

Department of Legislative Services  
Maryland General Assembly  
2015 Session

FISCAL AND POLICY NOTE

House Bill 1175 (Delegate Walker)  
Health and Government Operations

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Education - Concussion Impact Sensor Pilot Program

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This bill requires the Maryland State Department of Education (MSDE) to develop and implement a concussion impact sensor pilot program, in collaboration with the Department of Health and Mental Hygiene (DHMH), local boards of education, and other experts and stakeholders. The program may not be implemented unless concussion impact sensors are donated for the program, and federal, State, and local funds may *not* be used to purchase sensors. If sensors are donated and the program can be implemented, each local board of education must choose one high school football team to participate in the program and provide each member of that team with a concussion impact sensor. For each football season, a high school chosen to participate in the program must keep specified records related to the sensors and concussions, which must be reported to MSDE by December 15 of each year. By January 1, 2018, MSDE must provide recommendations relating to the future use of concussion impact sensors by students who participate in public high school interscholastic sports.

The bill takes effect July 1, 2015, and terminates June 30, 2018.

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Fiscal Summary

**State Effect:** MSDE can develop and implement a concussion impact sensors pilot program and produce recommendations on the future use of concussion impact sensors using existing resources. DHMH can collaborate with MSDE on the implementation of a concussion impact sensor pilot program using existing resources.

**Local Effect:** Since the concussion impact sensors must be donated in order to implement a pilot program, there will be no costs associated with obtaining sensors. It is assumed existing helmets can be used. The workload for coaches participating in the program may increase minimally due to the reporting requirements; however, local school system expenditures are not affected.

**Small Business Effect:** None.

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## **Analysis**

**Bill Summary:** Specifically, for each football season, a high school chosen to participate in the program must keep a record of (1) the number of times an impact sensor was activated; (2) the number of students who have been suspected of sustaining a concussion or other head injury in a practice or game as a result of an activated concussion impact sensor who have been removed from play as required by law; (3) the number of students who were determined to have suffered a concussion or other head injury who participated in the program; and (4) for each student removed from play, the amount of time between the date of a concussion or head injury and the return to play.

**Current Law:** Chapters 548 and 549 of 2011 required MSDE to develop policies and implement a program to provide concussion awareness to coaches, school personnel, students, and parents in collaboration with DHMH, local boards of education, and other experts and stakeholders. A student or youth athlete who is suspected of sustaining a concussion or other head injury in a practice or game must be removed from play. Once removed from play, a student or youth athlete may not return to play until he or she has obtained written clearance from a licensed health care professional trained in the evaluation and management of concussions.

“Youth athlete” means an individual who participates in an athletic activity in association with a youth sports program conducted at a public school facility or by a recreational athletic organization. “Youth sports program” refers to a program organized for recreational athletic competition or instruction for participants who are younger than age 19.

The concussion awareness program developed by MSDE was required to promote awareness on the nature and risk of a concussion or head injury, criteria for removal from and return to play, risks of not reporting injury and continuing to play, and appropriate academic accommodations for students diagnosed with concussions or head injuries. The program must include a process to verify that a coach has received information relating to the program.

Before a student enrolled in a public school system in Maryland may participate in an authorized interscholastic athletic activity, a local board must provide a concussion and head injury information sheet to the student and the student’s parent or guardian; both must acknowledge the receipt of this sheet by signing a statement. MSDE must create the information sheet and the acknowledgement statement.

Before an individual participates in an authorized athletic activity on school property, a local board must provide, or require a third party to provide (1) information on concussions and head injuries to the individual and, if applicable, a parent or guardian and (2) notice that acknowledgement of receipt of the information is required. The individual and, if applicable, the parent or guardian, must then acknowledge receipt of the information and return the acknowledgement to the local board or third party.

A youth sports program that uses a public school facility must annually provide to the local board (or the board's agent) a statement of intent to comply with the requirements for the management of a concussion or other head injury of a participant. A youth sports program must also make the information on concussions and head injuries developed by MSDE available to coaches, youth athletes, and parents and guardians. A coach must review the information. Before a youth sports program may use a facility owned or operated by a local government, the local government must provide notice to the youth sports program of these requirements.

**Background:** Concussions are a type of traumatic brain injury, caused by a blow or jolt to the head that can range from mild to severe and can disrupt the way the brain normally works. The federal Centers for Disease Control and Prevention (CDC) report that an estimated 300,000 sports- and recreation-related head injuries of mild to moderate severity occur in the United States each year, most of which can be classified as concussions. Concussions can occur in any sport, although they are most common in sports where collisions are common. Individuals who have had at least one concussion are at an increased risk for another concussion. This is a danger to student athletes because a repeat concussion that occurs before the brain recovers from the first can, according to CDC, result in brain swelling, permanent brain damage, and even death. This is known as "second impact syndrome." It is unknown how often second impact syndrome occurs, but it has been reported more frequently since it was first characterized in 1984. From 1984 through 1991, four cases were described, and from 1992 through 1995, a total of 17 cases were described.

In 2009, Washington became the first state to require that a youth athlete who is suspected of sustaining a concussion or head injury be prohibited from returning to play until the athlete is evaluated by a licensed health care provider and the provider provides written clearance for the athlete to return to play. Since then many other states including Maryland have enacted laws that target youth sport-related head injuries.

Sports-related head injuries and their long-term consequence continue to attract nationwide attention. In response, several companies (*i.e.* Shockbox, Battle Sports, and CheckLight) have begun to develop concussion impact sensors which are marketed as a method to detect when a player may need to be checked for a concussion. However, according to CNN, many of these products have yet to have had peer-reviewed studies conducted on them, and

a quick test of three such products showed none of the products were triggered by a drop from five feet. On the other hand, one anecdotal experience suggested that the sensors may teach youth athletes to play football in a manner that minimizes head injuries, and may prove useful in informing coaches when to check a player for a concussion.

According to CBS Sports, in 2014, the Arena Football League became the first professional sports league to require helmet-mounted impact sensors for its players. On the other hand, in 2015 Sports Business Daily reported, the National Football League (NFL) decided to suspend a pilot program using sensors for the 2015 season because data collected during the 2013 season was not considered reliable enough. The reliability of the sensors may differ considerably among manufacturers, and the NFL may decide to restart the pilot program with another type of sensor.

In collaboration with stakeholders, the Maryland Public Secondary Schools Athletic Association (MPSSAA) within MSDE has developed guidelines for the evaluation and management of concussions and head injuries for use by its members. In addition, in the 2010-2011 school year, all coaches in MPSSAA member schools underwent concussion training. MPSSAA also has developed concussion fact sheets for parents and students, forms to notify parents of a probable head injury, and medical clearance forms for a gradual return to play after a suspected head injury. In addition, MPSSAA provided clip board sticker reminders about concussions for football and soccer coaches and distributed 50,000 refrigerator magnets to athletes' families outlining signs and symptoms of concussions.

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### **Additional Information**

**Prior Introductions:** HB 426 of 2014 received a hearing in the House Ways and Means Committee, but no further action was taken.

**Cross File:** None.

**Information Source(s):** Maryland State Department of Education, Department of Health and Mental Hygiene, Baltimore City, Montgomery County, Shockbox, CNN.com, CBSSports.com, Sports Business Daily, Department of Legislative Services

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Analysis by: Caroline L. Boice

Direct Inquiries to:  
(410) 946-5510  
(301) 970-5510