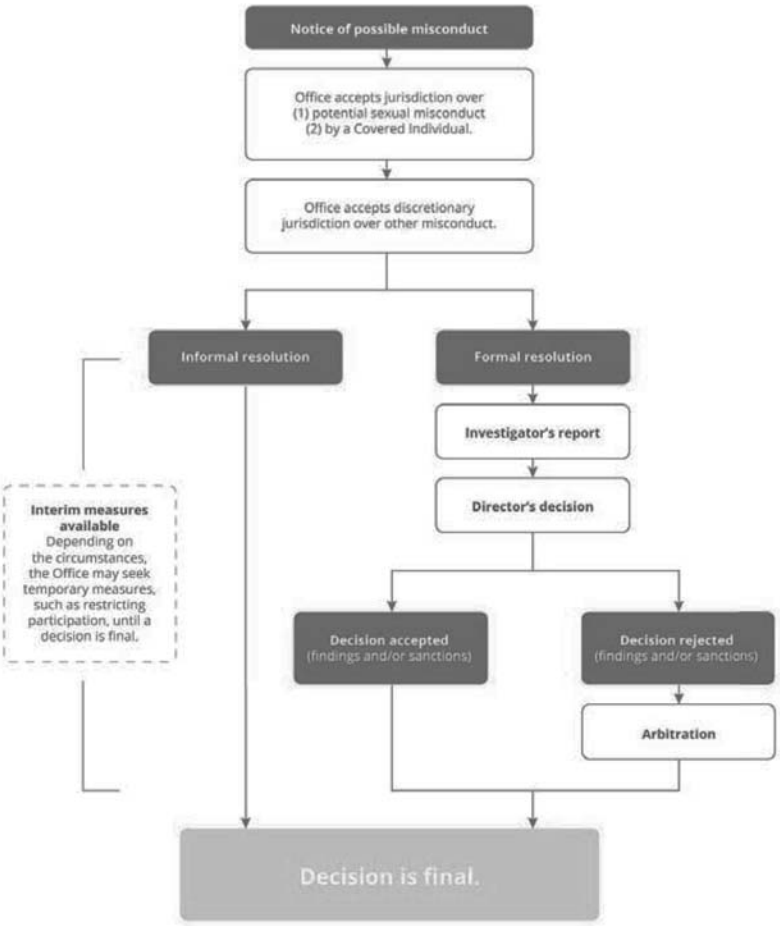
SafeSport's reporting process is available to anyone wanting to report abuse within the Olympic and Paralympic NGBs. SafeSport immediately reports allegations of child abuse to the appropriate law enforcement agency. If a covered individual violates the SafeSport Code,[3] that person can be sanctioned, up to and including a lifetime ban enforced across the Olympic and Paralympic Movements.

[3] SafeSport Code full copy in Appendix

Three policies govern the resolution process for the U.S. Olympic and Paralympic Movement's 47 sport's National Governing Bodies:

- *SafeSport Code for the U.S. Olympic and Paralympic Movement*—The Code applies to all Covered Individuals and identifies and defines prohibited conduct.
- *SafeSport Practices and Procedures for the U.S. Olympic and Paralympic Movement*—These Procedures set forth the informal and formal resolution process the Office uses to resolve possible violations of the *Code* within the Office's authority.
- *Supplementary Rules for U.S. Olympic and Paralympic Movement SafeSport Arbitrations*—The Rules govern the arbitration process (when applicable).

Below is a graphic that illustrates how the Response & Resolution Office works to investigate and resolve possible violations of the *SafeSport Code.* This chart is not meant to represent every aspect of the process.



Appendix can be found at *https://safesport.org/files/index/tag/policies-procedures*

V. Appendix

SafeSport Code https://77media.blob.core.windows.net/uscss/1488581091937.2017-03-03---safesport-code---final.pdf

U.S. CENTER FOR SAFESPORT

SAFESPORT CODE

FOR THE U.S. OLYMPIC AND PARALYMPIC MOVEMENT

Appendix A

U.S. CENTER FOR SAFESPORT

SAFESPORT PRACTICES AND PROCEDURES FOR THE U.S. OLYMPIC AND PARALYMPIC MOVEMENT

TABLE OF CONTENTS

I. APPLICATION AND STANDARDS 1
- A. Application 1
- B. Authority 1
  - 1. Exclusive authority 1
  - 2. Discretionary authority 1
- C. Rules 1
- D. Standard of proof 1

II. REPORTING, CONFIDENTIALITY AND PRIVACY . 1
- A. Reporting 1
  - 1. Anyone may report 1
  - 2. Mandatory reporters 2
  - 3. Ongoing obligation 2
  - 4. Reports concerning child abuse or neglect—separate obligation to report to legal authorities 3
  - 5. No statute of limitations 3
  - 6. Anonymous reports 3
- B. Confidentiality and privacy 3
  - 1. Confidentiality for a Reporting Party 3
  - 2. Reporting Party request for confidentiality 4
  - 3. Privacy 4
  - 4. Parental notification 4

III. RESOLUTION PROCEDURES 4
- A. Participation 4
  - 1. Advisors 4
  - 2. Participation of Reporting Party & Responding Party 5
- B. Preliminary inquiry 5
  - 1. Initiating proceedings 5
  - 2. Interim measures 5
- C. Informal resolution 5
- D. Formal resolution—full investigation 6
  - 1. Steps 6
  - 2. Closing the investigation 6
  - 3. Investigative report 6
  - 4. Director of Investigation's Decision 6
  - 5. Notice of Director's Decision 7
  - 6. Options 7
  - 7. Arbitration 8
  - 8. Reopening a case 8

IV. MISCONDUCT RELATED TO THE OFFICE'S PROCEEDINGS 8
A. Abuse of process 8
B. Failure to report 8
C. Intentionally making a false report 8
V. INTERIM MEASURES 8
A. Notice 9
B. Rules 9
C. Scope 9
D. Measures 9
VI. SANCTIONING GUIDELINES 9
A. Possible sanctions 9
B. Considerations 9
C. Reciprocity 9
VII. RELATED PROCEEDINGS 10
A. Effect of criminal or civil proceedings 10
B. Effect of criminal conviction 10
VIII. USE OF MATERIALS 10

SAFESPORT PRACTICES AND PROCEDURES FOR THE U.S. OLYMPIC AND PARALYMPIC MOVEMENT

Effective as of March 3, 2017

I. APPLICATION AND STANDARDS

A. Application

The U.S. Center for SafeSport Response and Resolution Office (Office) uses the *SafeSport Practices and Procedures for the U.S. Olympic and Paralympic Movement (Procedures)* to determine whether a Covered Individual violated the *SafeSport Code for the U.S. Olympic and Paralympic Movement (Code)*.

B. Authority

1. Exclusive authority

The Office has exclusive authority over (a) actual or suspected sexual misconduct by a Covered Individual; and (b) misconduct that is reasonably related to an underlying allegation of sexual misconduct, as set forth in the *Code*. Exclusive authority means that (a) only the Office will investigate and manage any related hearings involving sexual misconduct and (b) neither the NGB nor USOC will conduct its own investigation or arbitration with respect to possible sexual misconduct, except as otherwise provided.

a. No statute of limitations

Neither criminal nor civil statutes of limitations apply to the *Code* or these *Procedures*.

b. Limit—individuals and non-employment matters

i. The Office's authority extends only to the conduct of *individuals*—Covered Individuals specifically. It does not regulate, investigate or audit LAO, NGB or USOC organizational practices.

ii. The Office's exercise of any authority under its resolution proceedings are independent of any employment decisions made by an LAO, NGB or the USOC, which have sole responsibility for any employment action.

2. Discretionary authority

On the written request of an NGB or the USOC, the Office may, in its discretion, accept jurisdiction over any form of misconduct as set forth in the *Code*.

C. Rules

In resolving allegations of misconduct, the Office applies the standards and rules in effect at the time of the alleged violation. If a report is made regarding conduct that occurred before the effective date of the *Code*, the Office will apply the relevant NGB's rules and regulations and/or other standards applicable at the time of the alleged conduct.

D. Standard of proof

The Office uses the preponderance of the evidence standard to determine whether a Covered Individual violated the *Code*.

II. REPORTING, CONFIDENTIALITY AND PRIVACY

A. Reporting

1. Anyone may report

Anyone who becomes aware of possible sexual misconduct under the *Code* by a Covered Individual may report to the Office and is encouraged to do so.

2. Mandatory reporters

a. Covered Adults

i. Sexual misconduct

Covered Adults ***must*** report to the Office (conduct of which they become aware that could constitute (a) sexual misconduct, (b) misconduct that is reasonably related to the underlying allegation of sexual misconduct and (c) retaliation related to an allegation of sexual misconduct:

- Telephone: 720-524-5640
- Online: https://safesport.org/response-resolution/report. Online reports are accepted 24 hours a day, 7 days a week.
- Regular mail:

  U.S. Center for SafeSport
  c/o Response and Resolution Office
  1385 South Colorado Boulevard, Suite A-706
  Denver, Colorado 80222

ii. Proactive policies

Conduct by a Covered Individual that could violate a proactive policy should be reported to the relevant, promulgating organization. If the relevant, promulgating organization is an LAO, the LAO must report the matter to its NGB. The NGB, in turn, should report the possible violation to the Office.

b. No assessment of credibility or validity

The obligation to report is broader than reporting the criminal arrest of a Covered Individual; it requires reporting to the Office any conduct that comes to the Covered Adult's attention which, if true, would violate the *Code*. Questions about whether conduct triggers a reporting obligation should be directed to the Office.

Individuals should not investigate, or attempt to evaluate the credibility or validity of allegations involving sexual misconduct, as a condition of reporting to the Office.

c. Initial disclosure to LAO, NGB or the USOC

If the possibility of sexual misconduct under the *Code* is first disclosed to a Covered Adult at an LAO, NGB or the USOC, that Covered Adult ***must*** promptly report the possibility of sexual misconduct, in writing, to the Office.

d. Identity of Third-party Reporter and Reporting Party

The Office will not identify or use the name of a Third-party Reporter. Nor will it publicly release a Reporting Party's identifying information.

3. Ongoing obligation

a. The obligation to report is an ongoing one and is not satisfied simply by making an initial report. The obligation includes reporting, on a timely basis, all information about which a Covered Adult becomes aware.

b. If a Covered Adult learns additional information, including information regarding the nature of an incident, the identity of witnesses, statements regarding the incident (including statements by the Reporting Party, Responding Party or a Third-party Reporter), or the existence of evidentiary material (including any documents, electronic communications, emails, text messages, medical reports, photographs, audio or video recordings, or

social medial activity), it must be reported promptly to the Office.

c. The ongoing obligation does not require, and persons should not attempt to conduct, an investigation into possible sexual misconduct. The Office, however, recognizes the potential need for an organization to gather sufficient facts to ensure the safety of its constituents that may be impacted by the alleged misconduct.

4. Reports concerning child abuse or neglect—separate obligation to report to legal authorities

A report of child abuse or neglect to the Office as required under this policy ***does not*** satisfy any separate obligation an individual or organization may have under federal or applicable state law to report known or suspected child abuse or neglect.

a. Covered Adults must report suspicions or allegations of child abuse or neglect to both the Office and appropriate legal authorities. If an allegation reported to the Office involves child abuse or neglect, the Office will also comply with all federal or state reporting requirements.

b. ***No one should investigate suspicions or allegations of child abuse or neglect or attempt to evaluate the credibility or validity of allegations, as a condition of reporting to the appropriate legal authorities.*** For state-by-state reporting information, visit https://www.childwelfare.gov/topics/responding/reporting/.

5. No statute of limitations

Civil or criminal statutes of limitations do not affect or negate the obligation of a Covered Adult to report possible sexual misconduct to the Office under the *Code* and should be reported to the Office, regardless of when it occurred.

6. Anonymous reports

Reports may be made to the Office anonymously. Anonymity means that the identity of the individual who makes the report is not known to the Office. It does **not** mean that the information provided will be protected.

However, an anonymous report may limit the Office's ability to investigate and respond to a complaint. And, if a Covered Adult reports anonymously, it may not be possible for the Office to verify that mandatory reporting obligations have been satisfied. ***Consequently, the Office strongly discourages Covered Adults from reporting anonymously.***

B. Confidentiality and privacy

1. Confidentiality for a Reporting Party

If a Reporting Party would like the details of an incident to be kept confidential, the Reporting Party may speak with the USOC's Athlete Ombudsman's Office.

The USOC Athlete Ombudsman provides independent, cost-free advice to athletes regarding the opportunity to participate in protected competition, and the various policies and procedures associated with participating in sport at an elite level, including SafeSport issues. Confidentiality parameters will be discussed at the outset of any communication and may be limited by mandatory reporting requirements, including cases of immediate threat or danger, or abuse of a Minor.

The Athlete Ombudsman can be reached by phone: 1-800-ATHLETE, 719-866-5000, or via email: athlete.ombudsman@usoc.org. For more information, visit www.athleteombudsman.org.

2. **Reporting Party request for confidentiality**

   If the Office receives notice of possible sexual misconduct, but a Reporting Party does not wish for their name or identity to be shared, does not wish for an investigation to take place or does not want a formal resolution to be pursued, the Reporting Party may make such a request to the Office, which will evaluate the request.

   a. In cases where a Reporting Party requests confidentiality and the circumstances allow the Office to honor that request, the Office will not pursue formal action.

   b. In cases indicating pattern, predation, threat, use of weapons and/or violence, the Office will likely be unable to honor a request for confidentiality.

3. **Privacy**

   Information will be shared only as necessary with investigators, witnesses and the Responding Party. It will be necessary for the Office to (a) notify the NGB of an allegation involving a Covered Individual from that NGB, (b) if the Office seeks an interim measure, (c) if the Office proceeds to a full investigation, and (d) any final decision regarding whether a violation occurred and sanctions, if any. But the Office will not disclose the identity of a Reporting Party to the NGB unless necessary to the case.

4. **Parental notification**

   The Office reserves the right to notify parents/guardians of Reporting Parties regarding any health or safety risk.

III. RESOLUTION PROCEDURES

Proceedings may be conducted by the Office and/or its designees. The timing and scope of the proceedings will be based upon the particular circumstances of the matter at issue. While applying the *Procedures* consistently in similar situations is a priority, they are flexible and will not be applied the same way in every situation. The Office reserves the right to modify its processes as it deems necessary.

Absent compelling circumstances, cases involving more than one Reporting Party and/or more than one Responding Party will be treated as a single matter throughout resolution proceedings, including arbitration, if any.

A. Participation

1. **Advisors**

   a. **Right to an advisor**

   The Reporting Party and Responding Party are entitled to an advisor of their choosing to guide and accompany them throughout proceedings. The advisor may be a friend, mentor, family member, attorney or any other supporter a party chooses to advise them who is both eligible and available. People who may be called as witnesses may not serve as an advisor.

   Each party is entitled to be accompanied by their advisor in all meetings and interviews at which the party is entitled to be present, including intake, interviews and hearings. An advisor should help their advisee prepare for each meeting, and is expected to advise ethically, with integrity and in good faith.

   b. **Rules**

   Each advisor is subject to the same rules, whether or not the advisor is an attorney:

   i. An advisor may not present on behalf of their advisee in a meeting, interview or hearing and

should request or wait for a break in the proceeding if the advisor wishes to interact with Office officials.

ii. An advisor is expected to refrain from interference with the Office's proceedings and may be asked to leave any meeting if an Office official considers the advisor to be disruptive or otherwise failing to respect the limits of the advisor role.

iii. No audio or video recording of any kind is permitted during meetings with Office officials other than as authorized by the Office.

2. Participation of Reporting Party and Responding Party

a. Opportunity to provide evidence

During an investigation, both the Reporting Party and the Responding Party are permitted to provide evidence, including written statements, lists of potential witnesses and other physical or documentary evidence.

b. Cooperation and adverse inferences

Full cooperation and participation in the investigation process is important to ensure that all relevant facts and evidence are presented to the Office so it can determine whether a *Code* Violation occurred. If a party declines to cooperate or participate in an investigation, the Office will make its decision based on the available evidence. If a Responding Party does not cooperate with the Office, an adverse inference may be drawn.

c. Witnesses

Any witness scheduled to participate in an arbitration must consent to be interviewed by the Office prior to any hearing, unless the Office otherwise agrees to the witness's participation.

B. Preliminary inquiry

1. Initiating proceedings

a. When the Office receives notice of a matter within its exclusive authority, or accepts a matter within its discretionary authority, it will undertake a preliminary inquiry to determine if there is (a) reason to believe (b) a Covered Individual (c) violated the *Code*. If, after a preliminary inquiry, the Office concludes there is reason to believe a Covered Individual has violated the *Code*, it will initiate proceedings, which may include an informal or formal resolution.

b. The Office may initiate proceedings without a formal report, and reserves the right to initiate proceedings without a report from, or participation by, the Reporting Party.

2. Interim measures

The Office may, at any point before a matter is final, seek interim measures as set forth below in Part V.

C. Informal resolution

At any time prior to an arbitrator's final decision, the Office has the authority to reach an informal resolution of any matter. An informal resolution is a final disposition of the matter and the final disposition will not be confidential.

D. Formal resolution—full investigation

If the Office determines that a formal resolution process is necessary, it will appoint trained investigators, usually within two business days of determining that a formal resolution should proceed. The number of investigators and the length of the investigation will depend on the nature and/or complexity of the matter.

1. Steps

The investigator(s) may take the following steps:

a. Seek to notify the Reporting Party that the Office is conducting an investigation into the possible *Code* Violation and inform the Reporting Party of the right to meet with the investigator and present evidence in support of the complaint along with the names and/or contact information of any potential witnesses with direct knowledge of the allegations.

b. Seek to interview the Responding Party and advise the Responding Party of the nature of the allegation before making a determination. The Responding Party will be provided the opportunity to present a response to the allegations, including evidence and the names and/or contact information of potential witnesses with direct knowledge of the allegations.

c. Seek to interview witnesses with direct knowledge of the allegations.

d. Seek evidence and take any other action as the investigator may deem relevant to the investigation.

e. Review the evidence provided by a Third-party Reporter, the Reporting Party, the Responding Party or any other source.

f. Document all investigative efforts, including but not limited to interviews, receipt of relevant documentation, database searches, and review and collection of other publicly-available information (e.g., social media, public records).

2. Closing the investigation

At any point prior to final resolution the Office may close the investigation if (a) the investigator could not conduct or complete the investigation, (b) it is determined the Office does not have authority or jurisdiction over the alleged Violation or (c) it is determined there is no reason to believe that there has been a Violation. The Office may, at its discretion, reopen any case closed under this section.

3. Investigative report

Upon completing the investigation, the investigator will prepare a report that, based on the preponderance of the evidence, sets forth findings of fact and references disputed facts and any credibility assessments. The investigator's report will also state whether the Responding Party violated the *Code*. If it is determined that the Responding Party violated the *Code*, the investigator will include in the report a recommended sanction.

4. The Director of Investigation's Decision

The Director of Investigations (Director) will consider the investigative report and any other relevant information. If the Director decides no further investigation is necessary, the Director will issue a Decision that (a) states whether a violation of the *Code* occurred, based on a preponderance of the evidence, (b) the *Code* Violation and (c) the sanction to be imposed (if any), consistent with the Sanctioning Guidelines. The Decision will include a summary of the relevant facts, evidence relied upon and the rationale for

the Decision. Names of witnesses and parties will be replaced with alpha-numeric identifiers.

5. Notice of Director's Decision

The Director will provide written notice and a copy of the Decision to the Responding Party and the Reporting Party. The written notice will state the Responding Party's opportunity to request a hearing before the arbitration body to challenge all or part of the Decision. The Decision will also include notice of the Reporting Party's right, as discussed below, to request a hearing before the arbitration body to challenge a determination that the Responding Party did not violate the *Code*. Notice and receipt may be accomplished either through actual notice or constructive notice. Constructive notice is sufficient for all purposes for which notification is required under these *Procedures*.

a. Actual notice

Actual notice and receipt may be accomplished by any means that conveys actual knowledge of the matter to the person. Actual notice and receipt shall be effective upon delivery.

b. Constructive notice

Constructive notice and receipt may be accomplished by third-party courier, email or U.S. Postal mail.

i. Notice shall be sent to the person's most recent mailing address or email address on file (taking into account the most recent contact information on file with the Office or the LAO, NGB or USOC, as relevant). Also, if the person has provided the Office with the name and contact information of a designated advisor, notice may be sent to the advisor's most recent mailing or email address. Notice shall be achieved if the third-party courier indicates delivery or if the U.S. Postal mail is not returned within a reasonable period of time.

ii. Constructive notice and receipt shall be effective one business day after delivery by a third-party courier or email or five business days after depositing the notice with the U.S. Postal Service.

6. Options

a. Reporting Party

If the Director decides there was no violation of the *Code* by the Responding Party, the matter will be closed. If, however, the Reporting Party is an Athlete or Non-athlete Participant, then the Reporting Party may initiate arbitration within five business days to request a finding that the Responding Party violated the *Code*.

b. Responding Party

If a violation of the *Code* is found, the Responding Party shall have five business days from receipt of the Director's notice to request a hearing concerning the Director's Decision. The Responding Party may request a hearing concerning the Director's finding(s) that there was a violation of the *Code*, the sanction or both. If the Responding Party fails to request a hearing within five business days, the Director's Decision shall go into effect unless the Director determines that the Responding Party has shown good cause for an extension of the time to request a hearing.

c. Interim measures and sanctions remain in effect pending arbitration

All interim measures and sanctions imposed by the Office will be in effect until arbitration, if any, is final. However, the Responding Party may request that the Director delay implementation of the sanctions until the arbitration is final. Whether to delay implementation of the sanctions rests in the sole discretion of the Director.

7. Arbitration

Any arbitration will be conducted pursuant to the *Supplementary Rules for U.S. Olympic and Paralympic SafeSport Arbitrations (Rules).* On receiving a hearing request from the Responding Party, the Office will initiate an arbitration as provided for in the *Rules*. If these *Procedures* conflict with the *Rules*, the *Rules* govern.

8. Reopening a case

At any time after an informal resolution, Decision or arbitration is final, either the Reporting Party or Responding Party may request that the Office reopen a matter to consider new evidence, unavailable during the original hearing or investigation, that could substantially impact the original finding or sanction. A summary of the new evidence and its potential impact must be included in this request. Whether to reopen a case is within the Director's sole discretion.

IV. MISCONDUCT RELATED TO THE OFFICE'S PROCEEDINGS

When the Office is engaged in proceedings related to an actual or suspected *Code* Violation, and even after a matter is final, the following behavior by a Covered Individual may be considered misconduct, which violates these *Procedures*, and may give rise to sanction: abuse of process, failure to report, intentionally making a false report, or Retaliation.

A. Abuse of process

Direct or indirect abuse of or interference with Office proceedings by: (a) falsifying, distorting or misrepresenting information; (b) destroying or concealing information prior to or during an investigation; (c) attempting to discourage an individual's proper participation in or use of, the Office's processes; (d) harassing or intimidating (verbally or physically) any person involved in the Office's processes before, during and/or following proceedings (including up to and through arbitration); (e) publicly disclosing a Reporting Party's identifying information; (f) failing to comply with an interim measure or other sanction; or (g) influencing or attempting to influence another person to commit abuse of process.

B. Failure to report

A failure by a Covered Individual to report actual or suspected misconduct that could violate the *Code*.

C. Intentionally making a false report

A report that is intentionally false or made maliciously without regard for truth.

V. INTERIM MEASURES

At any point before a matter is final through these *Procedures* or arbitration, interim measures may be appropriate to ensure the safety or well-being of the Reporting Party, Athletes, other Non-athlete Participants or the Responding Party. Interim measures may also be appropriate where an allegation against the Responding Party is sufficiently serious that the Responding Party's continued participation could be detrimental to sport or its reputation. Nothing in these *Procedures* prevents the Office, LAO, NGB or USOC from taking appropriate interim measures upon notice of an imminent threat of harm. In such emergency

circumstances, it may be appropriate to immediately remove a Covered Individual to address such a threat.

A. Notice

Unless imposed under emergency circumstances involving an imminent threat of harm, the Office will notify a Responding Party that it will impose interim measures unless the Responding Party requests an interim measures hearing as set forth in the *Rules*.

B. Rules

Any interim measures hearing will be conducted according to the *Rules*.

C. Scope

The interim measures hearing is not to be a full hearing on the merits and is limited to determining whether there exists reasonable cause to impose one or more interim measure(s).

D. Measures

Interim measures may include, but is not limited to, altering training schedules, providing chaperones, implementing contact limitations between the parties, and suspensions.

VI. SANCTIONING GUIDELINES

Sanctions will be reasonable and proportionate to the *Code* Violation and surrounding circumstances with the intended effect of protecting relevant participants.

A. Possible sanctions

One or more of the following sanctions may be recommended or imposed singularly or in combination: (a) written warning; (b) educational or behavioral programs; (c) loss of privileges; (d) probation; (e) suspension or other eligibility restrictions, up to and including permanent ineligibility. The Office reserves the right to lessen or broaden any range of recommended sanctions in the case of mitigating circumstances or egregiously offensive behavior.

The Office may maintain a searchable database of Covered Individuals who have had their eligibility restricted or suspended under these *Procedures* on or after March 3, 2017.

B. Considerations

Factors relevant to determining appropriate sanctions include, without limitation:

1. Seriousness of the Violation;
2. The Responding Party's prior history;
3. Ages of individuals involved;
4. Whether the Responding Party poses an ongoing threat to the safety of others;
5. Voluntary disclosure of offense and/or cooperation by the Responding Party;
6. Disposition of an investigation by state or federal law authorities;
7. Real or perceived impact of incident on the Reporting Party, NGB(s) or USOC; and
8. Other mitigating and aggravating circumstances.

C. Reciprocity

A sanction as to one NGB's Covered Individual, resulting from the Office's exercise of its exclusive or discretionary authority, shall also be enforced by the USOC and all other NGBs.

VII. RELATED PROCEEDINGS

A. Effect of criminal or civil proceedings

Because the standards for finding a violation of criminal law are different from the standards for finding a violation of the *Code*, the resolution of a criminal proceeding is not determinative of (but may be relevant to) whether a violation of the *Code* has occurred, regardless of the outcome of any criminal process. Conduct may constitute sexual misconduct under the *Code* even if the Responding Party is not charged, prosecuted or convicted for the behavior that constitutes a potential violation of the *Code*, is acquitted of a criminal charge, or legal authorities decline to prosecute.

The Office's resolution will not typically be altered or precluded on the grounds that (a) a civil case or criminal charges involving the same incident or conduct has been filed, or (b) that charges have been dismissed or reduced; or (c) a lawsuit has been settled or dismissed. However, the Office may:

1. Undertake a delay in its investigation or resolution process to avoid any conflict or interference with law enforcement proceedings; and/or
2. Comply with a law enforcement request for cooperation when criminal charges associated with the incident or conduct that invoked this process is being investigated.

B. Effect of criminal conviction

If the Responding Party is convicted of a crime or subject to a Criminal Disposition related to the underlying misconduct, the Office may either investigate or conclude that a violation of the *Code* occurred based on a conviction or Criminal Disposition. If a conclusion is reached that a violation of the *Code* occurred, the Office may issue a sanction.

VIII. USE OF MATERIALS

Materials created or produced by the Office and marked confidential as part of these *Procedures* and any arbitration under the *Rules* shall not be disclosed outside those proceedings, except as required by law.

Appendix B

SUPPLEMENTARY *RULES* FOR U.S. OLYMPIC AND PARALYMPIC SAFESPORT ARBITRATIONS

TABLE OF CONTENTS

R-1. Application 1
R-2. Scope 1
R-3. Arbitrator qualifications 1
R-4. Parties 1
R-5 Advisor 1
R-6. Confidentiality 1
R-7. Initiating arbitration 1
R-8. Number of arbitrators 2
R-9. Arbitrator appointment 2
a. Single arbitrator 2
b. Three arbitrators 2
c. Interim measures hearings 3
R-10. Notice to arbitrator of appointment 3
R-11. Jurisdiction and conflicts of interest 3
a. Jurisdiction 3
b. Conflicts of interest 3
c. Replacing a conflicted arbitrator 3
R-12. Vacancies 4
a. Single arbitrator panel 4
b. Three-arbitrator panel 4
R-13. Submissions to, and communication with, arbitrator 4
R-14. Hearing concerning sanctions 4
a. Scope 4
b. Standard of review 4
c. Briefing 4
d. Oral argument 4
e. Decision 4
R-15. Pre-hearing conference 4
R-16. Discovery 5
R-17. Date and time of hearing 5
R-18. Place of hearing 5
R-19. Attendance 6
R-20. Oaths 6
R-21. Interpreters 6
R-22. Continuance 6
R-23. Arbitration in the absence of a party or advisor 6
R-24. Standard of proof 6
R-25. Rules of evidence 6
R-26. Evidence by affidavit 6
R-27. Hearing 6
a. Arbitrator to manage proceedings expeditiously 6
b. Opening statements 7

c. Presenting evidence 7
d. Examining witnesses 7
e. Role of the Reporting Party 8
f. Closing statements 8
g. Hearing closed to the public 8
h. No disclosure of information 8
i. Recording 8
R-28. Closing of hearing 9
R-29. Waiver of rules 9
R-30. Extensions of time 9
R-31. Notice and receipt 9
R-32. Decisions 9
a. Majority decision 9
b. Time 9
c. Form 9
d. Scope 9
e. Delivery to parties 9
R-33. Modifying decision 9
R-34. Appeal 10
R-35. Filing fees and expenses 10
R-36. Other fees and expenses 10
R-37. Arbitrator's compensation 10
R-38. Allocating fees and expenses 11
R-39. Interpreting and applying the Rules 11
R-40. Interim measures 11
a. Notice to the Responding Party 11
b. Arbitrator 11
c. Filing fees and expenses 11
d. Procedures 12
e. Standard of review 12
f. Decision 12
g. No appeal 12
h. Final hearing expedited if interim measures imposed 12
Exhibit 1 13
Exhibit 2 14
Exhibit 3 15

SUPPLEMENTARY *RULES* FOR U.S. OLYMPIC AND PARALYMPIC SAFESPORT ARBITRATIONS

Effective as of March 3, 2017

*All capitalized terms not otherwise defined here shall be defined as set forth in the *SafeSport Code for the U.S. Olympic and Paralympic Movement*.

R-1. Application

The Commercial Arbitration *Rules* of the American Arbitration Association, as modified by these *Supplementary Rules for U.S. Olympic and Paralympic SafeSport Arbitrations (Rules)* shall apply to arbitrations arising out of the *SafeSport Practices and Procedures for the U.S. Olympic and Paralympic Movement (Procedures)*. If there is any variance between the Commercial Arbitration *Rules* and these *Rules*, these *Rules* govern.

R-2. Scope

Arbitration shall resolve only whether a Responding Party violated the *SafeSport Code for the U.S. Olympic and Paralympic Movement (Code)* and/or the appropriate sanction (if any). Challenges to, or complaints about, any organizational practices or procedures shall not be addressed and the arbitrator shall be limited to evaluating whether a Covered Individual violated the *Code* and, if so, the appropriate sanction.

R-3. Arbitrator qualifications

The pool of arbitrators for SafeSport cases shall consist of individuals who are U.S. citizens and meet the SafeSport Arbitrator Qualifications (Exhibit 3), as determined by the arbitration body. Any reference to arbitrator shall also refer to an arbitration panel consisting of three arbitrators, if applicable. All arbitrators in the SafeSport arbitrator pool will receive specialized training.

R-4. Parties

When the Responding Party requests a hearing under the *Rules*, the parties to the arbitration will be the Office and the Responding Party. When the Reporting Party requests a hearing under the *Rules*, the parties to the arbitration will be Reporting Party and the Responding Party. Any reference to the Office in these *Rules* shall refer to the Reporting Party. A reference to the parties, the Office, the Responding Party or the Reporting Party will include any parent or guardian of a Minor, unless otherwise stated herein.

R-5 Advisor

Any party (and the Reporting Party) may have a single advisor, at that party's own expense. The advisor may but need not be an attorney. The advisor may participate in the pre-hearing conference, confer with the advisee during the hearing, clarify procedural questions, present opening and closing arguments on behalf of the advisee, suggest questions to the advisee and the hearing panel during witness examinations, or to the extent direct examination by the parties is permitted, question witnesses on behalf of the advisee. A party intending to have an advisor shall notify the other party and the arbitration body of the name and address of the advisor a minimum of 24 hours before the date set for the hearing or other proceeding at which the advisor is first to appear. The parties are responsible for keeping the arbitration body informed of any changes in advisors. Notice given to a designated advisor shall be deemed notice to the advisee.

R-6. Confidentiality

The arbitration, including all pre-hearing matters, shall be subject to the confidentiality provisions set forth in the *Procedures* and other confidentiality policies adopted by the U.S. Center for SafeSport Response and Resolution Office (Office).

R-7. Initiating arbitration

After receiving a request for an arbitration hearing and the required fees from the appropriate party under R-35, the Office will send a

notice to the Responding Party, the Reporting Party and the arbitration administrator informing them that an arbitration has been initiated and requesting confirmation of an email address to which notice will be deemed received upon mailing to such address.

The notice shall set forth (i) the alleged Violation; (ii) the sanction determined by the Office; (iii) the recipient's confidentiality obligations; and (iv) that any recipient who violates confidentiality obligations shall be subject to the jurisdiction of the Office and may be held, after proper process, to have violated the *Code*.

R-8. Number of arbitrators

There shall be one arbitrator. If the Office's sanction involves a suspension or period of ineligibility that is two years or longer, the Office or the Responding Party may request a three-arbitrator panel as provided in R-9.b.

R-9. Arbitrator appointment

a. Single arbitrator

(1) Promptly after arbitration is initiated, the arbitration body will send simultaneously to each party an identical list of nine arbitrators, all of whom shall be attorneys or retired judges. The parties are encouraged to agree to an arbitrator from the submitted list and to advise the arbitration body of their agreement.

(2) Within 48 hours after receiving the arbitrator list, the Office and the Responding Party each may strike the names of up to three arbitrators from the list and return the list to the arbitration body. If a party does not return a strike list within the time specified, all persons named in the list shall be deemed acceptable to that party. The names stricken by a party will not be disclosed to the other party.

(3) From among the persons who have been approved on both lists the arbitration body shall invite an arbitrator to serve. If, for any reason, an arbitrator cannot be appointed from the submitted lists, the arbitration body shall have the power to make the appointment from among the other attorneys or retired judges of the pool, not to include any arbitrator previously stricken by a party.

b. Three arbitrators

(1) If the Office's sanction involves a suspension or period of ineligibility of two years or longer, the Responding Party shall, when requesting a hearing, advise the Office whether a panel of three arbitrators is requested. The Office shall also have the right to request a panel of three arbitrators and the arbitration body shall be so advised.

(2) Promptly after arbitration is initiated, the arbitration body will send simultaneously to each party an identical list of 12 arbitrators, at least four of whom shall be attorneys or retired judges.

(3) Within 48 hours after receiving the arbitrator list, the Office and the Responding Party each may strike the names of up to four arbitrators from the list and return the list to the arbitration body. If a party does not return a strike list within the time specified, all persons named in the list shall be deemed acceptable to that party. The names stricken by a party will not be disclosed to the other party.

(4) From among the persons who have been approved on both lists, the arbitration body shall invite three arbitrators to serve, one of whom must be an attorney or retired judge. If, for any reason, the three arbitrators (including at least one attorney or retired judge) cannot be appointed from the submitted lists, the arbitration body shall have the power to make the appointment from among the other members of the pool, not to include any arbitrator previously stricken by a party.

c. Interim measures hearings

If an interim measures hearing is requested by the Office under R-40, it shall be heard by a single arbitrator, who is an attorney or retired judge, appointed by the arbitration body. The interim measures hearing arbitrator cannot manage the subsequent proceedings or serve as an arbitrator in a subsequent arbitration hearing of the matter.

R-10. Notice to arbitrator of appointment

Notice of the appointment of the arbitrator, whether appointed by the parties or by the arbitration body, shall be sent to the arbitrator by the arbitration body, together with a copy of these *Rules*. A signed acceptance by the arbitrator shall be filed with the arbitration body.

R-11. Jurisdiction and conflicts of interest

a. Jurisdiction

The arbitrator shall have the power to rule on the arbitration body's jurisdiction, including any objections with respect to the existence, scope or validity of the arbitration agreement. Any challenges to the arbitrator's jurisdiction must be made at the pre-hearing conference and shall be decided before the hearing, as set forth in R-15.

b. Conflicts of interest

(1) Any person appointed as an arbitrator shall disclose to the arbitration body any circumstance that could affect impartiality or independence, including any bias, any financial or personal interest in the result of the arbitration, or any past or present relationship with the parties or witnesses.

(2) The arbitration body shall communicate any information concerning a potential conflict of interest to the relevant parties and, as appropriate, to the arbitrator.

(3) A party may file an objection with the arbitration body contesting an arbitrator's continued service due to a conflict of interest. Upon receiving an objection, the arbitration body shall determine whether the arbitrator should be disqualified and shall inform the parties of its decision, which shall be conclusive. The parties may agree in writing that an appointed arbitrator subject to disqualification will not be disqualified.

c. Replacing a conflicted arbitrator

If the arbitration body determines that a selected arbitrator has a conflict of interest with one of the parties and the parties do not agree to waive the conflict, then:

(1) Single arbitrator panel

The arbitration body shall select a substitute arbitrator from the remaining attorneys or retired judges named on the arbitrator pool list. If the appointment cannot be made from the list, the arbitration body shall have the power to make the appointment from among other attorneys or retired judges in the arbitrator pool without the submission of additional lists, not to include any arbitrator previously stricken by a party

(2) Three-arbitrator panel

If an attorney or retired judge remains, then the arbitration body shall select a substitute arbitrator from the remaining names on the arbitrator pool list. If the appointment cannot be made from the list, the arbitration body shall have the power to make the appointment from among other members of the arbitrator pool without the submission of an additional list, not to include any arbitrator previously stricken by a party.

R-12. Vacancies

If an arbitrator is no longer able to hear a case for which the arbitrator has been appointed, the vacancy will be filled as follows:

a. Single arbitrator panel

The arbitration body shall select a substitute arbitrator from the remaining attorneys or retired judges. If the appointment cannot be made from the list, the arbitration body shall have the power to make the appointment from among the other attorneys or retired judges of the full arbitrator pool without the submission of additional lists, not to include any arbitrator previously stricken by a party.

b. Three-arbitrator panel

If no attorney or retired judge remains on the panel, then the arbitration body shall select a substitute arbitrator from the remaining attorneys or retired judges on the arbitrator list. If the appointment cannot be made from the list, the arbitration body shall have the power to make the appointment from among the other attorneys or retired judges of the full arbitrator pool without the submission of additional lists, not to include any arbitrator previously stricken by a party. If an attorney or retired judge remains on the panel, then the arbitration body shall select a substitute arbitrator from among the remaining names on the arbitrator list, or, if the appointment cannot be made from the list, the arbitration body shall have the power to make an appointment from among the other members of the full arbitrator pool without the submission of additional lists, not to include any arbitrator previously stricken by a party.

R-13. Submissions to, and communication with, arbitrator

Except as provided under R-27.d., no party shall communicate unilaterally concerning the arbitration with an arbitrator or a candidate for an arbitrator position. Any documents submitted by any party to the arbitration body or to the arbitrator (with the exception of arbitrator strike lists under R-9) shall simultaneously be provided to the other party or parties to the arbitration.

R-14. Hearing concerning sanctions

If a Responding Party requests a hearing concerning only the Office's sanctions, the following *Rules* apply:

a. Scope

The Violation and the underlying facts will be deemed established. The arbitrator will determine whether the sanctions imposed fall outside the range of sanctions set forth in the *Procedures* and/or are otherwise inconsistent with the cumulative conduct history of the Responding Party.

b. Standard of review

The arbitrator is authorized to modify the sanction only upon finding that the Office abused its discretion.

c. Briefing

Within 10 business days of the arbitrator's appointment, the Responding Party shall file a brief setting forth the basis for the challenge to the sanction. Within seven business days of the Responding Party's filing, the Office shall file a responsive brief.

d. Oral argument

The decision shall be based on the parties' briefs and the Director's Decision. However, the arbitrator may in the arbitrator's discretion allow for oral argument.

e. Decision

The arbitrator will render a final and binding written decision to all parties within five business days from briefing.

R-15. Pre-hearing conference

a. The arbitrator shall schedule as soon as practicable a preliminary pre-hearing conference with the parties by

telephone or video teleconference, but no sooner than four business days and no later than 10 business days after the arbitrator is appointed.

b. At least two business days before the pre-hearing conference, the Responding Party shall provide the Office and arbitration body with a written answer to the Office's decision against him/her (to include a written statement containing Responding Party's summary of the factual rebuttal to the Violation and the defenses the Responding Party intends to raise at the arbitration) and the documentary evidence and witnesses that the Responding Party intends to present at the hearing. If the Responding Party fails to submit the required information, the arbitrator has the discretion to deny its admittance at the arbitration.

c. The pre-hearing conference will be directed by the arbitrator and shall be the exclusive opportunity of the parties to address issues that need to be resolved before the hearing, including, but not limited to:

(1) the timeline for the exchange of evidence and witness lists;

(2) any expected evidentiary issues;

(3) any challenges to jurisdiction;

(4) any disputes over the disclosure or exchange of evidence; and

(5) the scheduling and logistics of the hearing, to include without limitation the amount of time each side will have to present its evidence. The arbitrator will attempt to schedule the hearing to be completed within a single, eight-hour day.

The arbitrator may schedule more than one pre-hearing conference only if the arbitrator determines that an additional conference is necessary. All pre-hearing issues shall be resolved at the pre-hearing conference unless the arbitrator orders briefing. If briefing is ordered, all briefs must be submitted at least five business days before the hearing, and the issues that are the subject of the briefing shall be, whenever possible, decided before the hearing.

The arbitrator shall issue a written decision memorializing decisions made and agreements reached during or following the pre-hearing conference. All identifying information of the Reporting Party (including name), the Responding Party and witnesses shall be redacted.

R-16. Discovery

There shall be no discovery, except in exceptional circumstances as ordered by the arbitrator.

R-17. Date and time of hearing

The arbitrator shall use best efforts to ensure that the hearing is completed and the decision rendered within 15 business days of the pre-hearing conference. Although the arbitrator shall make reasonable accommodations to the parties and their advisors with regard to scheduling, the parties and their advisors have a duty to be reasonably available to ensure the ability of the arbitration process to render a reasonably prompt result. The arbitrators in their sole discretion may rule that the unavailability of a party's advisor is not grounds for postponing the hearing. Failure by the arbitrator or the Office to adhere to the timelines set forth herein shall not be grounds for overturning the arbitrator's decision. On good cause shown by any party, the arbitration hearing process shall be expedited as may be necessary in relation to the Responding Party's potential participation in a competition as required by the Ted Stevens Olympic and Amateur Sports Act.

R-18. Place of hearing

The hearing will be conducted telephonically or by videoconference except as authorized by the arbitrator in unique circumstances, in which case the hearing may be held in person at a location in the United States determined by the arbitrator. If a hearing is held in

person, the arbitrator may nonetheless permit witnesses to appear behind screens, by telephone or via videoconference.

R-19. Attendance

Unless the arbitrator and the parties agree otherwise, only the following individuals shall be present at the hearing: (1) the Office; (2) the Responding Party; (3) the Reporting Party; (4) the parties' respective advisors; and (5) witnesses during their own testimony.

R-20. Oaths

Before proceeding with the hearing, each arbitrator will take an oath of office if required by law. The arbitrator will require witnesses to testify under oath if it is required by law.

R-21. Interpreters

All arbitration proceedings shall be conducted in English. Any party who would like an interpreter is responsible for coordinating directly with the interpreter and is responsible for the costs of the interpreter service. The interpreter must be free of conflicts of interest.

R-22. Continuance

The arbitrator may continue any hearing upon agreement of the parties, upon request of a party or upon the arbitrator's own initiative. Postponements shall be discouraged and only granted in compelling circumstances. A party or parties causing a postponement of a hearing will be charged a postponement fee, as set forth in the arbitration fee schedule (Exhibit 1).

R-23. Arbitration in the absence of a party or advisor

The arbitration may proceed in the absence of any party or advisor who, after notice, fails to be present or to obtain a postponement. The arbitrator shall require the party who is present to submit evidence that the arbitrator may require for the making of a decision.

R-24. Standard of proof

The arbitration body shall use a preponderance of the evidence standard to determine if a Covered Individual has violated the *Code*.

R-25. Rules of evidence

a. Strict conformity to legal *Rules* of evidence shall not be necessary, and hearsay evidence may be considered.

b. Any party may introduce the Director's Decision into evidence, and the arbitrator shall give it appropriate weight.

c. The arbitrator shall determine the admissibility, relevance and materiality of the evidence offered and may exclude evidence deemed by the arbitrator to be cumulative, irrelevant or unreliable.

d. The arbitrator may draw an adverse inference by failure of the Responding Party to cooperate, participate or testify during the Office's investigation or the arbitration.

e. The arbitrator shall take into account applicable principles of legal privilege, including without limitation those involving the confidentiality of communications between an attorney and client and between a physician and patient.

f. Any statement from a Minor, be it written, recorded or live, and whether direct or hearsay, shall be admissible.

R-26. Evidence by affidavit

The arbitrator may receive and consider the evidence of witnesses by declaration or affidavit and shall give it such weight as the arbitrator deems appropriate after considering any objection made to its admission.

R-27. Hearing

Unless the parties agree that the arbitrator can determine the case without an oral hearing and on written briefings alone (which the parties may do whether the matter relates to liability and sanctions or sanctions only), the arbitrator will hold an oral hearing.

a. Arbitrator to manage proceedings expeditiously

The arbitrator, exercising discretion, shall conduct the proceedings expeditiously and may direct the order of proof,

bifurcate the hearing between the Violation and sanction portions of the hearing, and direct the parties to focus their presentations on issues the decision of which could dispose of all or part of the case.

b. Opening statements

Each party shall be entitled to present a concise opening statement prior to the presentation of evidence. The Office or its advisor shall present its opening statement first, followed by the Responding Party.

c. Presenting evidence

Both the Office and the Responding Party shall be entitled to an equitable amount of time to present evidence in support of or in opposition to the alleged Violations, as determined by the arbitrator at the pre-hearing conference. Absent exceptional circumstances, the parties will be expected to complete the hearing in a single, eight-hour business day. The arbitrator will track the time used by each party during the course of proceedings and enforce the time limits to ensure equitable time to both parties. The parties will be permitted, subject to any pre-hearing orders, to present documentary evidence through the submission of exhibits and to present testimony through affidavit or in-person testimony of witnesses.

The Office will present its evidence first. The Responding Party will present its evidence second. The Office will then present any rebuttal evidence.

d. Examining witnesses

(1) The Responding Party and Reporting Party shall be subject to questioning by only the arbitrator unless the Responding Party or Reporting Party agrees to direct examination and cross-examination by the opposing party.

(2) Unless the Responding Party and/or Reporting Party elect to be questioned directly by the parties, no later than five days before the hearing, the Office and the Responding Party each may submit, *ex parte*, proposed questions and lines of inquiry to the arbitrator for the questioning of the Responding Party and Reporting Party. The arbitrator will review the submitted questions and lines of inquiry and will, in the arbitrator's discretion, determine which are appropriate and relevant based on the understanding of the matter and to ensure the arbitrator's ability to render a decision in the matter. The arbitrator also may ask such other questions which the arbitrator deems appropriate.

(3) If the arbitrator has been the sole questioner of the Responding Party or Reporting Party, then after the arbitrator's direct questioning of the Responding Party or Reporting Party is completed, the witness will be temporarily excluded from the hearing so that the arbitrator can discuss with each of the parties separately appropriate follow-up questions or supplemental lines of inquiry for the arbitrator to consider. The arbitrator will hold separate *ex parte* conferences with each party regarding appropriate follow-up questions or lines of inquiry, except that the Responding Party shall not be permitted to participate in conferences relating to the Reporting Party's questioning, nor shall the Reporting Party be permitted to participate in such conferences when questions for the Reporting Party are at issue. After the *ex parte* conferences are concluded, the witness then will re-join the arbitration hearing, and the arbitrator will ask follow-up questions of the witness that the arbitrator deems appropriate.

(4) The arbitrator shall also question any witness. The parties may also question all other witnesses directly, provided that the arbitrator shall have the authority to limit questioning of witnesses or lines of inquiry based on, without limitation, relevance, that the questioning is

cumulative, or that the questioning has become harassing or abusive.

(5) Examining Minors

The presumption is that a Minor will not testify live at a hearing; however, with the permission of the Minor's parents or guardians, the Minor may testify if so desired. The arbitrator shall determine the manner in which Minor's evidence shall be given, including whether any or all questioning of the Minor (live or via video) will be completed outside the presence of their parent(s) or guardian(s), bearing in mind (a) the objective of achieving a fair hearing, (b) the possible damage to a Minor's welfare from giving evidence, and (c) the possible advantages that the Minor's evidence will bring to determining the facts.

A Minor may only be asked to testify in exceptional circumstances as determined by the arbitrator. In making this decision, the arbitrator shall consider:

(a) the Minor's wishes and feelings, in particular, the Minor's willingness to give evidence (an unwilling Minor should rarely, if ever, be obligated to give evidence);

(b) the Minor's particular needs and abilities;

(c) whether the case depends on the Minor's allegations alone;

(d) corroborative evidence;

(e) the age of the Minor;

(f) the maturity, vulnerability, understanding, capacity and competence of the Minor;

(g) whether justice can be done without further questioning of the Minor;

(h) the wishes and views of any parent, person with parental responsibility for the Minor, or any guardian, if appropriate; and

(i) whether the Minor has given evidence to another tribunal or court related to the subject matter of the proceeding, the way in which such evidence was given, and the availability of that evidence.

e. Role of the Reporting Party

In arbitrations requested by the Responding Party, the Reporting Party is not a party, but has the right to be present during the hearing and to give testimony as a witness if called, but shall not otherwise participate in the hearing.

f. Closing statements

Each party will be entitled to present a concise closing statement after the close of evidence and before the hearing is concluded. The Office will present its closing statement first, followed by the Responding Party, and the Office will be allowed time for a reply.

g. Hearing closed to the public

The hearing shall be closed to the public.

h. No disclosure of information

All information obtained by the Office, Responding Party or the Reporting Party during the arbitration shall be subject to the stated limits set forth in the Office's *Procedures*.

i. Recording

At the request of any party, hearings shall be recorded by the arbitration body and retained by the Office in its confidential files, but shall not be made available to any party or third party except in accordance with the *Procedures*. The requesting party is responsible for arranging the recording.

R-28. Closing of hearing

After all evidence has been submitted at the hearing, the arbitrator shall specifically inquire of each party whether it has any further evidence to offer or witnesses to be heard. Unless the arbitrator determines that additional evidence or witness(es) are required to resolve the controversy, the arbitrator will declare the hearing closed. There shall be no post-hearing briefing ordered except in exceptional circumstances. If documents or responses are to be filed as directed by the arbitrator, or if briefs are to be filed, the hearing shall be declared closed as of the final date set by the arbitrator for the receipt of briefs.

R-29. Waiver of *Rules*

Any party who proceeds with the arbitration after knowledge that any provision or requirement of these *Rules* has not been complied with and who fails to promptly state an objection in writing shall be deemed to have waived the right to object.

R-30. Extensions of time

For good cause shown, the arbitrator may extend any period of time established by these *Rules*, except the time for making the decision, keeping in mind the need to resolve these disputes expeditiously; the unavailability of an advisor—after an arbitrator's efforts to reasonably accommodate the advisor's schedule—shall not be considered good cause except in exceptional circumstances. The arbitrator shall notify the parties of any extension.

R-31. Notice and receipt

The parties each must provide an email address to the arbitration body and opposing parties/advisors upon initiation of an arbitration under the *Rules*. Notice sent to that email address shall be considered actual notice to the party effective upon delivery.

R-32. Decisions

a. Majority decision

When the arbitration is heard by more than one arbitrator, a majority of the arbitrators shall issue one written decision. As appropriate, names will be replaced with alpha-numeric identifiers. There shall be no written dissents.

b. Time

The reasoned decision shall be made promptly by the arbitrator after the close of evidence, and, unless otherwise agreed by the parties or specified by law, no later than seven business days from the date of close of the evidence or any briefing ordered by the arbitrator.

c. Form

In all cases, the arbitrator shall render a written, reasoned final decision, which shall be signed by the arbitrator. All identifying information of the Reporting Party (including name), and witnesses (other than the Responding Party) shall be redacted. If the arbitrator determines that there has been no Violation, then the Responding Party may request that the arbitrator redact their name and/or identifying information in the final decision.

d. Scope

The arbitrator may grant such remedy or relief the arbitrator deems just and equitable and within the scope of the *Code* and the Sanctioning Guidelines.

e. Delivery to parties

The final decision shall be deemed delivered to the parties if transmitted as provided in R-31.

R-33. Modifying decision

Within three business days after the transmittal of the arbitrator's final decision, any party, upon notice to the other parties, may request the arbitrator, through the arbitration body, to correct any clerical, typographical or computational errors in the decision. The arbitrator is not empowered to re-determine the merits of any matter already decided. The other parties shall be given two business days to respond to the request. The arbitrator shall dispose of the request within two

business days after transmittal by the arbitration body to the arbitrator of the request and any response thereto.

R-34. Appeal

The arbitration decision shall be considered final and binding. The parties to arbitration waive, to the fullest extent permissible by law, any right to challenge in court the arbitrator's decision.

R-35. Filing fees and expenses

a. The arbitration body shall prescribe filing and other administrative fees and expenses to compensate it for the cost of providing services. The fees in effect when the fee or charge is incurred shall be applicable.

b. Initiating arbitration

1. Arbitration requested by Responding Party

a) Arbitration fees and expenses

The Responding Party shall pay a full deposit for all fees and expenses associated with the arbitration as set forth in Exhibit 1. If the Responding Party fails to provide the deposit, then the arbitration may not proceed.

b) Hardship exemption

In the case of Responding Parties who are Athletes, the Responding Party may, at the discretion of the Office, obtain a hardship exemption from paymentof some of these fees through written certification that they have insufficient funds to cover arbitration (*see* Exhibit 2) If the Office grants an exemption, the Office shall pay all fees and expenses associated with the arbitration as set forth in Exhibit 1.

2. Arbitration requested by Reporting Party

a) Arbitration fees and expenses

The Reporting Party shall pay a full deposit for all fees and expenses associated with the arbitration as set forth in Exhibit 1. If the Reporting Party fails to provide the deposit, then the arbitration may not proceed.

b) Hardship exemption

In the case of Reporting Parties who are Athletes, the Reporting Party may, at the discretion of the Office, obtain a hardship exemption from payment of some of these fees through written certification that they have insufficient funds to cover arbitration (*see* Exhibit 2). If the Office grants an exemption, the Office shall pay all fees and expenses associated with the arbitration as set forth in Exhibit 1.

R-36. Other fees and expenses

The expenses of witnesses and translators for any party shall be paid by the party producing such witnesses or translators. Parties shall be responsible for their own advisor's fees and costs, and all other expenses not expressly assumed by the Office. A party who successfully seeks a continuance shall pay a continuance fee as set forth in Exhibit 1.

R-37. Arbitrator's compensation

a. Arbitrators shall be compensated at the rates set forth in the arbitration fee schedule (Exhibit 1).

b. If there is disagreement concerning the terms of compensation, an appropriate rate shall be established with the arbitrator and the arbitration body, and confirmed to the parties. Any arrangement for the compensation of an arbitrator shall be made through the arbitration body and not directly between the parties and the arbitrator.

R-38. Allocating fees and expenses

The arbitrator shall, in the final reasoned decision, allocate fees and expenses as follows:

a. Arbitrations requested by the Responding Party

1. If a Violation is not found, the Office shall reimburse the Responding Party for all arbitration fees and expenses paid to the arbitration body pursuant to R-35.
2. If the case involves multiple Violations, and the arbitrator modifies some Violations but not all, the arbitrator has the discretion to allocate the fees and expenses paid to the arbitration body pursuant to R-35.
3. If, in a sanctions-only hearing, the sanction is reduced the arbitrator may reapportion responsibility for all arbitration fees and expenses paid to the arbitration body pursuant to R-35 between the Office and the Responding Party.

b. Arbitrations requested by the Reporting Party

If a Violation is found, the Office shall reimburse the Reporting Party for all arbitration fees and expenses paid to the arbitration body pursuant to R-35.

R-39. Interpreting and applying the *Rules*

The arbitrator shall interpret and apply these *Rules* insofar as they relate to the arbitrator's powers and duties. When there is more than one arbitrator and a difference arises among them concerning the meaning or application of these *Rules*, a majority of the arbitrators shall decide the issue.

R-40. Interim measures

If the Office seeks interim measures, it will offer an opportunity for a hearing. The following *Rules* govern interim measures hearings.

a. Notice to the Responding Party

(1) Emergency interim measures

If an emergency interim measure is imposed, the Responding Party will be notified as soon as possible of (a) the interim measure and (b) the opportunity for a hearing to take place no later than 48 hours after the interim measure was imposed (unless otherwise agreed by the parties).

(2) Non-emergency interim measures

In all interim measures cases not involving a pre-hearing emergency interim measure, the Responding Party will receive notice of the opportunity for a hearing within 72 hours of receiving notice (unless otherwise agreed by the parties). If the Responding Party does not request a hearing within 24 hours of notice, then the interim measures will go into effect.

b. Arbitrator

If the Office imposes or seeks to impose interim measures prior to the appointment of the arbitrator as provided in R-9, then a special arbitrator will be appointed by the arbitration body solely to conduct the interim measures hearing. This special arbitrator shall not be considered for appointment pursuant to R-9. If the Office imposes or seeks to impose interim measures after the appointment of the arbitrator, then the appointed arbitrator shall conduct the interim measures hearing. The Office will be responsible for the fees and costs of the arbitrator for the interim measures hearing.

c. Filing fees and expenses

The arbitration body shall prescribe filing and other administrative fees and expenses to compensate it for the cost of providing services. The fees in effect when the fee or charge is incurred shall be applicable. The Office shall pay a

full deposit for all fees and expenses associated with arbitration as set forth in Exhibit 1.

d. Procedures

(1) Expedited proceedings

The interim measures hearing is an expedited proceeding to quickly resolve whether sufficient evidence exists to satisfy the arbitrator that the interim relief requested is appropriate on the facts and circumstances of the case. The interim measures hearing is not intended to be the hearing necessary to finally resolve whether the Responding Party has committed a Violation or what the appropriate sanctions should be, if a Violation is found to have occurred. Except in exceptional circumstances, the interim measures hearing will last no longer than two hours.

(2) Procedures

The hearing procedures for interim measures hearings shall be the same as for hearings, as set forth in R-27 above.

(3) Scope

The interim measures hearing will not be a hearing on the merits and is limited to determining if there is cause to impose the interim measure(s).

e. Standard of review

To impose interim measures, the arbitrator must find based on the evidence presented, that: (i) the interim measure is appropriate based on the allegations and facts and circumstances of the case as they appear to the arbitrator; (ii) the interim measure is appropriate to maintain the safety or well-being of the Reporting Party, Athletes, or other Non-athlete Participants; or (iii) the allegations against the Responding Party are sufficiently serious that the Responding Party's continued participation in the sport could be detrimental to the reputation of sport.

f. Decision

The arbitrator may approve, reject, or modify the interim measures imposed or proposed by the Office. The arbitrator shall issue a decision regarding the Office's request for interim measures either orally at the conclusion of the interim measures hearing, with a written reasoned order to follow, or by a written reasoned decision issued within 24 hours of the close of the interim measures hearing. The decision shall be given no weight in the hearing of the case.

g. No appeal

Neither the Office nor the Responding Party may appeal the arbitrator's decision. The denial of the requested relief shall not, however, prejudice the Office's right to seek interim measures in the same case in the future.

h. Final hearing expedited if interim measures imposed

If interim measures are imposed, then the time for the hearing will be expedited to the extent feasible.

Exhibit 1

JAMS ARBITRATION FEES

The arbitration body for U.S. Olympic and Paralympic SafeSport Arbitrations is JAMS, www.jamsadr.com. Applicable arbitration fees are as stated, effective March 3, 2017.

$5,200.00	Single arbitrator
$1,500.00	Single arbitrator, interim measures hearing
$13,400.00	Three-arbitrator panel

- A deposit for the full price of JAMS fees and neutral rates is due at the time an arbitration is requested. An amount of $1,600 for single arbitrator matters and $2,600 for tri-panel matters is non-refundable. An amount of $1,500 for single arbitrator, interim measures hearings, is non-refundable.
- Applicable arbitrator travel costs will be charged.
- The above fees exclude usage of facilities. If a JAMS facility is used, a room rental fee not to exceed $300/day will be charged.

CANCELLATION/CONTINUANCE POLICY

Cancellation/Continuance period	*Fee*
14 days or more prior to hearing	• Arbitration, single arbitrator, $3,600 is refundable • Arbitration, three arbitrators, $10,800 is refundable • Interim Measures Hearing, non-refundable

- Hearing fees are non-refundable if time scheduled (or a portion thereof) is cancelled or continued after the cancellation date. The cancellation policy exists because time reserved and later cancelled generally cannot be replaced. In all cases involving non-refundable time, the party requesting the hearing is responsible for the fees of all parties.
- JAMS reserves the right to cancel the hearing if fees are not paid as required by the applicable cancellation date and JAMS confirms the cancellation in writing.

Exhibit 2

HARDSHIP CERTIFICATION

I,_____, certify under penalty of perjury that I qualify for a Hardship Exemption under the Supplementary *Rules* for U.S. Olympic and Paralympic SafeSport Arbitrations because I:

____ am an Athlete, as defined in the SafeSport Policies and Procedures for the U.S. Olympic Movement, **and**

____ do not have sufficient funds to cover the costs of arbitration as of this date.

_____
Name (printed)

_____
Signature

NOTARIZATION

State of_____)

SS: County of)

On this, the___day of_____, 20____, before me a notary public, the undersigned officer, personally appeared _____, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that the same was executed for the purposes therein contained. In witness hereof, I hereunto set my hand and official seal.

_____
Notary Public

Exhibit 3
SafeSport Arbitrator Qualifications

INDEPENDENCE
Each arbitrator shall be independent. An arbitrator is "independent" if (a) the individual has or had no material affiliation or relationship, directly or indirectly, with the United States Center for SafeSport, the United States Olympic Committee (USOC), any National Governing Body (NGB), any Paralympic Sports Organization (PSO), the Athletes Advisory Council of the USOC (AAC), and/or any other affiliated organization such as an Olympic Training Center or designated partner, and (b) such person is free of any direct or indirect relationships that create an actual or perceived conflict of interest that could reasonably be expected to interfere with the exercise of independent judgment of such person. Before an arbitrator may be selected for the JAMS SafeSport Panel, the individual shall disclose any potential conflicts of interests to JAMS.

KNOWLEDGE
In addition to independence, arbitrators shall have a demonstrated working knowledge of sexual assault, domestic violence, child sexual abuse, grooming, trust dynamics, and trauma-informed questioning/forensic interviewing protocol. Experience involving emotional, physical and sexual misconduct in sport is strongly preferred.

WORKING EXPERIENCE
Arbitrators shall have experience working in at least one of the following areas:

- In criminal law as a judge, district attorney, or defense attorney, with specific experience in sexual misconduct
- Law enforcement, with specific experience in sexual misconduct
- As a social worker
- A Title IX coordinator or investigator
- As a guardian *ad litem* and/or
- Other comparable working experience.

Bio - Shellie Pfohl

Shellie Pfohl is the CEO for the U.S. Center for SafeSport. She joined last November following a successful tenure as Executive Director of the President's Council on Fitness, Sports and Nutrition, appointed by President Barack Obama in 2010. Under Pfohl's leadership, the Council played a significant role in advancing First Lady Michelle Obama's Let's Move! initiative to end childhood obesity within a generation. Prior to working for the White House, she worked for a fitness technology company where she created strategic partnerships with state, national and international organizations and corporations to provide health and physical education resources for schools and community organizations. She founded Be Active North Carolina to increase physical activity among North Carolina citizens. While there, she led the implementation of Be Active Kids, a preschool physical activity and nutrition program implemented in over 7,000 childcare centers across North Carolina.

She also oversaw the training of more than 50,000 classroom teachers on the implementation of the Healthy Active Children Policy to incorporate physical activity into classroom settings throughout the state. In 2007, Be Active North Carolina was named the best physical activity organization in the nation by the National Association for Health & Fitness (NAHF).

Pfohl served both Democrat and Republican governors as the executive director of the North Carolina Governor's Council on Physical Fitness and Health from 1990 to 1998, and was head of the Physical Activity and Nutrition Branch in the North Carolina Department of Health and Human Services.

The CHAIRMAN. Thank you, Ms. Pfohl.

Mr. Sailor.

STATEMENT OF SCOTT R. SAILOR, PRESIDENT, NATIONAL ATHLETIC TRAINERS' ASSOCIATION

Mr. SAILOR. Chairman Thune, Ranking Member Nelson, and members of the Senate Committee on Commerce, Science, and Transportation.

Thank you for the opportunity to participate in today's hearing.

My name is Scott Sailor, and I am Chair of the Department of Kinesiology, and Professor of the Athletic Training Program at California State University Fresno. I am also proud to be the President of the National Athletic Trainers' Association. NATA is a professional organization serving more than 46,000 Certified Athletic Trainers, students of athletic training, and other healthcare professionals.

Protecting the health and safety of athletes is exactly what members of NATA have been doing since the organization was founded in 1950. The mission of NATA is to represent, engage, and foster the continued growth and development of the athletic training profession and athletic trainers as unique healthcare providers.

Athletic trainers are healthcare professionals who collaborate with physicians to provide preventative services, emergency care, clinical diagnosis, therapeutic intervention, and rehabilitation of injuries. They are required to graduate from an accredited baccalaureate or master's degree program. An academic curriculum and clinical training follow the medical model. Athletic trainers are licensed and otherwise regulated in 49 States and the District of Columbia.

NATA has long been a leader in bringing a voice to the many health and safety issues facing athletes. We actively provide our expertise and specific recommendations to policymakers at the local, State, and Federal levels.

NATA believes Congress should fully invest in efforts to track youth sports injuries and fatalities. It is only with a comprehensive system for collecting and analyzing this data that we will be able to understand the scope of the problem and the best methods for addressing it.

Based upon current published studies and available data, we know America faces challenges balancing an active and healthy sports culture while protecting the safety of the youth athlete.

I would like to give you a few of the current statistics on athletic involvement and injuries in the United States.

There are 420,000 college-level athletes who experience 209,000 injuries per year. At the secondary school level, there are 7.6 million athletes who have 1.4 million injuries per year. The 46.5 million children playing team sports in our country have 1.35 million injuries per year. In 2013, there were 124 million emergency room visits by children 19 years of age and younger for injuries related to sport.

These injury statistics are compelling, but to athletic trainers, the most compelling fact is that the secondary school athletic population leads the Nation in athletic-related deaths.

Between 2008 and 2015, there were more than 300 sports-related fatalities among young athletes. Let me underscore that fact. In a 7-year period, we lost over 300 children who were merely playing sports. As a Nation, we must do a better job of protecting our youth athletes.

However, only an estimated 42 percent of high schools employee a full-time athletic trainer. We need to improve access to athletic trainers in secondary schools and youth sports organizations.

We have a responsibility here to our athletes to provide appropriate medical care. The investment in proper safety measures and adequate medical supervision such as a full time athletic trainer is not costly when compared to the death or a catastrophic injury of a young athlete.

In 2010, NATA founded the Youth Sports Safety Alliance, YSSA, which is now comprised of nearly 290 organizations. The members of YSSA range from parent advocate groups, research institutions, professional associations, healthcare organizations, and youth sports leagues. NATA and YSSA are working to promote and preserve sports, but we must also ensure that sports are played safely. When injuries occur, we must be adequately prepared to respond.

In 2013, NATA also sponsored the Safe Sports School Award, a program designed to establish a standard for secondary school athlete safety and recognize those athletic programs that excel in taking all the necessary steps to ensure athlete safety. To date, there have been more than 1,100 schools that have received the Award.

NATA partners with the American Medical Society for Sports Medicine, and the Korey Stringer Institute in organizing Collaborative Solutions for Safety in Sports. This is an annual event among youth sports safety leaders from every state who come together to discuss appropriate sports medicine policy.

Finally, over the past several years, NATA has partnered with the NFL Foundation, Gatorade, and the Professional Football Athletic Trainers Society to fund multimillion dollar efforts to place athletic trainers in underserved high schools.

With the knowledge and understanding of the physical and mental benefits of being physically active, NATA has taken a leadership role within a number of national coalitions involved in promoting physical activity issues.

This week, NATA members were here on Capitol Hill urging members of Congress to support the Personal Health Investment Today Act or the PHIT Act. This legislation provides an incentive for adults and their children to get fit, which will help prevent healthcare costs related to preventable chronic diseases.

I would like to thank Chairman Thune for being the lead sponsor of the bill in the Senate and to thank Senators Wicker, Moore Capito, and Baldwin for being cosponsors.

Athletic trainers are uniquely positioned to help with the prevention of opioid abuse and successful rehabilitation from injury among student athletes.

NATA supports proposals to increase access to and training in administrating Naloxone.

NATA also supports the Student and Student Athlete Opioid Misuse Prevention Act introduced by New Hampshire Senator Shaheen. This bill authorizes new Federal grant funding to support

programs for students and student athletes as well as training for teachers, administrators, and athletic trainers.

As a leading organization representing athletic trainers, NATA fully supports Chairman Thune's and Senator Klobuchar's Sports Medicine Licensure Clarity Act. I would like to thank Senators Wicker and Moore Capito for being cosponsors of the bill.

The Sports Medicine Licensure Clarity Act clarifies medical liability rules for athletic trainers, and other medical professionals, to ensure they are properly covered by their liability insurance when traveling with athletic teams in another state. This legislation also has the support of sports leagues and professional medical associations. This week, most senate offices were visited by athletic trainers requesting support for this legislation.

I want to join my fellow athletic trainers, and the more than 46,000 members of the NATA, in urging Members of the Senate, including the members of this committee, to cosponsor the Sports Medicine Licensure Clarity Act.

Thank you for this opportunity to present the views of the National Athletic Trainers' Association and I welcome your questions.

[The prepared statement of Mr. Sailor follows:]

PREPARED STATEMENT OF SCOTT R. SAILOR, PRESIDENT, NATIONAL ATHLETIC TRAINERS' ASSOCIATION

On behalf of the National Athletic Trainers' Association (NATA), I am pleased to have the opportunity to provide testimony to the United States Senate Commerce, Science, and Transportation Committee on the important topic of protecting the health and safety of American athletes. My name is Scott R. Sailor and I am the President of NATA and Chair of the Department of Kinesiology and Program Director for the Athletic Training Program at Fresno State University.

NATA is a professional organization serving more than 46,000 certified athletic trainers, students of athletic training, and other health care professionals. Protecting the health and safety of athletes is exactly what NATA members have been doing since the organization was founded in 1950.

Background on the Athletic Training Profession

The mission of NATA is to represent, engage, and foster the continued growth and development of the athletic training profession and athletic trainers as unique health care providers. Athletic trainers are health care professionals who collaborate with physicians to provide preventative services, emergency care, clinical diagnosis, therapeutic intervention, and rehabilitation of injuries. As part of the health care team, services provided by athletic trainers include injury and illness prevention, wellness promotion and education, emergent care, examination and clinical diagnosis, and therapeutic intervention.

Athletic trainers provide urgent and acute care of injuries; they specialize in preventing, diagnosing, and treating muscle and bone injuries. Athletic trainers are included under the allied health professions category as defined by the U.S. Department of Health and Human Services and are assigned National Provider Identifier numbers. In addition to employment by sports and athletic organizations, athletic trainers are employed by hospitals, clinics, occupational health departments, wellness facilities, the United States military, and numerous other health care settings.

Athletic trainers are highly qualified, multi-skilled health care professionals. To provide appropriate care for patients, athletic trainers receive training in prevention, recognition, and treatment of critical situations. They must graduate from an accredited baccalaureate or master's program and it is required that athletic trainers' academic curriculum and clinical training follow the medical model. Leaders of key athletic training organizations, including NATA, have jointly decided to change the athletic training degree level to be a master's; this change is in process and will become effective by 2022. Currently, 70 percent of athletic trainers already have advanced degrees beyond a bachelor's degree. Athletic trainers are licensed or otherwise regulated in 49 states and the District of Columbia.

Using a medical-based education model, athletic trainers serve as allied health professionals with an emphasis on clinical reasoning skills. The curriculum of an accredited athletic training program must include a comprehensive basic and applied science background and uses a competency based approach in both the classroom and clinical settings.

Athletic training education programs are accredited by the Commission on Accreditation of Athletic Training Education (CAATE), which is recognized by the Council for Higher Education Accreditation. The CAATE sets forth rigorous standards for the preparation of athletic training graduates that are science-based and didactic. CAATE also administers post-professional athletic training residency programs.

Upon completion of an accredited athletic training program, athletic trainers are required to pass a comprehensive examination administered by the Board of Certification, Inc. (BOC). The BOC certification program ensures that individuals have the knowledge and skills necessary to perform the tasks critical to safe and competent practice as an athletic trainer. Athletic trainers who pass the BOC's examination are awarded the ATC® credential.

Athlete Health and Safety Issues

NATA has long been a leader in bringing a voice to the many health and safety issues facing athletes. We are actively engaged in providing our expertise and specific recommendations to policymakers at the local, state, and Federal levels.

As a health professional organization, we pride ourselves on staying informed of the latest research findings and reports related to athlete safety. The athletic trainers involved in conducting research and analyzing sports injuries are doing outstanding work. However, NATA urges Congress to fully invest in efforts to track youth sports injuries and fatalities. It is only with a comprehensive system for collecting and analyzing this data that we will be able to understand the scope of the problem and the best methods for addressing it.

Based upon current studies and reports, the following statistics provide the best snapshot of the relationship between athletic participation and sports-related injuries in the Unites States:

- 420,000 college-level athletes experience 209 million injuries per year;
- 7.6 million secondary school athletes experience 1.4 million injuries per year;
- 46.5 million children playing team sports experience 1.35 million injuries per year;
- 62 percent of injuries occur during practice; and
- 1.6 to 3.8 million sports-related concussions occur every year.

In 2013, there were 1.24 million emergency room visits by children 19 years of age and under for injuries related to sports; that is 3,397 visits per day, 141 per hour, and 1 every 25 seconds.

These injury statistics are compelling, but to athletic trainers, the most concerning fact is that the secondary school athletic population leads the Nation in athletic-related deaths. Between 2008 and 2015, there have been more than 300 sports-related fatalities among young athletes. Let me underscore this fact; in a seven-year period, we lost over 300 children who were merely playing sports. As a nation, we must do a better job in protecting youth athletes.

Athletic trainers are experts in creating and applying strategies to prevent and reduce the many different causes of sudden death in athletic participation. The underlying causes of sudden death in athletics might include asthma, catastrophic brain injuries, cervical spine injuries, diabetes, exertional heat stroke, and sudden cardiac arrest, which is the leading cause of death in young athletes.

NATA supports proposals to ensure that every high school with an athletics department has a full-time athletic trainer on staff to monitor the health of student athletes. However, only an estimated 42 percent of high schools employ a full-time athletic trainer. We must improve access to athletic trainers in secondary schools and youth-sports organizations.

The investment in proper safety measures and providing adequate medical supervision, such as a full-time athletic trainer, for sports practices and games is not costly when compared to the loss of a young life to injury that may have been prevented or properly treated.

NATA further advocates for the implementation of emergency action plans for all sporting events and venues. These plans, developed in conjunction with a health care team, ensure a plan of action is in place in case of injury, whether minor or catastrophic.

NATA's Leadership on Youth Athlete Safety Issues

In 2010, NATA founded the Youth Sports Safety Alliance (YSSA), which is now comprised of nearly 290 organizations. The members of YSSA range from parent advocate groups, research institutions, professional associations, health care organizations, and youth sports leagues.

Organized sports bring enormous health benefits to children, but certain factors may cause them to ignore pain and injuries, which could result in lifelong injuries or even death. NATA is working to preserve amateur and professional sports, but we must also ensure that sports are played safely and that when injuries occur, we are adequately prepared to respond.

NATA has worked on a number of other partnerships and initiatives to bring attention to youth athlete safety issues at a local, state, and national level including the following:

- *NATA Safe Sports School Award:* Since 2013, NATA has sponsored the Safe Sports School Award, a program designed to establish a standard for secondary school athlete safety and recognize those athletic programs that excel in taking all the necessary steps to ensure athlete safety. To date, there have been more than 1,100 schools that have received the award.
- *At Your Own Risk Campaign:* NATA has developed a public awareness campaign, At Your Own Risk, aimed specifically at educating parents, student athletes, school administrators, legislators, and employers on the role of athletic trainers as experts in prevention and safety in work, life, and sport.
- *Annual Youth Sports Safety Leaders Event:* NATA partners with the American Medical Society for Sports Medicine, the Korey Stringer Institute, and the National Football League (NFL) in organizing "Collaborative Solutions for Safety in Sports," an annual event among youth sports safety leaders from every state to discuss emergency action planning and coaching education in secondary schools.
- *Athletic Trainers in Underserved High Schools:* Over the past several years, NATA has partnered with the NFL Foundation, Gatorade, and the Professional Football Athletic Trainers Society to fund multimillion dollar efforts to place athletic trainers in underserved high schools.
- *Publications on Best Practices:* NATA continues to publish resources on best practices related to preventing sudden death in secondary school athletics, concussion, heat acclimatization, emergency action plans, lightning safety, and other emerging athlete safety issues.

Promoting Physical Activity

Athletic trainers more than any other health profession understand the physical and mental health benefits of an active lifestyle. While NATA has been engaged in raising awareness of youth athlete safety issues, we have remained just as steadfast in our efforts to promote the benefits of physical activity and sports. NATA has had both of these issues at the top of its Federal legislative agenda for many years.

The Centers for Disease Control and Prevention's National Prevention Strategy "outlines the importance of preventive care and recognizes that active living is important to reducing the burden of disease and death." According to the U.S. Department of Health and Humans Services' 2008 Physical Activity Guidelines, "adults who are physically active are healthier and less likely to develop many chronic diseases than adults who are not active—regardless of their gender or ethnicity."

Further statistics show that participation in sport helps children develop and improve cognitive skills. Physical activity in general is associated with improved academic achievement, including grades and standardized tests scores. Such activity can affect attitudes and academic behavior, including enhanced concentration and attention and improved classroom behavior. Physical activity and sports in particular can positively affect aspects of personal development among young people, such as self-esteem, goal setting, and leadership. Moreover, high school athletes are more likely than non-athletes to graduate from high school, attend college, and receive a degree.

On Tuesday, May 16, 2017, NATA members were on Capitol Hill, urging Members of Congress to support the *Personal Health Investment Today Act* or the *PHIT Act.* This legislation provides an incentive for adults and their children to get fit, which will help prevent health care costs related to preventable chronic diseases. I would like to thank Chairman Thune for being the lead sponsor of the bill in the Senate and to thank Senators Wicker, Capito, and Baldwin for being cosponsors. I would encourage the other members of the Senate Commerce Committee to cosponsor the PHIT Act.

Also, NATA has taken a leadership role within a number of national coalitions involved in promoting physical activity issues. NATA's Director of Government Affairs, Amy Callender, represents us on the Board of Directors of the National Physical Activity Plan Alliance and she is the President of the Board of Directors of the National Coalition to Promote Physical Activity.

The Opioid and Prescription Drug Epidemic

The widespread availability and abuse of prescription opioids and heroin has been recognized as a public health crisis by both lawmakers and the public.

In 2016, an estimated one in five patients with non-cancer pain or pain-related diagnoses was prescribed an opioid. In many cases, addiction to prescription opioids can lead to abuse of less expensive heroin. In 2014, there were 18,893 overdose deaths related to prescription pain relievers and 10,574 overdose deaths related to heroin.

Athletic trainers can play an important role in promoting safe opioid use and preventing opioid abuse. Sports injuries may result in a student being prescribed an opioid pain medication, putting student athletes at a higher risk for abusing those medications. Athletic trainers are uniquely positioned to help with the prevention of opioid abuse and successful rehabilitation from injury amongst student athletes.

If a student athlete is prescribed an opioid, the athletic trainer at his or her school should be informed so they can assist with monitoring the student's usage and recovery progress. Opioid overdoses can be reversed when the lifesaving drug naloxone is promptly administered. NATA supports proposals to increase access to and training in administering naloxone, including amongst athletic trainers.

In October 2015, the Obama Administration encouraged federal, state, local, and private sector entities to address the prescription drug abuse and heroin epidemic. NATA was invited to participate in this effort and we shared educational materials on opioid misuse prevention with our entire membership.

We were strong advocates for the passage of the *Comprehensive Addiction and Recovery Act* or *CARA.* Also, NATA has provided comments and recommendations on National Pain Strategy and we were represented at the recently held "Implementation of the National Pain Strategy Listening Session" hosted by the Office of the Assistant Secretary for Health.

NATA also supports S. 786, the *Student and Student Athlete Opioid Misuse Prevention Act,* introduced by New Hampshire Senator Jeanne Shaheen. The bill is focused on preventing opioid abuse amongst students, and particularly amongst student athletes. The bill authorizes new Federal grant funding to support programs for students and student athletes, as well as training for teachers, administrators, and athletic trainers.

Other Federal Legislative and Regulatory Policy Issues

As the leading organization representing athletic trainers, NATA fully supports Chairman Thune's *Sports Medicine Licensure Clarity Act.* I would also like to thank Senators Klobuchar, Wicker, and Capito for being original cosponsors of the bill.

The *Sports Medicine Licensure Clarity Act* clarifies medical liability rules for athletic trainers and other medical professionals to ensure they are properly covered by their liability insurance while traveling with athletic teams in another state.

The legislation has the support of the Academy of Orthopedic Surgeons, the American Medical Society for Sports Medicine, the American Academy of Neurology, and numerous other physician and sports medicine organizations. Additionally, the United States Olympic and Paralympic Committee, the National Collegiate Athletic Association, and every major American professional sports league have endorsed the bill.

The House version of the bill, H.R. 302, passed on January 9, 2017 and awaits action by the Unites States Senate. This week, most Senate offices were visited by athletic trainers requesting support for this legislation. I want to join my fellow athletic trainers and the more than 46,000 members of NATA in urging members of the United States Senate, including the members of this Committee, to cosponsor the *Sports Medicine Licensure Clarity Act.*

Thank you for this opportunity to present the views of the National Athletic Trainers' Association and I welcome your questions.

The CHAIRMAN. Thank you, Mr. Sailor.

Dr. Stern.

STATEMENT OF ROBERT A. STERN, PH.D., PROFESSOR OF NEUROLOGY, NEUROSURGERY, AND ANATOMY, AND NEUROBIOLOGY; DIRECTOR, CLINICAL CORE, BU ALZHEIMER'S DISEASE AND CTE CENTER, BOSTON UNIVERSITY SCHOOL OF MEDICINE

Dr. STERN. Good morning, Mr. Chairman, Ranking Member Nelson, and distinguished members of the Committee.

It is a great honor to appear before you today.

My name is Dr. Robert Stern. I am a Professor of Neurology, and Neurosurgery, and Anatomy, and Neurobiology at Boston University School of Medicine. I am also the Director of the Clinical Core of the BU Alzheimer's Disease and CTE Center.

For the past 30 years, I have been conducting clinical neuroscience research, primarily focused on issues pertaining to neurodegenerative diseases such as Alzheimer's. Since 2008, my research has focused on the long-term consequences of repetitive brain trauma in athletes including Chronic Traumatic Encephalopathy or CTE.

CTE is a neurodegenerative disease that can lead to dramatic changes in mood, behavior, movement, and cognition eventually leading to dementia. It is similar to Alzheimer's disease, but it is a unique disease easily distinguished from Alzheimer's and other diseases through postmortem neuropathological examination.

We have actually known about CTE for almost 100 years. It was originally called "punch drunk" or dementia pugilistica in the early 1900s when it was believed to occur only in boxers.

However, CTE has now been found in people who never boxed from ages 16 to 98, including former youth, college, and professional contact sport athletes such as football, hockey, soccer, and rugby players. At this time, CTE can only be diagnosed after death through postmortem neuropathological examination.

It is very important to understand that concussion and CTE are very distinct. A concussion is an acute brain injury which, if managed appropriately, results in transient symptoms without long-term consequences.

CTE, on the other hand, is a neurodegenerative disease that appears to begin earlier in life when repetitive brain trauma starts to trigger a cascade of events leading to progressive destruction of the brain tissue. The symptoms often begin years or decades after the brain trauma, after the cessation of the athletic activity and continue to worsen as the individual ages.

There have been numerous cases of advanced stage CTE diagnosed postmortem in former athletes who had no symptoms of concussion, no history of concussion, but who had extensive exposure to what is referred to as sub-concussive trauma.

Several important questions about CTE remain unanswered such as, how common is CTE? Why does one person get it and another person does not? How can CTE be differentiated during life from other diseases and conditions with similar symptoms? To answer these and other questions the ability to diagnose CTE while someone is living is the critical next step.

Our group at Boston University, and other scientists from around the country and abroad, are actively conducting research to develop methods to accurately diagnose CTE during life. I am honored to

be the lead investigator of a seven-year longitudinal multicenter investigation funded by the National Institute of Neurological Disorders and Stroke that brings together a network of approximately 50 scientists from ten major research institutions across the country.

The study referred to as the Diagnose CTE Research Project is aimed at developing methods of diagnosing CTE during life. In total, hundreds of former professional football players, former college football players, and healthy controls will undergo extensive testing over a three-day period at one of four sites around the country, and then return 3 years later for a follow-up evaluation. We are well underway, and yet, this is just one study. So much more research is needed.

In closing, it is imperative that we do everything we can as a Nation to continue to reap the profound benefits of American sports and athletic participation, while also assuring that we protect the health and safety of former, current, and future American athletes. That is a difficult balance and requires a combination of unbiased scientific information and common sense.

I want to thank the Committee for your interest in addressing this important issue, and for your continued commitment toward protecting the health and safety of all athletes.

I also want to express my gratitude toward the Senate for approving the Fiscal Year 2017 Appropriations bill that was recently signed into law with a $2 billion increase for the National Institutes of Health including an additional $400 million in funding of Alzheimer's disease research. I urge you to continue and to expand upon that type of support.

Thank you.

[The prepared statement of Dr. Stern follows:]

PREPARED STATEMENT OF ROBERT A. STERN, PH.D., PROFESSOR OF NEUROLOGY, NEUROSURGERY, AND ANATOMY & NEUROBIOLOGY; DIRECTOR, CLINICAL CORE, BU ALZHEIMER'S DISEASE AND CTE CENTER, BOSTON UNIVERSITY SCHOOL OF MEDICINE

Introduction

Mr. Chairman, Ranking Member Nelson, and distinguished Members of the Committee, it is a great honor to appear before you today for this hearing on "Current Issues in American Sports: Protecting the Health and Safety of American Athletes." I am a Professor of Neurology, Neurosurgery, and Anatomy & Neurobiology at Boston University School of Medicine. I am also the Director of the Clinical Core of the Boston University (BU) Alzheimer's Disease and CTE Center, one of 29 Alzheimer's research centers funded by the National Institute on Aging. For the past 30 years, I have been conducting clinical neuroscience research, primarily focused on the cognitive, mood, and behavioral changes of aging, in general, and in neurodegenerative diseases, in particular. I have been on the faculties of the University of North Carolina School of Medicine, Brown Medical School, and, for the past 13 years, BU School of Medicine. In my role in the BU Alzheimer's Disease and CTE Center, I oversee all clinical research pertaining to Alzheimer's disease (AD), including studies aimed at the diagnosis, genetics, prevention, and treatment of this devastating cause of dementia.

Chronic Traumatic Encephalopathy (CTE)

You may be asking, "Why is an Alzheimer's disease specialist testifying at a hearing on *Protecting the Health and Safety of American Athletes*?" The answer is, in short, that repetitive hits to the head, such as those incurred through American tackle football and other contact sports, can have long-term negative consequences to brain health, including the development of another neurodegenerative disease, *chronic traumatic encephalopathy* or CTE. In 2008, I co-founded the BU Center for

the Study of Traumatic Encephalopathy (now referred to as the BU CTE Center) with Dr. Ann McKee, Dr. Robert Cantu, and Mr. Christopher Nowinski.[1] Since that time, my research has focused on the long-term consequences of repetitive brain trauma in athletes, including CTE, a progressive neurodegenerative disease that can lead to dramatic changes in mood, behavior, and cognition, eventually leading to dementia. It is similar to Alzheimer's disease, but it is a unique disease, easily distinguished from AD and other diseases through post-mortem neuropathological examination (McKee *et al.,* 2013; 2016). CTE has been found in individuals from ages 16–98, including youth, college, and professional contact sport athletes (*e.g.,* football, hockey, soccer, and rugby players, as well as boxers), military service members exposed to blast trauma and other brain injuries, and others with a history of repetitive brain trauma, such as a physically abused woman, developmentally disabled head bangers, and seizure disorder patients. (See *Table 1*)

Table 1. All cases of neuropathologically confirmed cases of CTE have had a history of repetitive brain trauma.
Professional football players
College football players
High school football and other contact sport athletes
Professional soccer players
Semiprofessional soccer player
Professional rugby players
Boxers
Mixed martial art athlete
Combat military service members

CTE has been known to affect boxers since the 1920s (previously referred to as "punch drunk" or dementia pugilistica). The post-mortem neuropathological characteristics were first clearly described in the 1970s by Corsellis *et al.,* (1973). In 2002, CTE was diagnosed neuropathologically in a former professional football player for the first time (*i.e.,* Mike Webster of the Pittsburgh Steelers). That case and subsequent discoveries of CTE in other deceased former NFL players led to growing media attention on CTE. Until recently, I have stated publicly that the scientific knowledge of CTE is in its infancy. However, due to important new scientific discoveries about CTE, along with an exponential increase in the number of publications in medical/scientific journals focusing on CTE (See *Figure 1*), I am led to think that we are now in the "toddlerhood" of our scientific knowledge about this disease.

[1] Christopher Nowinski will formally receive his Ph.D. in Behavioral Neurosciences from Boston University School of Medicine on the day following this Hearing (May 18, 2017).

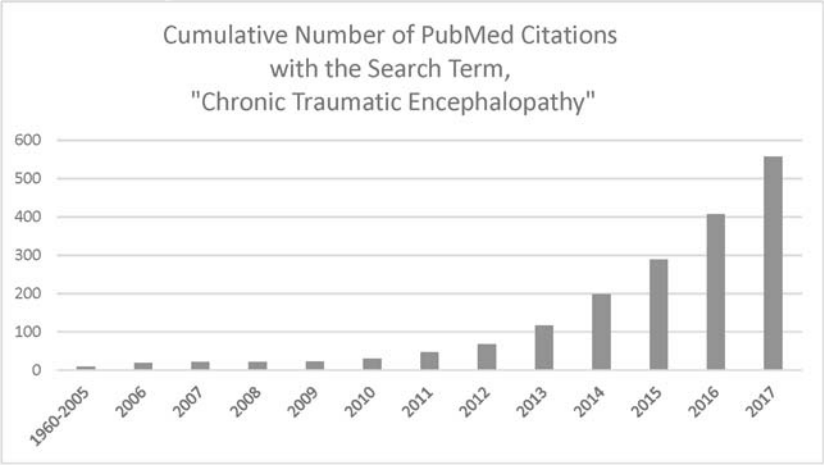


Figure 1

CTE Neuropathology

What is currently known about CTE is based primarily on post-mortem examinations of brain tissue, and interviews from the family members of the deceased athletes. My colleague, Dr. Ann McKee, and her team have examined more brains of individuals with a history of repetitive brain trauma than any group in the world. What these studies have shown is that, in some individuals, repetitive brain trauma triggers a cascade of events in the brain leading to progressive destruction of the brain tissue. The hallmark feature of CTE is the build-up of an abnormal form of a protein called *tau* (See *Figure 2;* based on the work of Dr. McKee). The tau protein becomes hyperphosphorylated (referred to as p-tau) and, rather than serve its vital role in the structure and function of brain cells, it becomes toxic, eventually destroying the cells. In 2015, the National Institute of Neurological Disorders and Stroke (NINDS) and the National Institute of Biomedical Imaging and Bioengineering (NIBIB) convened a consensus conference panel of seven independent neuropathologists with specific expertise in neurodegenerative tauopathies (McKee *et al.,* 2016). The group of experts agreed that CTE is a unique disease, only seen in individuals with a history of repetitive brain trauma. Further, they agreed that the pathognomonic lesion of CTE (*i.e.,* the changes in the brain that are uniquely found in CTE and can be used to diagnose it) is an irregular deposition of p-tau around small blood vessels at the depths of the cortical sulci (*i.e.,* the valleys of the cerebral cortex). This pattern of p-tau was agreed to be distinct from any other neurodegenerative tauopathy, including Alzheimer's disease and frontotemporal lobar degeneration. As the disease advances, the disease spreads to other areas of the brain, leading to progressive destruction of brain tissue (*i.e.,* atrophy). The changes in the brain from CTE can begin years, or even decades, after the last brain trauma or end of athletic involvement.

CTE is not prolonged post-concussion syndrome, nor is it the cumulative effect of concussions or mild traumatic brain injuries. Rather, *CTE is not a "brain injury," per se; CTE is a neurodegenerative disease* that appears to begin earlier in life, at the time of exposure to repetitive head impacts, but the symptoms often begin years or decades after the brain trauma and continue to worsen as the individual ages. Importantly, there have been numerous cases of neuropathologically-confirmed later stage *CTE without any history of symptomatic concussions,* but with extensive exposure to "subconcussive" trauma (see below).

The Clinical Features of CTE

Depending upon the areas of the brain destroyed by the disease, CTE can lead to a variety of changes in cognitive, behavioral, mood, and often motor functioning (See *Table 1*). As cognitive impairment worsens, the individual typically demonstrates progressive dementia, *i.e.,* memory and other cognitive dysfunction severe enough to impair independence in activities of living. Although the cognitive changes in CTE are very similar to those in Alzheimer's disease, many individuals

with CTE develop the significant changes in mood and behavior relatively early in life (Stern, *et al.,* 2013). This can lead to significant distress for the individual with CTE as well as their family, friends, and other loved ones. These mood and behavioral impairments associated with CTE are often misdiagnosed and attributed to routine psychiatric disorders, stress, substance abuse, or pre-existing personality traits. Although there can be many potential underlying causes for changes in mood and behavior in individuals in their 20s–50s, it is also known that the areas of the brain damaged in CTE could lead to these problems, including depression, impulsivity, emotional liability, irritability, and behavioral dyscontrol. Based on reviews of the published case reports and other literature, along with our own research of the reported clinical features of CTE in neuropathologically-confirmed cases (Stern *et al.,* 2013), our group published provisional Research Diagnostic Criteria for the clinical presentation of CTE, referred to as *Traumatic Encephalopathy Syndrome or TES* (Montenigro *et al.,* 2014). An important aspect of these proposed diagnostic criteria is the use of objective biological tests (*i.e.,* biomarkers), when they are available and validated, to indicate that CTE is the underlying disease for the clinical presentation. This diagnostic approach is similar to that currently accepted in the research community for the clinical diagnosis of Alzheimer's disease, including Mild Cognitive Impairment (MCI) due to Alzheimer's disease and dementia due to Alzheimer's disease.

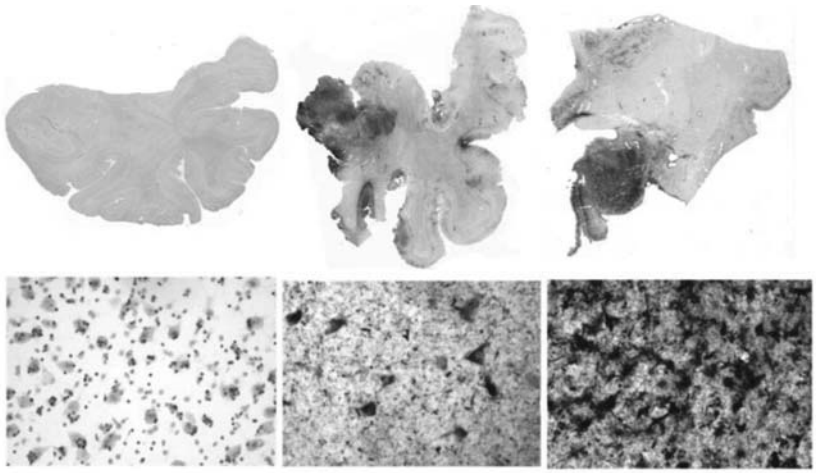


Figure of CTE Neuropathology. Left Top: Section of brain of 65 year old healthy man demonstrating no evidence of abnormal tau depositions. Left Bottom: Microscopic enhancement of same brain sample demonstrating no evidence of tau neurofibrillary tangles that would have shown up as brown from immunostain. Middle Top: Section of brain from 45 year old John Grimsley, a former NFL football player who had a five year decline in functioning (e.g., poor memory, short fuse) prior to his death from an accidental gunshot wound; brown areas are abnormal tau deposits. Middle Bottom: Microscopic enhancement of Grimsley's brain demonstrating neurofibrillary tangles. Right Top: Section of brain of 73 year old former professional boxer who died in a nursing home with clinical diagnosis of dementia pugilistica after several year decline in functioning; brown areas demonstrate widespread tau deposition. Right Bottom: microscopic enhancement of boxer's brain demonstrating widespread tau deposits

Figure 2

Table 1. Clinical Features of Chronic Traumatic Encephalopathy

Behavioral Features	Mood Features	Cognitive Features	Motor Features
Explosivity	Depression	Memory impairment	Parkinsonism
Loss of control	Hopelessness	Executive dysfunction	Ataxia
Short fuse	Anxiety	Lack of insight	Dysarthria
Aggression and rage	Irritability	Perseveration	Gait Disturbance
Impulsivity	Labile emotions	Impaired attention	Tremor
Physical/verbal violence	Apathy	Poor concentration	Masked facies
Paranoid delusions	Loss of interest	Language difficulties	Rigidity
		Dementia	Muscle weakness

Although there are have been tremendous gains in our understanding of CTE during the last decade, there remain many important questions (see *Table 2*). Most of these questions cannot easily be answered until CTE can be diagnosed during life. *However, we cannot wait until CTE can be diagnosed during life to begin to examine the short-term and long-term neurological consequences of repetitive head impacts in athletes.*

Table 2. What are the Important Questions to Address?
How common is CTE?
Is CTE a critical public health issue?
Will the incidence of CTE increase over the next few decades?
Above and beyond having a history of repetitive head impacts, what are the risk factors for CTE?
Do genetics play a role in determining who gets CTE or how severe it is?
What types of brain trauma exposure increase risk?
Is there a certain age in childhood or adolescence when the brain is more vulnerable to repetitive head impacts, increasing CTE risk?
Does everyone with CTE pathology have cognitive and neuropsychiatric impairments?
Do all people with early stage neuropathological CTE (i.e., focal perivascular p-tau in sulcal depths) progress and develop symptoms?
Are all of the clinical features thought to be associated with CTE specifically related to CTE p-tau neuropathology?
Can we distinguish between Alzheimer's disease and CTE by clinical examination?
How can we treat the symptoms of CTE effectively?
Can we modify the disease course of CTE if we intervene early?
Can CTE be prevented?

Concussions are the Tip of the Iceberg: Importance of Subconcussive Trauma

The Centers for Disease Control and Prevention (CDC) estimates as many as 3.8 million concussions occur in the U.S. each year through sports and recreational activities. It is clear that a single sports-related concussion can result in significant physical, emotional, and cognitive symptoms and signs. Although the majority of concussions resolve within a few weeks, 10–30 percent result in prolonged recovery (*i.e.,* post-concussion syndrome). However, at some point, a single concussion is likely to completely resolve and result in no long-term consequences. It is likely that concussions are only the "tip of the iceberg," when it comes to long-term neurological problems, in general, and CTE, in particular. What is significantly more common than symptomatic concussions are "subconcussive" hits. This subconcussive trauma is believed to occur when there is impact to the brain with adequate force to have an effect on neuronal functioning, but without immediate symptoms and signs of concussion. Some sports (*e.g.,* American tackle football) and positions (*e.g.,* lineman) are very prone to these impacts. The most common method used to quantify the number of these subconcussive impacts involves helmets outfitted with accelerometers, devices that measure the linear, lateral, and rotational forces of impacts. Numerous studies have been published over the past 10 years, primarily in tackle football at the high school and college level. For example, a study by Broglio and colleagues (2011) found that high school football players received, on average, 652 hits to the head in excess of 15g of force in a *single* season. One player received 2,235 hits. The average number of hits in college players is even greater. There is now growing evidence that even after one season, repetitive subconcussive trauma can lead to cognitive, physiological, and structural changes to the brain (*e.g.,* Abbas *et al.,* 2015; Davenport *et al.,* 2014, 2016; Helmer *et al.,* 2014; McAllister *et al.,* 2012; Breedlove *et al.,* 2012; Poole *et al.,* 2015; Kawata *et al.,* 2017). One recent study of youth (8–12 year olds) tackle football by researchers at Wake Forest University (Bahrami *et al.,* 2016) had rather striking results. In this study, the players underwent a special type of MRI scan, referred to as diffusion tensor imaging (DTI), prior to the season, and then again following the football season. The players wore helmets with accelerometers during the course of the season. Without including any players with symptomatic, diagnosed concussions, the researchers found that players who experienced greater cumulative head impact exposure (*i.e.,* more hits above a g-force threshold across the season) had more changes in the integrity of the white matter of the brain. Research studies such as these provide strong support that there are short-term neurological consequences of repetitive subconcussive trauma.

Cumulative Head Impact Exposure

One thing we do know about CTE is that every case of post-mortem diagnosed CTE has had one thing in common: a history of repetitive brain trauma (Bieniek *et al.,* 2015). This means that the repetitive brain trauma is a necessary factor in developing this disease. However, it is not a sufficient factor. That is, not everyone who hits their head repeatedly will develop this progressive brain disease. There are additional, as yet unknown, variables that lead to CTE, such as genetic susceptibility or specific aspects of the exposure to the brain trauma (*e.g.,* severity and type of trauma, amount of rest between hits, total duration of exposure to trauma, cumulative number of head impacts, age of first exposure). An important next step in CTE research is to examine the specific aspects of head impact exposure, vis-à-vis risk for later life neurological changes.

Similar to measuring and modeling "exposure" to toxins in the environment or in the workplace, our group has been employing the approaches and techniques used in Exposure Science to guide our examination of exposure to head impacts through tackle football. We recently published a study evaluating the relationship between the estimated cumulative number of head impacts received playing amateur football and later life mood, behavioral, and cognitive functioning (Montenigro *et al.,* 2016). In this study, we developed the cumulative head impact index (CHII), using a sample of 93 former high school and college American football players, with an average age of 47. The CHII was calculated from an algorithm based on the number of seasons played, position(s) played, levels played (youth, high school, college), and estimated head impact frequencies from published helmet accelerometer studies. The total number of hits was not meant to reflect merely the number of "concussions," but, rather, all impacts above a minimum force, including those referred to as subconcussive hits. The average number of total impacts estimated to have been received by participants in our study was 7,742, a number that is consistent with the range of cumulative impacts expected for former high school and college football players based on previous published helmet accelerometer studies. We found a strong, *dose-response relationship between the estimated total number of head impacts experienced through youth, high school, and college football and the risk of developing clinically-meaningful cognitive, mood, and behavioral impairments later in life. Figures 3 and 4* depict the dose-response relationships between the CHII and later-life depression and cognitive impairment, respectively. In layman's terms, the more hits to the head a football player received in his career, the more likely he was to have impaired cognitive functioning, as well as depression, apathy, and behavioral regulation difficulties.

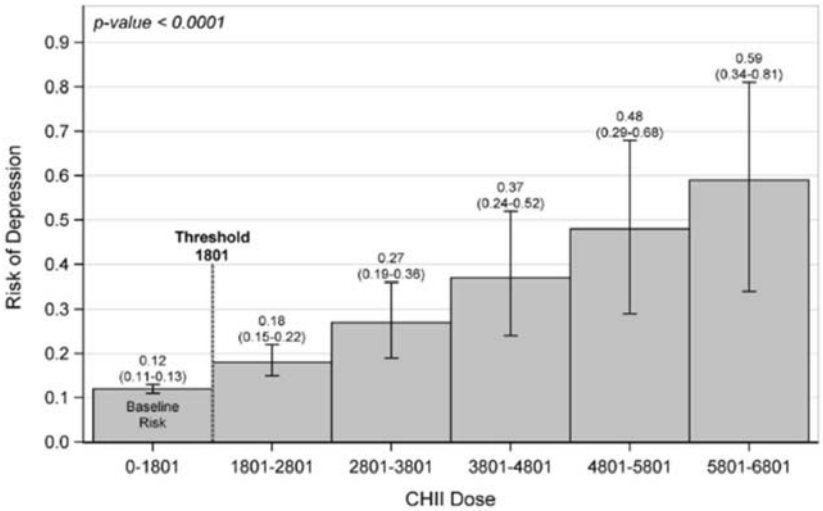


Figure 3

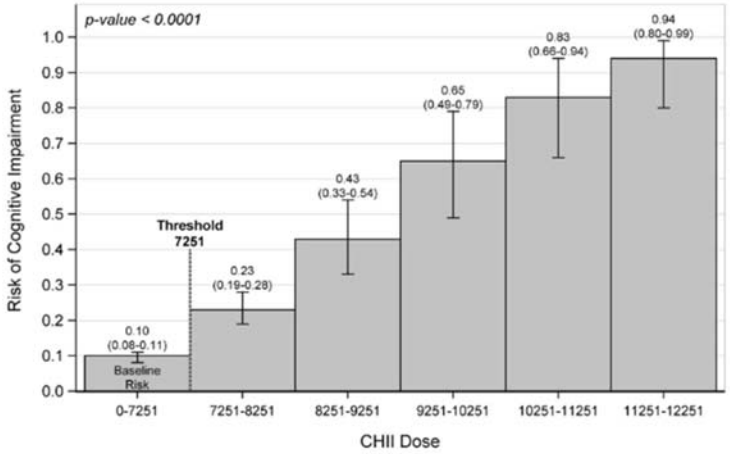


Figure 4

We have also found significant relationships between greater lifetime exposure to head impacts in football (using the CHII metric) and objective biomarkers of possible overall neurodegeneration in former NFL players between the ages of 40–69 years. For example, in one study (Alosco *et al.,* 2016), the greater the exposure level (*i.e.,* the amount of estimated head impacts), the higher the amount of total tau protein in blood, as determined by a state-of-the-art blood test using ultrasensitive single-molecule array (Simoa) assays (p = 0.014; see *Figure 5*). Other studies from our group have found significant relationships between the estimated overall exposure to head impacts and the amount of atrophy of specific areas of the brain (using magnetic resonance imaging [MRI]), as well as alterations in brain chemistry (using magnetic resonance spectroscopy [MRS]). The relationship between the total years playing football and the severity of postmortem tau pathology in CTE has also been reported (Cherry *et al.,* 2016).

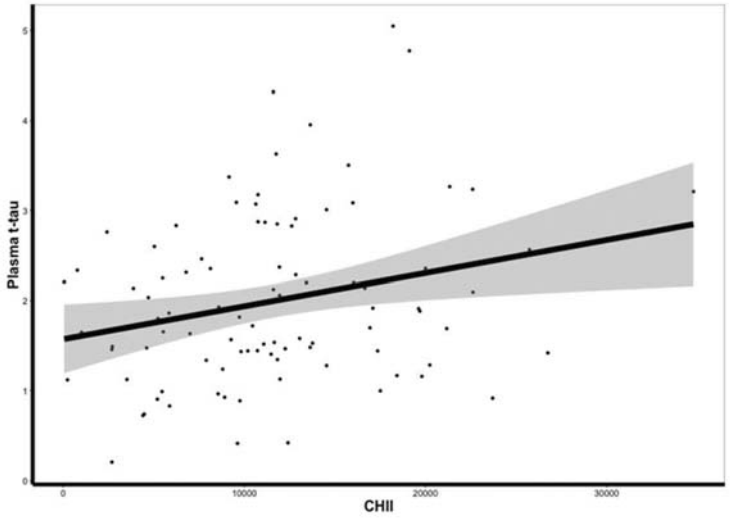


Figure 5

Age of First Exposure to Tackle Football

The brain undergoes significant maturation and development during childhood, with several brain structures and functions reaching their peaks or plateaus of development during the period leading up to age 12 (see *Table 3*). Our group conducted a study to investigate whether or not there is a relationship between experiencing repeated hits to the head during this critical period of brain development and cognitive difficulties later in life (Stamm *et al.,* 2015). Participants in this study were former NFL players ages 41–65 who were part of my NIH-funded DETECT study at Boston University. The former players were divided into two groups: those who began playing tackle football before age 12 and those who began at age 12 or older. We examined their performance on tests of memory and mental flexibility. We found that even after accounting for the total number of years they played football, those who began playing before age 12 performed significantly worse on all tests we measured. This suggests that being hit in the head repeatedly through tackle football during a critical time of brain development is associated with later-life cognitive difficulties. In a subsequent similar study (Stamm *et al.,* 2015) of the same sample of former NFL players, conducted in collaboration with my colleagues, Drs. Martha Shenton and Inga Koerte at Brigham and Women's Hospital in Boston, we examined the relationship between the age of first exposure to tackle football and the structural integrity of the corpus callosum, the large white matter fiber tracts connecting the two hemispheres of the brain. The former players underwent MRI scans with diffusion tensor imaging (DTI) which showed that subjects who began playing football before age 12 were found to have significantly altered integrity of the anterior portions of the corpus callosum at middle-age, compared to those who began playing football at age 12 or older.

The participants in these studies were all former NFL players, which limits the ability to apply these findings to other groups of athletes. However, in another investigation from our group, we studied former football players who only played up through high school or college, and we found that those who began playing tackle football before age 12 had significantly greater impairments in mood and behavior as adults, compared with those who began playing at age 12 or older. More research is needed to study this question in athletes who played other sports, and female athletes, as females generally reach milestones of brain development earlier than males.

Table 3. Important Neurodevelopmental Milestones Between the Ages of 8-12

Neurodevelopmental Milestone	Age	Exemplar Reference
Peak amygdala and hippocampal volume	9-12	Uematsu et al. 2012
Regional peak gray matter volumes	10-12	Giedd et al. 1999
Regional peak cortical thickness	8-11	Shaw et al. 2008
Microstructural maturation of the genu and splenium of the corpus callosum	8-12	Lebel et al. 2008
Peak myelination rate	11-12	Thatcher 1991
Peak cerebral blood flow	10-12	Epstein 1999
Beginning of cerebral glucose metabolism decline	10	Chugani et al. 1987

Diagnosing CTE During Life

Our group at BU and other scientists from around the country and abroad are conducting research to develop methods of accurately diagnosing CTE during life. Fortunately, because CTE is similar to Alzheimer's disease and other neurodegenerative disorders, we can exploit the incredible discoveries and advances in diagnostic tests developed for these other disorders in recent years to accelerate our ability to diagnose CTE during life. Once we can accurately diagnose CTE, we will be able to more clearly address the important questions listed above in *Table 2.* We will be able to differentiate between CTE and other causes of cognitive and behavioral change, including Alzheimer's disease, Frontotemporal Dementia, PTSD, persistent symptoms from previous repetitive or single concussions, "routine" depression and aggressive behavior, and others. We will be able to measure more clearly the true incidence and prevalence of the disease. We will be able to determine more accurately the risk factors (including genetic and exposure variables) for developing CTE. Perhaps most importantly, we will be able to begin clinical trials

for the treatment and prevention of CTE, as new anti-tau compounds (as well as other disease modifying treatments) move through the pharmaceutical development pipeline. And, similar to Alzheimer's disease and other neurodegenerative diseases, the earlier a disease modifying treatment can be initiated, the more likely it will be successful in slowing the progression of symptoms. That is, once a disease has resulted in too much destruction of brain tissue, it may be too late to intervene successfully (*i.e.,* the destroyed tissue cannot be regenerated). Therefore, early detection of the disease, before symptoms manifest, can potentially prevent the symptoms from ever appearing. However, it is likely that not all CTE will be able to be prevented and, therefore, there will always be need for successful methods of treating and slowing the progression of symptoms.

Development of Biomarkers for CTE Diagnosis

In 2011, I was fortunate to receive a grant co-funded by the National Institute of Neurologic Diseases and Stroke, the National Institute of Aging, and the National Institute of Childhood Health and Development (Grants #s R01NS078337 and R56NS078337) for a study referred to as, "*D*iagnosing and *E*valuating *T*raumatic *E*ncephalopathy using *C*linical *T*ests" (DETECT). The goals of the DETECT study (which was the first grant ever funded by NIH to study CTE) were to examine the later-life clinical presentation of former NFL players at high risk for CTE, and to begin to develop *in vivo* biomarkers for CTE. The DETECT study concluded in 2015 and involved a total of 96 symptomatic former NFL players and 28 same-age asymptomatic controls without head trauma history. All research participants underwent extensive brain scans, lumbar punctures (to measure proteins in cerebrospinal fluid), electrophysiological studies, blood tests (*e.g.,* for genetic studies and novel potential biomarkers), and in-depth neurological, neuropsychological, and psychiatric evaluations. In addition, Dr. Martha Shenton of the Brigham and Women's Hospital and I received Department of Defense funding for a related study to examine a promising new Positron Emission Tomography (PET) ligand (developed and owned by Avid Radiopharmaceuticals) that is designed to attach to abnormal forms of tau protein, such as those found in CTE. I also received a separate grant from Avid Radiopharmaceuticals to examine that same PET scan, in conjunction with colleagues from Banner Alzheimer's Institute and Mayo Clinic Arizona. Results from the DETECT study have been very promising, resulting in preliminary support for potential blood biomarkers of CTE (*e.g.,* Alosco *et al.,* 2017; Stern *et al.,* 2016; See *Figure 6*), as well as a variety of potential MRI and MRS biomarkers (*e.g.,* Koerte *et al.,* 2016). In addition, preliminary analyses of the tau PET data are encouraging.

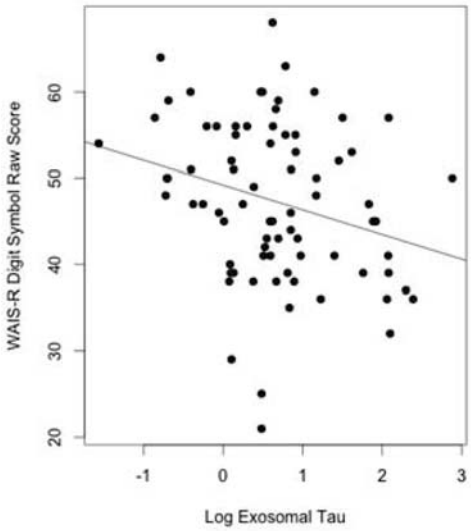


Figure 6. Significant relationship between the amount of plasma exosomal tau and worse performance on a complex cognitive test.

The DETECT study was just the first step. Much more research is needed, including studies with longitudinal designs and much larger and more diverse samples, the inclusion of newer techniques and technologies, as well as post-mortem validation of the findings during life.

DIAGNOSE CTE Research Project

In December 2015, I, along with three co-principal investigators (Jeffrey Cummings, M.D., from the Cleveland Clinic; Eric Reiman, M.D., from Banner Alzheimer's Institute; Martha Shenton, Ph.D., from Brigham & Women's Hospital), were honored to receive a $16 million collaborative research grant funded by the National Institute of Neurological Disorders & Stroke (U01NS093334), entitled, "Chronic Traumatic Encephalopathy: Detection, Diagnosis, Course, and Risk Factors." The goals of the project are summarized in *Table 4*.

Table 4. DIAGNOSE CTE Research Project Goals
1. Collect and analyze neuroimaging and fluid biomarkers for the *in vivo* detection of CTE
2. Characterize the clinical presentation of CTE
3. Examine the progression of CTE over a three-year period
4. Refine and validate diagnostic criteria for the clinical diagnosis of CTE
5. Investigate genetic and head impact exposure risk factors for CTE
6. Share project data with researchers across the country and abroad

To study the clinical presentation, diagnostic criteria, biomarkers, and risk factors of CTE requires expertise across many disciplines, including neurology, neuropsychology, psychiatry, neuroimaging, molecular medicine, neuropathology, exposure science, genetics, biostatistics, bioinformatics, engineering, and others. This project brings together a network of approximately 50 scientists from 10 major research institutions from across the country, including Banner Alzheimer's Institute in Arizona, BU Schools of Medicine and Public Health, Brigham and Women's Hospital (Harvard Medical School), Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas, Mayo Clinic Arizona, New York University (NYU) Langone Medical Center and NYU School of Medicine, VA Puget Sound, University of Washington, Molecular NeuroImaging (New Haven, CT), and the Neuroinformatics Research Group and Central Neuroimaging Data Archive (CNDA) at Washington University School of Medicine (in St. Louis).

This 7-year, longitudinal, multicenter investigation, referred to as the *D*iagnostics, *I*maging, *A*nd *G*enetics *N*etwork for the *O*bjective *S*tudy & *E*valuation of *C*hronic *T*raumatic *E*ncephalopathy (*DIAGNOSE CTE*) *Research Project,* is well underway. In total, we will examine 240 former professional football players, former college football players, and healthy controls (without history of contact sports of brain trauma), between the ages of 45–74. Participants will undergo extensive testing over a three-day period at one of four sites (see *Table 5*), and then return three years later for a follow-up evaluation. Examinations include: Advanced MRI and MRS imaging; two brain PET scans to measure abnormal tau and amyloid protein deposits, respectively; lumbar punctures, to measure proteins and other substances in cerebrospinal fluid; blood and saliva collection, to measure proteins and other compounds using state-of-the-art analyses; extensive neuropsychological, neuropsychiatric, neurological, and motor examinations; and genetic testing, as part of risk factor analyses. We are fortunate to have an *External Advisory Board* made up of Key Opinion Leaders, including David Knopman, M.D., External Advisory Board Chair (Professor of Neurology, Mayo Clinic), Col. Dallas Hack, M.D. (Ret.) (Medical Leader, One Mind), Brian Hainline, M.D. (Chief Medical Officer, National Collegiate Athletic Association), Mike Haynes (Member of Pro Football Hall of Fame, President and founder, Mike Haynes & Assoc.), Thomas McAllister, M.D. (Chair, Department of Psychiatry, Albert Eugene Stern Professor of Clinical Psychiatry; Indiana University School of Medicine), Arthur Toga, M.D. (Provost Professor; Director of the Institute for Neuroimaging and Informatics, University of Southern California), and Michael Weiner, M.D. (Professor of Medicine, Radiology, Psychiatry, and Neurology, University of California San Francisco). *We are confident that based on the results of this study, along with scientific advances in the diagnosis of other neurodegenerative diseases, CTE will be able to be accurately diagnosed during life within the next 5–10 years.*

Table 5. DIAGNOSE CTE Research Project Evaluation Sites

Arizona Mayo Clinic-Scottsdale Site PI: Charles Adler, M.D., Ph.D. • PET scans at Banner Alzheimer's Institute, Phoenix	Boston BU School of Medicine Site PI: Robert Stern, Ph.D. • MRI's at Brigham and Women's Hospital
Las Vegas Site PI: Charles Bernick, M.D. Cleveland Clinic Lou Ruvo Center for Brain Health	New York Site PI: Laura Balcer, M.D., M.P.H. New York University Langone Medical Center

Concussions, Repetitive Subconcussive Head Impacts, and CTE

Over the past 10 years, there have been tremendous strides made in sports concussion awareness, prevention, detection, and management. These gains have resulted in improved public health and have likely saved the lives of many American athletes. Continued efforts must be made to better detect concussion using objective tests, to reduce risk for concussion, and to educate players, parents, coaches, medical staff, and the public as a whole, about the concussions. However, I am concerned that *there is confusion regarding the difference between concussion and CTE.* A concussion is an acute brain injury, which, if managed appropriately, results in transient symptoms, without long-term consequences. CTE, on the other hand, is a neurodegenerative disease that has only been diagnosed in individuals with a history of repetitive head impacts. As stated above, the disease appears to begin at the time of exposure to those repetitive impacts but often does not result in any symptoms until years or decades following the cessation of the exposure (*i.e.,* ending involvement in the sport). It also appears that it is the overall exposure to repetitive head impacts (including the much more common subconcussive trauma) that results in later life neurological disorders, including CTE. In short, concussion and CTE are very distinct, and yet, there seems to be widespread confusion about this. My hope is that the national discussion about brain trauma in football and other contact sports can *shift from a focus primarily on "concussion" to the much more common and, potentially more problematic, subconcussive trauma.* In other words, the big hits and symptomatic concussions can be easily observed, counted, and, with appropriate societal effort, reduced. However, the repetitive, subconcussive hits are currently viewed as fundamental to certain sports (*e.g.,* routine plays in American tackle football, heading in soccer), but may have a greater negative overall impact on public health.

Tackle Football History

American tackle football began in the late 19th century. It was originally played without any protective headgear and then thin leather helmets were worn. However, it was not until the 1950s and 1960s that hard plastic helmets with facemasks were used. The helmets were developed to prevent skull fractures (which they did and continue to do extremely well), but they also allowed individuals to hit their head repeatedly against their opponent without feeling pain, thus possibly creating a sense of invincibility and also portraying minimal safety concerns. In the 1960s and early 1970s, children started to play organized American tackle football when Pop Warner youth football became popular nationally. From a public health perspective, the first individuals who played youth football are currently in their late 50s and 60s, and the first individuals who played college football with hard plastic helmets and facemasks are currently in their mid-70s. Aside from boxing, there does not seem to be any other activity that human beings have been involved with that includes exposure to hundreds, thousands, or even tens of thousands of head impacts. Although boxing has been around for hundreds of years, it was not until the mid-20th century that it involved extensive exposure to repetitive head impacts. It was at that time that the padded glove was used routinely (initially meant as a means of protecting the hands from injury, but also resulted in increased numbers of blows to the head). Therefore, it is only in the past 55–65 years that large numbers of human beings have been exposed to repetitive head impacts. While the epidemiology of CTE is unknown, it is possible that millions of living older adults are currently at high risk for CTE or other long-term neurological conditions due to their history of exposure to repetitive head impacts.

Decision-Making Regarding Participation in Tackle Football

With increased knowledge of the potential short-term and long-term risks of repetitive head impacts and other injuries incurred through tackle football, *adult* athletes should be able to make informed decisions about participating. However, the issue of youth participation is quite different because children's brains are not yet fully developed, especially the frontal lobes, the parts of the brain responsible for complex thought, planning, judgement, abstract thinking, and decision-making. As such, children and adolescents are not able to weigh the long-term risks and benefits of playing tackle football (Bachynsky, 2016). Parents and other adults involved in the decision-making process and in setting policies often search for guidance from professional organizations, such as groups of medical and scientific experts. One such organization is the American Academy of Pediatrics (AAP) and its Council on Sports Medicine and Fitness which, after reviewing the literature regarding tackling and football-related injuries (including concussions, subconcussive trauma, and CTE), published a *Policy Statement,* as part of the AAP "Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children." (Council on Sports Medicine and Fitness, 2015). At the end of their review, they provided the following summary (with *italics* added for emphasis):

> Removing tackling from football altogether would likely lead to a decrease in the incidence of overall injuries, severe injuries, catastrophic injuries, and concussions. The American Academy of Pediatrics recognizes, however, that the *removal of tackling from football would lead to a fundamental change in the way the game is played. Participants in football must decide* whether the potential health risks of sustaining these injuries are outweighed by the recreational benefits associated with proper tackling. (Council on Sports Medicine and Fitness, 2015; p. e1426)

It is my opinion that if making a fundamental change to the way a *game* is played would likely decrease injuries, severe injuries, catastrophic injuries, and brain injuries (*i.e.,* concussions), then perhaps there should be a recommendation that such a fundamental change *should* be made. And, similar to Bachynsky (2016), in his editorial in the New England Journal of Medicine critiquing the AAP Policy Statement, I strongly believe that youth are not capable of making their own decisions about participation in a game with these known short-term and long-term risks. Therefore, parents, guardians, school officials, leagues, coaches, state Departments of Health, and other key decision-makers, require ongoing, up-to-date scientific/medical information and guidance, not merely from the media or from groups with potential financial conflicts of interest or other biases.

Consensus Statements developed at conferences sponsored and organized by institutions with financial conflicts of interest (*e.g.,* Fédération Internationale de Football Association [FIFA], Federation for Equestrian Sports [FEI], International Olympic Committee [IOC], International Ice Hockey Federation [IIHF]), and written by experts in concussion and brain injury, rather than in neurodegenerative diseases, may not necessarily result in accurate summaries and recommendations regarding the relationship between repetitive head impacts and CTE. One example of a Consensus Statement published by a less biased group of clinicians and scientists (including several with expertise in neurodegenerative diseases and neuroscience) is the "Expert Consensus Document" resulting from a one-day meeting convened by Safe Kids Worldwide, the Alzheimer's Drug Discovery Foundation, and the Andrews Institute for Orthopedics and Sports Medicine (Carmen *et al.,* 2015). Based on their review of the literature pertaining to CTE, they concluded that CTE is a "disease associated exclusively with repetitive head trauma," that ". . . long sporting careers are not required for CTE development, and that youth athletes represent an at-risk population." (p. 233)

Continued discussion and collaboration amongst expert scientists and clinicians about the current state of scientific knowledge regarding short-term and long-term consequences of repetitive head impacts in contact sports is critically needed. Governmental organizations (*e.g.,* NIH, Department of Defense, Centers of Disease Control and Prevention, Department of Veteran's Affairs) which serve as the primary funders of biomedical research can and should take the lead, by convening expert panels to help guide future scientific discovery in this area, as well as to provide the public with accurate, unbiased, state-of-the science summaries and recommendations aimed at issues pertinent to improving public health.

Increased Funding for CTE Research

In order to tackle the complex issue of CTE, we must continue to expand upon current approaches to conducting research in neurodegenerative disease. We must continue to break down the traditional silos of individual research labs, research in-

stitutions, and disciplines, and begin to conduct multidisciplinary, collaborative, and translational research, bringing together the very best scientists, novel methodologies, and state-of-the-art technology. Most importantly, we cannot forget that our research must focus on reducing individual human suffering and improving public health. Alas, this requires tremendous financial support. There is the possibility that millions of Americans are at risk for developing CTE and other long-term neurological complications from exposure to repetitive head impacts in the sports they participated in during youth, high school, and college, over the past six decades. However, there remain critical questions in need of answers and gaps in our scientific knowledge are in need of filling. *We must do everything we can to continue to reap the profound benefits of American sports while also assuring that we protect the health and safety of former, current, and future American athletes.*

Summary

In summary, many of our most cherished American sports, such as tackle football, soccer, and hockey, involve repetitive blows to the head, often resulting in changes to brain structure and function, even after just one season of play. This exposure to repetitive head impacts (often without any experience of symptomatic concussions) potentially leads to a degenerative brain disease with later life impairments in behavior, mood, and cognition, as well as the development of dementia and lack of independent functioning. Therefore, it is imperative that we: (1) determine who may be at increased risk for CTE and other long-term consequences of the repetitive head impacts experienced by athletes at all ages; (2) develop methods of accurately diagnosing CTE during life (perhaps even *before* symptoms); and (3) create and test methods of slowing the progression of the disease, treating its symptoms, and even preventing the onset of symptoms altogether. I want to close by thanking the Committee for your interest in addressing this important issue and for your continued commitment toward protecting the health and safety of all athletes.

References Cited

Abbas K, Shenk TE, Poole VN, Robinson ME, Leverenz LJ, Nauman EA, Talavage TM. Effects of repetitive sub-concussive brain injury on the functional connectivity of Default Mode Network in high school football athletes. Dev Neuropsychol. 2015; 40:51–6

Alosco ML, Tripodis Y, Jarnagin J, Baugh CM, Martin B, Chaisson CE, Estochen N, Song L, Cantu RC, Jeromin A, Stern RA. Repetitive head impact exposure and later-life plasma total tau in former National Football League players. Alzheimers Dement (Amst). 2016 Dec 10;7:33–40.

Bachynski, K.E. Tolerable Risks? Physicians and Youth Tackle Football. NEJM 2016:374:405–407.

Bahrami, N., Sharma, D., Rosenthal, S., Davenport, E. M., Urban, J. E., Wagner, B., . . . Maldjian, J. A. (2016). Subconcussive Head Impact Exposure and White Matter Tract Changes over a Single Season of Youth Football. *Radiology,* 160564. doi: 10.1148/radiol.2016160564

Bieniek, K. F., Ross, O. A., Cormier, K. A., Walton, R. L., Soto-Ortolaza, A., Johnston, A. E., . . . Dickson, D. W. (2015). Chronic traumatic encephalopathy pathology in a neurodegenerative disorders brain bank. *Acta Neuropathol, 130*(6), 877–889. doi: 10.1007/s00401–015–1502–4

Breedlove EL, Robinson M, Talavage TM, Morigaki KE, Yoruk U, O'Keefe K, King J, Leverenz LJ, Gilger JW, Nauman EA. Biomechanical correlates of symptomatic and asymptomatic neurophysiological impairment in high school football. J Biomech. 2012 Apr 30;45(7):1265–72.

Broglio, S. P., Eckner, J. T., Martini, D., Sosnoff, J. J., Kutcher, J. S., & Randolph, C. (2011). Cumulative head impact burden in high school football. *J Neurotrauma, 28*(10), 2069–2078. doi: 10.1089/neu.2011.1825

Carman, A.J., Ferguson, R., Cantu, R., Comstock, R.D., Dacks, P.A., DeKosky, S.T., Gandy, S., Gilbert, J., Gilliland, G., Gioia, G., Giza, G., Greicius, G., Hainline, B., Hayes, R.L., Hendrix,H., Jordan, B., Kovach, J., Lane, R.F., Mannix, R., Murray, T., Seifert, T., Shineman, D.W., Warren, E., Wilde, E., Willard H., & Fillit, H.M. Expert Consensus Document: Mind the gaps—advancing research into short-term and long-term neuropsychological outcomes of youth sports-related concussions. Nat. Rev. Neurol. 2015; 11:230–244

Cherry, J. D., Tripodis, Y., Alvarez, V. E., Huber, B., Kiernan, P. T., Daneshvar, D. H.,. . .Stein, T. D. (2016). Microglial neuroinflammation contributes to tau accumulation in chronic traumatic encephalopathy. *Acta Neuropathol Commun, 4*(1), 112. doi: 10.1186/s40478–016–0382–8

Chugani, H.T., Phelps, M.E. and Mazziotta, J.C. (1987). Positron emission tomography study of human brain functional development. Ann Neurol 22, 487–497.

Corsellis, J. A., Bruton, C. J., & Freeman-Browne, D. (1973). The aftermath of boxing. *Psychol Med, 3*(3), 270–303.

Council on Sports Medicine and Fitness. Tackling in youth football. Pediatrics 2015;136: e1419–30.

Davenport EM, Apkarian K, Whitlow CT, Urban JE, Jensen JH, Szuch E, Espeland MA, Jung Y, Rosenbaum DA, Gioia GA, Powers AK, Stitzel JD, Maldjian JA. Abnormalities in Diffusional Kurtosis Metrics Related to Head Impact Exposure in a Season of High School Varsity Football. J Neurotrauma. 2016 Dec 1;33(23):2133–2146. Epub 2016 May 18.

Davenport EM, Whitlow CT, Urban JE, Espeland MA, Jung Y, Rosenbaum DA, Gioia GA, Powers AK, Stitzel JD, Maldjian JA. Abnormal white matter integrity related to head impact exposure in a season of high school varsity football. J Neurotrauma. 2014 Oct 1;31(19):1617–24.

Giedd, J.N., Blumenthal, J., Jeffries, N.O., Castellanos, F.X., Liu, H., Zijdenbos, A., Paus, T., Evans, A.C. and Rapoport, J.L. (1999). Brain development during childhood and adolescence: a longitudinal MRI study. Nat Neurosci 2, 861–863.

Helmer KG, Pasternak O, Fredman E, Preciado RI, Koerte IK, Sasaki T, Mayinger M, Johnson AM, Holmes JD, Forwell LA, Skopelja EN, Shenton ME, Echlin PS. Hockey Concussion Education Project, Part 1. Susceptibility-weighted imaging study in male and female ice hockey players over a single season. J Neurosurg. 2014 Apr;120(4):864–72.

Kawata K, Rubin LH, Takahagi M, Lee JH, Sim T, Szwanki V, Bellamy A, Tierney R, Langford D. Subconcussive Impact-Dependent Increase in Plasma S100β Levels in Collegiate Football Players. J Neurotrauma. 2017 Apr 27. [Epub ahead of print]

Koerte, I. K., Hufschmidt, J., Muehlmann, M., Tripodis, Y., Stamm, J. M., Pasternak, O., . . . Shenton, M. E. (2016). Cavum Septi Pellucidi in Symptomatic Former Professional Football Players. *J Neurotrauma, 33*(4), 346–353. doi: 10.1089/neu.2015.3880

Lebel, C., Walker, L., Leemans, A., Phillips, L. and Beaulieu, C. (2008). Microstructural maturation of the human brain from childhood to adulthood. Neuroimage 40, 1044–1055.

McAllister, T. W., Flashman, L. A., Maerlender, A., Greenwald, R. M., Beckwith, J. G., Tosteson, T. D., Turco, J. H. (2012). Cognitive effects of one season of head impacts in a cohort of collegiate contact sport athletes. *Neurology, 78*(22), 1777–1784. doi: 10.1212/WNL.0b013e3182582fe7

McKee, A. C., Cairns, N. J., Dickson, D. W., Folkerth, R. D., Keene, C. D., Litvan, I.,. . .group, T. C. (2016). The first NINDS/NIBIB consensus meeting to define neuropathological criteria for the diagnosis of chronic traumatic encephalopathy. *Acta Neuropathol, 131*(1), 75–86. doi: 10.1007/s00401–015–1515–z

McKee, A. C., Stern, R. A., Nowinski, C. J., Stein, T. D., Alvarez, V. E., Daneshvar, D. H., . . . Cantu, R. C. (2013). The spectrum of disease in chronic traumatic encephalopathy. *Brain, 136*(Pt 1), 43–64. doi: 10.1093/brain/aws307

Montenigro, P. H., Alosco, M. L., Martin, B. M., Daneshvar, D. H., Mez, J., Chaisson, C. E., . . . Tripodis, Y. (2016). Cumulative Head Impact Exposure Predicts Later-Life Depression, Apathy, Executive Dysfunction, and Cognitive Impairment in Former High School and College Football Players. *J Neurotrauma.* doi: 10.1089/neu.2016.4413

Montenigro, P. H., Baugh, C. M., Daneshvar, D. H., Mez, J., Budson, A. E., Au, R., . . . Stern, R. A. (2014). Clinical subtypes of chronic traumatic encephalopathy: literature review and proposed research diagnostic criteria for traumatic encephalopathy syndrome. *Alzheimers Res Ther, 6*(5), 68. doi: 10.1186/s13195–014–0068–z

Poole VN, Breedlove EL, Shenk TE, Abbas K, Robinson ME, Leverenz LJ, Nauman EA, Dydak U, Talavage TM. Sub-concussive hit characteristics predict deviant brain metabolism in football athletes. Dev Neuropsychol. 2015 Jan;40(1):12–7

Shaw, P., Kabani, N.J., Lerch, J.P., Eckstrand, K., Lenroot, R., Gogtay, N., Greenstein, D., Clasen, L., Evans, A., Rapoport, J.L., Giedd, J.N. and Wise, S.P. (2008). Neurodevelopmental trajectories of the human cerebral cortex. J Neurosci 28, 3586–3594.

Stamm, J. M., Bourlas, A. P., Baugh, C. M., Fritts, N. G., Daneshvar, D. H., Martin, B. M., . . . Stern, R. A. (2015). Age of first exposure to football and later-life cognitive impairment in former NFL players. *Neurology, 84*(11), 1114–1120. doi: 10.1212/WNL.0000000000001358

Stamm, J. M., Koerte, I. K., Muehlmann, M., Pasternak, O., Bourlas, A. P., Baugh, C. M., . . . Shenton, M. E. (2015). Age at First Exposure to Football Is Associated with Altered Corpus Callosum White Matter Microstructure in Former Pro-

fessional Football Players. *J Neurotrauma, 32*(22), 1768–1776. doi: 10.1089/neu.2014.3822

Stern, R. A., Daneshvar, D. H., Baugh, C. M., Seichepine, D. R., Montenigro, P. H., Riley, D. O., McKee, A. C. (2013). Clinical presentation of chronic traumatic encephalopathy. *Neurology, 81*(13), 1122–1129. doi: 10.1212/WNL.0b013e3182a55f7f

Stern, R. A., Tripodis, Y., Baugh, C. M., Fritts, N. G., Martin, B. M., Chaisson, C., . . . Taylor, D. D. (2016). Preliminary Study of Plasma Exosomal Tau as a Potential Biomarker for Chronic Traumatic Encephalopathy. *J Alzheimers Dis, 51*(4), 1099–1109. doi: 10.3233/jad–151028

Thatcher RW. Maturation of the human frontal lobes. Physiological evidence for staging. Developmental Neuropsychology 1991; 7: 397–419

Uematsu, A., Matsui, M., Tanaka, C., Takahashi, T., Noguchi, K., Suzuki, M. and Nishijo, H. (2012). Developmental trajectories of amygdala and hippocampus from infancy to early adulthood in healthy individuals. PloS One 7, e46970.

The CHAIRMAN. Thank you, Dr. Stern.

Ms. Williams.

STATEMENT OF LAURYN WILLIAMS, OLYMPIAN AND PROUD TRUESPORT AMBASSADOR, UNITED STATES ANTI-DOPING AGENCY

Ms. WILLIAMS. Mr. Chairman, Ranking Member Nelson, members of the Committee.

Good morning. My name is Lauryn Williams. I am a four-time Olympian, a three-time Olympic medalist, and a proud United States Anti-Doping Agency TrueSport Ambassador.

I want to thank this Committee for its interest in clean sport and for the opportunity to appear before you today to discuss how we can better protect the rights of athletes around the world.

When I started running at 9 years old, I never imagined I would one day be competing in the Olympic Games, much less to compete four times. Yet, I obtained the unobtainable. I became the first American woman to win medals in both the Summer and Winter Olympics. I was naturally fast from the start, but innate talent was not always enough.

The cost of Olympic achievement is high. Opportunities cost. The pursuit of an Olympic dream costs money, time, experiences, and your social life among other things. But these expenditures are not always a sacrifice, but a choice.

The thing is while we choose to chase the extraordinary moments, we do so believing the basic idea that every athlete deserves to compete on a level playing field. Sadly, that notion is under attack and with it, the very credibility of the Olympic Games.

Why? Because of the use of performance enhancing drugs. Shortcuts are being taken for personal gain. Podium moments are being stolen. And perhaps most disheartening, this kind of abuse continues ad nauseam because sports leaders around the world cannot find the will, or courage, to properly protect athletes.

Chairman Thune, members of the Committee, I encourage you to imagine dedicating your entire life to the mission of representing your country and achieving your best performance. To give your blood—literally give your blood—sweat, and tears, only to have your dreams stolen by someone willing to cheat. Someone willing to corrupt themselves and the sport you love for a hollow victory. It is devastating. And when this happens, clean athletes look to sport leaders who are supposed to be our advocates, but we seldom get worthwhile responses.

When doping goes unpunished, clean athletes are left wondering, what would my life look like if I had actually competed on a level playing field? Am I owed a moment on the podium? Should I have trained for another Olympics? Did I miss sponsorships and endorsements that only come with an Olympic medal? The unanswered questions degrade the experience significantly.

Of course, there is individual suffering when clean athletes lose their moments to cheaters, but it corrupts the experience for others. Fans, spectators, sponsors, and society as a whole are left asking, "Why play if the game is rigged and if the destination has become more important than the journey?"

I am not the first athlete to say this on Capitol Hill. In February, the House Energy and Commerce Subcommittee on Oversight and Investigations heard Adam Nelson, the American shot putter who, 9 years after the 2004 Summer Olympics, received his gold medal in an airport food court; really, a food court. And they heard from Michael Phelps, the most decorated Olympian in history, who despite his own unprecedented success, still questions whether he truly ever competed on a level playing field while on the international stage.

The reason that athletes like Adam, Michael, and myself speak on issues like this is because we know that here in the United States, we are being held to the highest standard there is.

However, while American athletes are asked to report their whereabouts 24 hours a day, 7 days a week so that drug testers can knock on our door unannounced to request we pee in a cup, or give blood, many athletes from other parts of the world are not.

The simple truth is, not all elite athletes worldwide are being held to the same standard we are and it is a frustrating reality.

I was tested 66 times during my athletic career. That is 66 different times that a doping control officer tapped me on the shoulder after a competition, or showed up at my home at 6 a.m., waking me and my family to take my blood, watch me pee in a cup no matter what time of the month it was. That is 66 times I bore the burden of having to prove I was competing clean, that I was doing it the right way.

Yet somehow, and this is important, of the 11,470 athletes who competed in Rio de Janeiro last summer, a staggering 4,125 of those athletes have no record of testing in the 12 months prior to the Olympic Games. That is unacceptable!

So, I am here today to ask you this, how many more? How many more Olympic Games are we going to allow to be corrupted by performance enhancing drugs? How many more podium moments need to be stolen? How many more dreams crushed? What kind of message are we sending to the next generation of competitors?

As athletes, we have a responsibility to require that our voices are heard and that we have an opportunity to be engaged in the conversation that directly affects us.

Mr. Chairman, I encourage our Government, and governments from around the world, to exercise your influence for this important cause.

We are just 266 days away from the Winter Games in PyeongChang. The clock is ticking. The time is now.

Thank you for your time.

[The prepared statement of Ms. Williams follows:]

PREPARED STATEMENT OF LAURYN WILLIAMS, OLYMPIAN AND PROUD TRUESPORT AMBASSADOR, UNITED STATES ANTI-DOPING AGENCY

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The cost of these achievements is high. Opportunities cost. The pursuit of an Olympic dream cost time, money, experiences, social life, but the cost of these things are not a sacrifice but a choice.

But the thing is: while we choose to chase the extraordinary moments, we do so believing the basic idea that every athlete deserves to compete on a level playing field. But sadly, that notion is under attack . . . and with it, the very credibility of the Olympic Games.

Why?

Because of performance-enhancing drug use.

Shortcuts are being taken for personal gain. Podium moments are being stolen. And perhaps most disheartening, this kind of abuse continues ad nauseam because sport leaders around the world cannot find the will, or courage, to properly protect athletes.

Mr. Chairman I encourage you to imagine an entire life dedicated to the mission of representing your country and achieving your best performance. To give your blood, literally give your blood, sweat and tears, only to have your dreams stolen by someone willing to cheat. Someone willing to corrupt themselves and the sport you love for a hollow victory. It's devastating. And when this happens, clean athletes look to the sport leaders who are supposed to be our advocates . . . but we seldom get a worthwhile response.

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There is individual suffering when clean athletes lose their moment to cheaters, but it corrupts the experience for everyone. Fans, spectators, sponsors, and society as a whole are left asking "Why play if the game is rigged? . . . If the destination has become more important than the journey?"

I'm not the first athlete to say this on Capitol Hill. In February, the House Energy and Commerce Subcommittee on Oversight and Investigations heard from Adam Nelson, the American shot putter who, nine years after the 2004 Summer Olympics, received his gold medal in an airport food court. And they heard from Michael Phelps, the most decorated Olympian in history, who despite his own unprecedented success, still questions whether he ever truly competed on a level playing field while on the international stage.

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However, while American athletes are asked to report their whereabouts 24 hours a day, seven days a week so that drug testers can knock on our door unannounced to request we pee in a cup, or give blood, many athletes from other parts of the world are not. The simple truth is, not all elite-level athletes worldwide are being held to the same standard as we are and it is frustrating reality.

I was tested 66 times during my athletic career. That's 66 different times a doping control officer tapped me on a shoulder after a competition, or showed up at six a.m. to take blood or watch me pee in to cup. That's 66 times that I bore the burden of having to prove I was competing clean—that I was doing it the right way. Yet, somehow—and this is important . . . Of the 11,470 athletes who competed in Rio de Janeiro last summer, a staggering 4,125 of those athletes had no record of testing in the 12-months prior to the Games. That's unacceptable!

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The CHAIRMAN. Thank you, Ms. Williams.

I will start with asking questions and we will do five minute rounds with members of the Committee.

Ms. Deutscher, I want to begin again by thanking you and your husband for being here and express our sympathy to you for your family's loss.

Just looking back on that tragic experience, do you have recommendations for other parents whose children face sports injuries? And then maybe as a follow-up, are there warning signs that you can share with other parents who are in similar situations?

Ms. DEUTSCHER. Education to me is key for the parent.

When it happened with Nick when he said, "This Hydrocodone is not cutting it," we should have just said stop. That would be the advice that I would give to other parents. If it does not seem right, it is probably not right.

The thing is we had excellent physicians. We had a great athletic trainer who was working with Nick at OI. It just seems like education and awareness of this issue is just so key.

The warning sign for Nick was when he said he needed additional. I told Jeff, "He has his hand out for this Hydrocodone." So that is a big red flag. But he was still going to school. He was training. He was rehabbing to get back for the last game of the season.

I just think education and awareness and follow your instincts, but it was 2011 and there was not the highlight on it that there is now.

I do have to say, though, that addiction hits so swiftly. I mean, it just kind of happened before our eyes. We all wanted Nick to play football, everybody from the coaches, to the other parents, to us. So education, awareness, and do not be afraid to raise your hand and say stop. Then once the addiction does kick in, it is just a sad, long journey.

Thank you.

The CHAIRMAN. Thank you.

Ms. Williams, Derek Miles who, as you know, is the Associate Coach at the University of South Dakota recently received a bronze medal for his performance at the 2008 Olympic Games in Beijing. He received this medal more than eight years after the actual games because the athlete that actually stood on the podium in Beijing tested positive for a banned substance. You mentioned this in your testimony and referred to it.

How many other American athletes like Derek, do you think, are still waiting to receive the Olympic medal they rightfully earned? What can be done to ensure that that long awaited and deserved medal gets there sooner rather than later?

Ms. WILLIAMS. I believe there are many other athletes that are entitled to a medal that they did not receive, a moment that has been stolen from them.

The thing that we need to do, one of the most important right now, is to store samples a lot longer. So right now, they are storing samples for 10 years, which is how Adam Nelson, 9 years after his medal, was able to find out that the person had used performance enhancing drugs.

The longer we can store these samples, the better our technology is getting, and we can look back and say, "Now we have new technology and we can know what you were using at this time." And we can restore those opportunities.

But what we need to be doing too is to stop that from happening and get the technology now, so that if we are getting positive tests, we do not give medals to people who did not rightfully earn them.

The CHAIRMAN. Yes, getting your Olympic medal at a food court seems a little anticlimactic.

Ms. WILLIAMS. Very anticlimactic.

The CHAIRMAN. Mr. Sailor, in your written testimony, you state that, and I quote, "Underlying causes of sudden death in athletics might include asthma, catastrophic brain injury, cervical spine injuries, diabetes, exertional heat stroke, and sudden cardiac arrest," to quote from your statement.

Given the diverse range of underlying causes that young athletes may experience, is it reasonable to single out contact football as the most problematic sport in need of fundamental change?

Mr. SAILOR. Well, as athletic trainers, we recognize that the number one cause of death in athletes is cardiac. The other issues that are killing our athletes today are related heat stress, heat illness, as well as issues that deal with concussion, of course.

The important thing that we need to recognize is that the response to those crisis situations within the first few minutes dictates in a large part to their outcome. It is important that we have individuals there and a plan in place to care for those athletes when those situations exist.

These are not strictly limited to the sport of football, of course. We see concussion, we see heat, and we see cardiac in many of our sports and it is important for us to be prepared for those.

The CHAIRMAN. Do you think accessibility and influence of athletic trainers in youth sports is a more appropriate solution than fundamentally altering sports like football, for example?

Mr. SAILOR. I certainly believe in a comprehensive aspect of addressing these issues.

I advocate for athletic trainers because I believe that it is important for an individual, an adult, to be present that is taking into consideration the safety as well as the preparation for catastrophic injury at that site.

Often, we have other adults, but their primary charge is things like coaching, and strategy, and things like that. We need someone that is there, a trained professional, that looks at things like cre-

ation of an emergency action plan and access to the appropriate medical care. How do we access facilities in the case of a catastrophic injury? That is what an athletic trainer does by nature.

The CHAIRMAN. Thank you.

I will yield to Senator Nelson.

Senator NELSON. I will be quick so that we can get onto our members' questions.

First of all, I want to say to Ms. Williams. Amen. Thank you. You did it the right way and others cheated, and you still got the medals, so, amen.

I want to say to Mrs. Deutscher, I do not understand how you survived. What I do not understand is when your son was asking for some more Oxycontin, what was it that you said you ought to stop right there?

Ms. DEUTSCHER. As I said, everybody wanted Nick to play football and Nick wanted to play football. I mean, he loved being part of the team. He loved everything about that sport.

We should have said stop, reevaluate. Is this worth it? He was getting football letters and he was looking forward to maybe playing college ball. So had we known then what we know now, I would have said stop. We need to decide if this is worthwhile or right. And unfortunately, we did not.

Senator NELSON. To all the panel, the Chairman and I were discussing that we could have a separate hearing on each one of the topics that each of you have brought up.

Dr. Stern, I got the impression that you said a person could not have any concussions and still get to CTE. What is it about that? If you have many concussions, is that a cause of ultimately becoming CTE?

Dr. STERN. Yes, to both of those.

Concussion is a form of a mild traumatic brain injury. There is no real hard and fast line between what is a concussion and what is not a concussion. Right now, I think there are 140 or more published definitions of concussion. Actually, the one published by the NATA is one of my favorites. But it is all based on having symptoms, having an individual report symptoms, or signs of the injury.

That does not mean that there are no problems to the brain, and those brain cells, and the brain tissue. If the injury did not either result in the type of problem that leads to the symptoms, or very commonly, the person does not report the symptoms for a whole range of reasons.

But what our research, and that of many others, is now showing is that these sub-concussive hits—the ones that happen in every play, in every game, in every practice of many sports, but especially tackle football—do have consequences, short term and long term.

There is now growing evidence that even after just one season of football, tackle football in high school, let us say, there are structural changes to the brain, physiological changes to the brain, changes to blood-based biomarkers, and changes to thinking and memory without any symptomatic concussions. And those changes are directly associated with the number of hits the person gets to the head as measured by accelerometers in the helmets.

Senator NELSON. So would that apply to soccer and headers as well?

Dr. STERN. It would. And that is, to me, a very scary next part of the journey that now there is growing evidence that heading in soccer, not the concussions in soccer, but heading does seem to lead to changes over just one season, but also after a lifetime of heading.

In fact, there is now, just recently, several cases of postmortem confirmed CTE in individuals who were demented at the end of their lifetime who never had histories of concussion, or maybe just one concussion, through professional and semi-professional football. But they had a huge amount of heading through their career suggesting, again, that the exposure to these repetitive hits, whether or not they lead to the symptoms of concussion, seem to be raising the risk for these later life complications.

Senator NELSON. Are you following our former military members and the traumatic brain injury there, and seeing if that produces CTE?

Dr. STERN. Our group has sadly found CTE postmortem in former military service members who were exposed to blast trauma and other brain trauma. It is a very complex issue, and it is a very, very important one, and one that the Department of Veterans Affairs and the Department of Defense is taking very seriously.

The symptoms of PTSD, the long-term problems of traumatic brain injury, the difficulties that we now see in the tremendous increase in suicide in our veterans, all of those seem to overlap with the symptoms of CTE. We are seeing that, indeed, CTE may be playing a very important role in the development of these cognitive, and behavioral, and mood changes later in life in our military service members.

Senator NELSON. Thank you.

We could spend a whole day just on that subject.

The CHAIRMAN. We could. No question about it. Thank you, Senator Nelson.

Senator Moran.

STATEMENT OF HON. JERRY MORAN,
U.S. SENATOR FROM KANSAS

Senator MORAN. Mr. Chairman, thank you.

Thank you and the Ranking Member for hosting this hearing.

Dr. Stern, thank you for those comments. I chair the Appropriations Subcommittee. I am on the Veterans Committee related to veterans, and you have given me some ideas of things that I need to personally pursue with the Department of Veterans Affairs. Thank you.

Mrs. Deutscher, at least in Kansas that is how we pronounce your name, thank you very much for you being here. What you described was very compelling to me because what you described in your family's situation, who you are, and the way you conduct your lives, and the way your family operates is the way that I recognize the way so many Kansans live their lives. We do not expect bad things to happen. I am very sorry.

I chair the Subcommittee that has responsibility here in the Commerce Committee over amateur and professional sports, and I will address most of my questions to Ms. Pfohl.

Senator Thune and I wrote the CEO of the United States Olympics Committee about 2 months ago raising questions about sexual activity, abuse, and harassment within the Olympic Games.

I think kind of a take away from the response that we received is that your organization was coming into play. That the solution to this challenge is going to lie with you. I would ask you if that is the way you see it, the relationship between the United States Olympic Committee and SafeSport.

What is that relationship and who has responsibility for these issues?

Ms. PFOHL. Thank you, Senator Moran.

To quote Dr. Butler, I think, it is going to take all of us, first and foremost.

We, like USADA, the U.S. Anti-Doping Association, we were formed first, if you will, within the U.S. Olympic Committee. We would not exist without the support of the U.S. Olympic Committee, financial and otherwise. But we are an independent 501(c)(3) nonprofit organization charged with this issue.

That said, all of the 47 NGBs, the National Governing Bodies of the Olympic sports, all have SafeSport responsibilities. They all have their SafeSport programs by which they are tasked with implementing training, with making sure all of their coaches and covered individuals, as we call them, are certified related to SafeSport. So implementing and creating a culture that prevents abuse is really important.

We are absolutely working in partnership with the USOC and the National Governing Bodies. We are independent in terms of our investigations. USOC has retained us, if you will, to investigate all areas of sexual abuse. So any report of sexual misconduct or abuse, we investigate those reports.

Senator MORAN. Let me ask, then. If you are the investigative arm, who is the enforcing arm?

Ms. PFOHL. The sanctions, if we have a finding from a report—a case, if you will—that finding goes to the National Governing Body. Not only must they enforce—and which could be anything up to and including a lifetime ban—not only must that NGB enforce that sanction, but it must be enforced across the Olympic and Paralympic movements.

Senator MORAN. So when you say they must enforce, what is it that requires them to do so? Maybe your report is ignored or just taken as a recommendation. Who determines what the consequence is?

Ms. PFOHL. The USOC has mandated, if you will, that the NGBs adhere to not only the SafeSport code and part of the SafeSport code is that the sanctions must be enforced. So in that case, we hand down the sanction and the USOC and the NGBs themselves make sure that it is enforced.

Senator MORAN. Ms. Williams, is that any different than the way that the Anti-Doping Agency works?

Ms. WILLIAMS. It is similar. Well, USADA has the ability to hand the sanction down. Then the actual enforcement goes up to the

World Anti-Doping Agency and then the enforcement happens there.

Senator MORAN. Thank you.

And Ms. Pfohl, it seems to me, and this may be a false impression, but your organization was slow to come into existence. My impression is, it is related to fundraising, the ability to have the necessary resources to do the work that you are setting out to do.

Can you assure us that the dollars, the resources are now available?

Ms. PFOHL. Senator, thank you.

I think that is a reason that it has taken a while for the Center to be up and running. We opened our doors in early March. I will tell you that we have funding from the USOC, from NGBs, and from other charitable organizations.

I would ask the Committee's support and the Senate support in authorizing, as Chairman Thune stated at the beginning of his remarks. Authorizing the Center in legislation would go a long way to establishing our credibility, our place, if you will, in terms of addressing all of these SafeSport issues.

So make no mistake. We have a ways to go. We need more funding, and part of my job is to go out and raise private sector dollars, foundations, corporations, and individuals in addition.

Senator MORAN. No one that you know of would object to legislation that the Chairman was describing?

Ms. PFOHL. Not that I know of.

Senator MORAN. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Moran.

That was a good exchange and discussion there because we need to figure out how to formalize that role and ensure there is enforceability there associated with it. Thank you.

Senator Markey.

Senator MARKEY. Thank you, Mr. Chairman, very much.

The cover story this week in *Sports Illustrated* is Nick Buoniconti. He is a great football player, a hall of fame football player. Essentially what it says is that his brain has atrophied to a point where he cannot tie his tie or his shoes. Unfortunately, that is the story that is all too common to former athletes.

Dr. Stern, if you could, would you talk a little bit about the warnings that you are giving to the country, especially to those who have young athletes in their families about injuries that can occur? Not just in football, but in hockey, and soccer, and in any sport where concussions are possible.

What is the core message you are sending to athletes, especially to their parents?

Dr. STERN. Thank you, Senator Markey.

It is a complex message. It is one that is hard to always get across because there are many different forces out there that move the message in different ways.

One important part of the message is that concussion is just the tip of the iceberg. We have heard so much about concussion. There has been concussion-this, concussion-that and thank goodness because there have been so many important changes in the way concussion is being dealt with, and is being detected and managed

thanks to NATA and others. The problems associated with concussion are indeed, I think, moving in the right direction.

But for me what people need to understand is when they read stories about Nick Buoniconti and others, those were not necessarily caused by concussions. They were caused by the cumulative amount of the hits they received to the head from youth, to high school, to college, to the pros.

One part of the message is just because your child plays football does not mean they are going to develop this bad disease and they are going to have suicidal ideation. We cannot have a kneejerk response.

We have to have appropriate scientific understanding. We have to have advances in our scientific knowledge that can be given to informed parents, and informed leaders, and informed policymakers.

But as we are gathering that scientific information, people also have to make decisions based on common sense. In other words, our brains are pretty darn important. They control who we are, what we are, how we move. They control our athleticism. They control our passion to participate. They do everything and they are precious.

One of the things that we are focusing on is what happens during that time in childhood when the brain is going through unbelievable growth and maturation. It is the period before age 12 with all kinds of changes and developmental milestones are occurring.

If we then say it is OK to put our kids in fields and say, "Go at it. Hit your head. Move that brain around over and over and over again," during those times of potential neurodevelopmental vulnerability, then we may need to question that decision.

Senator MARKEY. So what percentage of your research is funded by the Federal Government, doctor?

Dr. STERN. I would say around 90 percent of my current research is funded by the Federal Government.

Senator MARKEY. So if the NIH budget was cut by 18 percent, which is the proposal for the next fiscal year, how would that impact?

Dr. STERN. It would be devastating, not just to me personally, and to the research that we are doing, and to our future research. It would be devastating to science as we know it. It would get rid of an entire generation of future scientists across all areas.

I can speak to the neurodegenerative diseases and brain research in particular. We cannot move forward even with the current budgets at the rate that is required to make important discoveries to alleviate the pain and suffering from all of these brain diseases.

Senator MARKEY. Senator Udall is doing great work on this issue.

My question, is there a relationship between the research you are now doing on brain injury and your Alzheimer's research? Can one inform the other in terms of perhaps trying to find the clues that can give hope to families?

Dr. STERN. Tremendously. That is, in fact, why I got involved and interested in CTE work in the first place because as an Alzheimer's researcher, I realized that this is a very similar disease. As we learn more about it, the more we understand. Yes, indeed.

What we are gaining in our understanding of CTE is directly informing what we know about Alzheimer's disease and other related disorders. What we learn about Alzheimer's disease is now helping us move forward rather quickly in our understanding of CTE. They are very intertwined.

Senator MARKEY. How much more transparency would you like to see in terms of all the information about brain injury being put out into the public just so that there can be a full understanding of this problem?

Dr. STERN. Unfortunately, there are so many organizations out there and statements that are made that are filled with conflicts of interest; organizations that are funded, directly or indirectly, from professional sports leagues around the world. Those conflicts lead to, I think, either a misunderstanding or a misrepresentation of what the science tells us.

Most importantly, scientists need to be transparent themselves. We need to share data. We need to break down silos. We need to explain our findings in ways that are meaningful, appropriate, and not beyond what the science says.

Senator MARKEY. I think the brain health of this generation of young athletes is going to depend upon the transparency of this generation of leaders who control the information that can help to inform parents in making the correct decision.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Markey.

Senator Udall.

STATEMENT OF HON. TOM UDALL,
U.S. SENATOR FROM NEW MEXICO

Senator UDALL. Chairman Thune, thank you so much.

You and I have been talking for a long time about doing a hearing like this. So we really appreciate you doing it.

I also just want to thank Senator Nelson for all of his kind comments and also Senator Markey.

The issue here, and I want to emphasize, I do not think, Dr. Stern, you got a chance to say this specifically. I am just going to read it from your testimony and ask you to talk about it a little bit more.

You said, "It is only in the past 55 or 60 years that large numbers of human beings have been exposed to repetitive head impacts." So we are talking about constant impacts to the head.

"While the epidemiology of CTE is unknown, it is possible that millions," millions we are talking about, "living older adults are currently at high risk for CTE or other long term neurological conditions due to their history of exposure to repetitive head impacts."

This is something we need to realize in terms of human history. Talk a little bit about human history and repetitive head impacts and where we are, because I think that is where we get to millions of people.

People, I think, would be surprised and kind of shocked to know we are talking here about millions of people with CTE, especially if they have seen the sports figures, and seen the deterioration, and the kinds of things that happened to them. Please, go ahead and put that in a little bit of context there.

Dr. STERN. To preface it, I am not an anthropologist. I am not an epidemiologist. But I am someone who speaks a lot with those experts and look at what the history tells us.

Boxing has been around for a thousand-plus years and boxers only started putting these heavy padded gloves on in the mid part of the last century in order to protect their hands from being broken. But that also led to increased hits to the face, to the head, and changed perhaps the numbers of those types of hits that boxers get, but more importantly for this country, our national pastime of American football.

It was not until the mid-1950s that hard plastic encasements, these big helmets, started to be used in American football, plus the big facemasks. Even though, yes, we have been playing football since the 1800s, it was not until then that leather helmets were used to start maybe preventing skull fractures. And then the big helmets were there to do a great job to prevent skull fractures and death. They have done an amazing job at doing that.

But in the mid-1950s, to late 1950s, to early 1960s, there was this beginning of a sense of invincibility because it did not hurt to hit your head, and the way the game was changed included lots of these hits, the line of scrimmage and elsewhere. Not the big hits, not the spearing, not the use of the helmet as a weapon. Those are important, but I am talking about just routine hits.

Then it was not until the 1960s and early 1970s that Pop Warner football began to be a national pastime. Our youth, our children 6 years old and older, were going into fields wearing these helmets and facemasks, and again hitting their heads repeatedly.

That is where the concept of we do not know where we are yet with a little bit of fear, or perhaps a lot of fear. That is the only type of experience that humans have been involved with that really include repetitive hits to the head with the brain moving back and forth in millions of people just in our country alone.

Those people who started playing high school and college football in the 1950s and 1960s, the people who started playing youth football in the late 1960s and 1970s. Well, they are in their late fifties to seventies right now. That is the age that we see the clinical manifestation of many neurodegenerative diseases and other diseases of aging. And so, that is when we also see a lot of the incidents of CTE.

With all of those millions of people who have had that type of exposure to those hits for the first time in history, I do fear that—based on the knowledge of what we understand of the risk for CTE and other neurological problems later in life—we are going to see a very shocking number of people over the next few decades.

Senator UDALL. Yes. I really appreciate that testimony and I want to be clear that I think sports are good for young people. I think exercise is good.

I think what you are emphasizing, though, is you are talking about repetitive hits to the head when you have protective equipment that can make it feel like it does not hurt and it is okay. What you are telling us is that we need to recognize that this could have a big impact. We may be on the tip of the iceberg as to what we start seeing in the future.

I thank you for all your work, and thank you for being here, and being so frank about this. Appreciate it.

The CHAIRMAN. Thank you, Senator Udall.

Senator Blumenthal.

STATEMENT OF HON. RICHARD BLUMENTHAL, U.S. SENATOR FROM CONNECTICUT

Senator BLUMENTHAL. Thank you, Mr. Chairman.

Thank you for having this hearing which could extend for several days, the topics are so varied and important.

As a father of four children, who all play sports, I know that we cannot protect our children from all sports injuries, but at least we can protect them from some if we are attentive and respectful of science. I want to talk about two areas where I think we have been somewhat less than respectful.

One is the NHL in denying concussion science, and I intend to reintroduce legislation that would, in effect, create very strong incentives for improvements in this area. And the other relates to sexual assault, particularly in gymnastics that we were hearing recently in the Judiciary Committee, and I am going to ask some questions, if I have time, about that as well.

Let me begin with you, Dr. Stern, if I may.

Last year, an NHL executive made headlines while testifying at a hearing exactly like this one, it should not have been earth shattering news, but it was. For the first time, the NHL admitted that there is, in fact, a link between head trauma and CTE, and you know how debilitating and disruptive that disease is.

But reports surfaced last year, revealing e-mails from league officials recognizing the danger of concussions, but also demonstrating a very dismissive attitude in addressing them.

And so I wrote to the NHL Commissioner and in response, he flat out dismissed any connection between head trauma and concussions and CTE. In my letter to him, I cited research done at Boston University.

Beyond the resistance, there are now troubling reports that the NHL is trying even to intimidate scientists using tactics employed in other industries. Without making unfair comparisons, the tobacco industry is one of them.

Let me ask you, does it trouble you that leading officials with such power and sway in this sport and in important positions of responsibility actually deny the science of CTE and have no apparent willingness to learn more? And have you experienced this kind of intimidation yourself, Dr. Stern?

Dr. STERN. It does not surprise me because we are talking about businesses that have billions of dollars on the line. And that if some aspect of the way that their sport is played is going to have to change, and therefore they may lose viewers or support from advertising, that is a big deal. I understand that. But I think that everyone needs to put athletes first.

What the NHL did and the Commissioner's statements have done is indeed sad. I do not agree with them. I find them kind of antiquated and perhaps they should take the lead of what the NFL has recently done and accepted the link.

Senator BLUMENTHAL. In my opening, I may have confused the NFL with the NHL. It was the NFL that acknowledged the connection.

Dr. STERN. That is right. It was the NFL that finally acknowledged the association between getting your head hit and CTE later in life after years and years and years of dismissing it. The NHL continues to say, "Oh, no. There is no association," contradicting the science.

I cannot go on too much about it because, in fact, you raised the issue of their attempt to get in the way of science. In fact, my colleague and I at the University were subpoenaed by the NHL for a great deal of information that went way beyond any reasonable request within how science is conducted. And, in fact, the court denied their request.

So I cannot really get into it because there is this ongoing case.

Senator BLUMENTHAL. Thank you.

Let me ask you, Ms. Pfohl. Recently, the Judiciary Committee had hearings on sexual abuse in gymnastics particularly the youngest of participants in this sport. Statistics from SafeSport indicate that one in ten youth who participate in organized sports will be victims of sexual abuse. And I think you would agree with me that number is clearly unacceptable.

The United State Olympic Committee bylaws require National Governing Bodies to comply with SafeSport policies in order to remain in good standing.

How can those policies be better enforced?

Ms. PFOHL. Thank you, Senator Blumenthal.

Just a quick note on the one in ten that will be sexually abused, that is actually in the general population.

One of the problems is we do not know the true prevalence within the sports community. That is one of the reasons we exist is to gather that data, to have that data, to follow the trends, and to help our prevention efforts. That is what needs to happen.

So your support, certainly, of the U.S. Center for SafeSport and hopefully being authorized perhaps in S. 534, the Protecting Young Victims from Sexual Abuse Act of 2017, would go a long way in helping us to develop policies. We already have the SafeSport code that has been taken up by the USOC and all the NGB's. But our work goes far beyond the Olympics movement.

Senator BLUMENTHAL. Would you support young athletes having the right to win cases in court as opposed to arbitration?

Ms. PFOHL. In terms of what is currently in the S. 534, we are certainly favorable to the bill overall and have been providing that technical assistance. So we support the rights of athletes. Period.

Senator BLUMENTHAL. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Blumenthal.

Senator Cortez Masto.

STATEMENT OF HON. CATHERINE CORTEZ MASTO, U.S. SENATOR FROM NEVADA

Senator CORTEZ MASTO. Thank you.

And like my colleagues, thank you, Chairman Thune for bringing this topic forward, these many topics. And I agree, they could all

be a separate hearing. And every single one of the areas, I have worked in and will continue to work in and to address.

And so, let me just say, first of all, Mrs. Deutscher, thank you so much. I was the Attorney General of Nevada for 8 years and this was an issue. I chaired a working group on substance abuse and opioid abuse, and then followed by heroin abuse is a problem; not just in Nevada, but across the country. And you coming forward, telling your story, you will make a difference and save a life. I want you to know that. So thank you to both of you for being here.

Dr. Stern, I have a quick question for you. From your knowledge, are the medical resources and research into CTE and other long term brain concerns equally distributed between males and females? And what would you say their allocation percentage is by gender?

Dr. STERN. That is one of the most important issues that needs to be dealt with.

CTE as a neurodegenerative disease diagnosed only after death at this point has been found almost exclusively in males to date. There have been a small number of women, not athletes. Sadly, it includes a woman who was domestically abused and had her head hit repeatedly.

This goes along with my testimony earlier about what is going to happen in the future. I think women have been involved now with sports at the level where their heads are being hit to such a degree and for over a greater period of time, again, over the last 50 years or so.

So, for example, soccer or the original football, women now, at least in this country, are at the age now where they started back in the 1970s playing at an early age, and playing in club sports, and playing around the year, and doing a lot of heading, and having a lot of concussions. So I think now as that generation gets older, sadly, we will probably be seeing more of this disease.

However, just because we have not seen the disease in women that does not mean that the rest of the resources being focused on brain diseases, brain conditions associated with athletic involvement should be focused on men. We need to put a lot of effort.

In fact, I am hoping to be starting a few different studies coming up where we are actively going to be following women to be able to look at the effects of various sports, various aspects of the sport, and the head trauma in terms of later life problems.

It is a very big deal.

Senator CORTEZ MASTO. It is. And I thank you for saying that because in my own family, I have a niece who played soccer through high school and college. There are concerns because they have had injuries in soccer just as they do in football and other sports.

And then, as you well know, in Nevada, and you have said it in your testimony, the Cleveland Clinic, the Lou Ruvo Center for Brain Health in Las Vegas is a leader in this research, particularly when it comes to the brain health of boxers and MMA fighters, and we know a lot of women now are partaking in those sports. And so I am glad to see that we are actually going to be looking at women's brain health as well.

With respect to boxers and MMA fighters, do you feel that there is enough being done at the State level to ensure that standardized safety precautions are adapted to protect boxers in every state?

Nevada has just recently adopted a requirement to our athletic commission ensuring that the brain health of our fighters is tested and we are making sure that is being checked.

Do you think enough is being done across the country and in other states?

Dr. STERN. I am not aware enough to be able to answer it about all states. I do know that Nevada is a real leader. Thanks to the partnership between the State, and the City of Las Vegas, and the commission with the Cleveland Clinic Lou Ruvo Center, there has been a tremendous gain, including great research being done, to look at what is really important.

When it comes to boxing and MMA, to me I always just have to stop and say, what could be done at the State level? What kind of rules and changes could be done when you have sports that are geared toward inducing brain damage?

If in boxing, a knockout is a way to win, a knockout is brain damage. And I may be saying things a little bit too indelicately, but one has to question how can we really make those activities safe in terms of brain health?

Senator CORTEZ MASTO. Thank you. Thank you very much for all of you being here today. Appreciate the testimonies.

The CHAIRMAN. Thank you, Senator Cortez Masto.

Next up is Senator Hassan.

STATEMENT OF HON. MAGGIE HASSAN,
U.S. SENATOR FROM NEW HAMPSHIRE

Senator HASSAN. Thank you very much, Mr. Chair.

And thank you to all the witnesses for being here today, especially I would like to extend my thanks to Mrs. Deutscher and Mr. Deutscher for meeting with me earlier today, and for being here, and for sharing and honoring your son's life and story by being here.

I want to focus a little bit on the issue of athletes and addiction to help address the increased level of risk of opioid addiction that student athletes experience.

Earlier this year, I co-sponsored the Student and Student Athlete Opioid Misuse Prevention Act. This bill is being led by my friend and colleague, Senator Shaheen, and it would authorize the Substance Abuse and Mental Health Services Administration, or SAMHSA, and the U.S. Department of Education to grant money to help efforts to educate students and communities about opioid use, abuse, and addiction.

In New Hampshire, SAMHSA grants have been an integral part of funding in our State's substance misuse and prevention efforts. So this is really a question to the whole panel.

Do you agree that further resources and dedicated funding would help in the work you and others are doing to meet the tough challenges associated with opioid addiction?

Dr. BUTLER. Thank you, Senator, for that question and do not mind if I go first.

Senator HASSAN. Yes.

Dr. BUTLER. I just want to agree with Dr. Stern's comments earlier about the importance of support to the NIH to address new knowledge. And that applies also in terms of our understanding of pain and also the understanding of addiction.

NIH Director, Francis Collins, has observed that it is amazing when we have millennia of writing about pain as a cardinal sign of inflammation that we know so little about it.

But I also want to point out the critical importance of education and using the knowledge that we already have much of which is implemented through agencies such as the Centers for Disease Control and Prevention, and also SAMHSA.

So it is, I think, not an either-or when we look at new knowledge versus reacting and acting on the information that we already have, but it really is going to require both to address these issues.

Senator HASSAN. Thank you.

Another component of the bill is to provide funding to train State and local officials, and coaches, and trainers among others to recognize and address substance misuse among students.

Would this be helpful in your view and especially maybe Mr. Sailor, you would like to comment on that?

Mr. SAILOR. Yes. The National Athletic Trainers' Association is in full support of this bill and we appreciate that.

Senator HASSAN. Thank you. And also to Ms. Williams and Mr. Sailor, although we are starting to have a greater understanding of substance abuse disorders, there is, as we all know, still a lot of stigma attached.

One of the reasons I am so grateful to Mrs. Deutscher and her family is because when people stand up and talk about their experiences, and help us to understand the disease, that really makes a difference. In my experience in New Hampshire that has been the thing that has really helped us begin to change the conversation.

But I suspect that it may be especially true for athletes who may suffer consequences of being sidelined if they admit to an addiction to opioids, or even to acknowledge the injury that underlies their use of prescription pain medications.

In your experience, does this stigma and maybe the fear of being sidelined prevent student athletes or professional athletes from acknowledging a dependency on opioids?

Ms. WILLIAMS. I definitely think that the stigma is a problem and something that we need to address.

I think the way that we address it is by outreach, educating from the grassroots level all the way up into the professional level. Starting the conversation before it becomes a problem for people that are not using opioids, getting that conversation going, having it frequently instead of just, "There is this thing we probably should not talk about." Or, "I think my friend or struggling, but I am not sure exactly what I should do about it."

Before it becomes a problem, we need to implement that as a standard thing that we are doing on a regular basis and that the conversation is being had.

Senator HASSAN. Thank you.

Mr. SAILOR. As an athletic trainer, we believe in a comprehensive healthcare system for our athletes. And that includes having access

to resources that we can help obtain for them when they are in need of things like addiction treatment and things like that.

Senator HASSAN. Thank you. Thank you all very much for being here.

I will echo what the other Senators have said. We could have a hearing on each of the issues that you all have spoken about and I know we will look forward to continuing to work with you help make athletics safer.

The CHAIRMAN. Thank you, Senator Hassan.

Senator Young.

STATEMENT OF HON. TODD YOUNG, U.S. SENATOR FROM INDIANA

Senator YOUNG. Thank you, Chairman Thune.

I want to thank you for holding this hearing on protecting the health and safety of American athletes. I want to thank all our panelists for being here today.

It is a timely hearing given the scrutiny the USOC has received thanks, in large part, to the "Indianapolis Star." So I want to commend them on their investigative reporting.

I am proud to have worked with many of my colleagues in the Senate to address this issue and I look forward to working with you, Mr. Chairman, as we continue to find ways to address this very real problem.

Ms. Pfohl, I would like to ask you a question about the independence of SafeSport from USOC. The USOC initially created SafeSport and provided its initial seed funding.

I think this was certainly a recognition by USOC that they finally needed to act in an aggressive manner to address the serious problem that has been lurking within its ranks for years. They ought to be applauded for implementing this initiative. I have concerns about, as I stated, with independence, specifically personnel and staffing issues.

What is your policy on hiring individuals directly from USOC and National Governing Bodies into SafeSport? Do you have any reservations about SafeSport's independence, if your organization simply hires individuals from USOC and NGBs?

Ms. PFOHL. Thank you, Senator. Yes.

I have no issues or concerns related to our independence. Our board, we have a nine person board of independent directors. We have independent investigators, and outside counsel, and arbitrators that meet a high bar of independence. So we really look for those conflicts.

I will tell you that we have brought two people from the USOC as employees. These are, at least one of them is a subject matter expert in this space, not only in terms of SafeSport, in terms of the abuse issues, but in terms of how the Olympic and Paralympic movements are structured, which is hugely helpful to us.

And again, following in the footsteps of USADA, they too were born within the USOC. They had staff members that came over to USADA. I do not think anyone can question their independence. And so, we have followed that framework.

Senator YOUNG. So these independent investigators who presumably produce reports and various findings to inform your future

work, are these reports made available to members of the public or would they be made available to Congress, because I presume they touch on staffing issues, correct?

Ms. PFOHL. If we have the actual reports from victims, if you will, cases that come in, is that what you are speaking to, sir?

Senator YOUNG. Yes, and also the performance of former employees of the National Governing Bodies, and USOC, if they are consistently subpar, suboptimal, or conflicted, which you have emphasized they are not. That would be a finding that would be of interest to this committee, I know.

Ms. PFOHL. Our jurisdiction lies in addressing sexual misconduct and abuse within the Olympic and Paralympic movements.

So we would take in reports. If we have a finding against an employee of an NGB, or the USOC, or a coach, or anything, or anyone that is a covered individual that sanction is then handed down, if you will. And it must be enforced across the Olympic and Paralympic movements.

Senator YOUNG. With your permission, I may have a follow-up question or two.

Ms. PFOHL. Absolutely.

Senator YOUNG. I will submit it by writing. If you would offer me the courtesy of a response, I would be grateful for that.

Ms. PFOHL. Absolutely, sir.

Senator YOUNG. Because I want to turn to another matter. I know that reporting incidents of abuse is critical to starting the investigation process. Unfortunately, our staff discovered a problem here.

On SafeSport.org, the website, there is a link entitled "Report." Unfortunately, that link is broken and takes visitors to a "Page Not Found" website.

Moreover, if someone were to try and find more information on reporting confidentiality—those concerns as referenced in your materials to the USOC Athlete Ombudsman at *www.AthleteOmbudsman.org*—that website does not work either.

I know this is likely a surprise for you. What I am seeking from you is some assurance that you will resolve this matter expeditiously, and maybe the courtesy of informing our staff this week about its status. Because one could see why you could infer from this a lack of seriousness taken toward this issue, which I have not heard from your testimony so far, by the way. I have heard seriousness.

Can I get your commitment to report back about this or am I missing something perhaps?

Ms. PFOHL. Absolutely, Senator.

Senator YOUNG. All right.

Ms. PFOHL. I will check into it and get back to you.

Senator YOUNG. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Young.

Senator Moore Capito.

STATEMENT OF HON. SHELLEY MOORE CAPITO, U.S. SENATOR FROM WEST VIRGINIA

Senator MOORE CAPITO. Thank you, Chairman Thune.

And thank all of you for being here today.

I come from the State of West Virginia. We have, unfortunately, some of the largest and greatest statistics of overdose from and deaths caused by drug addiction and drug overdose. We have a lot of good things going on in terms of the sports area. Our WVU Sports Medicine Center is, I think, on the cutting edge of some of the research that is being done.

I would like to speak just personally to Mrs. Deutscher, and thank you for coming, and telling your story. I think it is so important that we hear from you because it is a hesitating thing for, I think, parents and grandparents to talk about. So I read your testimony. I am sorry I was not here to hear you give it.

We are trying to work with families on certain things sort of outside the athletic. Well, actually, one of them was an athlete and she had described herself in the hospital as an addict, and said she had been in and out of recovery. Unbeknownst to the discharging physician, who did not read all through the chart, they discharged her with 56 Oxycodone, which she melted 8 and put into her PICC line, and did not wake up the next day. So we are trying to fix those kinds of things so that that situation cannot happen again.

But one of the things I am curious to know, tracing back and looking at what happened with your son, we are trying to get to this partial fill or acute pain issue. If you have a wisdom tooth, if you have an acute athletic injury that you do not need 2 weeks of pain medicine; maybe 48 hours or 72 hours.

Was that ever offered to your son, a short term sort of treatment or short term prescription option for him?

Ms. DEUTSCHER. The initial prescription, I believe, was shorter term. I do not have that record. I did get his pharmacy records for the balance of the prescriptions. But that would have been offered when he first had his injury. It was a Friday night and so he got in to get evaluated.

Then the other in a series of prescriptions started a little bit later in the season when he was rehabbing to get back into the game and those prescriptions, if memory serves me correctly, were 40, 50 tablets.

Senator MOORE CAPITO. Were there ever any diversionary other pain methods to deal with the pain offered to him?

Ms. DEUTSCHER. Well, by Jeff and I, the Tylenol.

Senator MOORE CAPITO. Right.

Ms. DEUTSCHER. But no, there was not that discussion. It went to Hydrocodone and to Percocet.

Senator MOORE CAPITO. Right away.

Well, that is something else I have been working on with Senator Warren from Massachusetts to look at the partial fill. And also an acute pain issue that I am working with Senator Gillibrand on to try to eliminate that lengthy prescription that it becomes quite a temptation in a lot of cases.

I wanted to ask Ms. Williams. Actually, I am the appropriator for the General Government, which also covers the U.S. Anti-Doping Agency and because of that, I got to meet Michael Phelps and I get to meet you. So that is good.

It was interesting to me. We do appropriate that as a member of the Anti-Doping Association of the United States and then also

try to help the worldwide organization for the elite athletes that are competing on the stage, such as you.

But it was interesting what he said to me. I mean, think of how many races he has been in and how many international races. He said, "I do not think I have ever had a clean race." He was not talking about him. He was talking about everybody else in the pool and he still won all the gold medals and you did too, the medals.

So I am thinking to myself, "What kind of pressure is that at the elite level?" Because of what the other countries are doing.

Ms. WILLIAMS. I think there is a good amount of pressure for athletes and I think that is why outreach is so important, like I said, educating athletes from the grassroots level.

Also, the World Anti-Doping Agency does a good bit of outreach trying to cross cultures because there are different things that different cultures are dealing with as it pertains to win-at-all-costs and all these sorts of things.

Being able to create examples, so for example, I did not use any supplements for my whole career; not only did I not use performance enhancing drugs, but I did not use vitamins or protein powder. I go out and tell people as much as possible that I made it to four Olympic Games without any of those things, no multivitamin or whatever the case may be.

I think really being able to explain to athletes from the grassroots level all the way up to the professional level that it is not worth it, that the medal, that one moment on the podium is not going to be rewarding enough. You are not going to feel satisfied because you did this thing that was wrong in order to get to that point.

And really being able to convey that and articulate that in a way that is going to hit home so that they are not encouraged to want to try and reach this next level or win at all costs is really going to be the important thing.

Senator MOORE CAPITO. That is an excellent point and thank you for being that advocate.

I actually had the opportunity to meet Simone Biles just a few weeks ago. She is working and outreaching to young people to inspire them on different levels, clean living, and staying away from substances.

So it is so important the work that you are doing and I appreciate you all working with the next group of stellar athletes. Thank you.

Ms. WILLIAMS. Thank you.

Senator MOORE CAPITO. Thank you very much.

Senator YOUNG. Mr. Chairman, could I just note that my colleague is dropping a lot of impressive names here gratuitously.

Senator MOORE CAPITO. You wonder why they all come to see me.

The CHAIRMAN. And they are out there dropping her name.

[Laughter.]

The CHAIRMAN. Well, thank you, Senator Capito.

I think Senator Sullivan is on his way back and would like to ask a question or two, so let me keep it going here for just a minute.

Ms. Pfohl, as the former Executive Director of the President's Council on Fitness, Sports, and Nutrition and we have talked a lot

about the challenges that we face, the problems, and things that we need to address in the world of competitive sports.

Just as a question, do you believe we ought to be discouraging participation in certain sports? I mean, are there positive benefits to playing sports including contact sports that we ought to be talking about as well?

Ms. PFOHL. Thank you, Chairman Thune.

But obviously, I believe in sports and all that comes from it. Not only the health and fitness benefits, but certainly the emotional benefits that come from it, the teamwork that you learn, the perseverance, the dedication; all of those kinds of character building things that are learned with and through sports. I am not just talking competitive sports, but just recreational, getting out there and having fun, I believe, are so important.

I think all the issues, the safety issues that have been talked about on this panel, are also critical so that we can save sport not only for our generation, but for every generation to come. So it is absolutely critical.

And Go Packers, by the way.

The CHAIRMAN. Very good. I like you more already.

Is your focus just Olympic athletes, or does your work go beyond elite level sports participants? Is your focus solely on children or does your work go beyond youth in terms of the things that you are undertaking there?

Ms. PFOHL. Thank you for that question, Chairman Thune.

It absolutely goes beyond children. We address athletes at every age and at every level. So again, really from the recreation leagues, if you will, for folks that are just going out and having fun whether that is children or adults, all the way up to the Olympic and professional ranks. So all of the above in terms of our education and outreach, and the training, and awareness that we want to get out for sports organizations, parents, and athletes all across the Nation.

The CHAIRMAN. Well, and we appreciate everything that SafeSport is doing to stand up best practices to prevent abuse within the Olympic movement.

As we examine legislative proposals in this area, and you heard some of my colleagues speak to that earlier today, we have to consider how best to craft policies governing one-on-one contact between athletes and coaches. We definitely want to avoid situations that put young athletes at risk of abuse. At the same time, we want to avoid overbroad policies that unnecessarily strain the athlete-coach relationship.

So the question is, do you support a blanket rule against one-on-one contact or does a risk-based standard like the standard the Centers for Disease Control and Prevention advocates make more sense?

Ms. PFOHL. Thank you again, Chairman Thune.

We really follow the CDC, the Centers for Disease Control's standards and guidelines in this space. We recognize and agree with the Centers for Disease Control that limiting those one-on-one interactions between adults and children, and making sure that there are two adults present as often as possible is the absolute right thing to do.

We also agree with their risk-based guidelines, as you indicated. It basically says that maybe one size does not fit all. So many sports organizations are so diverse that there may be multiple options for achieving safety.

Their standards or their guidelines certainly are those that we have made part of our best practices.

The CHAIRMAN. Just out of curiosity and other members of the panel, do you share that view? Does anybody else want to comment on that? Do you agree with that as articulated by Ms. Pfohl? OK.

Senator Sullivan is coming in the door.

Senator Udall had asked that we include in the record three items that he wanted included. So we will do that without objection.

[The information referred to follows:]

PINK CONCUSSIONS
May 16, 2017

Hon. JOHN THUNE,
Chairman,
Committee on Commerce, Science, and Transportation,
United States Senate,
Washington, DC.

Hon. BILL NELSON,
Ranking Member,
Committee on Commerce, Science, and Transportation,
United States Senate,
Washington, DC.

Dear Chairman Thune and Ranking Member Nelson:

Please allow this letter to be included in the official record for the hearing "Current Issues in American Sports: Protecting the Health and Safety of American Athletes" taking place on May 17, 2017, on the topic concussions in female athletes.

My name is Katherine Price Snedaker, and I am LCSW and the Executive Director of PINK Concussions, a non-profit which focuses on female brain injury from sports, domestic violence, accidents and military service.

I would like to share with you some very important information about female brain injury which is not reaching our women athletes and their coaches. Research in the early 2000s showed that female brain injuries including concussions, were not the same as brain injuries in males. Yet today, almost 20 years later, most woman and doctors are still unaware of the biological differences in brain injury.

THE FACT is that, in multiple research studies dating back to the early 2000s, women have been shown to:

- Sustain more concussions at a higher rate than males in sports with similar rules
- Report a higher number, and more severe, symptoms than males
- Have longer recovery periods than males

THE CHALLENGE is since women and girls are rarely educated about female brain injury, many of these women are not prepared to cope with more severe symptoms and often have unrealistic expectations of recovery time of a few days or weeks when faced with months or years of Post Concussion Syndrome.

And despite the established facts of female brain injury, the sport, academic, military, and medical communities do not have any female-specific medical guidelines, return to school/play/work/duty protocols or education resources designed for women.

1. What are the differences between males and females in terms of concussion frequency, severity, symptoms, outcomes, etc.?

Scientific research has shown that female and male brains differ in more than 100 ways in structure, activity, chemistry, and blood flow, and so it is logical that damage to the brain would also manifest differently in women and men.

However, brain injury research including sport concussion research has long been viewed through a masculine perspective partly due to the findings that TBI in general occurs about twice as often in males as it does in females (Rao & Lyketsos, 2000). The riskiest sports for concussion often have being male-dominated (*i.e.,* collision/contact sports such as ice hockey, boxing/combat sports, football, rugby).

It is critical to recognize multiple research studies have found in sports with similar rules between females and males, in particular soccer, basketball and baseball/softball, the rates of concussion are actually higher in women (Gessel, Fields, Collins, Dick, & Comstock, 2007; Hootman, Dick, & Agel, 2007; A E Lincoln *et al.,* 2012).

In the 2012 American Medical Society for Sports Medicine Position Statement: Concussion in Sport research showed that in sports with similar rules female athletes sustain more concussions than their male counterparts. In addition, female athletes experience or report a higher number and severity of symptoms as well as a longer duration of recovery than male athletes in several studies.

2. What are the proposed reasons for these differences?

Female athletes may be at a greater risk for concussion due to which phase of their monthly hormones at the time of injury, an increase in angular acceleration at the neck, AND/or neck strength-to-head size ratios.

3. What can be the clinical implications of #pinkTBI?

While research shows females may have different injury rates, symptoms, and rates of recovery, the medical community does not yet have any female-specific guidelines, protocols, care plans or education resources for women with brain injury including concussions.

Since more men than women have brain injury, a woman, her support system and the people around her will most likely know more men than women who have had concussions therefore typically judge her symptom pattern and length of recovery by the male experience. The patient may doubt herself when the speed of her recovery or the severity of her symptoms do not match the more familiar and more publicized male experience. Family members, school staff or employers judge her experience to be abnormal, malingering or perceive that there maybe other non-brain injury issues at play.

Without proper education of patient, family and community supports, women and girls with brain injury including concussion, can experience an additional lack of support, doubt, isolation and anxiety beyond that which comes with brain injury.

Thank you for your interest in PINK Concussions. Please let me know if you have any additional questions.

Sincerely,

KATHERINE SNEDAKER,
LCSW Executive Director,
PINK Concussions.

PREPARED STATEMENT OF KATHERINE STARR, FOUNDER, SAFE4ATHLETES

Over 44 million young Americans participate in sport on a daily basis; the United States Olympic Committee (USOC) members account for approximately 3 million athlete members across the Olympic sports family. The other 41+ million child athletes are members of various non-governmental organizations; the AAU, YMCA, Little League, Pop Warner, and several independent sports leagues, that don't fall directly under the jurisdiction of the USOC or any other oversight body. Each of these organizations set their own policies for their respective communities with very few having any policies that address, or even mention, the issue of coach-athlete abuse.

One of the most comprehensive studies of sexual abuse in sport was done in Canada, with a survey of that country's Olympic athletes, concerning their experiences in sport. In the study, 22 percent of the athletes responding reported that they had engaged in sexual intercourse with an authority figure in sport. Nearly 9 percent of respondents reported experiencing a forcible sexual encounter. This study is consistent with Safe4Athletes most recent survey that found over 25 percent of the athletes that responded stated they experienced some sort of sexual harassment over multiple seasons.

Coaches spend more time every day with their athletes than teachers do. Coaches, unlike child health care workers, travel with their athletes. Teachers and child health care workers are held to stringent standards—as they should be—in regard to their behavior around children. Many schools require that doors be kept open when teachers counsel students, and mandate that parents be present for medical examinations. Any suspicion of abuse is required by law to be reported. Yet there are no guidelines or laws that dictate appropriate behavior when it comes to coaches and athletes in non-school sports.

Requiring background checks for coaches will deter the convicted pedophiles that we know about but will do nothing for the "predator amongst us" who has not yet been caught. A background check is the first line of defense, once the sports programs are active and if the organization does not have a meaningful reporting and investigative practice process identified and utilizes experts who understands the complexities of any form of athlete-abuse that occurring on the field, in the gym or at the pool.

This limitation is further exploited in our courts by the national governing sports bodies that consistently defer blame back to the local clubs. While giving the local sports club limited power and full responsibility, for a multitude of reasons including claiming no responsibility for the hiring choice, not being present to see the wrong doing, or simply passing on any responsibility by not receiving any complaint that requires investigation.

Many of these national organizations, have comprehensive rules that dictate the uniform policy, presence or absence of make-up/jewelry, grade point averages, practice times but fail completely to mandate local policies that for hiring standards, reporting requirements, investigation process into inappropriate coach-athlete behavior, and a clear structure (that is athlete focused) to deter such behavior from thriving in the sports environment.

The newly implemented 'Center for Safe Sport' addresses some of these issues for their approximately 3 million membered community by creating a uniform and centralized system to investigate and adjudicated coach-athlete sexual abuse across their sport families. Other concerns remain in the sport organizations themselves as member clubs are not required to have clear policies at the local level but refer to the national governing bodies for their direction. While the Center for Safe Sport has a set a standard, and created some uniformity in USA sport, it has failed to reach the other 41+ million athletes that are presently outside of their jurisdiction.

This leaves local clubs at the direction of their national governing body and often they are not permitted to set their policies regarding abuse in sport issues, often they are pressured into only following the limited policies set at their respective national governing sport bodies. Often when incidents occur the National organizations pass the blame back to the local level to absolve themselves of any responsibility whatsoever.

In general, these national organizations lack knowledge in coach-athlete sexual abuse investigation. As a result, the predator coach can easily take advantage and manipulate the sports clubs and their leadership and of special concern, such coaches are allowed to leave their current position prior to their behavior being questioned. This is a direct result of the flaws in governance and leadership of the youth serving organization. There is a lack of will to implement and mandate stronger policy and in many cases NO policies exist at all.

Without empowering the local clubs and mandating policies to prevent sexual abuse and all forms of abuse in sport, the issue will continue to harm our youth. The abuse that occurs at a young age has the ability to negatively impact a young person for life, denying the child-athlete the opportunity to know the positive benefits of sport that we all believe are going to make the individual a better person all around.

In closing, the need for oversight to protect all athletes, across all sports and all sport organizations must be put in place. This system needs to start at the local level with sports clubs adopting policies, committing to the creation of a safe environment that puts the athlete first. The policies need to be designed to provide clubs with a system that explicitly creates a positive environment free of sexual abuse, bullying and harassment.

If we believe in and support the child-athlete anything less is unthinkable.

SPORTS FANS COALITION
May 17, 2017

Hon. JOHN THUNE,
Chairman,
Committee on Commerce, Science, and Transportation,
United States Senate,
Washington, DC.

Hon. BILL NELSON,
Ranking Member,
Committee on Commerce, Science, and Transportation,
United States Senate,
Washington, DC.

Dear Chairman Thune and Ranking Member Nelson,

Sports Fans Coalition ("SFC") is the largest fan advocacy group in the U.S. devoted to representing the interest of sports fans wherever public policy impacts the games. We were founded in 2009 and today have members in all 50 states. SFC is best known for successfully petitioning the Federal Communications Commission to end the decades-old Sports Blackout Rule, which the Commission unanimously voted to eliminate in 2014. The NFL subsequently suspended its local blackout policy. We continue to advocate for public policy that maximizes fans' access to games, grants fans and other members of the public a fair return on any public resources devoted to sports facilities, and upholds fair play both on and off the field.

SFC thanks you for holding today's hearing titled, "Current Issues in American Sports: Protecting the Health and Safety of American Athletes." Fans believe that we can preserve the essence of our great sports without unfairly compromising the health and safety of athletes. SFC has called on the NFL, NHL, and other leagues to fully disclose what they know about the risk of concussions posed by their sports so that players and coaches can make informed decisions. Moreover, we believe that Members of Congress currently investigating league practices regarding concussions should not accept campaign contributions from league Political Action Committees or team owners while such investigations are pending. Tens of thousands of fans sent that very message to Members of the House Energy and Commerce Committee through a campaign organized by SFC and we urge Members of your committee to heed that call. Fans want fair play, and that begins with leagues telling the public the truth.

Our members do not want to see the rules of play altered to such a degree that the sports themselves become unrecognizable from their traditional origins. No one wants to see the NFL turn into a flag football league. SFC believes, however, that just as football leagues at all levels altered helmets to include facemasks, then created a new rule that no player shall "twist, turn or pull the facemask of an opponent in any direction" (NFL Rulebook at Rule 12, Sec. 2, Art. 5), leagues can and should develop practices that reasonably protect players. At the very least, we should have full disclosure of leagues' knowledge on issues of player safety.

Thank you again for your attention to these issues.

Sincerely,

DAVID GOODFRIEND,
Chairman.

The CHAIRMAN. I would say to all of you thank you for being here. Thanks so much for your thoughtful input and suggestions in response to our questions. These are all important issues; in many cases life and death issues. Certainly when it comes to safety, it is really critical that we get this right. So we welcome your continued input.

I just want to indicate to you that there are members of this committee who will have questions that they would like to submit for the record, and if you could get those back to us as soon as possible. We normally keep the record open for a couple of weeks to allow your responses. So if you could get those back to us as quickly as possible, we would appreciate it.

With that, I will yield to my colleague from Alaska, Senator Sullivan. I think he is going to take us out.

But let me again just thank you for being here today. I cannot tell you how much we appreciate your participation.

Senator Sullivan.

Senator SULLIVAN [presiding]. Thank you, Mr. Chairman.

I want to thank you again for calling this hearing. It is a really important issue that is impacting the entire country. So thank you for your leadership on that.

I want to thank the panel. Again, I am sorry. I had to step out. I have my freshman duties where I have to preside over the Senate. If you are a senior esteemed Senator like Chairman Thune, you do not have those duties, but I had those for the last hour. So it was not my lack of interest. I was over with another gavel on the Senate floor.

I do want to thank the panel again. I have been keeping tabs from my staff on the questions and I read the testimony.

Let me just start. Dr. Butler, I want to start with you. Thanks again for coming and thanks again for all that you are doing. You may have seen, you were quoted in the *Alaska Dispatch News* this morning, front page, above the fold headline, "Anchorage is seeing a dramatic surge in heroin overdoses."

Let me ask a little parochial question, but still important because I think it can shed light on what is going on in the country. What do you think is behind that surge in our biggest city back home?

As I mentioned, we held this Wellness Summit last August in the Matsu Valley. One of the reasons I hosted that was a kind of a warning signal in some ways to our state that this is happening in a lot of places. We are not in the dire straits of some lower 48 communities yet, and hopefully never, but this could be coming.

Unfortunately, I fear that since we held that Summit, we have been focused on this issue a lot in the Congress, but I think in Alaska, it is getting worse. I think throughout the country it is getting worse.

Do you mind addressing the headline today in the paper, the dramatic surge of heroin overdoses in Anchorage? And then if you want to address whether you think it is getting worse in Alaska or not. And then if any of the panelists want to just talk about it relating to the Nation, because it does look like we are not winning this battle right now, at least in my view.

Dr. BUTLER. Senator Sullivan, I think Alaska really reflects what is happening nationally.

What we have seen in Alaska is that while we have had some leveling of the number of overdoses due to prescription opioids, there has been an additive effect of an increasing number of overdoses due to heroin and also the synthetic Fentanyl-related compounds.

There has even been some decline in opioid prescribing. So I think it is important to point out that we may be beginning to bend that trend, but we are nowhere near where we need to be.

We have heard a number of stories this morning of where large amounts of opioids have been prescribed and have led to problems or that problems with misuse have gone under-recognized. And I think a lot of that is driven by a lack of awareness among the healthcare provider community and even among the public in terms of the risks associated with these drugs.

Specifically, what is happening in Anchorage, I think, highlights a number of issues. At this point, we do not know if the increase

in overdoses is being accompanied by an increase in overdose deaths. It is possible that we are actually seeing more people survive to interact with the EMS system because we have been very aggressive in getting Naloxone kits out into the community, distributing over 5,000 of those kits over the past 3 months.

It also highlights the importance of the interagency communication between public health and law enforcement so that we are sharing data and able to discuss exactly what we are each seeing from our own perspectives.

For example, it is not clear whether or not this may be a batch of some substance that is much more powerful than the heroin that has been on the street in the past, or is it an influx of primarily people who have reduced tolerance? We do not know that degree of detail yet. But that is where working together and having our incident command response really has helped to be able to facilitate those communications.

We learned a bit of this during an outbreak of "Spice" overdoses of the synthetic cannabinoid a couple of years ago where it actually took several weeks to be able to recognize the problem and connect those dots.

In this case, we actually were aware of the increase late last week and we were able to start having those conversations as soon as we recognized it.

The final comment I was going to make is that while it is important to address the challenge of illicit opioids, we have to recognize that part of the reason heroin found such a ready market when it came in, in larger quantities and at much lower prices.

Starting about a decade ago, we had a much larger proportion of our population that had physical dependency or addiction to opioids. And that the way we oftentimes use opioids with good intent and good intention therapeutically oftentimes can be a set up for physical dependency.

Withdrawal can be awful even if it is not the more chronic condition of addiction, people will oftentimes turn to whatever they can turn to, to be able to avoid the rigors of dope sickness.

Senator SULLIVAN. Anyone else on the panel want to comment on what they see nationally as a trend and the reasons for it?

I do want to comment. Mrs. Deutscher, I was here for your testimony and I really just appreciate it. I know that that could not have been easy for you to testify before this committee and recall some things that are obviously incredibly heart wrenching for you personally and your family.

But unfortunately as I have dug into this issue, the story that you told about your son, it is not an uncommon story in terms of an athlete who has a bright future, a high school star, and then there is an injury, and then this happens. Have we learned enough from that? It is a very common story that we are hearing.

How you talked about how you did not understand fully the risk. Do you think there is more that needs to be done? Do you think that people are recognizing that?

And again, I just want to commend you for being here today. I am sure it is not easy.

Ms. DEUTSCHER. Thank you.

I do not think there is enough being done. I think funding is a huge issue to get the awareness out, to get into the high schools, to get it to the coaches, to get it out to the general public of opioids just in general, but also as it relates to our athletes.

We had great coaches. Jeff and I are very involved. We had a great athletic trainer. We had great physicians. But as I have told in a couple of deliveries that we made to within our state, it was ignorance that was part of Nick's death. We just did not know.

And so, I think that is so crucial.

Senator SULLIVAN. Thank you.

Are there any other thoughts on the broader trends on the opioid issue throughout the country and what direction you see it going in?

Ms. WILLIAMS. This is not my area of expertise, but I would like to add something, Senator.

I have lost three of my classmates. I am of the graduating class of 1988 in my small town in Pennsylvania to heroin overdose. I think the thing that is really important here, I have said it multiple times, is outreach and communication. What are we not communicating to people? This is getting to a point where there is someone that is more charismatic or there is something that is happening.

These were not the bad kids. These were not the ones that were headed to nowhere. These were bright students. These were people who had transitioned well from high school into college, and gone on to professional careers that we have now lost to heroin.

What is being said? What environment is being created outside of the opioid use? What is the gateway that people are entering into the heroin use? What can we do, like you said, to be having constant communication, constant outreach?

I remember as I was growing up as a child there was D.A.R.E. There was PAL. There were all kinds of songs, and raps, and things about not using drugs. It seems like we saw something that was working and we got away from it.

So now it appears there occasionally, but we are not starting at the grassroots level saying this is really important. These are the reasons that you should stay away from drugs. At some point, the bad guys entered and they are doing something that is convincing really good people to go down a really bad path.

Senator SULLIVAN. Well, I think that is a really important point. We are certainly trying to do that in Alaska.

Dr. Butler, you may have seen the head of the FBI in the state and I have sent that FBI video. Some of you may have seen it, "Chasing the Dragon," which is very graphic, scaring the young children into, "This could happen to you," trying to get it into all the high schools just to wake all these young men and women up. But you are certainly correct about the point of how some of the best and brightest in the country are getting addicted.

Let me finish with one final question. And again, I want to thank everybody for your patience and testimony today. On another issue, and Dr. Butler, you mentioned how some of these things are related, and I certainly have seen that as well.

On the issue of the sexual assaults and abuse of our athletes, do we have enough safeguards, do you think, in place? With regard to

our young men and women who are, again, America's finest and some of the most disciplined with regard to some of the reports that has obviously alarmed a lot of us. I am just wondering for the expertise here at the panel, if you believe that we do have enough safeguards?

Congress always tries to act. Maybe it is an appropriate role. But what do you think the role that we should be doing and the role that you should be doing?

Ms. PFOHL. I would be happy to start. Thank you, Senator Sullivan.

I think the answer is no. We do not have enough safeguards. That is the reason the U.S. Center for SafeSport has been created and the reason we exist, and the reason we need to exist.

I think you asked what the Senate can do. I will say again, I think having an authorization, again, following in the footsteps of USADA, but being authorized in legislation. Certainly, we would not turn down an appropriation, but being authorized in legislation goes a long way into establishing the credibility, the need for these safeguards as you have said.

It is our absolute goal, our mission to not only address the abuse and weed out the bad actors, but to really get upstream on prevention. To make sure that we are educating all parents and youth sport organizers, if you will, the athletes themselves on how to identify grooming behaviors, for example, when we are talking about youth. What does that look like?

And so, all of the education, the outreach, the training that needs to take place that is not currently taking place, that is why we are here. We are absolutely committed to creating change. Again, our motto is champion respect and end abuse. That is our call to action.

Senator SULLIVAN. Thank you. Anyone else on that question?

Ms. WILLIAMS. I would also say no, that the safeguards that we have in place are not enough. What we need in place is uniform, baseline education across all the different levels of sports from, like I said, the grassroots level, youth, moving up into the elite ranks.

There needs to be something for when a coach, when a person that is going to be of authority that is going to be dealing with an athlete on a regular basis. Once they enter into this field, what are the baseline requirements to make sure that you are going to do what is in the athlete's best interest?

Right now, there is no uniformity across all these different levels, different organizations that exist. You can just wake up one morning and say, "I am going to go coach people and I am going to go coach kids." You are there and you are coaching. Everyone is like, "Oh, he is nice." And then you are bringing kids home and it just degrades from there.

Senator SULLIVAN. Yes.

Ms. WILLIAMS. So baseline education and baseline points of entry. There are requirements that make sure that we do have proper safeguards. Those are the things that need to be put in order.

Senator SULLIVAN. Thank you.

Before we conclude, I would ask unanimous consent to include in the record letters from stakeholders providing additional perspec-

tives on today's hearing including the Sports Fans Coalition* and the Positive Coaching Alliance.

Without objection, so ordered.

[The information referred to follows:]

PREPARED STATEMENT OF JAKE WALD, BUSINESS DEVELOPMENT MANAGER, POSITIVE COACHING ALLIANCE

Mr. Chairman, Mr. Ranking Member, and Members of the Committee. My name is Jake Wald, and I appreciate this opportunity to submit testimony on behalf of the Positive Coaching Alliance (PCA) for the Committee's hearing entitled "Current Issues in American Sports: Protecting the Health and Safety of American Athletes." We appreciate the Committee focusing attention on the issues facing athletes, both on and off the field.

PCA is a non-profit, educational organization that provides resources for students, parents, coaches, and leaders with the aim of improving the culture around youth sports. Operating under the motto "Better Athletes, Better People," PCA works to ensure that all youth and high school athletes have positive and character-building sports experiences.

We pursue this goal by working directly with youth and high school sports leaders, coaches, athletes, parents, and officials through partnerships with schools and youth sports organizations nationwide. These partnerships consist of live workshops, online courses, books, and more—all geared toward changing the culture of youth sports. Since its inception, PCA has reached more than 8.6 million young people; partnered with roughly 3,500 schools and youth sports organizations; and delivered hundreds of thousands of online courses.

I joined PCA in 2012, and I am responsible for the development and establishment of new PCA chapters, to add to the 17 we already have in major cities including Chicago, New York, Houston, Los Angeles, and Tampa Bay. I came to PCA after being fortunate enough to have a career first as a student-athlete at George Washington University (GWU) and then as a professional athlete in the San Francisco Giants and Arizona Diamondbacks organizations. Upon my retirement, I returned to college baseball as a coach, first at my alma mater, GWU, and then at Georgetown University. These experiences informed my decision to get involved with PCA, and provided me with the insight to speak firsthand about the issues facing youth athletes today.

As the Committee begins exploring factors impacting athlete safety, we urge the Committee to assess the culture of youth sports as an integral factor affecting young athletes. Last Congress, the House Energy and Commerce Subcommittee on Oversight and Investigations convened a hearing to evaluate concussions in youth sports. At that hearing, members noted that improving the safety of sports is not merely about science; it is also about culture.

We strongly agree with the notion that that culture plays a critical role in improving awareness, attention, and care for youth athletes, and we are concerned that today's win-at-all-costs culture incentivizes and normalizes damaging behaviors—including use of performance enhancing drugs, opioid abuse, and overuse injuries spurred by premature sport specialization. In fact, each year, the current win-at-all-costs culture drives millions of kids out of sports for good. Not only does this deprive them of the well-researched benefits of participating in organized athletics, but their negative experiences may have further effects throughout their lives.

PCA leads the charge for youth sports organizations to overcome these cultural challenges and help millions of kids reach their potential. Young people can only reap the full benefits of competing in organized sports if the adult leaders, coaches, and parents behave as character educators, intent on teaching life lessons—including healthy competitiveness—through sports. With a winning combination of truthful, specific praise; constructive criticism; and positive motivation, athletic performance improves, and so do the chances that kids stay involved and learn all the valuable life lessons that organized competition can teach. As such, we appreciate and are pleased to see that the Committee has an established interest in evaluating all factors that impact athlete safety, beyond just the physical.

PCA is concerned with the decline in participation in youth sports, which reduces the number of American youths who can benefit from the experiences and life lessons a positive experience in sports can provide. While there are a number of factors contributing to this trend; it can be in part attributed to the tremendous negativity

*This letter can be found on page 97 of this hearing.

that pervades youth sports today and the pressure placed on young athletes to succeed at any cost. We appreciate and are pleased to see that the Committee has an interest in evaluating factors that impact athlete safety, and we urge you to continue to bring attention to the issue of sports culture—particularly in the context of its role in the development of our Nation's youth.

Thank you again for this opportunity. We would be happy to discuss this and other issues related to youth sports with you at your convenience.

The hearing record will remain open for two weeks. During this time, senators are asked to submit any questions for the record for our witnesses. Upon receipt, the witnesses are requested to submit their written answers to the Committee as soon as possible.

I want to, again, thank the witnesses for appearing today. These are very important issues. You can see there is a lot of bipartisan interest and, I think, motivation to address these in a bipartisan way. We are going to continue to engage with you and others to make sure we address some of these in the best way possible.

This hearing is now adjourned.

[Whereupon, at 12:20 p.m., the hearing was adjourned.]

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