

Testimony

Before the US House of Representatives Committee on
Education and Labor

The Impact of Concussions on High School Athletes

May 20, 2010

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A Division of Human Kinetics

Chairman Miller and Representative Kline, members of the committee, good morning. Thank you for your leadership on this important issue of The Impact of Concussions on High School Athlete.

"Athletes First, Winning Second." That phrase is the foundation of the American Sport Education Program. My name is Jim Schmutz and I am the Executive Director of ASEP, a division of Human Kinetics. ASEP has been the leading provider of coach education for youth sport and scholastic coaches since 1981. Since that time, more than one million coaches have taken part in our courses. In 1990 ASEP joined forces with the National Federation of High Schools to develop an instructional program that is responsible for educating over 600,000 coaches in the principles of coaching and sport first aid. Our primary coaching text, Successful Coaching, is the best selling general coaching text over the past 30 years and has received critical acclaim by both the educational community and coaches in the trenches.

In addition, ASEP has reached more than 400,000 youth sport and national sport governing body coaches with a wide range of high quality education courses. Our mission is simply to make sport safer, more enjoyable and a more valuable experience for athletes by developing education programs and resources for coaches, as well as officials, administrators, and parents.

Defining the Problem

Clearly, the incidence and, as we are discovering through more research findings, the prevalence of sport-related concussions is a matter that we in ASEP feel compelled to address. Yard and Comstock (2009) in Brain Injury-reported an estimated 395,274 concussions sustained by high school athletes nationally in 9 sports during 2005-2008. Those sports included baseball, basketball, football, soccer, and wrestling for boys and basketball, soccer, softball, and volleyball for girls. Concussion rates were highest in football and softball.

Moreover, the study discovered a disturbing disregard for the seriousness of the injury, with athletes often returning to practice and competition before it was safe and appropriate for them to do so.

Average time missed do to concussions

3-6 days (24.4%)

7-9 days (28.9%)

10 days (10.1%)

More than 21 days (10%)

Perhaps the most alarming finding was that 15.8% of football players with the most severe (Grade III) concussions returned to play less than one day after incurring the injury. The authors of the study concluded that too many adolescent athletes are not adhering to recommended return-to-play

guidelines, and that coaches, sports medicine professionals, parents, and sports administrators must work together more effectively to ensure athletes follow recommended guidelines. (A summary of this report can be found at: <http://informahealthcare.com/doi/abs/10.1080/02699050903283171>.)

The problem is that those who are most often closest to the athletes when concussions occur, of significant influence in determining how forthcoming athletes are about their condition, and a key figure in their return to action-coaches-are seldom prepared to handle this responsibility. And, even less frequently is a clearly defined and understood program in place within school's athletic departments and sport organizations to deal with concussion injuries.

ASEP and others are trying to change that. And, from here on, I will highlight the two topics on which I was asked to speak today:

1. The important concussion prevention training efforts that are underway.
2. The resources available to coaches to help them employ effective concussion prevention and management measures.

Concussion Prevention and Management Training

No evidence would suggest that coaches, in general, are derelict in their duty to provide for the safety of their athletes. What is clear is that, in the case of what are often less apparent and cumulative injuries like concussion, the uninformed and untrained coach is overmatched by the role he or she is expected to play.

A study by Guilmette et al. (2007) found that New England high school head football coaches received information about concussions from these sources:

- 80% from coaching associations
- 79% from conferences
- 65% from magazines/newspapers/TV
- 31% from a CDC concussion kit

When asked to rate the helpfulness of the information from various sources, 59% said the Center of Disease Control (CDC) concussion kit was "very helpful." Next (55%) was input from health professionals, and third (53%) was the information gleaned at conferences.

Tools like the CDC kit can have a positive impact on coaches' awareness of concussion symptoms and their ability to act when concussions occur. In a recent survey (Sawyer et al., 2010, Health Promotion) of 487 coaches from five states

1. 50 - 66% reported having access to the toolkit materials (this varied by state)
2. 96% of coaches without a concussion plan indicated that the toolkit would be used to develop one
3. 87.9% recalled the laminated card listing the signs and symptoms

4. 83.7% reported looking at the toolkit's materials
5. Only 7.2% had disseminated the Fact Sheet for Athletes but 76% planned to do so
6. Only 4.4% had disseminated the Fact Sheet for Parents but 75% planned to do so

The good news is more resources exist to prevent and manage concussions today than ever before. Additionally, more attention through multiple channels is making concussion management a higher priority at all sport participation levels across the country. The Centers for Disease Control has taken a leadership role as a champion for providing a safer environment for scholastic sport participation. At every turn the CDC is connected with other organizations which are playing important roles in addressing this very serious health issue of epidemic proportion.

ASEP believes, and there is evidence to support this belief, that systematic education and not simply a troubleshooting toolkit is critical for the ability of coaches to handle all of the complex issues associated with concussion prevention, identification, notification, consultation, and decision-making. We would underscore the importance of professionalizing the role of high school coaches if we are going to demand more accountability and place more responsibilities on them, including concussion management. Similarly, the millions of youth sport coaches overseeing the participation of over 74 million children between ages 7 and 17 must have sufficient knowledge and training to prevent injury where possible and act properly when it does occur.

ASEP's two comprehensive text books Successful Coaching and Sport First Aid are ideal for high school coaches. Our classroom education courses led by certified instructors are the gold standard as activity/exercise based instruction provides interactive opportunities for coaches that cannot be replicated in our online versions of these courses. Additionally, we offer sport specific courses that help educate coaches on how to effectively prepare athletes to properly and safely perform skills. ASEP is working hard to address the need to enhance and expand concussion education by revising the Sport First Aid course to include more comprehensive current information on concussion management with the intention of providing access to the full range of CDC resources. By incorporating more concussion management education into the Sport First Aid course coaches in states like California where they are required to be first aid certified will benefit without added expense. <http://www.asep.com/>

In addition to ASEP the list of groups actively attempting to educate coaches about concussions and how to respond appropriately includes but is not limited to:

- The American Football Coaches Association
- The National Federation of High Schools
- The National Interscholastic Athletic Administrators Association
- National (Sport) Governing Bodies (US Lacrosse and USA Hockey)
- State Athletic Directors Associations
- State High School Associations
- ImPACT

Centers for Disease Control (CDC)

Heads Up: Concussion in High School Sports

Initially launched in 2005, the “Heads Up: Concussion in High School Sports” initiative continues to grow in popularity. The materials were developed for high school coaches, athletic directors, athletic trainers, parents, and athletes with the goal of raising awareness and improving prevention, recognition, and response to concussion. An evaluation study conducted by CDC in 2006, found that the materials lead to positive changes in high school coaches’ knowledge, attitudes, and behavior and skills related to concussion prevention and management. CDC revised the content in the initiative’s educational materials in 2009 to reflect the updates in the most recent international concussion consensus guidelines. The revised materials are scheduled to be re-released in summer 2010 to coincide with the release of an online training for high school coaches developed in partnership with the National Federation of State High School Associations. (See NFHS p. 5)

http://www.cdc.gov/concussion/HeadsUp/high_school.html

American Football Association (AFCA)

ASEP has also developed strategic partnerships with organizations like the American Football Coaches Association to foster collaborative coaching education efforts. While most members are college coaches, the AFCA has defined the recruitment of high school coaches as a strategic objective. One value added benefit of membership is price discounts three ASEP courses that offer Michigan State University and Michigan State Board of Education continuing education credits.

<http://www.humankinetics.com/Continuing-Education-for-Coaches>

The National Federation of High School Associations (NFHS)

The NFHS has led the development of education-based interscholastic sports and activities that help students succeed in their lives. The NFHS launched on May 19, 2010 an online course entitled "Concussion in Sports-What You Need to Know" at no cost to the user. It will be available at www.nfhslearn.com. They have partnered with the CDC to deliver a course that will provide coaches, officials, parents and students information that will minimize the incidence and severity of head injuries. To highlight the continuing importance of this issue, the NFHS Sports Medicine Advisory Committee (SMAC) and each sport’s rules committee have taken the unprecedented step of including Concussion Recognition and Management as a point of emphasis in each NFHS sport rules book for the 2010-11 year.

The National Interscholastic Athletic Administrators Association

The mission of the NIAAA is to develop, enhance and preserve the educational values of interscholastic athletics. The NIAAA serves its members by providing resources to develop and to enhance leadership skills and to offer opportunities for professional growth. To that end they established a Leadership Training Institute is a professional development in 1996. Athletic Administration courses like Legal Issues I (Risk Management) and Administration of Interscholastic Sports Medicine Programs Among are examples of the type of education course offering available to athletic administrators designed help them manage athletic address critical issues like concussion management as part of a holistic approach to providing the safest environment that also mitigates risk.

http://www.niaaa.org/Leadership_Training/leadership_training.asp

National (Sport) Governing Bodies

US Lacrosse and USA Hockey are contact sports where athletes are exposed to the potential for concussions. USA Hockey provides CDC developed resource information to coaches via their website and Director of Coaching, Mark Tabrum is a strong advocate for safety as evidenced by the development of Heads Up Hockey technique as part of their beginner levels introduction to body contact.

http://www.usahockey.com/uploadedFiles/USAHockey/Menu_Coaches/Menu_Coaching_Materials/Menu_CEP_Materials/Introduction%20to%20Body%20Contact%2008.pdf

US lacrosse has branded the CDC Heads Up fact sheet for concussions and they provide it online for their coaches. Additionally, CEO, Steven Stenersen is strong proponent of effective concussion management as evidenced by his March 8, 2010 blog in which he closed by state “**When in doubt, sit ‘em out.**”

<http://www.uslacrosse.org/LinkClick.aspx?fileticket=ZakC3rKDnT4%3D&tabid=2351>

State Athletic Directors Associations and State High School Associations

For insight on how Administrators from a number of State Athletic Directors Associations and State High School Associations are responding to this challenge please refer Appendix D.

ImPACT

ImPACT Applications, Inc. is a premier provider of computerized neurocognitive assessment tools and services used by medical professionals to assist them in determining an athlete’s fitness to return to play after suffering a concussion. **The ImPACT test provides an objective measurement of memory, reaction time, attention span, and other factors to help a clinician diagnose a concussion and decide when the patient has recovered.**

ImPACT is a sophisticated, research-based computer test developed to help clinicians evaluate recovery following concussion. **ImPACT is a 20-minute test battery that can be administered in the pre-season for a baseline and post-injury to track a concussion.** ImPACT promotes an athlete’s full recovery from injury and assists clinicians in making a safe return-to-play decision and reducing the chance of follow-up concussions.

The ImPACT baseline test is ideally administered under the supervision of a clinician, athletic trainer, coach, or even a parent. The test involves tasks that measure a variety of factors. An initial test or “baseline test” is taken before a concussion occurs and establishes baseline results. When a concussion is suspected, a follow-up or “post-injury” test is administered to see if the results have changed from the baseline to help diagnose and manage the concussion. Additional follow-up tests may be administered over several days or weeks to assist the clinician with the return to play decision.

ImPACT provides comprehensive in-person or online training in the interpretation of test results, advice and consultation in the doctors’ community, and many other resources to help clinicians make the best use of test results.

ImPACT is designed to provide sensitive information in the form of cognitive data and symptom reporting in athletes suspected of sustaining a concussion. This information can be used to help determine recovery from injury and safe return to participation and overall clinical management issues.

ImPACT was founded in May 2002 by Mark Lovell, Ph.D, ABPN, Joseph Maroon, M.D., and Michael Collins, Ph.D. ImPACT team members have dedicated the past 15 years to the scientific study of sports-related concussion and the clinical application of this knowledge throughout professional and amateur sports.

Sample of Current Users of ImPACT

All NFL Teams	Cirque du Soleil
All MLB Teams	USA Rugby
All National Hockey League Teams	Irish Rugby
All Major League Soccer Teams	New Zealand Rugby
Major/Minor League Baseball Umpires	South African Rugby
USA Hockey	US Army
USA Olympic Hockey	US Navy
Ontario/Western Hockey Leagues	US Air Force Academy
USA Ski Team	180+ Professional Sports Teams
US Soccer Federation	2000+ High Schools
Swedish Soccer	700+ Colleges and Universities
US Lacrosse	550+ Clinical Centers
World Wrestling Entertainment	180 + Credentialed ImPACT Consultants

ImPACT Web site: www.impacttest.com

ESPN’s Questions vital to diagnosing concussion:
<http://sports.espn.go.com/espn/e60/news/story?id=5162747>

Peer Reviewed Articles on ImPACT: Sensitivity and specificity of the ImPACT Test Battery for concussion in athletes <http://www.impacttest.com/pdf/SchatzSensitivityAccept.pdf>

It should be noted that in addition to ImPACT, Headminder Concussion Resolution Index and CogState Sport are two other organizations that have established assessment tools.

From the CDC *Did you know?* File

- Each year, U.S. emergency departments treat an estimated 135,000 sports- and recreation-related TBIs, including concussions, among children ages 5 to 18. (*MMWR July 2007*)
- Athletes who have ever had a concussion are at increased risk for another concussion.
- Children and teens are more likely to get a concussion and take longer to recover than adults.

We have a serious problem and need to do better. While it is clear that there is no shortage of resources, we also know that we have a great deal of work ahead of us. We need to continue to move away from the old paradigm where the perception is an athlete is weak if they don’t attempt to play through getting their “bell rung”. We need to perpetuate a culture of athlete and safety first and action

that results in “when in doubt, sit ‘em out.” We need to take advantage of the CDC and other resources not just to be distributed only to sit on a shelf. We need to use the resources in the process of formally educating coaches so that they can implement preventive measures to reduce the incidence of concussions. Through that education coaches will be better equipped recognize and manage concussions when they do occur.

Our experience at ASEP tells us that in order to achieve wide and deep penetration, coach education needs to be required. Our four year relationship with Babe Ruth League (BRL) and Ripken Baseball (RB) illustrates this point. Since implementing the mandate three years ago, over 91,000 BRL-RB coaches have been educated. Contrast that with multiple other youth sport organizations for whom ASEP built customized courses. These organizations recommend that coaches take their course and consequently less than 3% of their volunteer coaches opt to take the course. In a new collaborative effort with American Youth Football, President Joe Galat has made the commitment to require coaches to take an ASEP developed online course Coaching Youth Football the AYF Way online course in order to compete at tournaments. This course includes CDC information on concussion management.

As right minded as we might be, until extensive quality concussion education is mandated at the state or local level(see Virginia Beach example, appendix D p.14) we won’t make a significant dent. Fewer concussions and fewer second impact incidents can only be achieved by action that results in requiring comprehensive education. Once in place:

1. Coaches must be held accountable by the state or local organization for meeting the requirement... there must be consequences for failure to comply.
2. The requirement must be comprehensive and include:
 - a. Coaching principles that address coaching philosophy and season planning that includes a detailed concussion management component
 - b. Comprehensive first aid specifically geared toward coaches, which includes concussion management protocols that are integrated into season planning component, parent orientation meeting, other stakeholder information dissemination etc. Remember the research that indicated – only 7.2% of the coaches disseminated information to athletes and 4.4% delivered the fact sheets to parents...we need to do better
 - c. Proper sport specific skill instruction, for example in football that would include proper tackling and blocking techniques among others
 - d. Information and instruction on proper equipment fitting.
3. Key stakeholders must agree on how concussion management systems will be implemented. The stakeholders include the athlete, coach, athletic trainer (if one exists), athletic director, school principal, school board, superintendent. All need to be accountable on some level for having been exposed to information and understanding the protocol and committing to the system.
4. A trained qualified doctor must be identified as part of the system as the final arbiter in making return to play decisions.

5. Financial resources have to be raised and/or committed by organizations at the state and community based level in order to meet the demands of the system. ASEP's recent collaboration with the LA84 Foundation and the LA City Section of the California Interscholastic Federation illustrates one potential model for alternative funding sources that could be applied to pursuing underwriting costs related to concussion. In this case the LA84 Foundation provided a grant to help underwrite a portion of the required course fee. As a result 250 coaches who need to meet the CIF coaching education course requirement will access the course for \$18 instead of \$ 38.
6. Human resources need to be dedicated to plan, implement and measure the impact/success of the system.

Over the years we have seen dramatic and positive impact of such educational efforts. Take for example the salt tablet and water deprivation. This was common practice in the 1970s. But scientists (nutritionists) and sports medicine specialists decried this accepted training tactic and studies pointed to the serious health risks involved, thinking on this slowly turned. And not until coaching education services hammered this message home and taught alternate, safe hydration and heat illness prevention guidelines did this practice, with exceptions, stop altogether. We should be mindful of those exceptions so that we sustain a relentless approach to educating every coach.

I said earlier that this has to be a catalyst for professionalizing the role of high school coach. And we cannot be hostage to a bad economy and widespread school budget cuts. We must find a way to utilize the vast, high quality resources to educate our coaches. Together, we can do better. Together we can make a difference in the lives of millions of scholastic athletes.

Members of the committee, coach education is the foundation from which success can be built in managing the impact on concussions on high school athletes. Our ASEP team has a great deal of respect for the committee's leadership on this issue. We look forward to continued collaboration with key stakeholders and resource developers so that we can help pave the way for standards of care which lead to decisions that are made with the athlete's health and safety as the first priority and only consideration.

Thank you for giving me the opportunity to appear before you today.

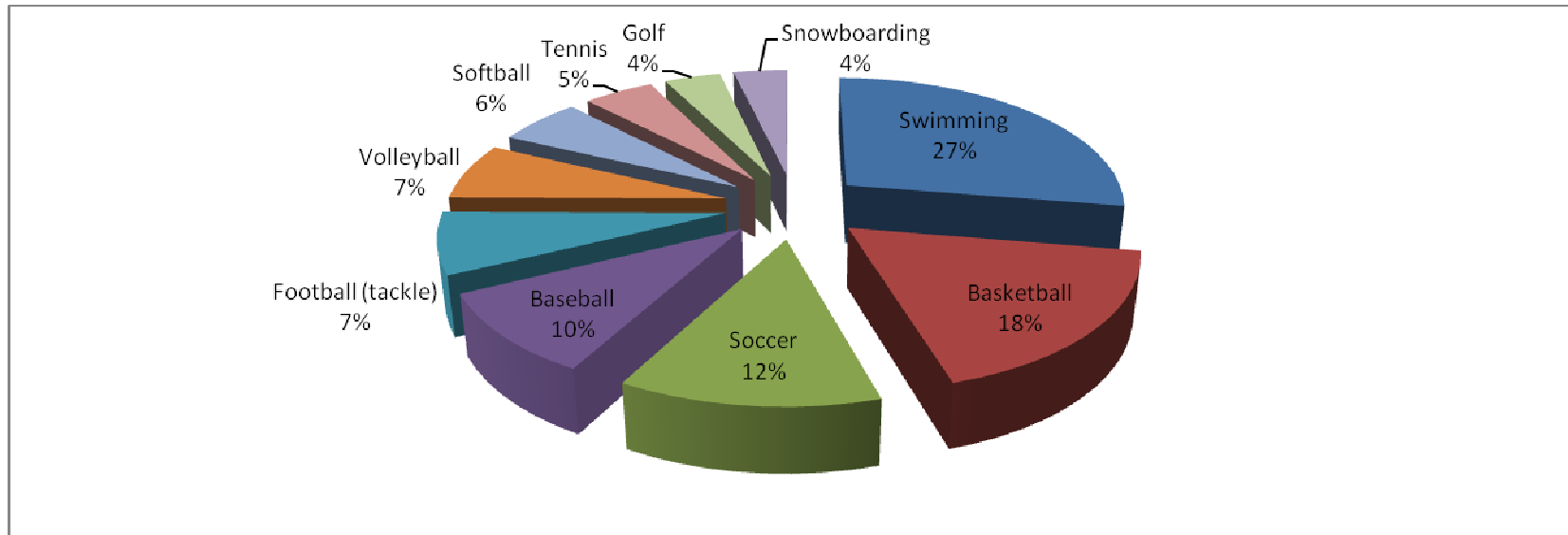
Athletes First, Winning Second

Appendix A

2008 Sporting Goods Manufacturers Association Survey Results

General Youth Sports Information (Source: Sporting Goods Manufacturers Association)

Sport	2008 Participants (ages 7-17)
Swimming	20,532,000
Basketball	13,288,000
Soccer	9,284,000
Baseball	7,268,000
Football (tackle)	5,508,000
Volleyball	5,135,000
Softball	4,247,000
Tennis	3,542,000
Golf	2,847,000
Snowboarding	2,725,000



Category = Participation (Ages 7+) Ranking: Total Ages 7-17 (No. of Part. in Thous.)

Appendix B

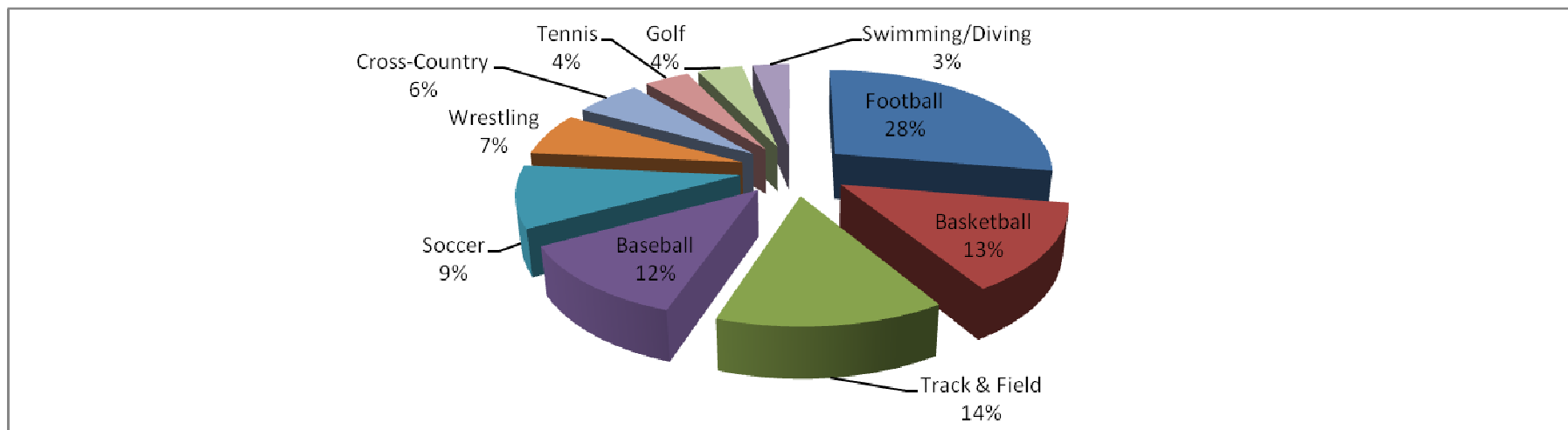
High School Sports Information (Source: National Federation of State High School Associations)

Total Number of High School Athletes (Boys): 4,422,662

Table 1: Top Ten Sports by Participation (boys)

Sport	2009 Participants (High School Boys)	2009 Teams (High School Boys)
Football	1,112,303	12,105
Track & Field	558,007	15,936
Basketball	545,145	17,869
Baseball	473,184	15,699
Soccer	383,824	11,139
Wrestling	267,378	10,254
Cross-Country	231,452	13,647
Tennis	157,165	9,499
Golf	157,062	13,543
Swimming/Diving	130,182	6,556

Table 2: Top Ten Sports by Percentage of Participation (boys)



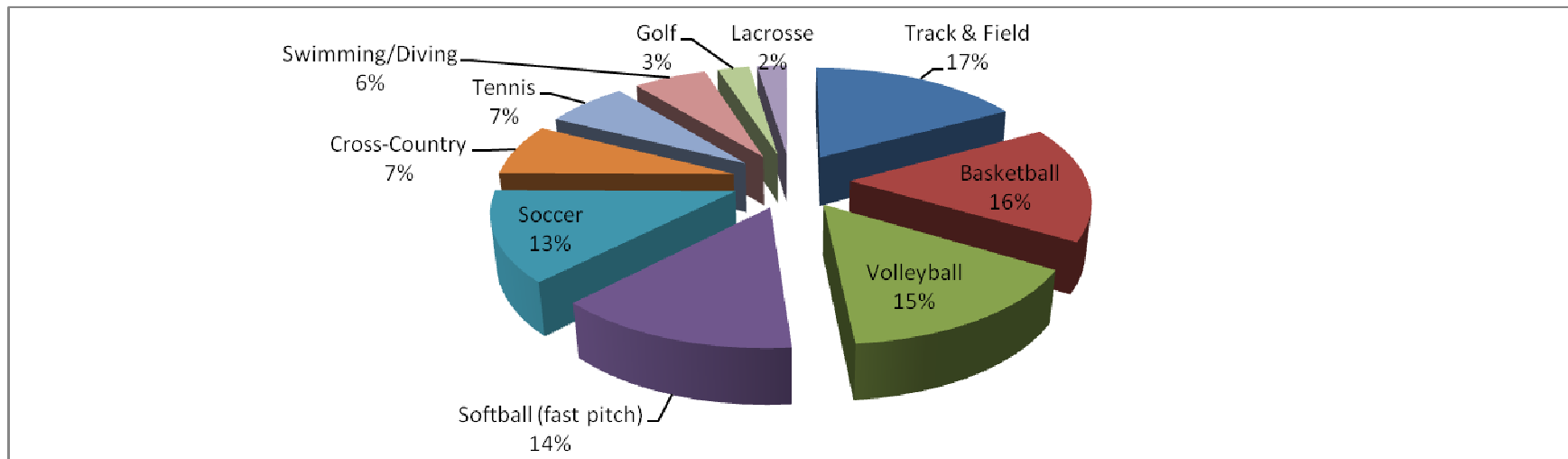
Appendix C

Total Number of High School Athletes (Girls): 3,114,091

Table 3: Top Ten Sports by Participation (girls)

Sport	2009 Participants (High School Girls)	2009 Teams (High School Girls)
Track & Field	457,732	15,864
Basketball	444,809	17,582
Volleyball	404,243	15,069
Softball (fast pitch)	368,921	15,172
Soccer	344,534	10,548
Cross-Country	198,199	13,457
Tennis	177,593	9,693
Swimming/Diving	158,879	6,902
Golf	69,223	9,344
Lacrosse	64,929	1,780

Table 4: Top Ten Sports by Percentage of Participation (girls)



Appendix D

State Athletic Directors Associations and State High School Association Related Action

The Pennsylvania State Athletic Directors Association (PSADA) is one example of how athletic administrators can take a leadership role. PSADA Executive Director, Bob Buckanavage chairs the PA Alliance in Sport Committee which represents the PA School Boards Association, the PA Association of School Administrators, The PA Association of Elementary and Secondary School Principals, the PA Interscholastic Athletic Association, the PA State Athletic Directors Association, and the PA Department of Education. The group met most recently, on Monday May 10, 2010 to discuss relevant issues in the sport arena.

One of the important issues has to do with concussion management legislation that the members of the alliance are monitoring, namely, HB 2060 and SB 1241. Both bills appropriately address the Management of Concussions and Head Injuries and the alliance is fully supportive of this legislation.

PIAA Executive Director Brad Cashman presented a comprehensive report which included the following:

1. The National Federation of High Schools (NFHS) position regarding rule changes for the 2010-11 sport season and Suggested Guidelines for Management of Concussions.
2. The NFHS Coach Education module "Concussions in Sport - What You Need to Know."
3. The Center for Disease Control and Prevention has developed a tool kit for coaches titled: Heads Up: Concussion In High School Sports.
4. The PIAA Sport Medicine Advisory Committee's decision to incorporate appropriate language in its Comprehensive Initial Pre-Participation Physical Evaluation form (CIPPE) addressing the management of concussions.

The alliance unanimously approved of the report that Mr. Cashman presented and supports the premise that a student-athlete shall not return to play until they are evaluated by a licensed health care provider trained in the evaluation and management of concussions.

Bob Buckanavage, Executive Director, Pennsylvania State Athletic Directors Association

In light of the new NFHS Rules, procedures and suggested guidelines for concussion management, Kansas is actively working on developing a protocol for our schools to ensure all coaches and administrators understand their responsibilities toward young people who experience concussion or related symptoms while participating in sports and activities. We anticipate promoting widespread utilization of the NFHS Concussion Management course when it becomes operational this summer by all schools as in-service for their personnel, students and even parents. We are currently working with legal counsel and the Kansas Board of Healing Arts to determine who the "appropriate health care professionals" are to evaluate kids and make determinations about return to play.

Gary Musselman, Executive Director, Kansas State High School Activities Association

Our Sports Medicine Advisory Committee, which is made up of doctors and trainers, recommended updated guidelines to our MHSAA Executive Committee. These newly adopted concussion guidelines are in conjunction with the NFHS guidelines. They have been officially released to our 574 member schools for use during the 2010-2011 school year.

Ennis Proctor, Mississippi High School Activities Association

For almost twenty years now the Virginia Beach City Public Schools have been offering education courses for athletic coaches. As you can imagine, a school division of close to 70,000 students employs a large number of individuals to serve as coaches at the middle and high school levels. That also means there are a large number of individuals who are representing the school system with their actions on and off the sidelines, some of which have no formal training in working with students and parents. Some may have been blue-chip athletes in their own right, but that doesn't always translate into a quality coach. Fortunately, our school system saw the need to offer courses in coaching in the late 1980's. From the start and because it was not mandatory at the time, coaches who chose to take the classes gave the courses high marks, for the most part, on their evaluations. But classes were relatively small compared to the total number of coaches in the school system. About five years ago, our division implemented mandatory coaches education as part of a plan to enhance coaches' professionalism. We had three years to certify over four hundred coaches. Although most probably were not interested in adding another time commitment to spend sixteen hours in the classroom and several more on three online tests, we always received a large, large majority of positive evaluations from our coaches. Once they went through the program, the value was apparent to them. We were able to meet our goal; at this point, all of our middle school and high school athletic coaches with two or more years of experience in our school division have completed our coaches education requirements. It definitely has not been a cheap endeavor, but it has definitely been a worthwhile endeavor. I feel like our coaches have a good understanding of our school system's expectations, and they also know that their competitor colleague on the opposite side of the field has heard the same instruction and is playing by the same rules. I am a strong proponent of school systems utilizing a quality coaches education program. **David Rhodes, CAA, Coordinator, Student Activities, Virginia Beach City Public Schools**

The Wisconsin Interscholastic Athletic Association has been one of the leading state associations (if not the leader) in sports medical concerns in the country. Our committee meets twice a year and communicates amongst one another and our staff throughout the year. They have been out front in many areas, PES, MRSA, H1N1, and concussion. Our sports medical team has provided concussion management protocols to our member schools for years. They have created a Medical Policies and Procedures Manual which has been provided to our member schools.

<http://www.wiaawi.org/publications/medicalproceduresguide.pdf>

Last year, our committee implemented the Zurich conventions and implemented the most stringent concussion rule in the NFHS with new rules and guidelines:

- If you think your athlete has sustained a concussion... IMMEDIATELY take him/her out of play, and seek the advice of a health care professional experienced in evaluating for concussion.
- WIAA Rule: A student who displays symptoms of concussion and/or is rendered unconscious may not return to practice or competition during the same day without a physician's written approval.
- WIAA Rule: An apparently unconscious player is determined by the game officials. The player may not return to play in the game (without written authorization from a physician).

Before every sport season, our assistant directors hold sport meetings. Materials on concussion, performance enhancing substances, heat stroke, and other materials are provided to our coaches in our sports. Our web site has sections which cover each of these areas and are used by our coaches, parents, and member schools. This year, we will be utilizing the materials provided by the NFHS to require our member schools to educate their coaching staffs, parents, and athletes in concussion management. I truly believe our people have done a tremendous job. I've copied in our Doctors to respond to your message as well. **Wade Labecki, Deputy Director, Wisconsin Interscholastic Athletic Association**

In Ohio, we have been working hard with our constituents and our legislature. The following is a review of what we have been doing this past school year. The OHSAA has made a concerted effort to provide educational resources to member schools on this vital topic of concussion management. The following are resources that are currently available:

1. **Suggested Guidelines for Concussion Management in Sport** – a publication from the NFHS
2. **Questions vital to diagnosing concussion** – Q& A and a video from an ESPN special on concussions - <http://sports.espn.go.com/espn/e60/news/story?id=5162747>
3. **Concussion in Sports – What you Need to Know** - www.nfhslearn.com.
4. **Centers for Disease Control – Resources to Prevent and Recognize Concussions** - <http://www.cdc.gov/Features/Concussion>
5. **Fact Sheets for Parents, Coaches and Athletes** - <http://www.ohsaa.org/medicine/ParentsFactsheet.pdf>
<http://www.ohsaa.org/medicine/CoachGuide%20on%20Concussion.pdf> ;
<http://www.ohsaa.org/medicine/AthleteFactsheet.pdf>
6. Video from the Washington Interscholastic Activities Association – Recognizing Sports Concussions http://www.ohsaa.org/medicine/Concussion%20Stuff/DVD_1_0000.wmv
7. The OHSAA has adopted the following sports regulation:
Any athlete who exhibits signs, symptoms or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion or balance problems) shall be immediately removed from the contest and shall not return to play until cleared ***with written authorization*** by an appropriate health care professional. In Ohio, an “appropriate health care professional” shall be a **physician**, as authorized under ORC Chapter 4731 and includes both doctors of medicine (M.D.) and doctors of osteopathy (D.O.) and an **athletic trainer, licensed** under ORC Chapter 4755.

Note: This information will be included in all preseason manuals for coaches and officials, posted to the respective sports and officiating pages of the web site and presented at mandatory rules interpretation meetings. **Deborah B. Moore, Ph.D., Associate Commissioner, Ohio High School Athletic Association**

The California Interscholastic Federation (CIF) has some new concussion bylaws which of course all sections will be following. In our CIF/Central Coast Section, we are working on getting a Doctor trained in concussions to speak at our Fall Administrators' workshops which all our school principals, VPs and AD's are required to attend.

http://www.cifstate.org/health_safety/pdf/Play_It_Safer_Top_Ten_Tips_For_Parents_in_English_&_Spanish.pdf

Nancy Lazenby Blaser, CIF / Central Coast Section Commissioner