

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: CS/HB 7011 PCB PKI 20-01 K-12 Student Athletes

SPONSOR(S): Education Committee, PreK-12 Innovation Subcommittee, Massullo

TIED BILLS: None **IDEN./SIM. BILLS:** SB 1696

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
Orig. Comm.: PreK-12 Innovation Subcommittee	16 Y, 0 N	D'Souza	Brink
1) PreK-12 Appropriations Subcommittee	11 Y, 0 N	Bailey	Potvin
2) Education Committee	16 Y, 0 N, As CS	D'Souza	Hassell

SUMMARY ANALYSIS

According to the American College of Sports Medicine, exertional heat stroke (EHS) is one of the leading causes of death in athletics despite evidence showing a 100 percent survival rate when an athlete is rapidly cooled down within the first 10 minutes after collapsing. Florida leads the nation in high school student athlete deaths from EHS with four since 2011.

To better protect student athletes participating in athletics during hot weather and avoid preventable injury or death, the bill requires the Florida High School Athletic Association (FHSA) to:

- require member schools to monitor heat stress and modify athletic activities (i.e., contests, practices, workouts, and conditioning) based on heat stress guidelines;
- identify heat stress levels at which a cooling zone must be made available for athletic activities;
- make training and materials available for the effective monitoring of heat stress;
- establish requirements for cooling zones and individuals with related training at athletic activities, including the use of cold water immersion tubs or equivalent means;
- require school emergency action plans to include a procedure for onsite cooling using cold water immersion or equivalent means before transport to the hospital for EHS;
- establish hydration guidelines, including appropriate introduction of electrolytes; and
- require student athletes to pass the annual medical evaluation each year before engaging in any athletic activities that occur outside of the school year.

The bill specifies that these requirements apply year round.

The bill also requires all athletic coaches and sponsors of extracurricular activities involving outdoor practices or events to complete annual training in EHS identification, prevention, and response, including effective administration of cooling zones.

Beginning June 1, 2021, the bill requires an employee or volunteer with current cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) training to be present at each athletic activity during and outside of the school year. All employees or volunteers who are reasonably expected to use an AED must complete the training and must be notified annually of the location of each AED on school grounds, which must be available in a clearly marked and publicized location for each athletic activity.

The bill has an indeterminate fiscal impact.

The bill provides an effective date of July 1, 2020.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Present Situation

Exertional Heat Stroke

Exertional heat stroke (EHS) is the most severe form of heat illness¹ and is associated with sustained high body temperature, resulting from dehydration, strenuous exercise, and environmental heat exposure.² EHS can progress to multi-organ system failure and death if not promptly recognized and treated.³ EHS remains one of the leading causes of sudden death in athletics⁴ despite evidence showing a 100 percent survival rate when an athlete is rapidly cooled down within the first 10 minutes of collapsing.⁵ Research shows that the best practice for rapid cooling treatment is cold water immersion in any 100 gallon tub, preferably in a cooling zone,⁶ that is filled with water and ice to lower the athlete's core body temperature.⁷ High school athletic associations in other states such as Arkansas, Georgia, Hawaii, Idaho, Kentucky, Mississippi, New Jersey, North Carolina, Utah, and Vermont require schools to have cold water immersion tubs for onsite cooling for all warm weather practices.⁸

Since 1995, nationally 64 football players have died from EHS (47 high school, 13 college, 2 professional, and 2 organized youth).⁹ Ninety percent of recorded EHS deaths occurred during practice.¹⁰ From 2014-2018, there was an average of 2.2 EHS deaths per year associated with football.¹¹ There were two EHS deaths in each of 2014, 2015, and 2016.¹²

Florida leads the nation in high school student athlete deaths from EHS with four since 2011.¹³ Since the 2011-2012 school year, 150 coaches have been fined and 24 suspended for not following Florida

¹ University of Connecticut, Korey Stringer Institute, *Heat Illnesses*, <https://ksi.uconn.edu/emergency-conditions/heat-illnesses/> (last visited December 4, 2019). Heat illnesses are a spectrum of illnesses that occur due to heat exposure. This heat exposure can come from either environmental heat (air temperature) or intense exercise. Such conditions include heat cramps, heat exhaustion, and heat syncope (orthostatic dizziness).

² Office of Program Policy Analysis and Government Accountability, *Prevention and Treatment of Exertional Heat Illness: Presentation to the House PreK-12 Innovation Subcommittee* (October 23, 2019), available at [https://www.myfloridahouse.gov/Sections/Documents/loaddoc.aspx?PublicationType=Committees&CommitteeId=3017&Session=2020&DocumentType=Meeting Packets&FileName=pki_10-23-19.pdf](https://www.myfloridahouse.gov/Sections/Documents/loaddoc.aspx?PublicationType=Committees&CommitteeId=3017&Session=2020&DocumentType=Meeting%20Packets&FileName=pki_10-23-19.pdf) [hereinafter *OPPAGA Presentation*].

³ *Id.*

⁴ William M. Adams, *Exertional Heat Stroke within Secondary School Athletics*, Current Sports Medicine Reports (April 2019), American College of Sports Medicine, available at https://journals.lww.com/acsm-csmr/Fulltext/2019/04000/Exertional_Heat_Stroke_within_Secondary_School.13.aspx#pdf-link [hereinafter *Exertional Heat Stroke within Secondary School Athletics*].

⁵ *OPPAGA Presentation*, supra note 2, at 17.

⁶ Florida High School Athletic Association, *Administrative Policies of the Florida High School Athletic Association* (April 29, 2019), at 107, available at https://www.fhsaa.org/sites/default/files/attachments/2010/09/16/node-235/1920_handbook_policies_website_116.pdf [hereinafter *Administrative Policies of the Florida High School Athletic Association*]. A cooling zone is an area identified for rest out of direct sunlight. It should include ice sponges and towels, cold water immersion tubs, tarps that can be filled with ice and wrapped around an athlete, and other cooling alternatives to facilitate the cooling process.

⁷ *OPPAGA Presentation*, supra note 2, at 17; *Exertional Heat Stroke within Secondary School Athletics*, supra note 4.

⁸ University of Connecticut, Korey Stringer Institute, *State High School Sports Safety Policies*, <https://ksi.uconn.edu/high-school-state-policies-2-2-2/> (last visited December 4, 2019) [hereinafter *State High School Sports Safety Policies*].

⁹ National Center for Catastrophic Sports Injury Research, *Annual Survey of Football Injury Research 2018* (February 15, 2019), available at <https://nccsir.unc.edu/files/2019/02/Annual-Football-2018-Fatalities-FINAL.pdf> [hereinafter *Annual Survey of Football Injury Research*].

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

¹³ Laurence Reisman, *Heat-related football deaths: Florida high schools must do more, mourning Sebastian parents say*, TCPalm, August 31, 2018, available at <https://www.tcpalm.com/story/opinion/columnists/laurence-reisman/2018/08/31/fhsaa-heat-stroke-preventable-shogran-sebastian-river-korey-stringer-riverdale-football-collapse/1136460002/>.

High School Athletic Association (FHSAA) EHS policies.¹⁴ According to a survey conducted by the Office of Program Policy Analysis and Government Accountability, 461 student athletes from 95 schools were treated for exertional heat illness during the 2017-2018 school year.¹⁵ Eighty-five percent of these students were treated by school staff.¹⁶

Environmental Monitoring and Hydration

Two EHS deaths in 2015 resulted from athletes over-hydrating in order to prevent heat-related issues.¹⁷ In the prevention of EHS, athletes must be informed of how to properly hydrate¹⁸ to aid in the body's ability to regulate itself and reduce the impact of heat stress during athletic activity.¹⁹ The National Federation of State High School Associations Sports Medicine Advisory Committee has published a position statement regarding the best practices for maintaining hydration and minimizing the risk for EHS.²⁰ These include drinking water regularly throughout all athletic activity and weighing athletes before and after hot weather athletic activities to assess their change in hydration status.²¹

A best practice for preventing EHS in athletes is the adjustment and modification of athletic activity levels based on environmental conditions.²² The FHSAA requires:²³

- member schools to follow a preseason acclimatization and recovery model for all sports;
- individual schools or districts to select and promote a method of environmental monitoring to be used outside the acclimatization period; and
- compliance with standard recommendations for practice modifications.

Heat stress can be determined by measuring the ambient temperature, humidity, sun angle, wind, and cloud cover, otherwise known as the WetBulb Globe Temperature (WBGT).²⁴ This differs from the heat index, which takes into consideration temperature and humidity for shady areas.²⁵ Heat stress can be measured by a WBGT Thermometer or by other devices, such as a WeatherSTEM unit.²⁶ Other states, such as Hawaii, New Jersey, and North Carolina, require environmental monitoring and activity modification for high school athletics based on the WBGT or heat index levels.²⁷

Automated External Defibrillators

Florida law requires each public school member of the FHSAA to have an operational automated external defibrillator (AED) on school grounds.²⁸ Each school must ensure that all employees or volunteers who are reasonably expected to use the device obtain appropriate training, including

¹⁴ Email from Jessica Janasiewicz, Government Consultant, Florida High School Athletic Association, *FHSAA Information* (November 12, 2019).

¹⁵ *OPPAGA Presentation*, *supra* note 2, at 23.

¹⁶ *Id.*

¹⁷ *Annual Survey of Football Injury Research*, *supra* note 9, at 16.

¹⁸ *Id.*

¹⁹ *Annual Survey of Football Injury Research*, *supra* note 9, at 18.

²⁰ National Federation of State High School Associations Sports Medicine Advisory Committee, *Position Statement and Recommendations for Maintaining Hydration to Optimize Performance and Minimize the Risk for Exertional Heat Illness* (October 2018), available at <https://www.nfhs.org/media/1014751/nfhs-hydration-position-statement-final-april-2018.pdf>.

²¹ *Id.*; *Annual Survey of Football Injury Research*, *supra* note 9, at 18.

²² *Id.*; *Annual Survey of Football Injury Research*, *supra* note 9, at 17; *Exertional Heat Stroke within Secondary School Athletics*, *supra* note 4.

²³ *Administrative Policies of the Florida High School Athletic Association*, *supra* note 6, at 105 and 107.

²⁴ National Weather Service, *WetBulb Globe Temperature*, <https://www.weather.gov/tsa/wbgt> (last visited January 23, 2020).

²⁵ *Id.*

²⁶ University of Connecticut, Korey Stringer Institute, *WetBulb Globe Temperature Monitoring*, <https://ksi.uconn.edu/prevention/wet-bulb-globe-temperature-monitoring/> (last visited January 23, 2020). A WetBulb Globe Temperature device is a measurement tool that uses ambient temperature, relative humidity, wind, and solar radiation from the sun to get a measure that can be used to monitor environmental conditions during exercise. WeatherSTEM, *Industry Focus: Safety*, <https://www.weatherstem.com/safety> (last visited January 23, 2020). WeatherSTEM units have all the necessary inputs to compute WetBulb Globe Temperature and also offers a WetBulb Globe Temperature forecast model.

²⁷ *State High School Sports Safety Policies*, *supra* note 8.

²⁸ Section 1006.165, F.S.

completion of a course in cardiopulmonary resuscitation (CPR) or a basic first aid course that includes CPR training, and demonstrated proficiency in the use of an AED.²⁹ The location of each AED must be registered with a local emergency medical services medical director.³⁰

The Florida High School Athletic Association

The Florida High School Athletic Association (FHSAA) is designated by Florida law as the governing nonprofit organization of athletics in Florida public schools.³¹ The FHSAA is tasked with adopting bylaws that establish eligibility requirements for all students who participate in high school athletic competition in its member schools.³² The FHSAA must require all student athletes to satisfactorily pass a medical evaluation each year before participating in interscholastic athletic activity.³³

While Florida's high school EHS treatment and prevention policies are ranked 14th in the nation by the Korey Stringer Institute, the FHSAA does not require its member schools to have devices and equipment available to effectively respond to and prevent EHS in student athletes.³⁴ The most current FHSAA policies do not:³⁵

- regulate summer athletic activity, with the exception of football;³⁶
- require schools to establish or adopt hydration guidelines;
- require schools to have cooling zones with cold water immersion tubs and other materials necessary to facilitate the cooling process;
- require an individual with CPR and AED training to be present at athletic activities; or
- require AEDs to be present at all preseason and regular season athletic activities.

The FHSAA's Sports Medicine Advisory Committee (SMAC) is composed of physicians and athletic trainers, and functions as a resource for issues of health and safety in high school athletics.³⁷ The SMAC has provided the FHSAA Board of Directors with policy recommendations to require all schools to utilize WBGT Thermometer devices for environmental monitoring,³⁸ require all schools to have cold water immersion tubs with ice and water available,³⁹ and require athletic coaches to receive training on when to use an AED or cold water immersion.⁴⁰ The FHSAA policies do not reflect the specific recommendations made by the SMAC.

Effect of Proposed Changes

To better protect student athletes participating in athletics during hot weather and to avoid preventable injury or death, the bill requires the FHSAA to:

- make training and resources available to each member school for the effective monitoring of heat stress;
- establish guidelines for monitoring heat stress, which must be based on the ambient temperature, humidity, wind speed, sun angle, and cloud cover at the site of an athletic activity,

²⁹ *Id.*

³⁰ *Id.*

³¹ Section 1006.20(1), F.S.

³² Section 1006.20(2)(a), F.S.

³³ Section 1006.20(2)(c), F.S.

³⁴ *OPPAGA Presentation*, *supra* note 2, at 12.

³⁵ *Administrative Policies of the Florida High School Athletic Association*, *supra* note 6, at 105 and 107-108.

³⁶ *Administrative Policies of the Florida High School Athletic Association*, *supra* note 6, at 82. The FHSAA prohibits a member school to permit student-athletes in its football program to wear helmets or pads or engage in physical contact in any activity sponsored by or under the supervision of the school during the summer.

³⁷ Section 1006.20(2)(m); Florida High School Athletic Association, *Who we are*, <https://www.fhsaa.org/about> (last visited November 26, 2019).

³⁸ Florida High School Athletic Association, *Sports Medicine Advisory Committee Meeting* (August 29, 2017), available at https://www.fhsaa.org/sites/default/files/orig_uploads/gov/sportsmed/minutes/170829.pdf.

³⁹ Florida High School Athletic Association, *Sports Medicine Advisory Committee Meeting* (January 30, 2018), available at https://www.fhsaa.org/sites/default/files/orig_uploads/gov/sportsmed/minutes/180130.pdf.

⁴⁰ *Id.*

and identify heat stress levels at which a school must implement a cooling zone for each outdoor athletic contest, practice, workout, or conditioning session;

- require member schools to monitor heat stress and modify athletic activities, including suspending or moving activities, based on heat stress guidelines;
- establish hydration guidelines, including appropriate introduction of electrolytes after extended activities or when a student participates in multiple activities in a day;
- establish requirements for cooling zones at athletic activities, including, at a minimum, the immediate availability of cold water immersion tubs or equivalent means to rapidly cool internal body temperature when a student exhibits symptoms of EHS and the presence of an employee or volunteer trained to implement cold water immersion; and
- require each school's emergency action plan to include a procedure for onsite cooling using cold water immersion or equivalent means before a student is transported to a hospital for EHS.

The bill specifies that these requirements apply during and outside of the school year.

The bill also specifies that the requirement that a student complete an annual medical evaluation before participating in any athletic activity applies to conditioning and to activities that take place outside of the school year.

Additionally, the bill requires all athletic coaches and sponsors of extracurricular activities involving outdoor practices or events to complete annual training in EHS identification, prevention, and response, including effective administration of cooling zones.

Beginning June 1, 2021, the bill requires an employee or volunteer with current CPR and AED training to be present at each athletic event during and outside of the school year, including practices, workouts, and conditioning sessions. All employees or volunteers who are reasonably expected to use an AED must complete training and must be notified annually of the location of each AED on school grounds. Additionally, the bill requires each school's AED to be available in a clearly marked and publicized location for each athletic contest, practice, workout, or conditioning session, including those conducted outside of the school year.

B. SECTION DIRECTORY:

Section 1. Amends s. 1006.165, F.S.; revising requirements for availability of AEDs on school grounds; revising training requirements for certain individuals related to CPR and use of AEDs; requiring that an individual with specified training be present at certain athletic activities; providing notification requirements for the locations of specified AEDs; requiring the FHSAA to establish certain requirements relating to student athlete safety; and requiring certain individuals to complete specified training annually.

Section 2. Amends s. 1006.20, F.S.; revising requirements for a specified medical evaluations.

Section 3. Provides an effective date of July 1, 2020.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

None.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

None.

D. FISCAL COMMENTS:

The bill has an indeterminate fiscal impact on FHSAA member schools for costs associated with the purchase of cold water immersion tubs and having an individual with current CPR and AED training at each athletic activity. The cost of a cold water immersion tub can range from \$35 to \$8,000,⁴¹ but it is unclear how many schools would need to purchase tubs to comply with the requirements of the bill.

Additionally, there may be an indeterminate fiscal impact on FHSAA member schools if they need to purchase additional AEDs or equipment to measure heat stress levels.

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

None.

2. Other:

None.

B. RULE-MAKING AUTHORITY:

None.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

IV. AMENDMENTS/ COMMITTEE SUBSTITUTE CHANGES

On January 23, 2020, the Education Committee adopted an amendment and reported the bill favorably as a committee substitute. The amendment:

- requires FHSAA member schools to be able to measure heat stress levels, based on the ambient temperature, humidity, wind speed, sun angle, and cloud cover at the site of an athletic activity, rather than specifying WBGT or heat index levels; and
- removes the requirement that the FHSAA notify member schools in writing within 30 days when it does not adopt a policy change as recommended by the SMAC and include the rationale for not adopting the policy recommendation.

The bill analysis is drafted to the committee substitute adopted by the Education Committee.

⁴¹ Email, David Summers, Staff Director of Education Policy Area, Office of Program Policy Analysis and Government Accountability (November 6, 2019).