

Report on Act 68 of 2013

Section 7. Concussion Task Force

REPORT

**November 25,
2013**

**Report/Recommendations to the
House and Senate Committees on Education; the
House Committee on Health Care; the Senate
Committee on Health and Welfare; and the House
and Senate Committees on Judiciary**

Submitted by Secretary of Education

Armando Vilaseca on behalf of the Concussion Task Force



Legislation

[Act No. 68 \(S.4\): An act relating to health and schools](#)

Summary of Legislation

This legislation outlines requirements for school athletic coaches and referees to receive training on effective methods of reducing the risk of concussions during athletic activities, and prohibits a coach or a health care provider from allowing an athlete to continue participating in a school athletic event if the trainer knows or should know that the athlete has sustained a concussion or other head injury.

This act requires that all schools ensure there is a Concussion Management Action Plan (CMAP). The CMAP is designed to provide consistent procedures for prevention, recognition, treatment of concussions and for the return-to-school activities planning.

The CMAP must describe the procedures the schools will take when a student athlete suffers a concussion. Beginning in 2015, the legislation requires a home team to ensure that a health care provider is present at any athletic event involving a collision sport.

In addition, the act asks the Vermont Traumatic Brain Injury Advisory Board to study the incidences of concussions in schools, and creates a Concussion Task Force to study the presence of health care providers at school sports activities. This report is a result of the Concussion Task Force meetings held throughout the summer and fall.

Summary of Charge of the Task Force

Specifically, Section 7(c) requires the Concussion Task Force to “study issues related to concussions resulting from school athletic activities and make recommendations, including:

- (1) what sports necessitate on-site trained medical personnel at athletic events based on data from public high schools and independent schools participating in interscholastic sports;
- (2) the availability of trained medical personnel and whether school athletic events could be adequately covered; and
- (3) the financial impact on schools of requiring medical personnel to be present at some athletic activities.”

“On or before December 15, the Concussion Task Force shall report to the House and Senate Committees on Education, the House Committee on Health Care, the Senate Committee on Health and Welfare, and the House and Senate Committees on Judiciary its findings and any recommendations for legislative action.”

Of note: Vermont is the first state to make statewide requirements for medical coverage for student athletic events in legislation.

Summary of Discussions

The goal of this legislation was two-fold. First, it ensures access to resources and training for schools statewide. Secondly it aims to ensure the physical well-being of students through concussion action plans and other safeguards.

It has implications for students, parents, schools, and medical professionals.

Fortunately, the Brain Injury Association of Vermont has already established school sports concussion resources as a result of legislation in previous years, and as part of their work to provide the public with resources related to brain injury. This resource, called the Vermont School Concussion Management Toolkit, can be found at:

<http://www.biavt.org/index.php/component/content/article/1025-vermonts-student-athletes-and-concussion-return-to-learn-a-return-to-play-toolkit.html>. This document was also mailed to all middle and high school principals in Vermont.

The tool kit speaks to the legislation of the past two years on school sports concussions, and provides forms, templates and best practices for schools. Other members of the task force have also used their various channels to insure this information is widely distributed.

The group discussed their charge in the legislation, and again discussed the data that makes clear that girls' soccer is one of the sports with the greatest prevalence of concussions. National and state data support this¹.

The definition of contact and collision sports in the legislation was: "(2) 'Collision sport' means football, hockey, lacrosse, or wrestling. [...] (3) 'Contact sport' means a sport, other than football, hockey, lacrosse, or wrestling, defined as a contact sport by the American Academy of Pediatrics."

According to the American Association of Pediatrics, contact or collision sports include football, hockey, lacrosse and wrestling, but also popular Vermont sports including soccer, basketball, and field hockey. National data illustrates that soccer and cheerleading both have high concussion rates.

Issues Identified

The financial implications, which will be outlined further, illustrate the differences in resources for schools across the state, regarding budgets for athletic events, staffing of athletic events, and access to trained professionals.

Currently there is a gap in safety for students who do not have a health care provider on the sidelines who is trained to recognize the signs of a concussion. This is especially true of smaller rural schools, and this is a concern of the committee and is addressed in the legislation. It is difficult for smaller schools without a full-time athletic director or athletic trainer to find someone qualified and available to cover games for only a few hours a week.

In the recommended expansion to include all collision sports, including soccer, basketball and field hockey, this would expand the financial impact, but would also make it easier for a school to hire someone full- or part-time, rather than by the hour (recommended at between \$35 and \$50 per hour per the Vermont Principals Association).

According to Alan Maynard of the Vermont Association of Athletic Trainers, the estimated fiscal impact of the current legislation is \$11,600. Expanding it to include other sports, or grades

¹ See **Appendix C** NFSHSA School Sports Injury Study

7 and 8 would increase that figure exponentially². The Vermont Principals Association notes that the estimated impact of even the current legislation is unknown at this time.

However, it should be noted that the goal of appropriate coverage at student athletic events by a health care provider offers advantages beyond concussions; rather it addresses all youth safety issues that may arise. Additionally, in many cases, injuries occur in practice, and if a school is able to retain the services of a trained health care professional, they could support the students in that capacity as well.

Recommendations

The Concussion Task Force makes the following recommendations for consideration:

- A. Provide a standardized form for the communication with fellow athletic directors, coaches, parents and students when a concussion is suspected. *Assigned to either Agency of Education or Vermont Principals Association.*
- B. Require school principals, athletic trainers and coaches to make documented attempts to notify a Parent/Guardian if an athlete has sustained an injury that could be a concussion **before the student athlete begins the trip home**. This is a change from the current legislative language requiring notification within 24 hours of the suspected injury. *Assigned to school principals, athletic trainers and coaches.*
- C. Require schools to follow the Center for Disease Control Heads Up 4-Step Action Plan as part of their Concussion Management Plan. If you suspect that a participant has a concussion, follow the “Heads Up” 4-step Action Plan:
 1. Remove the participant from play.
 2. Ensure that the participant is evaluated by an appropriate health care professional.
 3. Inform the participant’s parents or guardians about the possible concussion and give them information on concussion.
 4. Keep the participant out of play the day of the injury and until an appropriate health care professional says they are symptom-free and give the okay to return to activity.

For more details on the “Heads Up” Action Plan, see *Appendix B: Resources*.

- D. Based on state and national data, recommend that soccer, basketball and field hockey to also be included as a contact sport in the statute. *Assigned to State Legislature.*
- E. Consider expanding coverage to include grades 7 and 8. *Assigned to State Legislature.*
- F. Communicate the CDC training module for clinicians to general practitioners, pediatricians, and health care providers (Title 26) across the state in a systematic fashion. This communication should make clear the responsibility of the provider to be familiar

² See **Appendix E** Athletic Trainer Coverage by School – Fiscal Impact by Alan Maynard

with the law, the recommended *Return to Learn* and the *Return to Play* protocols and the requirement to document certification of training in concussion management.

Challenges and Opportunities

There is a lack of state data and a difficulty in collecting this data.

There may be a difference in knowledge in some medical practices as to how to handle a concussion.

The *Return to Play* protocol is a gradual process and is part of the complete Toolkit. So is the *Return to Learn* protocol, and should be the primary concern of the health care provider and the student.

Elementary and Middle Schools may still be lacking information.

The complete financial impact on individual schools is difficult to measure, but would increase if the recommendation to expand the coverage is accepted.

Further outreach is needed to schools regarding the concussion management plan they are required to have.

There has been relatively good media coverage of this task force and its charge, including a studio event at Vermont Public Television with Task Force member Alan Maynard. Therefore the goal of this work is to ensure awareness of student athlete concussions and provide resources for establishing a plan to manage and prevent them.

Appendix A

Concussion Task Force Membership		
Name	Contact Info	Affiliation
Alan Maynard	alan.maynard@uvm.edu	Vermont Association of Athletic Trainers; UVM
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Tim Vincent	timv@vsbit.org	Vermont School Boards Insurance Trust
Trevor Squirrell	tsquirre@sover.net	Brain Injury Association of Vermont; Vermont Traumatic Brain Injury Advisory Board

Appendix B

Resources:

Vermont's Student Athletes and Concussion Return to Learn & Return to Play Toolkit:
<http://www.biavt.org/index.php/component/content/article/1025-vermonts-student-athletes-and-concussion-return-to-learn-a-return-to-play-toolkit.html>

Fletcher Allen Concussion Module:
http://www.fletcherallen.org/community_resources/injury_prevention/sports_safety/

CDC HeadsUp Training video on Youth Sports:
<http://www.cdc.gov/concussion/HeadsUp/Training/index.html#>
<http://www.cdcfoundation.org/headsup>

Sate Kids 2013 Youth Sports Injury Study:
http://www.safekids.org/sites/default/files/documents/ResearchReports/final_sports_study_2013.pdf

American Academy of Pediatrics Report on Medical Conditions Affecting Sports Participation:
<http://pediatrics.aappublications.org/content/107/5/1205.full.pdf>

Concussion in Sports, What You Need to Know, (2011) The National Federation of State High School Associations:
http://www.nfhslearn.com/courses/concussion/v2_0/courseLaunch.aspx?lid=1431893#

Blogs published by Fletcher Allen Health Care and the Brain Injury Association of Vermont:
<http://fletcherallenblog.wordpress.com/2013/10/28/what-you-may-not-know-about-concussions-and-should-know/>
<http://fletcherallenblog.wordpress.com/2013/11/19/a-tale-of-two-concussions-what-parents-kids-can-do-to-stay-safe/>

Appendix C

National Federation of State High School Associations 2011/12 High School Sports Related Injury Surveillance Study (Comstock) (attached)

Appendix D

Youth Sport Safety Alliance's National Action Plan for Sports Safety (attached)

Appendix E

Athletic Trainer Coverage by School – Fiscal Impact by Alan Maynard (attached)



Brief Summary Report: 2011/12 High School Sports-Related Injury Surveillance Study
Prepared for the NFHS, August 2012 by Dr. R. Dawn Comstock

Introduction

2011/12 marked the 7th year of the High School Sports-Related Injury Surveillance Study.

- The original surveillance study of athletes participating in 9 sports (boys' football, soccer, basketball, wrestling, and baseball and girls' soccer, volleyball, basketball and softball) from 100 nationally representative randomly selected US high schools was continued.
 - o The data compiled over this 7 year study represents the longest running continuous surveillance study and the largest dataset of all time-loss sports injuries compiled from a national sample of US high school athletes.
- The expanded surveillance study continued the fourth year of surveillance of athletes participating in 9 additional sports (boys' lacrosse, ice hockey, swimming & diving, and track & field and girls' field hockey, gymnastics, lacrosse, swimming & diving, and track & field) and, for the third year, cheerleading and boys' volleyball. The expanded study captures data from a convenience sample of US high schools.
- This surveillance study was funded through the generous support of the NFHS and a research grant from the CDC, NCIPC.

2011/12 Data Snapshot

The surveillance system continued to capture a large amount of high quality, detailed data on incidence of injury, number of athletic exposures, and injury event information.

- Schools participating in the original random sample reported 3,759 injuries (53% competition related) during 1,733,895 athletic exposures (AE) for an injury rate of 2.17 injuries per 1,000 AE in the 9 sports studied.
- When combined, the schools reporting for both the original random sample and the convenience sample reported 6,213 injuries (51% competition related) during 3,446,539 AE for an injury rate of 1.80 injuries per 1,000 AE in the 20 sports studied.
- While injury rates varied by sport, competition injury rates were higher than practice injury rates for all but 3 of the 20 sports (Fig 1).
- Patterns of injury also varied by sport (Table 1)
 - o the head/face, ankle, and knee were commonly injured body sites in most sports
 - o strains/sprains were the most common injury diagnosis in all but two sports: boys' lacrosse and cheerleading.

- across sports 6% to 38% of the injuries kept the student athlete out of play for more than 3 weeks
- across sports 0% to 21% of the injuries required surgery

Trends Over Time

While interpretation of trends over time become more clear as the length of surveillance studies are extended, the competition injury rates have held steady or decreased slightly over time for each of the 9 sports studied in the original sample (Figure 2).

Most injury patterns have remained relatively stable over time. However, the proportion of injuries diagnosed as time-loss concussions (i.e., concussions keeping the athlete out of play for at least 1 day) has increased the last two years of the study. During the first 5 years of the study the proportion of injuries diagnosed as concussions in the 9 sports studied in the original sample ranged from a low of 8.4% in 2006/07 to a high of 14.0% in 2009/10. In 2010/11 this jumped to 20.0% and remained high in 2011/12 (21.9%).

- This may reflect a true increase in concussion incidence.
- It is more likely that this reflects an increase in diagnosis and reporting of concussions given the ongoing efforts of the NFHS and other organizations to provide concussion education to the high school sports community.
- However; the proportion of athletes returning to play the same day after sustaining a concussion has decreased from 7.8% in 2007/08 to 2.7% in 2011/12. This likely reflects the positive effect of the widespread concussion education efforts undertaken by the NFHS and others during this time period.

Impact

Data from this surveillance study has been used over the past year in multiple forums

- NFHS SMAC review at NFHS SMAC meetings
- NFHS SMAC data requests to address topics of interest throughout the year
- NFHS Rules Committee reviews
- Continued evaluation of the effectiveness of several rule changes
- Publications in the scientific literature and presentations at national scientific conferences
- Data requests from other professional organizations including the CDC, NOCSAE, NATA and SGMA
- A manuscript forthcoming in the journal *Pediatrics* combined this data with data from Fairfax County, VA for a study to determine if injury rates differed among high school field hockey players in states that mandate protective eyewear compared to states with no protective eyewear and found that playing high school field hockey in a state without mandated protective eyewear resulted in a significantly higher incidence of head and face injuries compared to playing in a state with mandated protective eyewear.

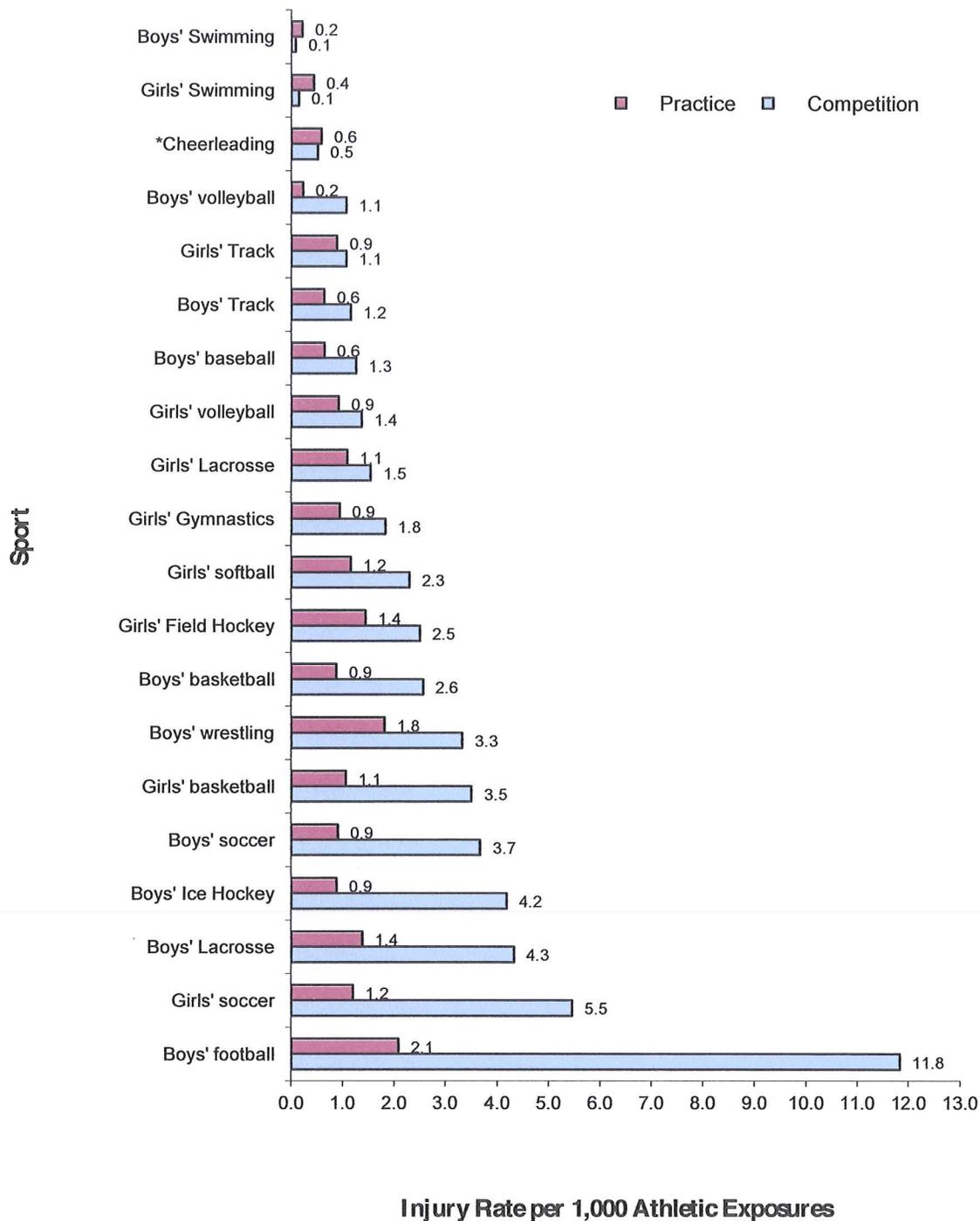
Future

Dr. Comstock has secured research grants from NOCSAE and the CDC, NCIPC to continue the original surveillance study (i.e., the surveillance 9 sports in a random, nationally representative sample) during the next two academic years (2012/13 through 2013/14).

The 2012/13 surveillance study will continue the proven successful surveillance methodology while striving to continue to improve service/responsiveness to the needs of the NFHS.

- Sentinel incidence reports on specific topics of interest (i.e., heat injuries in football, skin infections in wrestlers) will again be provided to the SMAC weekly throughout the year
- More detailed questions have been added to the injury report form for heat-related injuries/illnesses
- Additional detailed reports will be provided upon request to individual rules committees.

Figure 1: Convenience Sample Injury Rates per 1,000 Athletic Exposures by Sport and Type of Athletic Exposure, High School Sports-Related Injury Surveillance Study, US, 2011-12



*Cheerleading competition rate represents the rate of injury per 1,000 AEs in competition and performance.

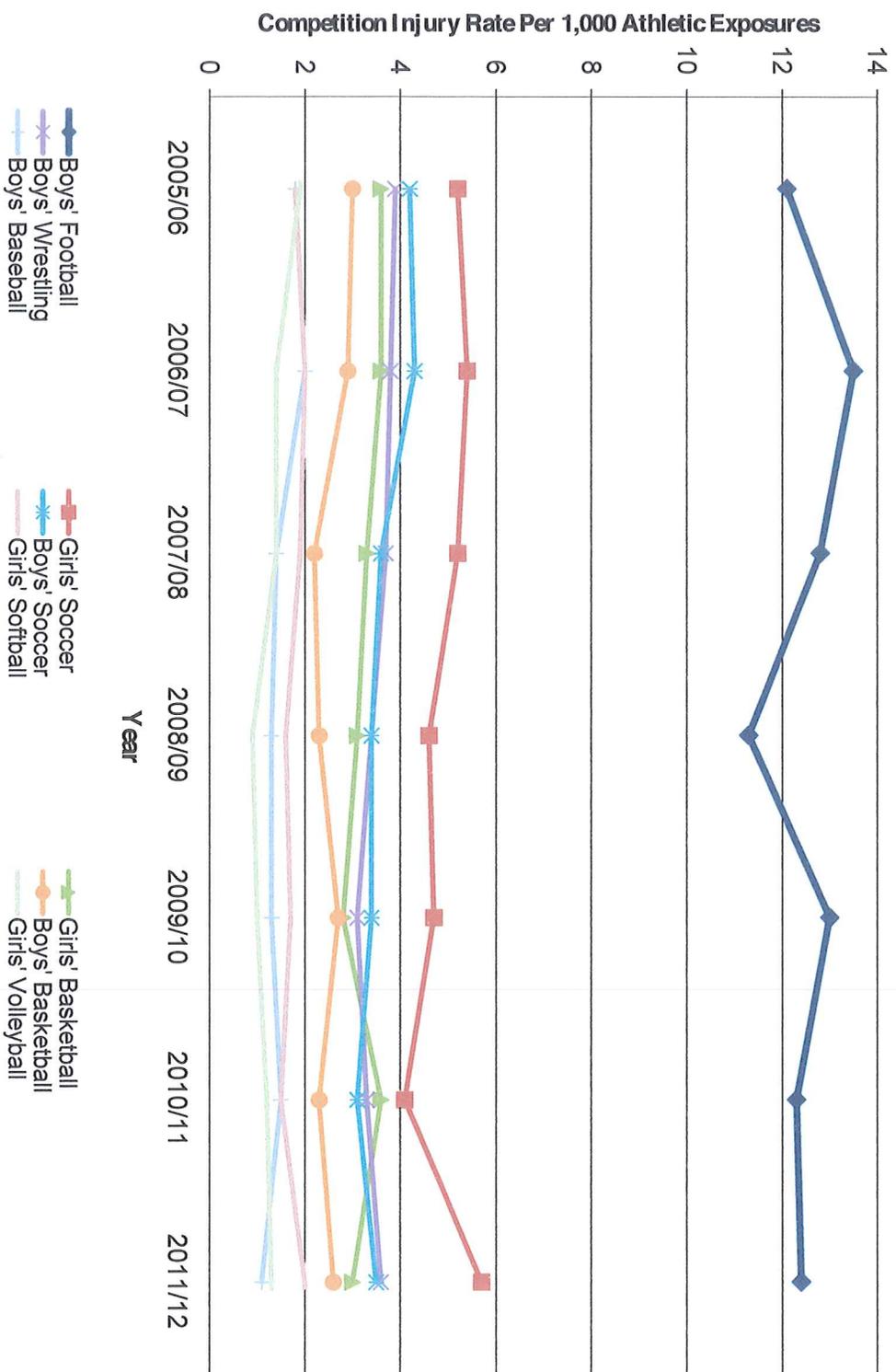
Table 1: Convenience Sample Patterns of Injury by Sport, High School Sports-Related Injury Surveillance Study, US, 2011-12

Sport	Most Commonly Injured Body Site	Most Common Diagnosis of Injury	Proportion of Injuries with >3 Weeks Time Loss*	Proportion of Injuries that Required Surgery
<i>Boys' Sports</i>				
Baseball	Head/Face	Strain/Sprain	17%	9%
Basketball	Ankle	Strain/Sprain	11%	5%
Football	Head/Face	Strain/Sprain	15%	7%
Ice Hockey	Head/Face	Strain/Sprain	17%	9%
Lacrosse	Head/Face	Concussion	13%	6%
Soccer	Head/Face	Strain/Sprain	9%	4%
Swimming & Diving	Shoulder	Strain/Sprain	8%	8%
Track & Field	Hip/Thigh/Upper Leg	Strain/Sprain	10%	1%
Wrestling	Head/Face	Strain/Sprain	20%	7%
Volleyball	Ankle	Strain/Sprain	9%	18%**
<i>Girls' Sports</i>				
Basketball	Head/Face	Strain/Sprain	14%	8%
Field Hockey	Head/Face	Strain/Sprain	8%	5%
Gymnastics	Lower back/L-spine/Pelvis	Strain/Sprain	38%	10%
Lacrosse	Head/Face	Strain/Sprain	16%	4%
Soccer	Head/Face	Strain/Sprain	11%	6%
Softball	Head/Face	Strain/Sprain	15%	7%
Swimming & Diving	Shoulder	Strain/Sprain	11%	21%**
Track & Field	Hip/Thigh/Upper Leg	Strain/Sprain	6%	5%
Volleyball	Ankle	Strain/Sprain	7%	4%
<i>Coed' Sports</i>				
Cheerleading	Head/Face	Concussion	9%	1%

*Injury outcomes included in this category consist of ≥ 22 days before athlete returns to play, medical disqualification for season, and medical disqualification for career.

**Boys' volleyball and Girls' Swimming & Diving had a low number of injuries overall (n=11 and 28, respectively)

Figure 2: Original Sample Trends over Time in Rates of Competition Related Injury by Sport, High School Sports-Related Injury Surveillance Study, US, 2005/06-2011/12





National Action Plan for Sports Safety[®]
PROTECTING AMERICA'S STUDENT ATHLETES

The National Action Plan for Sports Safety has been created to bring to light the benefits and potential risks to student athletes while playing sports.

The United States promotes physical activity and fitness, and youth sports are an essential element in that effort. By all measures, it's working. More children play sports than ever before, with an increase in the number of girls participating of particular note. It is recommended that children and adolescents spend approximately 60 minutes a day engaged in physical activities, most of which should be aerobic exercise.¹ Physical inactivity increases risk for heart disease, diabetes, colon cancer, high blood pressure and premature death.²

And, we know that habits formed in youth last a lifetime.

But physical activity is not without risk.^{3,4} Brain injury, sudden cardiac arrest, exertional heat stroke, exertional sickling, cervical spine fractures and other injuries and illnesses are all serious and potentially life-threatening. According to the National Athletic Trainers' Association, as many as 50 young athletes die each year, the majority from sudden cardiac arrest. And, it's not just about football. Risk is involved in almost every extra-curricular activity such as cheerleading and marching band.

The inherent risk in sports may result in catastrophic or fatal injuries and illnesses. The majority of these occur in four major areas:

- Cardiac Events
- Neurologic Injuries
- Environmental/Exertional Conditions
- Dietary/Substance-Induced Conditions

Fortunately, risks and adverse outcomes can be minimized or eliminated when secondary school athletes have proper equipment, available health care professionals and a safe environment.

¹ U.S. Department of Health and Human Services. "Chapter 3: Active Children and Adolescents." *Physical Activity Guidelines for Americans*. U.S. Government, 16 Oct. 2008. Web. 10 Oct. 2012.

² "Physical Activity Facts." Centers for Disease Control and Prevention, 07 June 2012. Web. 28 Oct. 2012.
<http://www.cdc.gov/healthyyouth/physicalactivity/facts.htm>.

³ In 2011, more than 40 children died during or immediately after sporting practice or play. National Athletic Trainers' Association.

⁴ Approximately 8,000 children are treated in Emergency Departments each day for sports-related injuries. Wier L. Miller A. Steiner C. *Sports Injuries in Children Requiring Hospital Emergency Care*, 2006, HCUP Statistical brief #75, June 2009.

GENERAL RECOMMENDED ACTIONS:

1. Require that all schools have a comprehensive athletic health care administrative program and an athletic health care team to prevent and immediately manage injuries and illnesses. The team should consist of a physician, athletic trainer, school nurse or other health care professional and the athletic director.
2. Require that all schools assure safe practice and play facilities appropriate to each sport to reduce accidents and the spread of disease. Safe facilities are regularly inspected and maintained, routinely cleaned to avoid communicable diseases and accessible to treatment and/or transport areas.
3. Require that all schools provide a permanent, appropriately equipped area in which injured athletes may be evaluated and treated by health care professionals, because early assessment and intervention encourages proper healing and decreases the risk of re-injury. Having a designated area is critical in the management of life- or limb-threatening conditions.
4. Require that all schools have a place for confidential conversations with athletes and parents about medical issues.
5. Require that all schools have a plan for selection, fit, function and proper maintenance of athletic equipment, as well as training for school staff.
6. Require that all schools have injury and illness prevention strategies, including protocols for environmental conditions. Educated personnel in every sport should understand and utilize professional guidelines for preventing and treating injuries and sports-related illnesses.
7. Require that all schools inform athletes and parents of the potential risks in sports as well as their individual responsibility to avoid and minimize injuries.
8. Parents should educate themselves in the potential benefits and risks of optional protective equipment.
9. Advocate for the creation of a national fatality registry of secondary school athletes who have died during or as a result of sports-related injuries, such as cardiac arrest, neurologic damage, steroid abuse, etc.

SPECIFIC RECOMMENDED ACTIONS PERTAINING TO THE FOUR MAIN AREAS:

➤ Cardiac Events

Comprehensive pre-participation examinations help assure that student athletes are ready for play and must be regularly completed for every athlete. The American Medical Association has estimated that the athletic pre-participation examination serves as the sole routine health maintenance check-up for 80 to 90 percent of adolescents.

However, many deaths from sudden cardiac arrest are the result of previously undiagnosed conditions that may have been present since birth and may not be detected in a routine physical examination. Or, there are rare instances of commotio cordis, a blow to the chest (directly over the left ventricle of the heart) that occurs at a certain point of a person's heartbeat. This type of hit can happen from a ball, puck or even another athlete's body part, hitting the chest in between heartbeats.

It is imperative that on-site personnel involved in sports programs react quickly and appropriately during a cardiac arrest.

RECOMMENDED ACTION:

1. Educate coaches, parents and student athletes in the signs and symptoms of sudden cardiac arrest.
2. Require that properly maintained automated external defibrillators (AEDs) be easily and immediately accessible in all venues of practice or competition with a designated person(s) trained in their use.
3. Require that in addition to appropriate health care professionals, coaches and athletic officials be trained in CPR and use of AEDs.
4. Require that every child has a comprehensive pre-participation examination on a regular basis, including questions on cardiac history and symptoms, with a report provided to the athletic program.
5. Require that parents, student athletes and coaches are informed of the school's policies and procedures, including the availability of emergency equipment and the Emergency Action Plan.
6. Require that appropriate health care professionals, such as athletic trainers or sports medicine-trained physicians educated in the evaluation and management of cardiac emergencies, be immediately available at all events.
7. Require that venue-specific Emergency Action Plans (EAPs) be adopted and routinely rehearsed with local emergency personnel under the direction of the athletic health care team. EAPs specific to athletics are critical since sporting events are often held outside normal school hours.
8. Recommend that student athletes attend community heart screenings where available.

➤ Neurologic Injuries

Traumatic brain injuries (TBIs) and cervical spine injuries occur in sports and other athletic activities such as cheerleading. Prompt and appropriate action may save the life of the athlete and will almost certainly minimize the long-term consequences of these injuries.

Early recognition of a neurologic injury may improve the outcome. In mild TBI (concussion), the athlete will recuperate with proper rest and management of both physical and cognitive activities. The athlete must not return to physical activity until the brain is healed; to do otherwise risks second impact syndrome, which may be catastrophic.

Cervical spine injuries may not be immediately apparent, and even the athlete may not be aware that a severe injury has occurred. He or she may insist that everything is fine. It is critical that proper assessment occur before any equipment (e.g., helmet) is removed or the athlete is moved.

RECOMMENDED ACTION:

1. Require that every student athlete has a pre-participation evaluation on a regular basis, including baseline concussion testing where appropriate with a report provided to the athletic program.
2. Require that parents are informed of the school's policies and procedures, including the availability of emergency equipment and the protocol for return-to-play.
3. Require that teachers, school personnel, coaches, parents, student athletes and athletic officials be trained to recognize and report the signs and symptoms of TBI and cervical spine injuries.
4. Require that appropriate medical personnel, such as athletic trainers or physicians educated in the evaluation and management of brain injuries, be available at all practices and competitions.
5. Require that concussed athletes receive clearance by a medical professional specifically trained in concussion management before returning to physical activity.
6. Require that school personnel and parents are educated on the short- and long-term effects of TBI to support student transition back to full academic participation.
7. Require that venue-specific Emergency Action Plans (EAPs) be adopted and routinely rehearsed with local emergency personnel.

➤ Environmental/Exertional Conditions

Many sports practices and games are held outdoors. Weather conditions and air quality are of particular importance early in the season when the student athletes are not yet conditioned or acclimatized to the environment, or when their health status may have changed. Storms, including lightning, however, can happen any time.

Athletes with many different chronic diseases can safely play sports. Those with health issues such as sickle cell trait, asthma or obesity may be particularly susceptible to exercise-induced medical emergencies. Therefore, athletes with medical conditions should be monitored during physical exertion.

Protocols for environmental conditions such as heat, cold, lightning, altitude and poor air quality must be in place where appropriate. Exercise can increase the athlete's core body temperature very quickly, and proper equipment must be available for rapid cooling.

RECOMMENDED ACTION:

1. Require that schools have established protocols for heat acclimatization, lightning and other environmental factors, with those guidelines incorporated into Emergency Action Plans (EAPs).
2. Require that medical equipment, such as an AED, has been placed in the proper location(s), and education on the use of the equipment has been included in annual training for school personnel. Require that coaches and others participate in rehearsal of EAPs.
3. Require that coaches and athletic officials are trained in recognizing signs and symptoms of exertionally- or environmentally-induced distress in athletes.
4. Require that coaches and others who work with athletes are informed of exertionally- or environmentally-induced medical conditions and the dangers and consequences of the "playing through pain" culture.
5. Require that in excessive temperature and/or humidity conditions, appropriate medical personnel, such as athletic trainers or sports medicine-trained physicians who are educated in signs, symptoms and treatment of heat illness, are immediately available. Athletes who suffer heat illness must be treated according to established guidelines.
6. Require that student athletes do not return to physical activity after exertionally- or environmentally-induced medical conditions without medical clearance.

➤ Dietary/Substance-Induced Conditions

Many young athletes and even adults accept “conventional wisdom” about what their weight and build should be for a particular sport or think they can alter body type to enhance performance. Some choose supplements, performance enhancement drugs or energy drinks to be a star athlete. They may use products such as creatine, synthetic testosterone and even anabolic steroids. Such drug use is all too common because it may increase the mass and overall strength of the athletes.

Energy drinks are marketed as performance enhancers, with advertising that implies increased endurance and reaction time, as well as improved concentration. The potential side effects, say the experts, are nervousness, anxiety, restlessness, insomnia, nausea, tremors, rapid heart rate and even death. Energy drinks, which are popular and legal, have un-researched ingredients and no known therapeutic benefit.⁵

Gymnasts want to keep their weight down; wrestlers want to gain or lose depending on their weight class; football players want to look big to the opposition. Without guidance on proper nutrition, safe weight gain/loss, and the dangers of supplements, young athletes may unknowingly put their current and future health at risk.

Adolescence is a vulnerable time. Youth athletes may be susceptible to depression, substance abuse or other damaging behaviors and conditions. Conflicts of interest may develop between athletes, coaches and parents. The athlete may fear being unable to play in the “big game” if problems are revealed. They may enter into an unconscious pact with their parents to ignore problems so as not to jeopardize scholarships or reputations. Coaches may insist the athlete participate as usual. Awareness and guidance are essential.

RECOMMENDED ACTION:

1. Require that every student athlete has a comprehensive pre-participation examination on a regular basis, with a report provided to the athletic program.
2. Require that student athletes are pre-screened for eating disorders, depression, female athlete triad and other nutritional conditions.
3. Require that school personnel are aware of the psychosocial problems of student athletes, including, but not limited to, disordered eating, depression, suicide and substance abuse.
4. Require that a plan is in place that assures referral of student athletes to appropriate health care professionals whenever psychosocial or dietary problems are suspected, not just when they affect athletic performance.
5. Require that coaches, parents, student athletes and members of the health care team are made aware of the potential problems related to the misuse of nutritional supplements, performance enhancement substances and energy drinks.

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⁵ Seifert, S., J. Schaechter, E. Hershorin, and S. Lipshultz. “Health Effects of Energy Drinks on Children, Adolescents, and Young Adults.” *Pediatrics*, Official Journal of the American Academy of Pediatrics (2011): 511-28. Print.

AT coverage by school_financial impact

	A	B	C	D	E	F	G	H	I
1	School	Football	Boy's Hock	Girl's Hock	Boy's Lax	Wrestling	Current AT Coverage	Type of AT coverage	Contract
2	Bellows Falls	X				X		0	
3	BFA Fairfax	X					X	GAMES	Private contract
4	BFA St. Albans	X	X	X	X		X	GAMES	Northwestern Hospital
5	Brattleboro	X	X	X	X		X	FULL TIME	School
6	Burlington	X	X		X		X	30 HRS/WK	Long Trail PT
7	Burr & Burton	X	X	X	X	X	X	FULL TIME	School
8	Colchester	X	X	X	X	X	X	35 HRS/WK	RehabGym
9	CVU	X	X	X	X	X	X	25 HRS/WK	SORC clinic
10	Essex	X	X	X	X	X	X	FULL TIME	School
11	Enosburg					X		0	
12	Fair Haven	X				X	X	15-25 HRS/WK	Private contract
13	GMVS				X		X	Full time fall/spring	Elevation PT
14	Hartford	X	X	X	X			0	
15	Harwood		X	X	X	X	X	FULL TIME	School
16	Lamoille				X		X	1/wk visit by AT	Copley/Mansfield Ortho
17	Lyndon	X	X				X	FULL TIME	School
18	Mt. Anthony	X			X	X	X	FULL TIME	School
19	Middlebury	X	X	X	X	X	X	FULL TIME	School
20	Mill River	X				X	X	20 HRS/WK	Vermont Orthopaedic Clinic
21	Milton	X	X		X		X	GAMES	Long Trail PT
22	Missisquoi Valley		X	X				0	
23	Montpelier	X		X	X		X	GAMES; 1/2 time	Private contract
24	MSJ	X			X			some games	Vermont Orthopaedic Clinic
25	Mt. Abraham	X			X	X	X	30 HRS/WK	Long Trail PT
26	Mt. Mansfield	X	X	X	X	X	X	25-30 HRS/WK	Private & Injury to Excellence clinic
27	No. Country	X	X	X		X	X	FULL TIME	School
28	Northfield		X	X				0	
29	Otter Valley	X			X	X		0	
30	Oxbow	X			X			0	
31	Peoples		X				X	1 day/wk visit by AT	Copley/Mansfield Ortho
32	Poultney	X						0	
33	Putney				X			0	
34	Randolph				X	X		0	
35	Rice	X	X	X	X		X	30 HRS/WK	Edge PT
36	Richford					X		0	
37	Rutland	X	X	X	X	X	X	30 HRS/WK	Vermont Orthopaedic Clinic
38	Sharon				X			0	
39	So. Burlington	X	X	X	X		X	FULL TIME	School
40	Spaulding	X	X	X	X	X	X	FULL TIME	School
41	Springfield	X						0	
42	St. Johnsbury	X	X		X	X	X	FULL TIME	School
43	Stowe		X	X	X		X	per diem coverage	Private
44	Stratton Mt.				X		X	FULL TIME	School
45	U32	X	X	X	X		X	FULL TIME	School
46	Vergennes				X	X		0	
47	Windsor	X					X	GAMES	Ascutney Hospital
48	Winooski	X					X	Football GAMES	Private contract
49	Woodstock	X	X	X	X		X	GAMES	Private contract
50	TOTAL		34	25	21	33	21	33	
51									**It is important to note:
52	No AT coverage	6*	3	3	7	6			A. These numbers are dramatically different than those you've seen previously.
53	Home games/events	5	10	10	8	3	TOTAL COST		B. These numbers are actually inflated due to a few factors:
54	Cost @\$35/hr. (2 hrs.)	2100	2100	2100	3920	1260	\$11,480		1. This list is for schools that do not specifically have ATs on site. Some schools already have qualified health care providers.
55	Cost @\$50/hr. (2 hrs.)	3000	3000	3000	5600	1800	\$16,400		2. At least one school listed as not having coverage will starting next year.
56		Bell Falls	Hartford	Hartford	Hartford	Bell Falls			3. The \$50/hr. is to cover travel costs as some ADs have been concerned about this (not all schools would have to pay that rate though)
57		Hartford	Missisquoi	Missisquoi	MSJ	Enosburg			C. ATs actually save communities money in a number of ways:
58		Otter Valle	Northfield	Northfield	Otter Valle	Otter Valley			1. Unnecessary ambulance rides, Unnecessary ER visits, Unnecessary doctor visits, Parents loss of work pay, time and effort with insura
59		Oxbow			Oxbow	Randolph			2. Provide initial evaluation and treatment as well as follow up care free of charge
60		Poultney			Putney	Richford			3. ATs can be leaders in reducing risk in schools
61		Springfield			Randolph	Vergennes			

AT coverage by school_financial impact

	A	B	C	D	E	F	G	H	I
62		*MSJ varied coverage			Sharon				